



GREEN and Complete Streets: Designing Streets for People, Cars, AND Stormwater

NJDOT Green Infrastructure in Transportation Tech Talk

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NEW JERSEY FUTURE



**SMART GROWTH RESEARCH, POLICY,
ADVOCACY, AND ASSISTANCE**



MAINSTREAMING GREEN INFRASTRUCTURE

A program of New Jersey Future



JERSEY WATER
 **WORKS**

The logo for Jersey Water Works features three circular icons. The first is orange with a white silhouette of the state of New Jersey. The second is blue with a white water drop. The third is green with a white silhouette of a person with their arms raised in a celebratory gesture.

Smart infrastructure. Strong communities.



NEW JERSEY GREEN INFRASTRUCTURE MUNICIPAL TOOLKIT



FROM STORMWATER
TO CLEAN WATER

PREVENT
POLLUTION

REDUCE
FLOODING

IMPROVE YOUR
COMMUNITY

INTRODUCING YOUR ONLINE, ONE-STOP
GREEN INFRASTRUCTURE RESOURCE

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Mainstreaming Green Streets in New Jersey: Policy Recommendations for State Government

*Issued by the Jersey Water Works Green Infrastructure Committee
and Prepared by Kandyce Perry and Mukta Ramola, New Jersey Future*

Streets use green infrastructure practices within the public right-of-way to manage the primary function of a street as a conduit for vehicles, pedestrians, transit riders. Streets comprise a significant proportion of impervious cover in most communities and are a major contributor to stormwater runoff. As the frequency of heavy precipitation increases, the need to more effectively manage stormwater is critical. Creating green streets provides an opportunity for municipalities, counties and the state to improve stormwater management, which improves water quality, minimizes localized flooding, and provides many other benefits to attractive streetscapes.

This report provides a conceptual framework for discussing the role of New Jersey state government in mainstreaming green streets to the mainstream. A list of recommendations for the state is organized into three categories: those that can be put into practice immediately, those that require a moderate amount of time, and others that require a longer implementation timeline.

In a densely populated state like New Jersey, the management of stormwater runoff is an important consideration for developed areas as impervious surfaces like roofs, roads and parking lots prevent rain from seeping into the ground. As of 2012, the state had the highest percentage of impervious cover in the country at 12.1 percent of its total area. A substantial portion of the impervious cover is in the form of streets, which also collect stormwater from nearby impervious surfaces.

The expansion of impervious cover through development, coupled with the recent increase in the frequency and intensity of storm events due to climate change, contributes to a rise in the volume of stormwater generated. The result is increased localized and severe flooding, polluted downstream waters, and increased combined sewer overflows, which discharge untreated stormwater and wastewater directly to nearby streams and rivers.

In urbanized areas, stormwater runoff from impervious surfaces has traditionally been managed with gray infrastructure, including catchment basins, underground metal and concrete pipes, holding tanks, pumps, and treatment plants. Green infrastructure (GI) techniques are now being introduced, typically to complement gray approaches, because they offer substantial environmental benefits for water quality and groundwater recharge as well as community and public health benefits. Green Infrastructure is an approach to managing stormwater by enabling it to infiltrate into the ground where it falls or by capturing it for later reuse. GI can be located in many public and private places, e.g., green roofs on top of apartment buildings or warehouses, rain gardens at schools, parks and libraries, etc.



| Complete Streets Policy Adoption

Status as of Jan. 2018

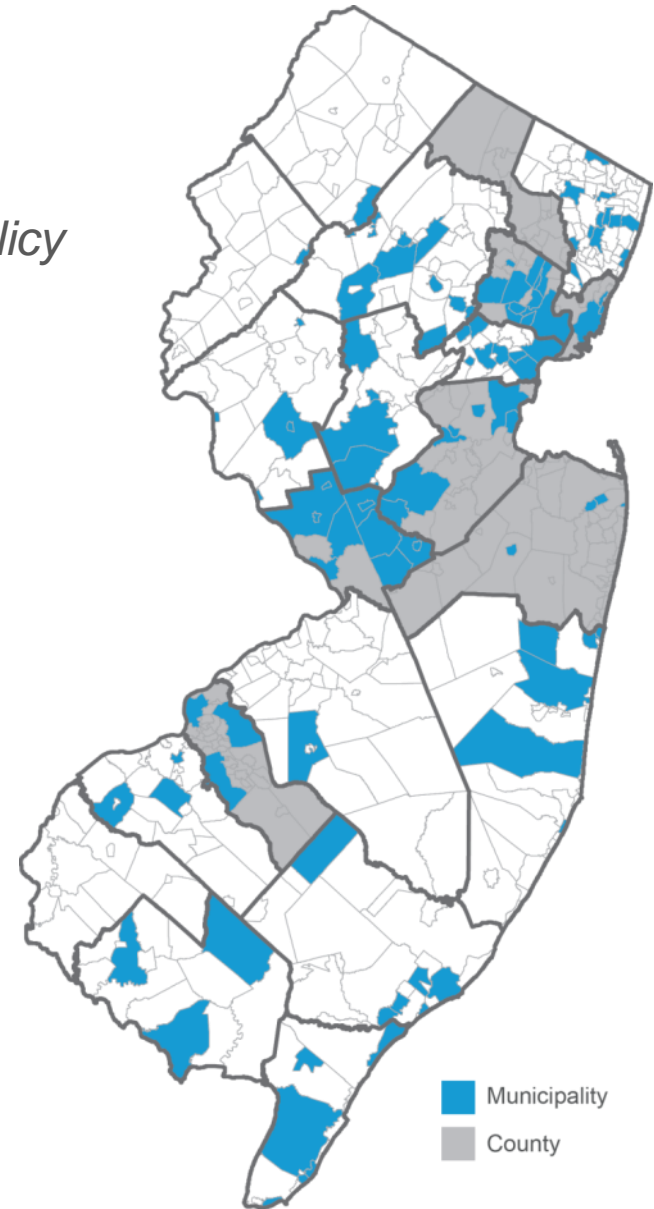
- + 141 municipal policies
- + 8 county policies
- + NJ Department of Transportation Policy

New Jersey Counties

Essex County (April 11, 2012)
Hudson County (May 25, 2012)
Mercer County (April 26, 2012)
Middlesex County (July, 2012)
Monmouth County (July 22, 2010)
Camden County (December 19, 2013)
Passaic County (February 11, 2014)
Somerset County (October 11, 2016)

New Jersey Municipalities

Atlantic City, City of (December 7, 2011)
Bedminster, Township of (July 16, 2012)
Bergenfield, Borough of (August 6, 2013)
Bloomfield, Township of (March 7, 2011)
Buena, Borough of (October 14, 2014)
Caldwell, Borough Of (April 15, 2014)
Califon, Borough of (December 3, 2012)
Camden, City of (June 13, 2013)
Cape May, City of (August 7, 2012)
Chatham, Borough of (March 21, 2012)
Cherry Hill Township (March 24, 2014)
Chester, Township of (June 5, 2013)
Cranford, Township of (September 10, 2013)
Denville, Township of (November 24, 2010)
Dover, Town of (March 27, 2012)
Downe, Township of (October 7, 2013)
East Orange, City of (September 23, 2013)



A photograph of a city street intersection in New York City. On the left is a tall brick apartment building. In the background, the Manhattan Bridge is visible. The street has a red overlay with the text "A street for cars". A yellow taxi is driving away from the camera. A person is riding a bicycle with a child in the back seat. The street has white painted text that reads "X-ING X-ING X-ING SCHOOL SCHOOL SCHOOL".

A street for cars

A photograph of a city street scene, likely in New York City, featuring a large brick building on the left, a suspension bridge in the background, and a street with cars, bicycles, and a green bike lane. A large, semi-transparent red rectangle is overlaid diagonally across the center of the image, containing white text. The text reads "A street for cars AND people".

A street for cars AND people

An aerial photograph of a city street scene. On the left is a tall brick apartment building. In the foreground, there's a landscaped area with yellow chairs and tables, a paved path with 'PED' and 'TO' markings, and a 'YIELD' sign. A red semi-transparent banner is overlaid diagonally across the middle of the image, containing white text. In the background, a suspension bridge (the Manhattan Bridge) is visible against a blue sky with some clouds. The street has cars parked along the side and a crosswalk in the lower right.

A street for cars,
people, AND water



GREEN Streets in New Jersey



Broadway Triangle, Camden City Before



Broadway Triangle, Camden City After

Credit: Camden County Municipal Utilities Authority



Westfield Ave., Camden City Before



Westfield Ave., Camden City

Credit: Camden County Municipal Utilities Authority



Westfield Ave., Camden City After



Millburn, NJ



Hoboken

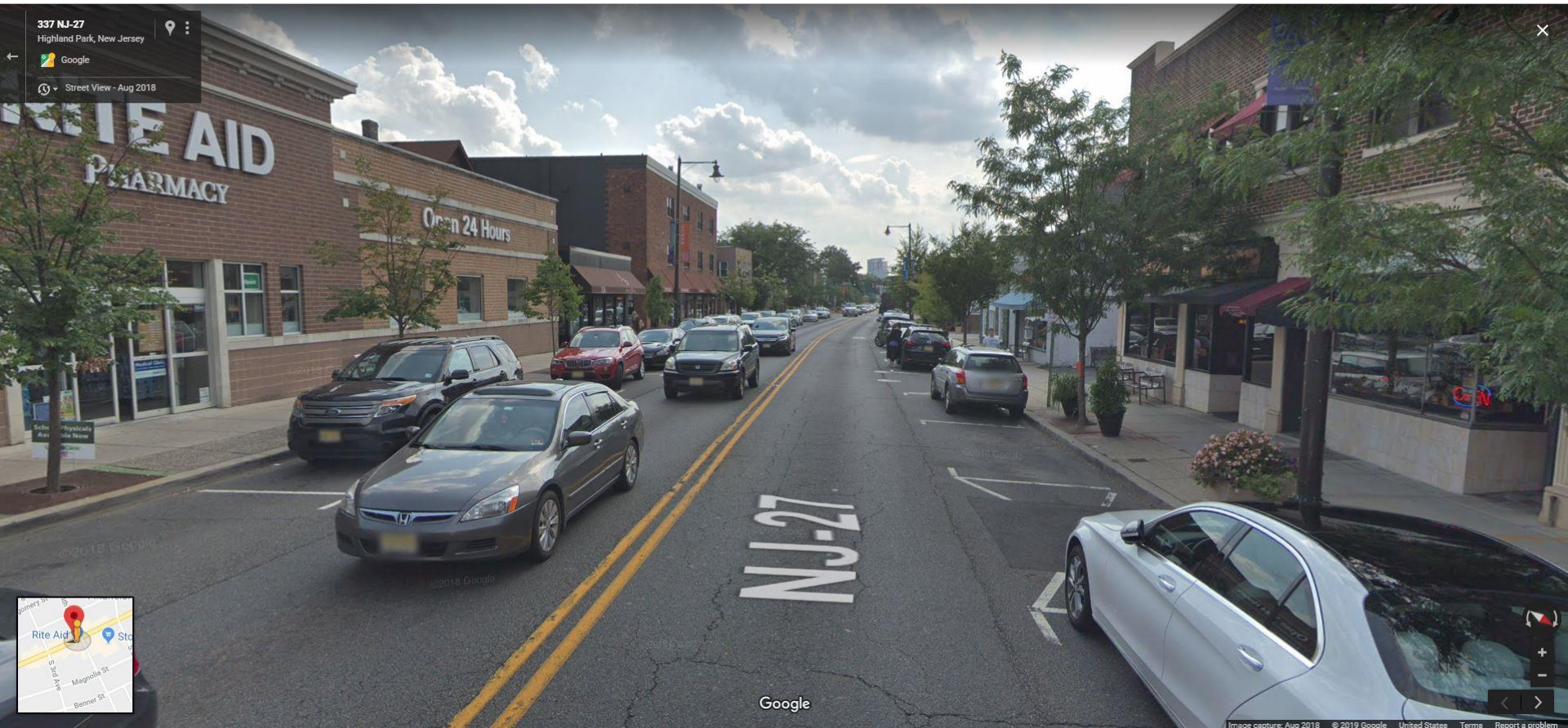
NJDOT Green Street Opportunities

NJ-27 (Nassau St.) Princeton



Image capture: Jul 2018 © 2019 Google United States Terms

NJ-27 (Raritan Ave.) Highland Park



US 206 (Main St.) Newton



US 206 (Broad St.) Trenton



US 9 (Main St.) Tuckerton



Identifying Green Street Opportunities

- New Streets
- Street retrofits
- Capital plans





Public Health
& Safety



Green Streets



Economy



Equity

FEBRUARY 2019

COMPLETE & GREEN STREETS FOR ALL

MODEL COMPLETE STREETS POLICY & GUIDE

MAKING NEW JERSEY'S COMMUNITIES HEALTHY, EQUITABLE, GREEN & PROSPEROUS



What municipalities/counties do?

1. Start to build the knowledge base and demand for green streets by referencing and **sharing [these resources](#) with local leaders and neighbors.**
2. Encourage local leaders to **adopt a complete streets policy** which incorporates green streets.
3. Recommend their Green Team **complete new [Sustainable Jersey Actions](#) for Green Infrastructure [Planning](#) and [Implementation](#).**

What can NJDOT do?

1. Add green streets to complete streets policy and program
2. Prioritize green streets into Local Aid Grant Program
3. Continue to provide education and training
4. Partner with locals to advance a green street demonstration project
5. Update Roadway Design Manual

Coming Soon!

- Complete and Green Streets For All:
Model Complete Streets Policy
- Jersey Water Works Green Streets
Handbook

A Few Resources

- New Jersey Future
 - [New Jersey Green Infrastructure Municipal Toolkit](#)
 - [Mainstreaming Green Infrastructure Green Street Resources](#)
- [Jersey Water Works Mainstreaming Green Streets in New Jersey Policy Paper](#)
- EPA:
 - [Learn about Green Streets](#)
 - [A Conceptual Guide to Effective Green Street Design Solutions: Green Streets](#)
 - [Managing Wet Weather with Green Infrastructure - Municipal Handbook - Green Streets](#)
- Water Environment Research Foundation:
 - [Creating a Successful Green Street Program](#)
 - [Green Streets Basics and Design](#)
 - [Promoting Green Streets](#)
- Design Guides:
 - [Urban Street Stormwater Guide \(National Association of City Transportation Officials\)](#)
 - [City of Philadelphia Green Streets Design Manual](#)

Thank You!

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<http://www.njfuture.org/MainstreamingGI>

<http://www.jerseywaterworks.org>





Stormwater never travels alone.

Source: USEPA