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

NJDOT Green Infrastructure in Transportation Tech Talk
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MAINSTREAMING GREEN INFRASTRUCTURE
A program of New Jersey Future

JERSEY WATER WORKS
Smart infrastructure. Strong communities.
streets use green infrastructure practices within the public right-of-way to manage stormwater, preserving the primary function of a street as a conduit for vehicles, pedestrians, and riders. Streets comprise a significant proportion of impervious cover in most urban areas, making streets a major contributor to stormwater runoff. As the frequency of heavy precipitation events increases, the need to more effectively manage stormwater is critical.

Creating green streets for municipalities, counties, and the state to improve stormwater management, which improves water quality, minimizes localized flooding, and provides many other site-specific benefits, is a key strategy for sustainable urban planning. A green streets program provides a conceptual framework for discussing the role of New Jersey state agencies in supporting green streets efforts.

In New Jersey, the management of stormwater runoff is an important consideration for developed areas as impervious surfaces like roads, roofs, and parking lots prevent stormwater from seeping into the ground. As of 2012, the state had the highest percentage of impervious cover in the country at 37.1 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 (e.g., buildings and roofs) as it travels through a network of streets.

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 into nearby streams and rivers.

In urbanized areas, stormwater runoff from impervious surfaces has traditionally been managed with grey infrastructure, including catchment basins, underground metal and concrete pipes, holding tanks, pumps, and treatment plants. Grey infrastructure (GI) techniques are now being introduced to complement grey approaches, because they offer substantial environmental benefits for water quality and groundwater recharge as well as community and public health benefits. Green infrastructure (GI) techniques are an approach to managing stormwater by enabling it to infiltrate into the ground where it falls or is captured and later reused. 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.
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 street for cars
A street for cars AND people
A street for cars, people, AND water
GREEN Streets in New Jersey

Credit: Camden County Municipal Utilities Authority
Broadway Triangle, Camden City
Before

Credit: Camden County Municipal Utilities Authority
Westfield Ave., Camden City
Before
Westfield Ave.,
Camden City
After
Hoboken
NJDOT Green Street Opportunities
NJ-27 (Nassau St.) Princeton
NJ-27 (Raritan Ave.) Highland Park
US 206 (Main St.) Newton
Identifying Green Street Opportunities

• New Streets
• Street retrofits
• Capital plans
COMPLETE & GREEN STREETS FOR ALL
MODEL COMPLETE STREETS POLICY & GUIDE
MAKING NEW JERSEY'S COMMUNITIES HEALTHY, EQUITABLE, GREEN & PROSPEROUS

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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.jerseywaterworks.org
Stormwater never travels alone.