



SHADE STRATEGIES

FOR GROWTH

Master's in Public Administration,
Environmental Science and Policy, 2025-2026

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TABLE OF CONTENTS

1 BACKGROUND

- 1.1** Introduction
- 1.2** Extreme Heat in New York State
- 1.3** Impacts

2 THE BILL

- 2.1** Introduction
- 2.2** SHADE Act
- 2.3** Political Environment
- 2.4** Empire State Development Corporation
- 2.5** Organization Structure
- 2.6** ESD Fund

3 SHADE STRATEGIES FOR GROWTH

- 3.1** Introduction
- 3.2** Grant Structure
- 3.3** Year One Implementation

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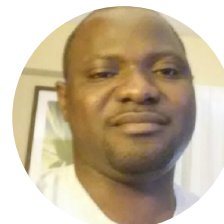
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Source: Photo by Heather Khalifa

1.BACKGROUND

Introduction

New York State (NYS) is a major population and economic hub in the United States. It ranks third in total gross domestic product (GDP) generation and contributes about 8% of the country's total GDP. NYS's population is approximately 19.8 million people (July 2024), with a growth of 9.2% since 1999 [1]. New York is predominantly urban, with 88% of its population residing in urban areas as of 2022 [2]. This includes the most densely populated county in the United States, NY County, as well as other major centers like Buffalo, Rochester, Syracuse, and Albany [3].

NYS's high population and subsequent urbanization drove significant historical and contemporary land use changes, often resulting in the conversion of natural habitats to impervious surfaces such as buildings and roads. This expansion caused the rate of urban land consumption to outpace population growth, particularly in areas outside New York City (NYC). For instance, in Upstate New York (NY), between 1982 and 1997, the total urbanized land cover increased by 30%, while the population grew by only 2.6% [4]. This pattern reduced the density of development and rapidly converted rural land, including agricultural and forest areas, for urban use. More recently, between 2001 and 2019, NYS lost over 68,000 acres of forest land to urbanization [5].

This continuous land conversion replaces natural green spaces, which provide cooling benefits, with heat-absorbing, low-albedo impervious surfaces. This fundamental change in land cover reduces the natural resilience of the environment and increases the vulnerability of urban populations to heat [6].

Extreme Heat in New York State

Extreme heat in NYS is escalating due to climate warming, urbanization, low surface reflectivity, and inadequate green infrastructure. This places millions at health, economic, and mobility risk, particularly in urban, transit-dependent, elderly, and low-income communities. These trends make shade infrastructure and heat mitigation urgent priorities for public policy.

1.2.1 Rising Temperatures & Projections

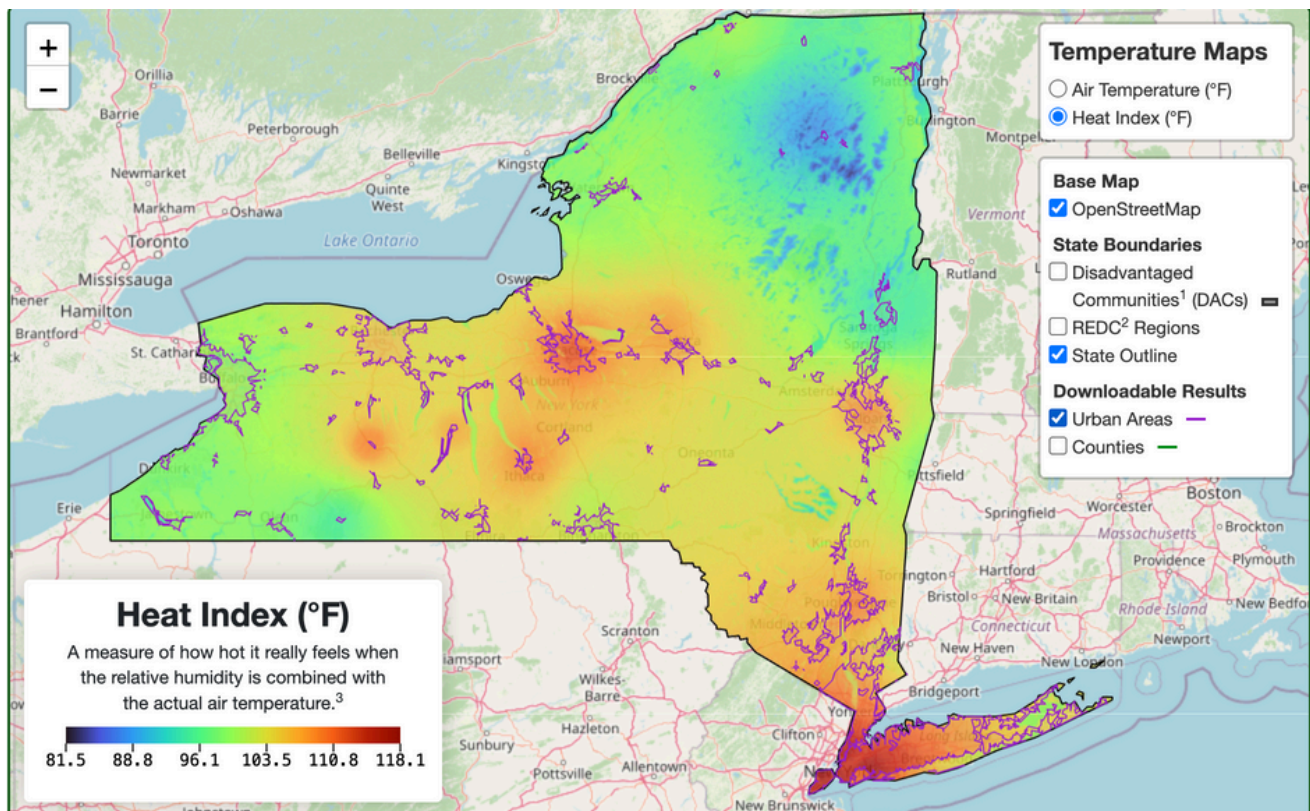


Figure 1. Map of New York State Heat Indices. Source: NYS Department of Environmental Conservation

NYS warmed rapidly in recent decades due to anthropogenic climate change. Global temperatures have increased approximately 2.7°F since 1850, driven primarily by greenhouse gas (GHG) emissions from fossil fuels, making 2024 the hottest year on record worldwide [7][8]. The United States followed this global trend, with 2024 registering a mean annual temperature of 55.5°F, +3.5°F above the 20th-century average [9]. NYS mirrors this warming, with average temperatures rising from 44.5°F (1901–2000) to 49°F in 2024, representing a 4–5°F increase over roughly a century [10].

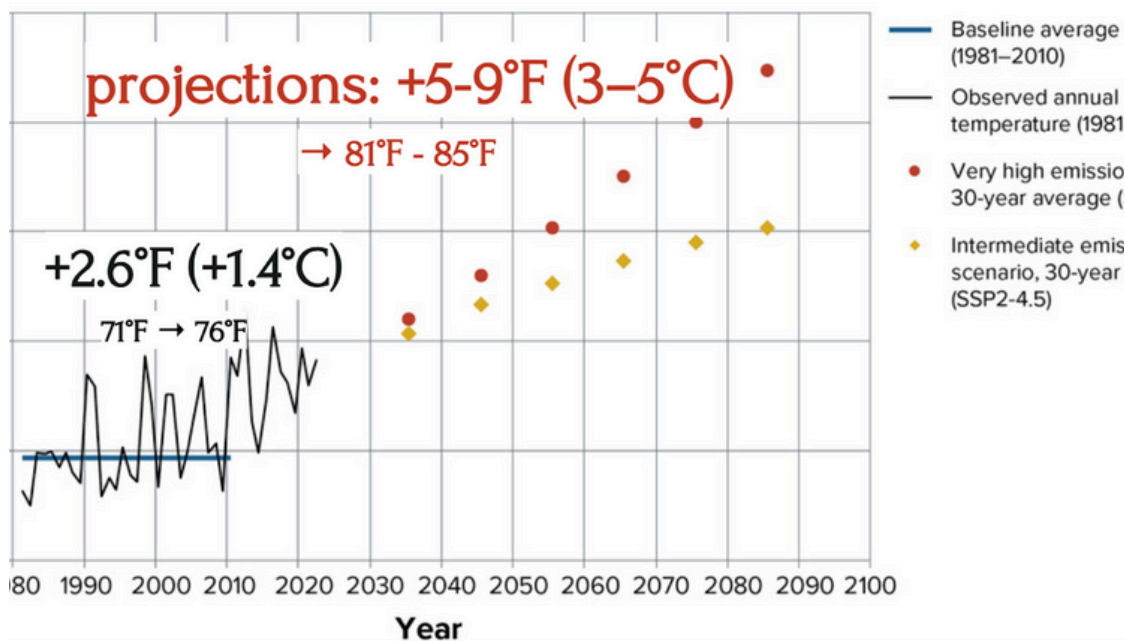


Figure 2. Temperatures of New York State. [11]

The changing climate is reflected not only in mean temperatures but also in shifts in regional climate classification. NYC shifted into a humid subtropical climate in 2020, following five consecutive years in which winter averages climbed above 27°F and summer means surpassed 72°F—a threshold the city had rarely met since 1927.

In addition to rising averages, extreme heat events are becoming more frequent and severe. Historically, New York City experienced approximately 4 days per year above 95°F, but projections indicate this could increase to 32 days by 2050 and 54 days by 2100, with the number of heatwaves expected to quintuple by the 2080s [12]. These trends intensify the health, energy, and infrastructure impacts associated with the Urban Heat Island Effect (UHIE).

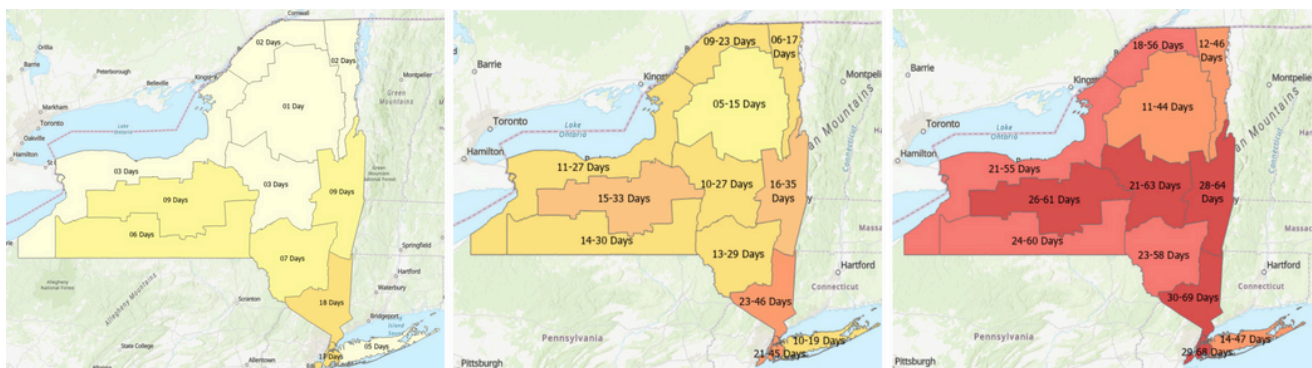


Figure 3. Increasing extreme heat days across NYS reveal accelerating climate risks and stronger Urban Heat Island effects across regions. Source: New York State Climate Impacts Assessment.

1.2.2 Urban Heat Island Effect, Albedo & Land-Use Change

Urbanization intensifies heat exposure through the UHIE, where cities are significantly hotter than surrounding rural areas due to the heat-retaining characteristics of the built environment. In NYC, this effect is especially pronounced: the city experiences an Urban Heat Index anomaly of +9.7°F, among the highest in the country [13]. UHIE increases both daytime and nighttime temperatures, with nighttime heat retention posing the greatest risks for heat-related illness and mortality. The drivers of UHIE are well-documented and include a combination of human activity, urban design, and landscape loss:

- Anthropogenic heat from vehicles, transit, appliances, and industry
- Low-albedo materials (asphalt albedo 0.05–0.10, concrete 0.20–0.35) that absorb 65–95% of solar radiation.
- Loss of cooling landscapes (NYC tree canopy is only 22% vs 40% recommended).
- Urban street canyons that trap radiation and block airflow, preventing cooling [14].

These factors work together to create an environment that captures and stores heat during the day and releases slowly at night, exacerbating health risks for vulnerable populations, increasing energy demand for cooling, and contributing to overall warming trend in urban areas. Contrastly, natural landscapes reflect more solar energy and cool surrounding air through evapotranspiration, helping to moderate temperatures and heat stress [15].

Albedo Effect

Albedo, the fraction of total sunlight that is reflected by a surface, is typically expressed as a percentage, where higher values mean more reflection and less heat absorption and lower values mean the surface gets hotter.

Environment	Asphalt	Forest/ Grass	Reflective Roofing
Albedo	5 - 10%	15 - 25%	60 - 90%

Table 1. Typical albedo values across urban and natural surfaces. [16]

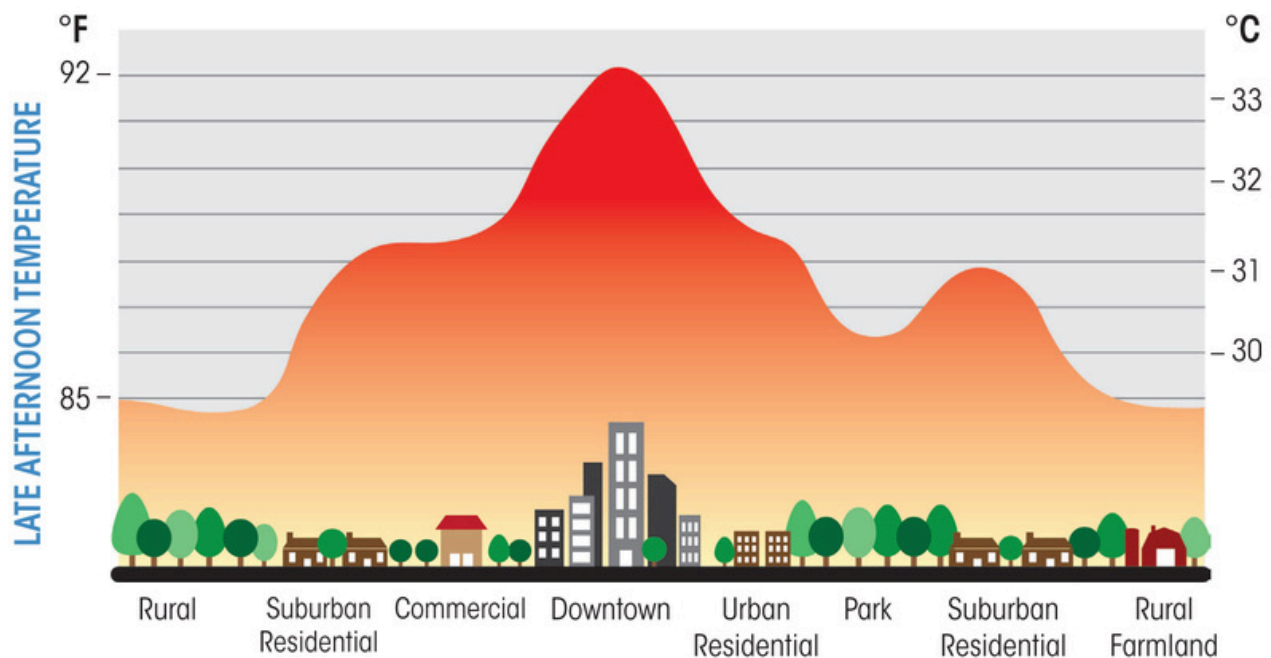


Figure 4. How temperature peaks over downtown areas, reflecting the UHIE seen across NYS, where densely built neighborhoods experience the most extreme afternoon heat, showing the need for targeted shade investments. Source: GeoAI

1.2.3 Impacts

Economic Impacts

In extreme heat, people avoid going outside. This includes reduced transit usage (by up to 50%), avoidance of unshaded outdoor areas and open-air venues, leading to reduction of public space usage (by 13% on days over 90 degrees) [17][18]. This leads to decreased economic output. GDP reduces by 0.2% with increased quantities of days with extreme heat/droughts, and NYS is projected to lose \$40.5 billion per year [19][20]. Reduced labor productivity is seen in outdoor jobs, like construction and agriculture, which have substantial global impacts.

Heat waves also lead to higher energy costs, as air conditioning use increases to counter temperature increases. This disproportionately affects low-income households, forcing difficult choices between essential expenses, like rent and food, and heat mitigation.

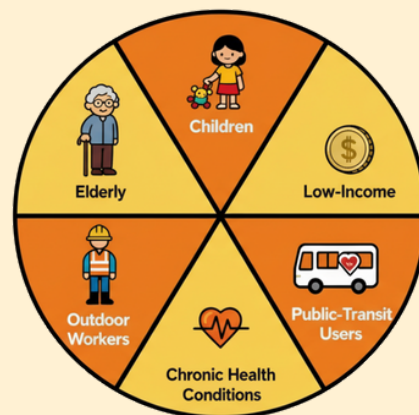
Health Impacts

Heat-related illnesses are another growing concern for New Yorkers as temperatures rise. Emergency rooms in NYC received an estimated 725 heat-related visits in summer 2022, a 13% increase from the same period in 2018, and researchers project this number will increase sixfold over the next 50 years [21]. In 2025 alone, there were 5 heat-stress deaths caused directly by heat and 520 heat-exacerbated deaths caused indirectly by heat aggravating an underlying issue [22]. These illnesses include heat stroke, heat exhaustion, heat cramps, heat rash, and heat syncope. The effects of heat are unevenly distributed, with children, pregnant people, senior citizens, and people with pre-existing conditions being the most at risk.



Heat exposure is also an equity issue that disproportionately burdens low-income populations, outdoor laborers, and communities of color. In NYC, structural disparities result in lower-income areas like the South Bronx being up to 8°F hotter than wealthier districts such as the Upper West Side [23]. This vulnerability is compounded for the 1.4 million New Yorkers working outdoors and for public transit users, as only 20% of city bus stops offer shelter [24]. There is also a stark racial disparity where Black New Yorkers are twice as likely to die from heat stress as white residents [25].

Main Heat Vulnerability Groups:



The SHADE Act seeks to bridge a policy gap in heat resilient infrastructure development by providing funding to innovative shade solutions in urban areas, countering the inequitable economic social impacts of heat.



2.THE BILL

2.1 Introduction

This chapter provides an overview of the Safe Havens for All-Day Enjoyment (SHADE) Act and the state entity most relevant to its administration, Empire State Development (ESD) [26]. It situates the bill within related New York State (NYS) initiatives addressing extreme heat and summarizes the SHADE Act’s purpose and core mandates. The chapter then describes ESD’s mission, governance, organizational structure, and funding sources, as well as the established processes the agency uses to administer grant programs. This chapter lays the foundation and context for our program design in Chapter 3.

Preceding Legislation

NYS enacted the Urban Development Corporation Act in 1968 as Chapter 174 of the Laws of 1968 [27]. The Act created the New York State Urban Development Corporation (UDC), as a public benefit corporation with tools to advance statewide economic development, housing, and infrastructure, including authority to issue bonds and notes. Over time the UDC merged multiple economic agencies across NYS together and created one umbrella agency known as Empire State Development. The SHADE Act, introduced in 2025, builds on this framework by amending the UDC Act to add section 16-bb, which directs ESD to run a competitive grant program that helps municipalities create shaded public gathering spaces and public transportation areas. It authorizes funding through the Empire State Development Fund under section 16-m.

Complementing Initiatives

Extreme heat threatens health, infrastructure, business, and equity across NYS, so agencies and government officials have advanced multiple initiatives to reduce risk and expand cooling access. The SHADE Act is one of these efforts. The table below highlights other statewide and local actions that address complementary parts of the problem.

Initiative	Jurisdiction	Action	Scope
Extreme Heat Action Plan	Department of Environmental Conservation (DEC), NYS Research and Development Authority (NYSERDA)	Multi-agency plan for equity, cooling access, built-environment strategies, implementation and evaluation	Statewide
Heat Vulnerability Index and maps	NYS Department of Health (NYS DOH)	Identifies high-risk populations and geographies for targeted interventions	Statewide
Urban Heat Island mapping	DEC and partners	Heat-exposure layers and planning tools	Statewide
Home Energy Assistance Program (HEAP) Cooling Assistance + Essential Plan Cooling	Office of Temporary and Disability Assistance (OTDA), NYS DOH	In-home cooling assistance for eligible/medically vulnerable residents.	Statewide
Utility shutoff protections during extreme heat (utility bills)	Legislature; Public Service Commission (PSC)	Would bar terminations during periods of extreme heat; PSC also running a proceeding to standardize protections.	Statewide
Workplace heat standards / TEMP Act (proposed)	Legislature	Sets heat-safety standards for indoor/outdoor worksites (water, rest, training, temperature triggers).	Statewide
PlaNYC	NYC Mayor's Office of Climate & Environmental Justice	Expands tree canopy, reflective roofs, access to indoor cooling.	Citywide
NYC Cooling Centers Law (Local Law 128 of 2025)	NYC Council; NYC Emergency Management Department (NYCEM)	Codifies cooling center program and requires an annual plan; minimum siting density.	Citywide

Table 2. Statewide and local actions addressing heat issues.

2.2 SHADE ACT

The SHADE Act (S1028), introduced by Senator Rachel May in the 2025 NYS legislative session, amends the UDC Act to establish a competitive grant program for shade infrastructure. The Senate Corporations, Authorities, and Commissions Committee is currently reviewing the bill.

The Act establishes a competitive grant program, administered by the ESD, to assist municipalities in creating or improving shaded infrastructure in public gathering spaces and transportation areas. Its overarching purpose is to address rising heat exposure in NYS cities and towns by making outdoor spaces safer and more usable. By investing in shade, whether through tree plantings, pergolas, or other structures, the legislation seeks to mitigate heat-related health risks, encourage use of public spaces, and improve community resilience to climate change.

SECTION BY SECTION SUMMARY

SECTION 1 Establishes this Act to be cited as the "Safe Havens for All-Day Enjoyment (SHADE) Act".

SECTION 2 Defines the key terms used throughout the bill, including "eligible projects", "grant recipients", and "program". The bill defines an eligible project as a municipally proposed initiative to increase shade within its area, in public gathering spaces, public transportation areas, or other such public outdoor areas. The bill designates selected municipalities as grant recipients and defines programs as SHADE proposals. Execution of the project requires a proposal from the municipality outlining the development of a shaded public area. Section 2 continues to explain the selection process of grant recipients and the selection criteria.

Applications will be selected based on the following criteria:

- Mean radiant temperature (MRT) decreases, with a focus on decreasing the impacts of the UHIE
- Quantifiable impact on the number of people or events served

Section 2 also stipulates that grant recipients must match the value of awarded funds on a dollar-for-dollar basis.

SECTION 3 Establishes that the safe havens for all-day enjoyment (SHADE) program/act is an amendment to the Urban Development Corporation Act (section 16m of section 1 of chapter 174 of the laws of 1968).

SECTION 4 Authorizes ESD to promulgate rules and regulations in connection with the state to fulfill the purpose of this act; ESD will set the grant amount and disburse the funding.

SECTION 5 Establishes the start date of the act, 180 days after it becomes law, promoting a quick turnaround so municipalities can begin controlling heat, but still giving municipalities time to put together proposals.

2.3 Political Environment

The NYS Senate currently holds 63 seats, with Democrats occupying 41 and Republicans 22 [28]. Passing legislation requires a simple majority of 32 votes [29]. While Democrats maintain control, they no longer hold a veto-proof supermajority. This means Democratic unity is enough to pass the SHADE Act, but overriding a veto would require bipartisan support. Governor Kathy Hochul, a Democrat in office since 2021, has signed major resilience measures such as the Climate Change Superfund Act, signaling general support for adaptation policies [30]. Framing the SHADE Act around public health and infrastructure is consistent with her administration's priorities and reduces the likelihood of a veto.

In 1968, the Republican Senate majority passed the UDC by a vote of 31–26. The UDC responded to urban decline and emphasized economic development, housing, and public-private partnerships. That context shows bipartisan appeal when climate resilient infrastructure is framed as business growth and quality-of-life issues. By positioning shade infrastructure as an extension of that framework through reduced health risks and stronger local economies, the SHADE Act can attract bipartisan support.

2.4 Empire State Development Corporation

ESD as an Organization

ESD is NYS's chief economic development agency. It operates as a public authority under the Empire State Development Corporation and the Department of Economic Development, coordinating statewide programs that promote business investment, job creation, and community revitalization. ESD works across ten economic regions of the state to strengthen local economies and ensure that growth is both sustainable and inclusive.

Mission Statement and Core Purpose

The agency's mission is to promote a growing economy by encouraging the creation of new jobs, increasing revenues for the state and its municipalities, and developing a stable and diverse economic base. ESD achieves this mission through targeted investments, infrastructure support, and partnership programs that help communities and industries adapt to emerging economic and environmental challenges [31].

ESD's Role in SHADE Act

ESD's core purpose directly aligns with the goals of the SHADE Act. While the SHADE program focuses on expanding shaded public spaces and improving resilience to extreme heat, its underlying intent of stimulating local activity, improving quality of life, and promoting regional equity falls within ESD's existing mandate. The agency's experience managing competitive grant programs, coordinating with other state entities, and engaging regional partners positions it to effectively administer SHADE Act mandates and monitor their outcomes.

Through this program, ESD extends its broader mission of strengthening New York's (NY) communities and supporting long-term, equitable economic development. Its existing infrastructure, administrative expertise, and statewide reach make it the logical entity to operationalize the SHADE Act's objectives. The following section describes the agency's internal structure and the mechanisms through which it manages grant and loan programs.

2.5 Organization Structure

ESD is led by a President and Chief Executive Officer appointed by the Governor and confirmed by the Senate (the position is currently held by Hope Knight). She is supported by an executive management team of 12 employees, while ESD's overall governance is driven by a 9-member Board of Directors [32]. ESD has approximately 500 full-time employees supporting the agency's work. The agency operates across ten regions and eleven regional offices throughout NYS.

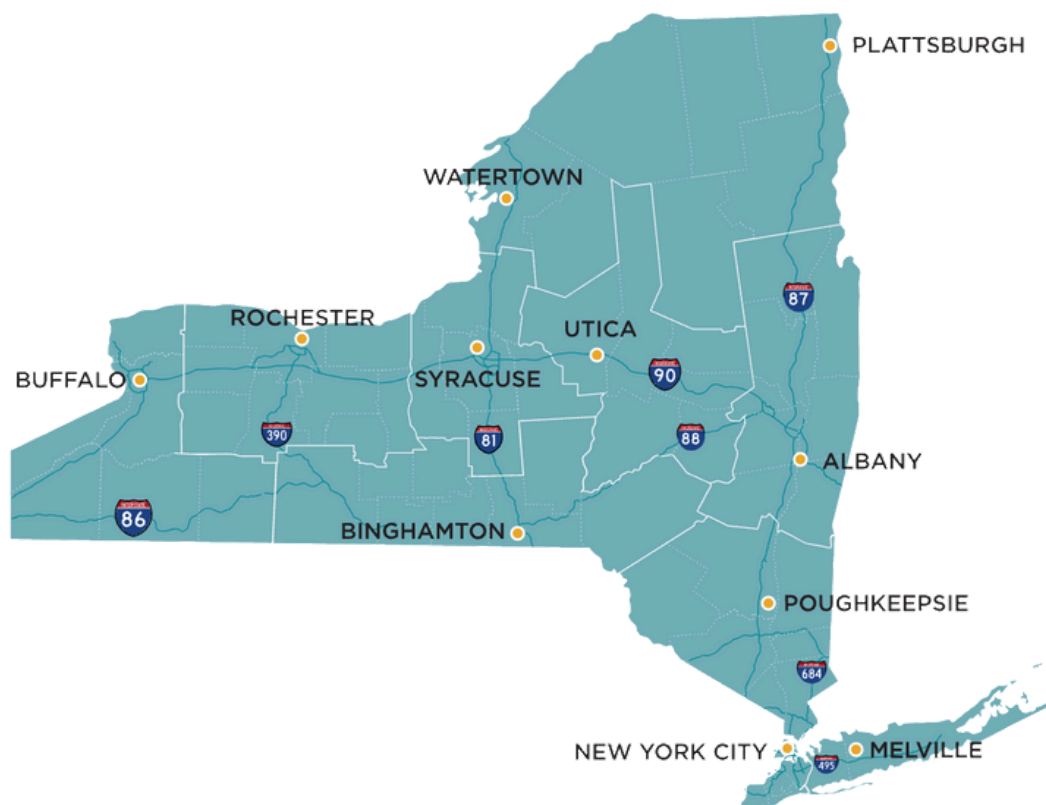


Figure 5. Map of ESD Regional Offices. Source: ESD

Responsibilities by Division

- Growth Support: Funds, loans, grants, and other means of financial support to stimulate business growth.
- Tax Incentives: All forms of tax incentives that enable savings and cost advantages to businesses.
- Innovation Development Support: Leverage NYS's unparalleled investment in world-class tech assets, programs and expertise to grow your business.
- Operational Support: Programs offering assistance or training to ensure more competitive businesses [33].

Loans and Grants

The Loans and Grants program department, under the Growth Support division, manages all ESD grant programs. The department is also responsible for creating and signing off on the Incentive Proposal (IP) for all grant awardees. An IP is the non-binding legal agreement between ESD and the grant awardee, and it outlines major milestones, performance indicators, and reimbursement plans. A grant program will start once the IP is signed.

Programs are split across 17 industries: Agribusiness, Biotech and Life Sciences, Cleantech and Renewable Energy, Craft Beverage, Digital Game Development, Distribution, Financial Services and Insurance, Homeland and Cybersecurity, Industrial Machinery and Systems, Materials Processing, Optics Photonics and Imaging, Semiconductors, Software and Digital Media, Tech and Electronics, Television and Film, Tourism, and Transportation Equipment [34].

In Fiscal Year 2023-2024, approximately 22 grant programs were administered by the ESD, and a total of 361 new projects were awarded. At the end of the fiscal year, ESD was overseeing 5,415 active projects. It is important to note that the distribution of projects is not equal between industries [35].

2.6 ESD Fund

ESD's funding is primarily derived from a diverse set of sources designed to support economic initiatives throughout NYS [36]. The largest portion comes from annual appropriations by the NYS budget, which provides direct financial support and capital for ESD's broad range of projects and programs.

Additionally, ESD raises substantial funds through the issuance of authority bonds, allowing the agency to finance large-scale construction, infrastructure, and revitalization projects essential for statewide economic development.

Federal grants and special revenue funds also contribute to ESD's budgets, especially for programs targeting employment, infrastructure, or innovation. However, these funds account for a smaller share compared to state appropriations and bonds. Revenue generated from ESD's own commercial activities, such as real estate project rents, service fees, and returns on investments in business development, further augment its resources and provide flexibility for program funding [37]. Finally, ESD leverages contributions and investments from private sector partners, particularly for special initiatives like the Empire AI project, which combine public and private capital to maximize impact and foster innovation across NYS's economy.

Funding Source	Description	FY 2025 Example Amount
State Appropriations (General Fund)	Direct support from NY State budget	\$305.9 million
Authority Bonds (Capital Projects)	Direct support from NY State budget	\$1.95 billion
Special Revenue Funds - Federal	Direct support from NY State budget	\$2 million
Program/Project Revenue	Direct support from NY State budget	Amount varies by project
Private Partners	Direct support from NY State budget	\$125+ million for select initiatives

Table 3. Summary of New York State funding sources.

Financial Management and Oversight

ESD maintains financial management and oversight through centralized fiscal offices and regular audited financial statements reviewed by its Board of Directors each fiscal year. The agency's management is responsible for the preparation, fair presentation, and internal controls of consolidated financial statements in compliance with generally accepted accounting principles and state regulations. This involves robust systems for reporting, planning, and internal auditing to ensure accountability and financial transparency.

Oversight is further reinforced with external reviews conducted in accordance with auditing standards, and by compliance with the Public Authorities Accountability Act. ESD's financial activities are subject to both internal controls and external reviews by the Office of the State Comptroller, thus maintaining strict fiscal discipline and minimizing the risk of misuse of funds. Most grant programs use a reimbursement system, requiring recipients to document expenditures before repayment is issued. This upholds fiscal control and ensures that public funds are only used for completed and eligible activities. Competitive selection processes, milestone tracking, and performance evaluation also safeguard the integrity and impact of ESD's financial management. [38]

Case Study #1 Downtown Revitalization Initiative

The Downtown Revitalization Initiative (DRI) is a cornerstone of NYS's economic development strategy, designed to transform downtown neighborhoods across the state into vibrant, mixed-use community hubs [39]. The program is an example of a competitive, state-led grant mechanism aimed at achieving holistic growth, successfully combining economic recovery with sustainable urban resilience.

Main Goals

The primary goal is to transform downtowns to drive redevelopment, businesses, job creation, and economic diversity. It is also explicitly designed to advance NYS's climate goals, making it a tool for building urban resilience against future climate challenges, such as extreme heat.



Creating
an active
downtown



Attracting
new
businesses



Enhancing
public
spaces



Building
a diverse
population



Growing the
local property
tax base



Providing
quality of life
amenities



Reducing
greenhouse
gas emissions
+ enhancing
climate resiliency

Program Structure

Competitive state grant program that invests significantly in communities selected for their potential to undergo rapid and sustained transformation.

Leading Agency:

NYS Department of State

Key Partners:

- ESD
- NYS Homes and Community Renewal
- NYS Energy Research and Development Authority

Program Strategy

Selection:

Regional Economic Development Councils (REDCs) nominate communities based on their potential for transformation.

Strategic Planning:

Selected communities receive technical assistance to create a Strategic Investment Plan (SIP). This plan identifies specific, transformative projects aligned with a unique vision for the downtown.

Implementation:

Funding is then awarded to advance the most impactful projects identified in the SIP.

Case Study #2

Restore New York Communities Initiative

This initiative is a competitive grant program administered by the ESD, which directly addresses urban decay by funding the demolition, deconstruction, rehabilitation, and reconstruction of vacant, abandoned, condemned, or surplus residential, commercial, and mixed-use properties across NYS [40].

Objectives

1. Revitalize communities and generate new economic and residential opportunities by removing visual and economic depressants.
2. Provide financial assistance to municipalities (counties, cities, towns, and villages) to execute complex redevelopment projects,

Key goals

Bring in new commercial investment, improve the local housing stock (often by converting blighted buildings into mixed-use or residential units), and increase the municipal tax base.

Equity

Prioritize projects in economically distressed communities. Recent funding rounds also focus on recovery efforts related to extreme weather events such as tornado and storm damage.

Last Cycle Outcomes

\$114M
of funding allocated
in 2024 [41]

100
projects benefited [42]

9
regions out of 10

Urban Resilience Aspects

- 1 Focuses funding on infill development in urban centers to curb sprawl and reduce environmental pressure.
- 2 Funds critical site infrastructure (water, sewer, parking), improving downtown utility resilience against severe weather.
- 3 Converts unsafe, vacant properties into code-compliant, energy-efficient housing, boosting community safety and resilience.

3 Program Implementation



Source: Groundwork Hudson Valley (Rendering courtesy of Starr Whitehouse)

3.1 Introduction

Shade Strategies for Growth (SSG) is a competitive grant program administered by ESD starting in January of the next calendar year. The program initiates the development of shade infrastructure in New York State (NYS) in alignment with Senate Bill S1028, the **“Safe Havens for All-Day Enjoyment (SHADE) Act”**. It was designed based on existing ESD grant programs and guidelines, such as the Downtown Revitalization Initiative and Restore New York Communities Initiative. The program will operate through an annual funding cycle in which municipalities across NYS submit project proposals, with those meeting criteria for equity, economic growth, and the SHADE Act’s key performance indicators (KPIs) moving forward. The grant awards operate as dollar-for-dollar matches, as mandated by the Act.

The overarching program goal is to create shade infrastructure that helps municipalities lower local temperatures and enable New Yorkers to spend time outdoors safely amid increasingly frequent extreme heat and rising temperatures.

3.2 Grant Structure

Governance

ESD will implement the SSG Program through the **Department of Loans and Grants**, in accordance with ESD's grant implementation procedures. The program will be housed within the 'Transportation Equipment' industry sector of the Loans and Grants department. Three full-time employees will be hired in the main ESD office to manage the entire grant process and ensure compliance with the provisions of the proposed SHADE Act. This management team will work closely with ESD Regional Offices (ROs), which serve as the primary point of contact and support for participating municipalities. The ROs will also be responsible for monitoring project implementation and compiling performance measurement data to report to the management team.

STAFFING

Category	Position	Main responsibilities
SSG Management Team (New Staff)	Program Director	Oversees implementation, reporting, and coordination.
	Assistant Director	Supports daily operations and answers to the Program Director
	Administrative Assistant	Provides logistical support for the program
Review Panel (new contractors, only for application review process)	Expert: NYS Department of Transportation (DOT)	Provide transportation safety and design expertise.
	Expert: NYS Department of Conservation (DEC)	Provide environmental and climate expertise.
	Expert: NYS Office of Parks, Recreation and Historic Preservation	Provide recreational space and public use expertise.

STAFFING

Category	Position	Main responsibilities
Regional Offices (New Staff)	Eleven Regional Coordinators (one per regional office)	Serve as municipal points of contact and oversee funded SSG projects in each of ESD's regions.
	One Regional Assistant	Allocated in the NYC office and supports Regional Coordinators

Table 4. Staffing plan of Shade Strategies for Growth (SSG).

The SSG Management Team

Consists of the Program Director, Assistant Director, and Administrative Assistant (see Table 4). Together, they will oversee day-to-day operations, coordinate with regional offices, and ensure that implementation follows ESD's grant procedures. ROs will be in charge of marketing the program, collecting/reviewing application, and overseeing approved projects. The Program Director will lead reporting and coordination across divisions, the Assistant Director will support program delivery and compliance, and the Administrative Assistant will provide logistical and administrative support.

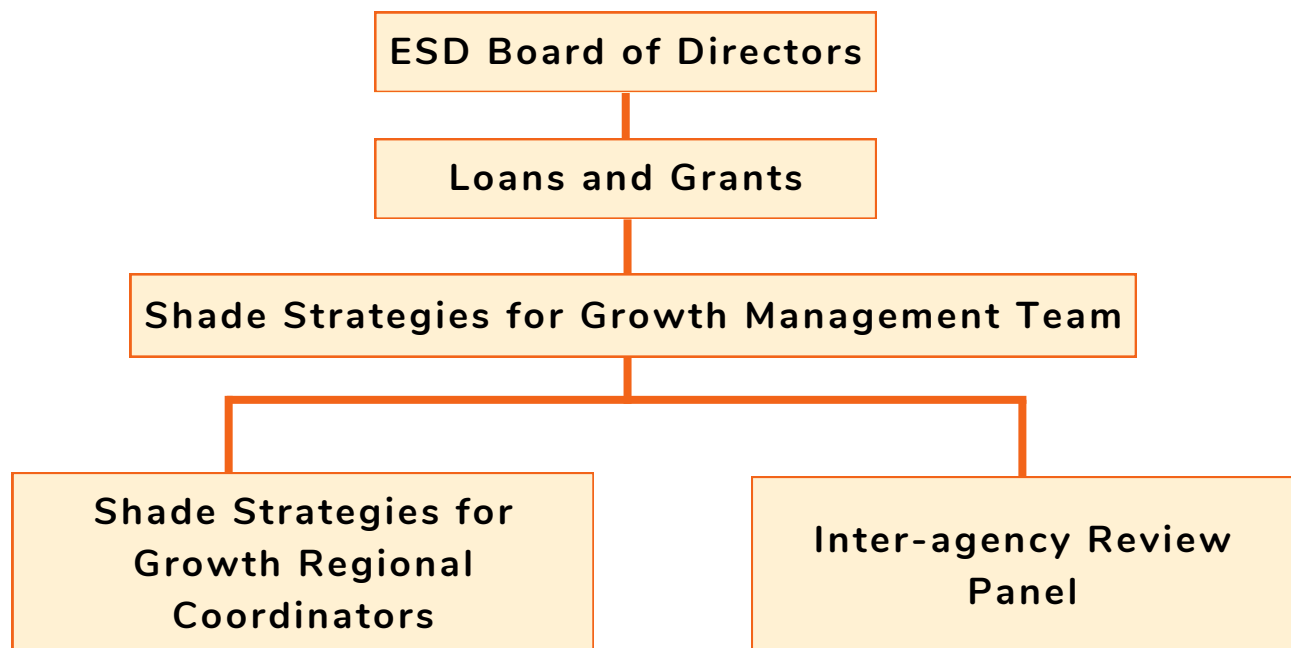
Application Inter-Agency Review Panel

The Review Panel will provide specialized technical guidance during the application phase. It will include one representative from each of the following agencies: DOT, DEC, and OPRHP. These panelists will assess project feasibility, environmental standards, and community benefits. Their evaluations will be based on the program's key performance indicators, including reductions in mean radiant temperature and population served, to ensure the selection of effective and equitable projects.

Regional Program Coordinators

Serve as the local implementation partners. Each of ESD's ten regions will hire a Regional Coordinator to act as the regional point of contact for the SSG program. They will guide municipalities through the application process, monitor implementation of awarded projects, and compile progress reports for the central management team. NYC's regional office will hire an additional Regional Assistant to help manage applications given that NYC is the most highly populated region. This structure combines centralized oversight with localized support, ensuring that Shade Strategies for Growth delivers measurable and community-centered results across NYS.

Reporting Structure



Funding cycles

The total funding available is \$100 million per year across NYS, to be distributed among the 11 ROs. Funding for the program will come from the annual ESD budget. The SSG will follow an annual grant cycle, with applications launching in the summer and awardee results by the end of the year.

One cycle is from the time applications open to the time that projects are completed. A new cycle will open every fiscal year for 10 years. The setup and operationalization of the SSG program will occur in Year 1 and remain unchanged throughout the 10 years of the SHADE Act, with the only additional component being the awarding of grants in Year 2 for projects begun in Year 1.

Application process

Once a year, ESD begins a new cycle of grant applications, dedicating \$100 million to fund shade infrastructure projects across the state. For the first cycle, the ESD team will develop guidelines and criteria to fund projects aligned with the SHADE Act's main provisions and ESD's mission to promote economic development. The guidelines will be published on the ESD website for public awareness and transparency. Once the program is launched, the ROs will be responsible for outreach campaigns to ensure municipal engagement and, together with the state's local governments, identify shovel-ready projects that could benefit from the SSG and also develop new projects in line with its regional priorities and needs.

Municipalities will submit applications, containing a 15-page project proposal and supporting documentation, through the state Consolidated Funding Application (CFA) platform. Applications will be reviewed by a multi-agency review panel composed of the SSG Management Team and representatives of the DOT, DEC, OPRHP and Regional Coordinators working in alignment with their respective Regional Economic Development Councils (REDCs).

Contract Signing

Once selected, municipalities will collaborate with the Department of Loans and Grants to develop an Incentive Proposal (IP), detailing project deliverables, timelines, budgets and measurable outcomes, such as total shaded area, square footage, reductions in mean radiant temperature, and people served. The ESD Board of Directors will approve the IP after a public hearing, followed by the signature of a Grant Disbursement Agreement (GDA), enabling the start of project implementation. Municipalities can request reimbursements within 90 days, with processing taking up to 12 months.

Proposed Selection Criteria

Proposals for shade infrastructure are scored based on a points system from 0 to 100 to evaluate their effectiveness. These points are divided as shown below:

Category	Points	Description	Key requirements
Regional Council Priorities	20	Alignment with regional development goals	Demonstrate how the project supports predefined and annual regional priorities and strategic plans.
Community Impact and Need	50	Extent of social, environmental, and spatial benefit	Population served, evidence of how many people will be impacted by the project, with a focus on disadvantaged or underserved communities. Use the Geographic Information System (GIS) map of Distressed Communities to support claims. Demonstrate need for facilities. Technical evidence of potential for reducing Mean Radiant Temperatures. Evidence of the potential for promoting local economic growth.
Costs and Feasibility	20	Fiscal accountability and the feasibility of the proposed budget	Budget is complete, accurate and in line with local prices. Applicant has administrative capacity and proven project management experience. Realistic and achievable project timeline. Clear plan for meeting grant matching requirements.
Project Proposal	10	A strategic plan is complete and promises measurable outcomes	Include mission statement and project goals. Define performance measures/metrics to quantify ROI and economic impact. Demonstrate alignment with overall funding objectives.

Table 5. Suggested Grant Criteria and Scoring Matrix

Shade Infrastructure Examples

Bus Shelter, Manhattan, NY

- A typical MTA bus shelter costs \$40,000 to purchase and install [43].
- Annual maintenance cost is estimated \$7,000
 - Maintenance includes monthly visits and seasonal checks for cleaning, repairs, and snow removal



Source: New York State Department of Transportation

Kayak Pavilion at Long Dock Park, Beacon, NY



Source: Architecture Research Office

- Completed in 2011 as a 2,700 ft² kayak and canoe pavilion
- \$595,000 project
- Made of painted steel structure, cumaru wood deck, and aluminum bar grating with a corrugated steel roof; certified Leadership in Energy and Environmental Design (LEED) Gold.
- Serves both local residents and regional visitors, supporting recreation, stewardship, and access to the Hudson River [44].
- It has won multiple AIA design awards and is viewed as a national model for sustainable design.

- Originally built in 1935
- Damaged by storms in 2011
- Rebuilt as a resilient, open-air structure spanning 3,000 ft²
- \$6.6 million project
- Funding came from city and borough officials, with support from community leaders.
- The new pavilion is widely celebrated by residents, local officials, and advocacy groups, who anticipate it serving as a vibrant public asset for years to come [45].

The Almer G. Russell Pavilion in Conference House Park, Staten Island



27

Source: Sage & Coombe Architects

3.3 Year One Implementation

Year 1 Implementation Timeline

To guide the first year of implementation, the grant program will follow a structured calendar divided into four quarters (Q1–Q4). Each quarter outlines a distinct set of activities that build upon one another, from initial staffing and program setup to project approval and public announcement. This phased timeline ensures a strategic rollout of the program during its launch year. A detailed Master Calendar is provided in Appendix A for further reference and appreciation of the full timeline.

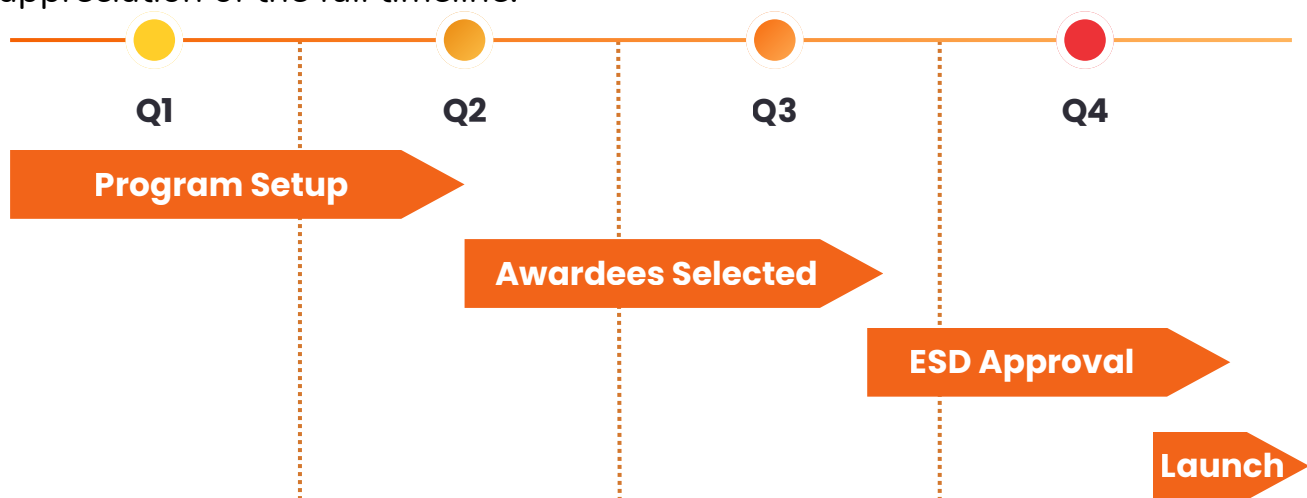


Figure 9. Year 1 Implementation Timeline. The graphic shows the phased rollout of the program across Q1–Q4.

Quarter-by-Quarter Implementation Overview

Q1: Staffing and Program Preparation

Q1 is devoted to foundational setup activities, which include hiring program staff. Once Human Resources hires the core program staff, they will be tasked with:

- Informing regional offices about the program launch,
- Developing grant selection criteria,
- Hiring inter-agency panelists who will review applications.

Q2: Marketing and Program Launch

Q2 focuses on formally launching SSG and executing a marketing campaign. During this quarter, the following key tasks will occur:

- Development and launch of an informational program website,
- Plan and execute a webinar series and an advertisement campaign to make municipalities aware of the available grants and encourage applications,
- Outreach to municipalities to identify shovel-ready projects a,
- Open application portal (CFA) and officialize SSG launch.

Q3: Grant Selection & Approval

In Q3, the focus shifts to selecting grant awardees from the applicant pool and developing incentive proposals for approved projects. Key activities include:

- Selection of grant awardees by review panel and core SSG staff,
- Develop incentive proposals by core SSG staff,
- Secure board approval in conjunction with Loans & Grants Department.

Q4: Project Approval and Communication

The final quarter is dedicated to formalizing project agreements and publicizing results. The activities ensure transparency and prepare for project execution in the coming year, including:

- Awardees sign incentive proposals,
- Final disbursement agreements are set,
- Issue press release is issued announcing the grant recipients.



BUDGET YEAR 1 OVERVIEW

The Year 1 Budget and Revenue Plan for SSG establishes the internal operational and fiscal structure required to implement the SHADE Act. From the Act's \$50 million appropriation, \$1,337,000 is allocated to ESD for internal operations. The plan funds administrative setup, statewide coordination, and regional program delivery through seven expenditure categories: Personnel, Interagency Collaboration, Regional Participation, Travel, Equipment & Supplies, Outreach & Marketing, and Indirect & Administrative Overhead.

1. Personnel — \$1,147,000

Three full-time office positions support Year 1 operations, ensuring accountability and efficient communication across ESD divisions and regional offices. Recruitment and onboarding will occur during the first quarter, with staff starting in March and fully active by mid-year. These positions include the Program Director (\$95,000), Assistant Director (\$85,000), and Administrative Assistant (\$63,000). Their salaries are prorated to reflect the delayed start date.

In addition to central staffing, the program deploys 11 full-time Regional Program Coordinators, one assigned to each ESD regions, plus an additional regional assistant dedicated to NYC, each budgeted at \$75,000 annually [46]. These positions provide local outreach, technical assistance, and municipal coordination. Regional hires begin in March, so two months of compensation are excluded, resulting in prorated Year 1 costs.

2. Travel — \$40,000

Travel funds cover statewide coordination meetings, site visits, and inter-agency convenings. Estimated costs include mileage, lodging, and transportation for central and regional staff to support program implementation, municipal engagement, and project review.

3. Equipment and Supplies — \$25,000

The allocation of funds for software licenses, data management tools, and minor hardware is required for the Consolidated Funding Application (CFA) tracking, performance monitoring, and financial reporting. These systems align with ESD's IT infrastructure and data governance standards.

4. Outreach and Marketing — \$50,000

Funds are designated for a statewide awareness campaign introducing the SHADE program. Activities include website development, media announcements, bilingual application materials, and virtual applicant workshops. This outreach ensures equitable access and consistent communication across regions.

5. Indirect and Administrative Overhead — \$75,000

Indirect costs cover ESD’s internal auditing, procurement, and reporting activities, including contingencies. The 15% overhead rate is standard across ESD programs and provides flexibility for unforeseen administrative needs.

Category	Q1 (\$)	Q2 (\$)	Q3 (\$)	Q4 (\$)	Total (\$)
1. Personnel	286,750	286,750	286,750	286,750	1,147,000
2. Travel	0	13,333	13,333	13,334	40,000
3. Equipment & Supplies	15,000	10,000	0	0	25,000
4. Outreach & Marketing	25,000	15,000	10,000	0	50,000
5. Indirect / Administrative Overhead	11,875	25,875	25,875	11,375	75,000
Total	338,625	351,958	336,958	311,459	1,337,000

Table 6. Quarterly Distribution of Year 1 Expenditures.

Measurements of Success

The Performance Measurement Framework developed below aims to ensure transparency and accountability, strengthening partnerships between 11 ESD regional offices, DEC, DOT, OPRHP, and REDCs. As detailed below, the Performance Measurement Framework will track data across three main categories: input, output, and impact, and will be published in a series of internal and public reports to ensure transparency and long-term alignment with the bill's expected outcomes and ESD's economic growth mission.

SUMMARY OF THE PERFORMANCE MEASUREMENT FRAMEWORK

A full version of the Performance Measurement Framework, including detailed tables and reporting matrices, is provided in Appendix G.

Measure Type	Purpose	What It Tracks	High-Level Targets
Input Measures	Establish program design and guidelines.	Staffing, guidelines, outreach, regional coordination, and funding setup	Core team hired within 90 days, and program launch in 180 days
Output Measures	Monitor and assess annual program operations	Applications, approvals, funding allocation, processing times, construction progress, reimbursements	20 projects approved per cycle, and full grant availability distributed
Impact Measures	Assess grantees' projects for environmental and community benefits after completion	MRT reduction, surface cooling, shade coverage, population served, foot traffic, satisfaction	Potential for 3–7°F MRT reduction

Table 7. Summary of the performance measurement framework.

Input and output metrics

They will be measured, compiled, and reported jointly by the SSG Management team and ESD ROs. These metrics serve as the basis for annual program reporting and ensure consistent, statewide tracking of program implementation.

Impact measures

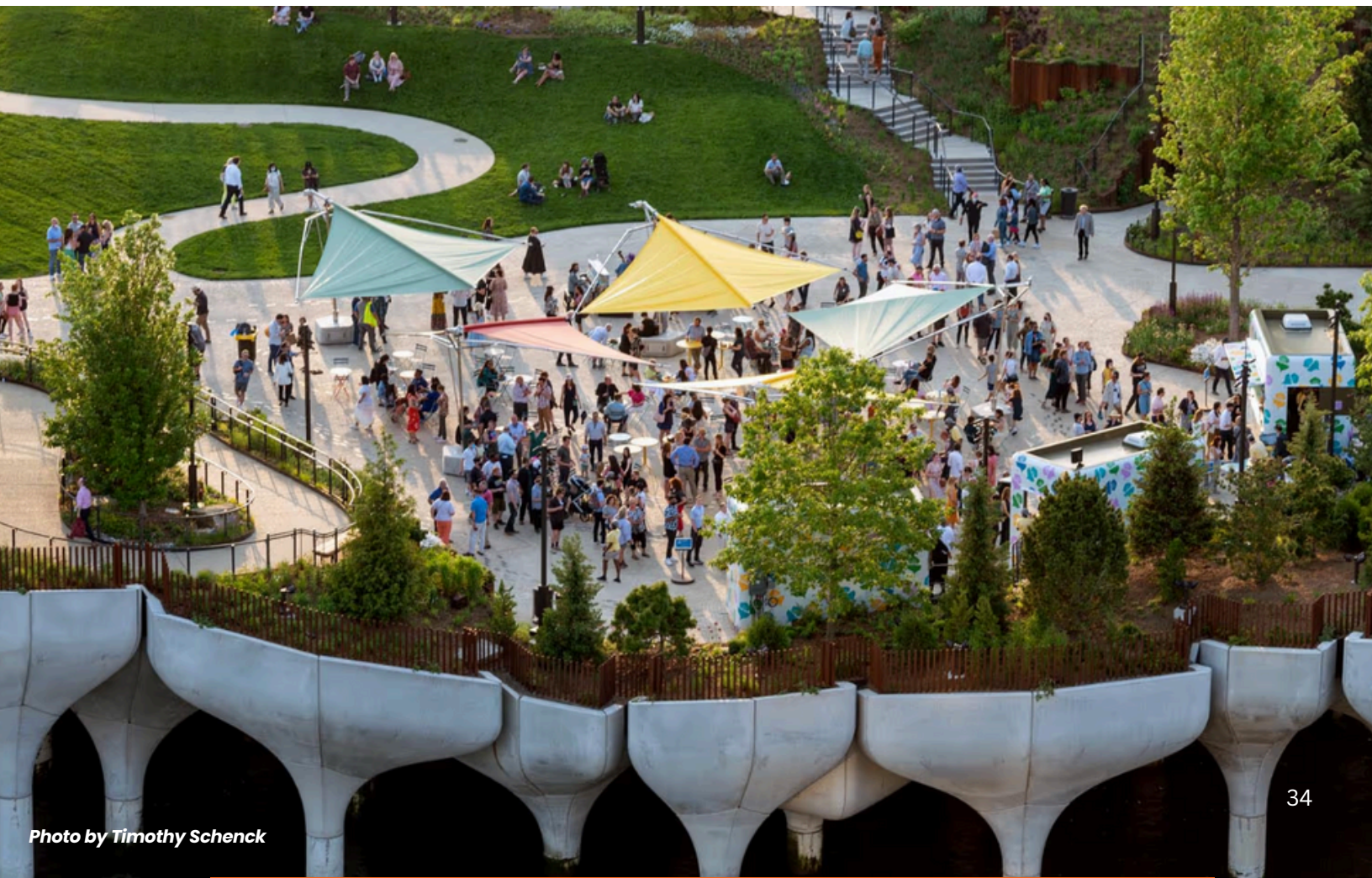
The responsibility for compiling and reporting impact data will primarily rest with municipalities and ESD regional offices. As outlined in the respective IPs, grantees will be required to collect and submit evidence demonstrating the outcomes of their projects. Each municipality awarded must provide an impact report after at least one full summer season following project completion. ESD may request additional monitoring evaluations for up to 6 years after project completion and may conduct field visits to ensure compliance with the IP and GDA.

Auditing

To ensure fiscal compliance and transparency, ESD will be responsible for conducting various audits throughout the program's implementation and cycles. The ESD Internal Audit Department will perform quarterly audits of all data and financial reports submitted by regional offices and awarded municipalities. The goal of these audits is to verify if expenditures, reimbursements, and progress comply with the project's IPs. Also, an annual audit of the program's fiscal performance will be conducted and published at the end of each fiscal year. Finally, an audit will be performed upon completion of each project to confirm all expenditures and outcomes before closing the GDA. Based on the size and complexity of the project, the State may require an Agreed-Upon-Procedure Review (AUPR) to be conducted by a State representative or a Certified Public Accountant (CPA) before final reimbursement.

Conclusion

Extreme heat and the UHIE create risks for public health, mobility, and economic activity across NYS. Projections show that these risks will grow as heat events become more frequent and prolonged. The SHADE Act provides a direct response by funding shade infrastructure in public gathering spaces and transportation hubs. The Act assigns ESD responsibility over program delivery, which it carries out through a competitive grant process and coordination with municipalities. Shade Strategies for Growth is the statewide program created to implement the SHADE Act and expand shade access in high-exposure areas. The program administers \$100 million per cycle over a 10-year span, and prioritizes projects that demonstrate meaningful reductions in MRT and high levels of public use. It is designed to focus investment on shade infrastructure that delivers measurable improvements in public space conditions. These components create a pathway for reducing heat exposure and improving public space conditions across the state.



Glossary (A -H)

Agreed-Upon-Procedure Review: an attestation engagement where a certified public accountant issues a report of findings based on specific procedures performed on the subject matter. [47]

Albedo: The proportion of the incident light or radiation that is reflected by a surface [48].

Anthropogenic climate change: Long-term shifts in temperatures and weather patterns caused by human activities since the 1800s, primarily due to the burning of fossil fuels like coal, oil, and gas [49].

Authority bonds: a debt security issued by an authority formed to manage a public enterprise [50].

Climate Change Superfund Act: Establishes the climate change adaptation cost recovery program and the climate change adaptation fund, and follows the 'superfund' polluter pays model [51].

Competitive grant program: A competitive grant program is a type of funding mechanism where applicants compete to receive grants by submitting proposals that are evaluated based on merit [52].

Consolidated Funding Application (CFA): It is the New York State funding application that allows applicants to access multiple state funding sources through one application, making the process quicker, easier, and more productive [53].

Department of Loans and Grants: The department sits within the Empire State Development corporation and provides various loan and grant programs for businesses and economic development

Grant Disbursement Agreement (GDA): legal document outlining the terms for how and when grant funds will be transferred from a grantor to a recipient [54].

Heat syncope: a fainting episode that someone can experience in high environmental temperatures, usually during the initial days of heat exposure [55].

Glossary (I-Z)

Impervious: a type of surface that does not let any material pass through, and it can include concrete and asphalt surfaces [56].

Incentive Proposal (IP): A plan developed between grantee and the Loans & Grants Department to detailing project deliverables, timelines, budgets and measurable outcomes.

Mean radiant temperature (MRT): The average temperature of surrounding surfaces such as pavement, buildings, and other structures that radiate heat toward a person, and it captures how the human body gains or loses heat through radiation [57].

Radiative forcing: the difference between the energy a planet receives from the sun and the energy it radiates back into space (W/m^2) [58].

Regional Economic Development Councils (REDCs): 10 state-appointed bodies across New York that support economic development by identifying regional priorities and scoring funding proposals. They advise Empire State Development on where state investments should go, ensuring projects align with each region's strategic plan [59].

Thermal inertia: the resistance of a material to changes in temperature, meaning it indicates how quickly an object heats up or cools down [60].

Thermoregulation conditions: process of maintaining body temperature, which is affected by conditions including environmental conditions (like heat exposure), medical conditions, and illnesses

Urban Development Corporation Act (UDC): New York State law passed in 1968 that created the New York State Urban Development Corporation, a public benefit corporation that established the UDC to address urban blight, lack of housing, and economic decline by promoting job creation and economic growth throughout the state [61].

APPENDIX A - Master Calendar

[illegible]

APPENDIX B - ESD Grant Process

1. Award Selection

ESD screens applications/RFP responses for eligibility, alignment with regional/state priorities, and basic feasibility. Projects are named as tentative awardees pending due diligence and Board approval. Applicants are notified of the provisional award, funding source, and any immediate conditions.

2. Develop Incentive Proposals (IPs)

Program staff draft the non-binding IP in collaboration with the tentative awardees. This typically covers: project scope and schedule; total budget and sources/uses; job/impact metrics and reporting; environmental and site status (e.g. permits, site control); financing commitments; and a milestone-based reimbursement plan (documentation required, draw timing). Internal partners (Regional Office, Legal/Counsel, Finance/Budget, Risk/Compliance) review for accuracy and risk.

3. ESD Board Approval

Staff prepare Directors' materials (project summary, statutory findings, funding authorization, environmental findings where applicable) reflecting the IP terms. The Board of Directors votes to approve the award and authorize ESD officers to negotiate and execute agreements consistent with those terms.

4. IP Issued and Accepted

ESD issues the IP to the awardee. The awardee signs/acknowledges the terms: scope, milestones, deliverables, documentation, and conditions precedent. Acceptance confirms alignment before legal drafting; it may include deadlines to satisfy conditions and submit required startup documents.

5. Grant Disbursement Agreements Executed

ESD and the awardee sign the binding Grant Disbursement Agreement (GDA). It codifies milestones, eligible costs, evidence required for reimbursement (invoices, payrolls, lien waivers), insurance/indemnification, audit and record-keeping, schedule, and standard remedies. Once fully executed, and after any conditions precedent are met, the project can request reimbursements as milestones are completed. The first reimbursement request can be requested 3 months after the commencement of the project.

APPENDIX C - Quarterly Distribution of Year 1 Expenditures

Category	Q1 (\$)	Q2 (\$)	Q3 (\$)	Q4 (\$)	Total (\$)
1. Personnel (3 full time office + 12 Regional FTEs)	286,750	286,750	286,750	286,750	1,147,000
2. Travel	0	13,333	13,333	13,334	40,000
3. Equipment & Supplies	15,000	10,000	0	0	25,000
4. Outreach & Marketing	25,000	15,000	10,000	0	50,000
5. Indirect / Administrative Overhead	11,875	25,875	25,875	11,375	75,000
Total	338,625	351,958	336,958	311,459	1,337,000

APPENDIX D - Staff Job Titles and Descriptions (New Staff)

Staff Type	Position	Type of Employee (Contribution %)	Grade/ Salary Range (Annual)	Roles / Responsibilities
New Staff	Shade Strategies for Growth Program Director	Full-time (100%)	GS-33* [62] \$90,000 - \$100,000	Oversees program implementation, reporting, and coordination with regional offices and Review Panel.
	Shade Strategies for Growth Assistant Director	Full-time (100%)	GS-31* \$80,000 - \$90,000	Supports the Program Director and manages day-to-day operations.
	Shade Strategies for Growth Administrative Assistant	Full-time (100%)	GS11-15* [63] \$58,000 - \$68,000	Provides administrative and logistical support for the program.
	Review Panelist: New York State Department of Transportation (NYSDOT)	Contractor (25%)	Non-Statutory (NS) ** [64] \$27.23/hr - \$40/hr	Provide technical expertise to assess municipal proposals based on evaluation criteria. The panel does not participate in program implementation or post-award activities. Expertise in transportation safety and design, ensuring proposed shade structures integrate effectively into streetscapes,
	Review Panelist: New York State Department of Environmental Conservation (DEC)	Contractor (25%)	NS** [65] \$25.84/hr - \$40.93/hr	Provide technical expertise to assess municipal proposals based on evaluation criteria. The panel does not participate in program implementation or post-award activities. Expertise in environmental and climate analysis, ensuring proposed projects deliver measurable heat adaptation
	Review Panelist: NYS Office of Parks, Recreation and Historic Preservation (OPRHP)	Contractor (25%)	NS** [66] \$25.84/hr - \$40.93/hr	Provide technical expertise to assess municipal proposals based on evaluation criteria. The panel does not participate in program implementation or post-award activities. Expertise in recreational space,

APPENDIX E - Staff Job Titles and Descriptions (Regional Staff)

Regional Staff	Capital Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	Act as regional program coordinator, overseeing local projects and serving as municipal points of contact for the Transportation and Equipment division's Shade Strategies for Growth management team.
	Central New York Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	Finger Lakes Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	Long Island Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	Mid-Hudson Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	Mohawk Valley Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	New York City Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	New York City Region: Shade Strategies for Growth Program Assistant	Full-time (100%)	\$75,000	
	North Country Region Plattsburgh: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	North Country Region Watertown: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	Southern Tier Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	
	Western New York Region: Shade Strategies for Growth Program Coordinator	Full-time (100%)	\$75,000	

APPENDIX F - Proposed Performance Measurement Framework (Input Measures)

Category	Objective	Baseline	Targets	Measurement and Reporting
Staffing and Onboarding	Ensure the program is initiated within the deadlines set by the bill and that the internal structure is established.	Legislation enacted	Program Director + 2 Administrative Assistants hired within 90 days; inter-agency panel established within first 120 days	1. Establish the core team within 90 days of legislation approval. 2. Recruit inter-agency panel. 3. Annual staff performance review
Creation of Application Guidelines and Selection Criteria	Establish a fair selection criterion in line with the Shade Act provisions and ESD's core mandate. Create	Templates from ESD and other agencies' grants.	Final guidelines and 100-point scoring rubric published before first application cycle; reviewed annually for updates.	1. Annual review for continuous alignment with program goals.
Marketing and Outreach	Maximize reach and awareness of the new grant across all NYS regions.	0 events	10 outreach events (1 per region); 2 applications per region per cycle.	1. Number of events/webinars conducted. 2. Track the number of attendees 3. Number of municipalities reached. 4. Number of municipalities submitting applications.
Regional Coordination	Ensure active engagement of Regional Offices and regional ESD offices.	No contact	Monthly meetings between Regional Offices and SSG team; ≥ 80% of projects demonstrating REDC endorsement in	1. Monthly meetings 2. Evidence of the Regional Offices' integration in application review and
Funding Availability	Guarantee equitable distribution of funds per cycle	\$0 allocated	\$100 million per cycle; > 30% of total available funds to any single region; minimum allocation of \$5 million per ESD region.	1. Annual program report detailing regional allocation.

APPENDIX G - Proposed Performance Measurement Framework (Output Measures)

Category	Objective	Baseline and Target	Measurement and Reporting
Number of projects approved	Ensure balanced regional participation by approving at least one project per ESD region per cycle.	Baseline: 0 Target: 20 projects per cycle;	1. Number of applications received per cycle. 2. Approval rate (% approved vs total received. 3. Number of projects reaching IP approval. Reporting: Annual SSG Program report tracking progress, submitted by the Program Director and published through the Loans and Grants department.
Total funding allocated	Achieve full commitment of available program funds each cycle (\$100 million)	Baseline: \$0 committed. Target: 100% of \$100 million allocated annually.	1. % of funding awarded by region. 2. % of allocations to public transit vs public gathering spaces. Reporting: Annual SSG Program report tracking progress, submitted by the Program Director and published through the Loans and Grants department.
Projects Approved in Distressed Communities	Ensure equitable access and targeted support for disadvantaged areas.	Baseline: Pending applicant distribution. Target: ≥ 30% of total projects located in ESD-designated distressed communities	1. Applications and approvals from distressed communities. 2. Share of GDAs awarded in distressed areas. Reporting: Annual SSG Program report tracking progress, submitted by the Program Director and published through the ESD Loans and Grants department.

APPENDIX I - Proposed Performance Measurement Framework (Output Measures)

Category	Objective	Baseline and Target	Measurement and Reporting
Application Processing Efficiency	Maintain a timely review of all applications.	Baseline: None. Target: ≥ 90% of applications reviewed within 60 days of deadline	1. Average review time (days). 2. Review panel satisfaction and feedback. Reporting: Annual internal report to the Program Director for program review.
Program Success	Ensure projects align with the SSG program's long-term goals.	Baseline: 0 constructed. Target: ≥ 95% of approved projects reach IP approval; ≥ 90% complete construction within 24 months in accordance with the originally agreed upon IP.	1. Total square footage of shade infrastructure approved vs. constructed. 2. Cost per square foot of shade installed. Reporting: Final Project Completion Report submitted by municipalities to ESD detailing project constructions and deliverables.
Total funding disbursed	Ensure tracking of funding disbursed through quarterly reports and constant audit by the ESD Internal Audit Department.	Baseline: \$0 disbursed. Target: 100% of committed funds reimbursed within 12 months of request.	Reporting: (1) Quarterly Fiscal Report submitted by ESD regional offices to the SSG team; (2) Quarterly Fiscal Report submitted by the SSG team after audit completion to the Loans and Grants Department. (3) Annual Fiscal Report submitted to the ESD Board of Directors.

APPENDIX H - Proposed Performance Measurement Framework (Impact Measures)

Category	Objective	Baseline and Target	Measurement and Reporting
Temperature Reduction	Quantify the effectiveness of shade infrastructure in mitigating heat exposure.	Baseline: local average temperature during summer afternoons. Recommended Target: 2–4 °C reduction in mean radiant temperature (MRT) for pedestrians; 10–20 °C reduction in surface temperature beneath shade structures or trees; increase $\geq 30\%$ canopy or shade coverage in project area.	1. Monitor Mean Radiant Temperature Reporting: Final Project Completion Report with evidence of one full summer season of monitoring temperatures and comparing to local baselines.
People Served	Assess the reach of shaded areas for the general public	Recommended Target: - Urbanized Area $\geq 1,000$ persons per square mile (US Census Bureau) - Urban Cluster ≥ 500 persons per square mile (US Census Bureau). - Areas with ≥ 500 jobs per square mile (US Census Bureau) - Heat Vulnerability Index >3	1. Estimation of the number of people served by using a density map Reporting: Final Project Completion Report with evidence of people being served by shade infrastructure, including demographic and spatial equity considerations.

APPENDIX J - Proposed Performance Measurement Framework (Impact Measures)

Category	Objective	Baseline and Target	Measurement and Reporting
Foot Traffic and Activity Levels	Evidence measuring the foot traffic and economic activity in the region	Recommended Target - Urbanized and economically active areas, prioritizing pedestrian corridor types from highest to lowest activity: 1. Global corridors; 2. Regional corridors; 3. Neighbourhood corridors; 4. Community Connectors; 5. Citywide Baseline corridors	1. Public transit projects only collect foot traffic data using DOT's Pedestrian Demand Map Methodology: 1. Retail Area Density 2. Residential Density 3. Restaurant Density 4. Parks 5. School Frontages 6. Subway Stations 7. Hospitals Reporting: Final Project Completion Report with evidence of one full summer season of monitoring foot traffic compared to baseline.
Community Satisfaction (Recommended)	Capture local community perception of new infrastructure.	Baseline: thermal conditions "hot/very uncomfortable" Target: thermal conditions "warm/acceptable"; Community satisfaction > 80%.	1. Community Surveys and interviews assessing satisfaction and usability of shaded spaces. Findings will be included in the final impact report.

APPENDIX K - Safe Havens for All Day Enjoyment Act

STATE OF NEW YORK

1028

2025-2026 Regular Sessions

IN SENATE

(Prefiled)

January 8, 2025

Introduced by Sen. MAY -- read twice and ordered printed, and when
printed to be committed to the Committee on Corporations, Authorities
and Commissions

AN ACT to amend the urban development corporation act, in relation to
enacting the "safe havens for all-day enjoyment (SHADE) act"

The People of the State of New York, represented in Senate and Assem-
bly, do enact as follows:

- 1 Section 1. This act shall be known and may be cited as the "safe
2 havens for all-day enjoyment (SHADE) act".
- 3 § 2. Section 1 of chapter 174 of the laws of 1968, constituting the
4 New York state urban development corporation act, is amended by adding a
5 new section 16-bb to read as follows:
- 6 § 16-bb. Safe havens for all-day enjoyment grant program. (1) Program
7 established. There is hereby established a "safe havens for all-day
8 enjoyment grant program" under the purview of the empire state develop-
9 ment corporation. Such program shall be a competitive grant program
10 designed to assist municipalities in the state with establishing shaded
11 public gathering spaces and public transportation areas to enhance the
12 enjoyment and use of such spaces where there is no existing or insuffi-
13 cient sun protection, as provided under this section.
- 14 (2) Definitions. For the purposes of this section, the following terms
15 shall have the following meanings:
- 16 (a) "Eligible project" shall mean a project proposed by a municipality
17 to enhance shade in the following areas within such municipality:
- 18 (i) public gathering spaces, including but not limited to public
19 parks, plazas, squares, or trails; and/or
- 20 (ii) public transportation areas, including but not limited to bus
21 stops, city blocks, or bicycling corridors.
- 22 (b) "Grant recipients" shall mean municipalities selected to receive
23 grant awards under the program pursuant to subdivision one of this
24 section.
- 25 (c) "Program" shall mean the safe havens for all-day enjoyment grant
26 program established under this section.

EXPLANATION--Matter in italics (underscored) is new; matter in brackets
[-] is old law to be omitted.

LBD03097-01-5

APPENDIX K - Safe Havens for All Day Enjoyment Act

S. 1028

2

1 (3) Selection of grant recipients. Grant recipients shall be selected
2 by the corporation based on the strength of their proposals, including
3 evaluation of eligible projects highlighted within such proposals. The
4 following criteria shall be considered by the corporation in evaluating
5 such proposals:

6 (a) Eligible projects shall be high impact in the number of people or
7 events they will serve, as determined by the corporation by evaluating a
8 history of events taking place at the location of such eligible
9 projects, traffic studies, and any other evidence of regular use deemed
10 relevant by the corporation;

11 (b) The corporation shall favor selection of eligible projects that
12 will serve the largest number of people; and

13 (c) Eligible projects shall demonstrate an impact on mean radiant
14 temperature, with a focus on reducing or providing relief from heat
15 enhanced by the urban heat island effect, as determined by the corpo-
16 ration, who shall develop standards for demonstrating such impacts.

17 (4) Grants awarded and matching funds. (a) The corporation shall
18 determine amounts to be awarded to grant recipients on an individual
19 basis, based on the financial needs of the eligible projects proposed by
20 such grant recipients. Criteria for such determinations shall be estab-
21 lished by the corporation by rules and regulations.

22 (b) Grant recipients shall match the value of funds awarded to such
23 grant recipients under paragraph (a) of this subdivision on a dollar-
24 for-dollar basis for each eligible project.

25 (5) Funding. The corporation is authorized, within available appropri-
26 ations in the empire state development fund established pursuant to
27 section sixteen-m of this act or from other funds appropriated, to make
28 grant awards available to grant recipients pursuant to the provisions of
29 this section.

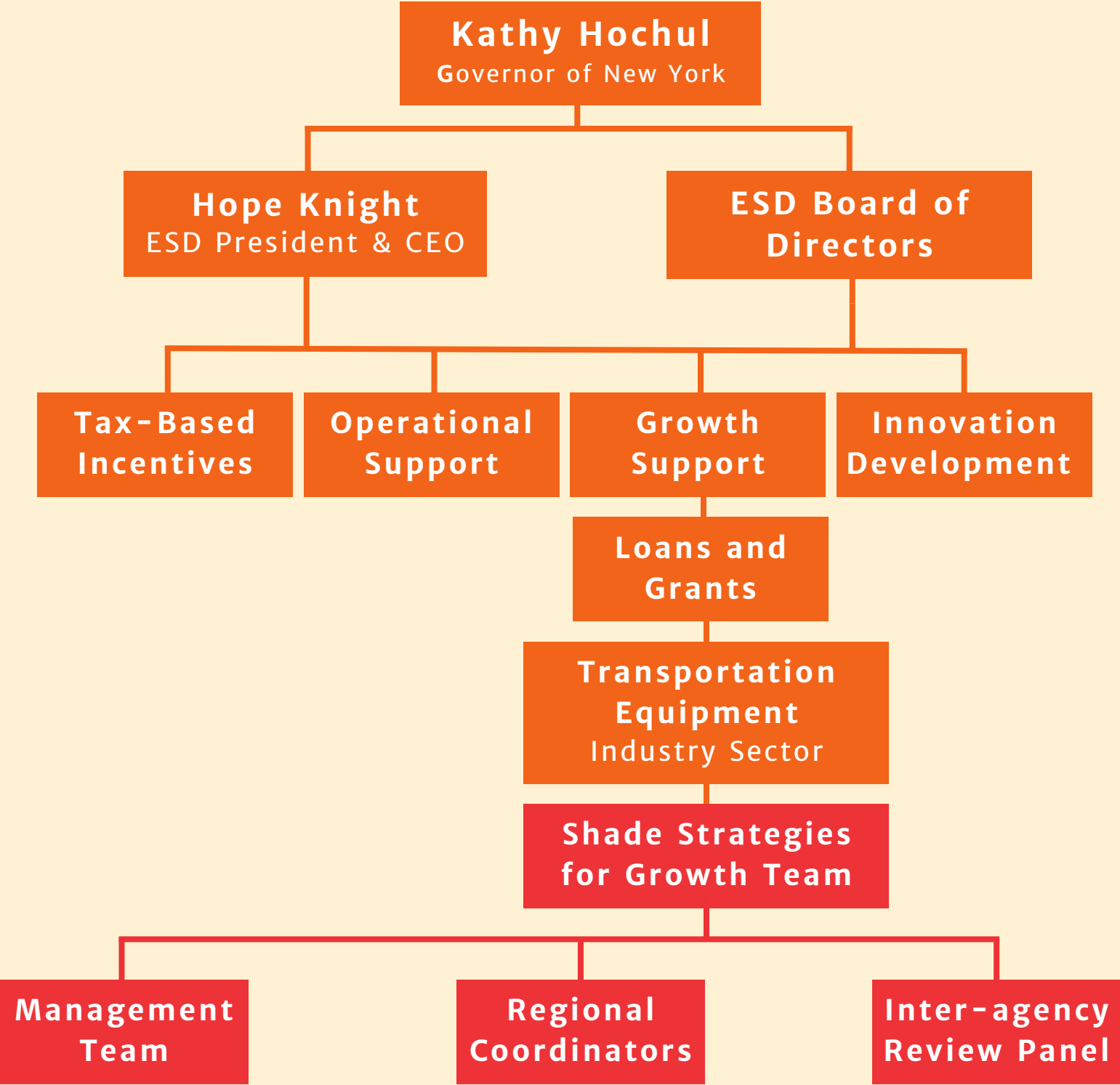
30 § 3. Subdivision 1 of section 16-m of section 1 of chapter 174 of the
31 laws of 1968, constituting the New York state urban development corpo-
32 ration act, is amended by adding a new paragraph (p) to read as follows:

33 (p) Grant awards to grant recipients as set forth under section
34 sixteen-bb of this act to support the safe havens for all-day enjoyment
35 grant program to assist municipalities in the state with establishing
36 shaded public gathering spaces and public transportation areas to
37 enhance the enjoyment and use of such spaces where there is no existing
38 or insufficient sun protection.

39 § 4. Rules and regulations. The empire state development corporation
40 is authorized to promulgate rules and regulations in accordance with the
41 state administrative procedure act that are necessary to fulfill the
42 purposes of this act. Such rules and regulations shall be completed
43 within one hundred eighty days after the effective date of this act.

44 § 5. This act shall take effect on the one hundred eightieth day after
45 it shall have become a law; provided, however, that the amendments to
46 subdivision 1 of section 16-m of section 1 of chapter 174 of the laws of
47 1968, constituting the New York state urban development corporation act,
48 made by section three of this act shall not affect the expiration of
49 such section and shall be deemed to expire therewith. Effective imme-
50 diately, the addition, amendment and/or repeal of any rule or regulation
51 necessary for the implementation of this act on its effective date are
52 authorized to be made and completed on or before such effective date.

APPENDIX L - Organizational Chart



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