

# Water Quality

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- Stormwater Management (volume and quality)
- Reduce runoff and associated pollutants by treating stormwater runoff through Best Management (BMPs) Practices



# Materials and Resources



- Reuse of Materials
- Recycled Content
- Locally Provided Material
- Bioengineering Techniques
- Hazardous Material Minimization

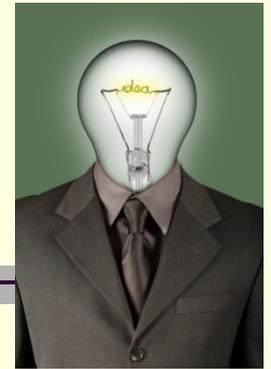


# Energy and Atmosphere

- Improve Traffic Flow
- Reduce Electrical Consumption
- Reduce Petroleum Consumption
- Improve Bicycle and Pedestrian Facilities
- Noise Abatement
- Stray Light Reduction



# Innovation and Unlisted



- Gives credit to designs that significantly build upon **GreenLITES** categories and objectives or incorporates significant innovations in transportation environmental sustainability that have not been previously utilized on NYSDOT projects.



# Design Implementation Basics



- Applies to all “D” let projects
- Consider “green” items at scoping
- Mid-point check
- **GreenLITES** scorecard at PS&E
- Add certification level to cover sheet
- Certified and above projects get certificate
- Evergreen projects get a plaque





# GreenLITES Certification Levels

- Certification level based on total points received.
- The highest certification goes to designs and operations which clearly advance the state of sustainable transportation solutions.

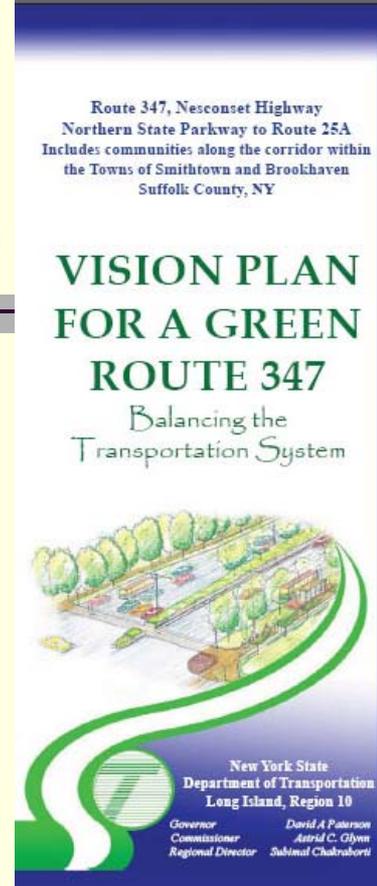
Level:	Non-Certified	Certified	Silver	Gold	Evergreen
Symbol:	No Symbol				
Points:		15 - 29	30 - 44	45 - 59	60 & up



# Evergreen Example

## Route 347 Safety and Mobility Project (Long Island)

- **Enhanced Outreach:** brochures, web page, broad stakeholder involvement, multiple public presentations.
- **Green Infrastructure:** Solar-LED bus stop, bio-swales, solar lighting, rain gardens.
- **Greenway Boulevard Design:** accommodates, pedestrians, bicycles, transit.
- **Environmental Enhancements:** remove invasive species, stock fish in river, remove debris, restore aquatic and wildlife habitat.



# Local Projects Certification

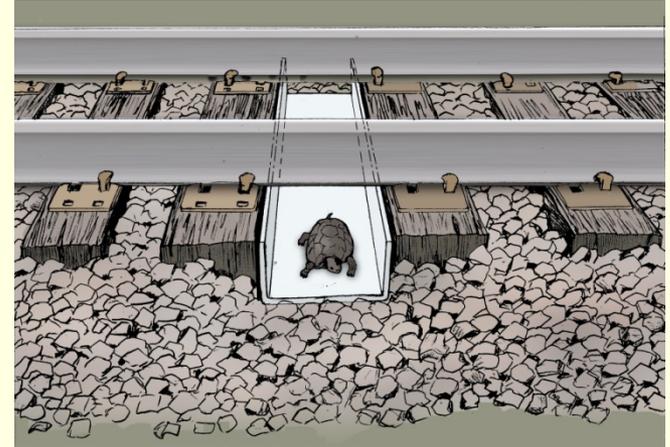
- Local municipalities may use **GreenLITES** to certify their federally funded transportation projects.
- Use is voluntary
- Distinguishes their transportation project based on the extent to which they incorporate sustainable design choices.
- Demonstrates a commitment to improving the transportation infrastructure in a way that considers the local community, environment & economy.





# Calverton Rail Spur Rehabilitation Town of Riverhead

- Remove trucks from I-495
- Use steel ties instead of potentially toxic treated wooden ties
- Install salamander/turtle crossing to protect and enhance wildlife
- Part of community Smart Growth Plan





# Delaware Avenue Rd Rehabilitation City of Albany



*LED Pedestrian  
Lighting*

## **STREETSCAPE FEATURES**



*Recycle curb - tree planter*

*Coordinated Traffic  
Signals with Pedestrian  
Count-down Timers*



*ADA / Decorative  
Crosswalks*



*Full ADA  
Compliance*



# Earth Day Celebration

- Evergreen Plaques, Gold Certificates
- 3<sup>rd</sup> Year: 425 Projects, 90 Operations Groups, 11 Regions



# **NYSDOT builds projects right . . .**

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**. . . and we want to be sure we are building the right project.**

# GreenLITES Planning

- Voluntary tool for municipalities to self rate their projects using sustainability criteria.
- Promotes balanced approach in selecting projects and making sustainable transportation decisions.



**How to Use**

This rating tool will provide a mechanism to determine goals. Points are awarded for each criterion that supports the project. If a criterion is not applicable to the project, the "no" box is an opportunity to briefly explain how the project differs from the criterion.

The criteria below are preceded by a question which provides context to the criteria. For example, the first question focuses on the comprehensive plan and all the subsequent questions relate to the plan.



**1.** Is the project consistent with current local comprehensive plan (developed within last 10 years), and does that Plan address sustainable practices (see below)?

		YES	NO	Comments
1a.	Does the Plan provide a clear vision of community objectives and priorities?	<input type="checkbox"/>	<input type="checkbox"/>	
1b.	Is the Plan consistent with regional plans?	<input type="checkbox"/>	<input type="checkbox"/>	
1c.	Does the zoning map and zoning ordinances reflect the intent of the Plan?	<input type="checkbox"/>	<input type="checkbox"/>	
1d.	Does the Plan incorporate "walkable communities" and/or "complete streets" concepts?	<input type="checkbox"/>	<input type="checkbox"/>	
1e.	Has the Plan been developed through an enhanced public outreach effort? This would involve reaching out to all members of the community, including minority and low income and Limited English Proficiency populations.	<input type="checkbox"/>	<input type="checkbox"/>	
1f.	Does the Plan promote population and development densities that are sufficient to warrant public transit?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Total Points (Maximum points= 6)</b>		_____		





# GreenLITES Draft Regional Assessment Tool

GreenLITES: 2010-11 Sustainability Assessment Pilot  
Mar 3, 2010

**Draft GreenLITES Regional Assessment Table**  
Region: \_\_\_\_\_  
Date Submitted: \_\_\_\_\_

Economy	C
Access to jobs and labor	
Access to non-work activities (Quality of Life: recreation, schools, etc.)	
System Connectivity	
Transportation Preservation (Maintenance backlog)	
Competitiveness (All modes):	
Reliability	
Timely	
Predictability	
Attractiveness to business	
Transit passenger miles	
Other:	
Environment	
Petroleum consumption reduction	
Air Quality - CO2 emissions	
Water Quality:	
Groundwater	
Surface water	
Habitat:	
Terrestrial	
Aquatic	
Visual / Aesthetics	
Electrical energy reduction	
Noise reduction	
Other:	
Social Equity (Includes Livability & Safety)	
Fatality and injury reductions per VMT	
Improved mobility for all including the disadvantaged and disabled	
Improved mobility options & choices	
Generational Equity	
Access to affordable transportation	
Incorporate community cohesion, long range land use plans and smart growth principles	
Progress Environmental Justice & ADA	
Other:	

Economy	Current State	Desired State
Access to jobs and labor	The current state of access is one of extreme geographic dispersion of residential and job locations. Over the past 40 years much non-governmental and non-medical employment has been relocated from central cities to a number of suburban commercial corridors. The result of this migration has created a high demand on the Interstate highways (approximately 90% of commuters now use the Interstate for some portion of their work trips, compared to 30-50% 40 years ago). Also, transit service is all but impossible to service many job corridors effectively.	State investment policies to encourage more "in-fill" development including multi-use and transit oriented districts. Policies would envelop targeted expenditure of State transportation funds, refocus of STAR property tax exemptions and redevelopment grants to willing developers. Continue with initiatives to better manage the I-87 /Route 9 Corridor for capacity reserve. State would develop land use legislation to extend to "sustainable" corridors. DOT would refocus as investments away from primarily AADT-volume level driven. Expand the CMAQ Program to create transportation – land use linkage support.
Access to non-work activities (Quality of Life: recreation, schools, etc.)	Access to non-work activities is generally excellent with the exception of summer month congestion at peak periods where vacation traffic overlaps commuter traffic.	An extensive trail system and ped/bike accommodations such as that envisioned and being acted on by Saratoga County in conjunction with Saratoga PLAN (a land use conservancy group).
System Connectivity	Connectivity from major hubs-bus, rail and airport reliant primarily on auto or taxi to most destinations.	Creation of downtown hubs for intermodal transfers. Connect BRT between these hubs and AMTRAK, Albany Airport and other primary trip generators. Potential light rail corridors along the Hudson River.
Transportation Preservation (Maintenance backlog)	Assessments show the current state of repair shows us over 50% below our ideal needs.  EX: Metrics: Bridges: 45% deficient deck area (2009), 32% deficient number of bridges. Acceptable deficient, 20% number of bridges and 30% deficient deck area.	It would be of the best interest of the Region to take an extensive re-look at their assets based on budgetary restrictions.  We need to establish acceptable states of repair relative to long term budget expectations.  <b>Other assets:</b> Establishing an acceptable level of functionality and repair.
Competitiveness (All modes):		
Reliability		Maintain existing state
Timely	3.8 hrs combined AM-PM peak	< 3.0 hrs combined AM-PM peak
Predictability		
Attractiveness to business	Handled by work permits	Coordinated GEIS "districts"
Transit passenger miles	14,000,000 (2.6% use transit to commute)	Expand connector transit usage to 10%.

For ease of access, this table is posted to the NY <https://www.nysdot.gov/programs/greenlites>.



# Regional Sustainability Assessment Plan

<b>Environment Assessment Items</b>	<b>Current State (Base Line Year - 2010)</b>	<b>Desired State (<i>Place target year here</i>)</b>	<b>Action Plans - Getting from Current to Desired State</b> (Include target completion date, may yellow highlight items with no direct control)	<b>Accomplishments - Status Year</b> ( <i>Insert year</i> )	<b>Next Steps</b>
Petroleum consumption reduction					
Air Quality - CO2 emissions					
Water Quality:					
• Ground water					
• Surface water					
Habitat:					
• Terrestrial					
• Aquatic					
• Visual /Aesthetic					
Electrical energy reduction					
Noise reduction					
Other:					

# GreenLITES Coordination Challenge

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- Our intent is to integrate and align GreenLITES practices in our Planning, Design/Construction and Operations program areas.



# Tools for Each Decision Level

Strategic  
(why)

Tactical  
(what)

Operational  
(how)

GreenLITES: 2016-11 Sustainability Assessment Pilot  
Mar 3, 2016

Multi GreenLITES Regional Assessment Table

Region: [ ]  
County: [ ]  
City: [ ]  
State: [ ]

Project Name: [ ]  
Project ID: [ ]  
Project Type: [ ]  
Project Location: [ ]  
Project Start Date: [ ]  
Project End Date: [ ]

Project Description: [ ]  
Project Objectives: [ ]  
Project Stakeholders: [ ]  
Project Risks: [ ]  
Project Benefits: [ ]

Project Sponsor: [ ]  
Project Manager: [ ]  
Project Lead: [ ]  
Project Contact: [ ]

Project Address: [ ]  
Project Phone: [ ]  
Project Email: [ ]  
Project Website: [ ]

Project Status: [ ]  
Project Phase: [ ]  
Project Budget: [ ]  
Project Funding: [ ]

Project History: [ ]  
Project Changes: [ ]  
Project Updates: [ ]  
Project Notes: [ ]

**How to Use This DRAFT Tool**

This rating tool will provide a mechanism to determine how closely your project is consistent with these sustainability goals. Points are awarded for each criterion that supports these goals, with each "yes" answer receiving one point. If the criterion is not applicable to the project, the "no" box can be checked or "NA" written in the comment box. The comment box is an opportunity to briefly explain how the project addresses the specific criteria.

Questions are preceded by a question which is related to the criteria. For example, the first question for the "Avoidance of previously undeveloped lands" criterion is "Is the project consistent with current comprehensive plan (developed within 10 years) and does that plan address sustainable practices (see below)?"

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GreenLITES Project Environmental Sustainability Rating System Scorecard v 2.0.1  
Please fill in all yellow highlighted cells and follow all instructions in red text

CATEGORY	ID	DESCRIPTION	POINTS	Project PIN	Project Name	Type	Element Specific?	INSTRUCTIONS		EXPLANATION OR COMMENT (optional)	
								Available	Scored	Points	Comments
S-1 Alignment Selection	S-1a	Avoidance of previously undeveloped lands (open spaces or "greenfields")	2					→ Please enter 0 or 2			
	S-1b	Selecting an alignment that establishes a minimum 100-foot buffer zone between the edge of pavement and a natural watercourse or significantly sized natural wetland to serve the purpose of stormwater filtration.	2					→ Please enter 0 or 2			
	S-1c	Alignments which minimize overall construction "footprint." Examples: use of retaining walls, selecting design option with minimal footprint.	2					→ Please enter 0 or 2			
	S-1d	Design vertical alignments which minimize total earthwork.	1					→ Please enter 0 or 1			
	S-1e	Adjust alignment to avoid or minimize impacts to socioenvironmental resources (avoidance of parklands, wetlands, historic sites, farmlands, vegetation, commercial buildings, etc.).	1					→ Please enter 0 or 1			
	S-1f	Alignments that optimize benefits among competing options (the goal is always the minimum-length alignment, but the one with the greatest overall benefit over the project life cycle).	1					→ Please enter 0 or 1			
	S-1g	Micro-adjustments that do not compromise safety or engineering but that might in the future provide sufficient clear areas for trees.	1					→ Please enter 0 or 1			
	S-1h	Clear zones needed with seed mixtures that help to reduce maintenance needs and increase carbon sequestration.	1					→ Please enter 0 or 1			
	S-1i	Provide a depressed roadway alignment.	1					→ Please enter 0 or 1			
	S-1j	Use of launched soil rails as a more cost effective option to ditches, rather than, for example, closing a road to construct a retaining wall which may negatively affect traffic flow and neighboring properties.	1					→ Please enter 0 or 1			
S-2 Context Sensitive Solutions	S-2a	Adjust or incorporate highway features to respond to the unique character or sense of place (both natural and built) of the area ("Unique character" means whatever identifiable elements make a place distinctive, memorable, important to the community, etc.: landmarks, views, historic bridges & buildings, walkways, characteristic use of materials, a visible stand of trees, etc.)	2					→ Please enter 0 or 2			
	S-2b	Incorporate local or natural materials for substantial visual elements (e.g., bridge fascia, retaining walls).	2					→ Please enter 0 or 2			
	S-2c	Visual enhancements (screening objectionable views, strategic placement of vegetation, enhancing scenic views, burying utilities, etc.)	1					→ Please enter 0 or 1			
	S-2d	Period street furniture/lighting/appearances.	1					→ Please enter 0 or 1			
	S-2e	Inclusion of visually-contrasting (colored and/or textured) pedestrian crosswalk treatments.	1					→ Please enter 0 or 1			
	S-2f	Follows the NYS Bridge Manual, Section 23 - Aesthetics.	1					→ Please enter 0 or 1			
	S-2g	Site materials selection & detailing to reduce overall urban "heat island" effect.	1					→ Please enter 0 or 1			
	S-2h	Inclusion of visually-contrasting (colored and/or textured) pedestrian crosswalk treatments.	1					→ Please enter 0 or 1			
	S-2i	Permanently protect viewsheds via environmental or conservation easements.	1					→ Please enter 0 or 1			

Maintenance and Operations Plan Program Update

Region: [ ]  
County: [ ]  
City: [ ]  
State: [ ]

Project Name: [ ]  
Project ID: [ ]  
Project Type: [ ]  
Project Location: [ ]  
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Program	Line	Asset Type	Activity	Unit of Accomplishment	TOTAL INFRASTRUCTURE		MAINTENANCE BY STATE FUNDS				MAINTENANCE BY CONTRACT				Est. Total BOD Cost (\$M)
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Program	Line	Asset Type	Activity	Unit of Accomplishment	Total Units										

# Sustainability Factors

**Sustainability**  
**Triple Bottom Line**

Environment

- Energy consumption
- Recycled material
- Resource extraction
- Air emissions

Social

- Access (jobs, services, markets)
- Mobility (commute, emergency response)
- Community cohesion

Economy

- “Keep the Good Good”
- Material/construction costs
- Development/ community viability
- Property values