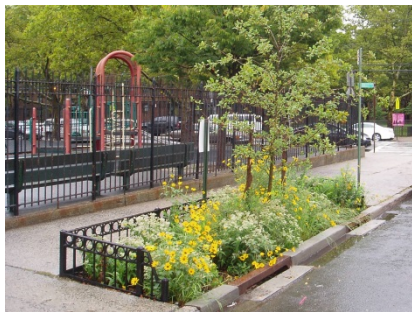




GREEN and Complete Streets: The Power of Green Infrastructure in Street Design

New Jersey Complete Streets Summit

Tuesday, October 24, 2017



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New Jersey Future





NEW JERSEY FUTURE



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

New Jersey Future's Focus on Water

JERSEY WATER WORKS

A collaborative effort working to transform New Jersey's inadequate water infrastructure through sustainable, cost-effective solutions that provide communities with clean water and waterways; healthier, safer neighborhoods; local jobs; flood and climate resilience; and economic growth.

MAINSTREAMING GREEN INFRASTRUCTURE

A program to make green infrastructure the first choice for stormwater management in New Jersey.



Pilot Towns



Developers



Demonstration
Projects



State
Agencies





A street for people

Source: NACTO, NYC DOT

A street for cars

An aerial photograph of a city street scene. On the left is a tall, multi-story brick building with many windows. In the foreground, there's a paved plaza with yellow chairs and tables, and a paved path with white checkered patterns. A red semi-transparent banner with the text "A street for water" in white is overlaid diagonally across the middle of the image. To the right of the banner is a road with a crosswalk and a "SCHOOL" sign. In the background, a large suspension bridge is visible. The sky is blue with some clouds.

A street for water

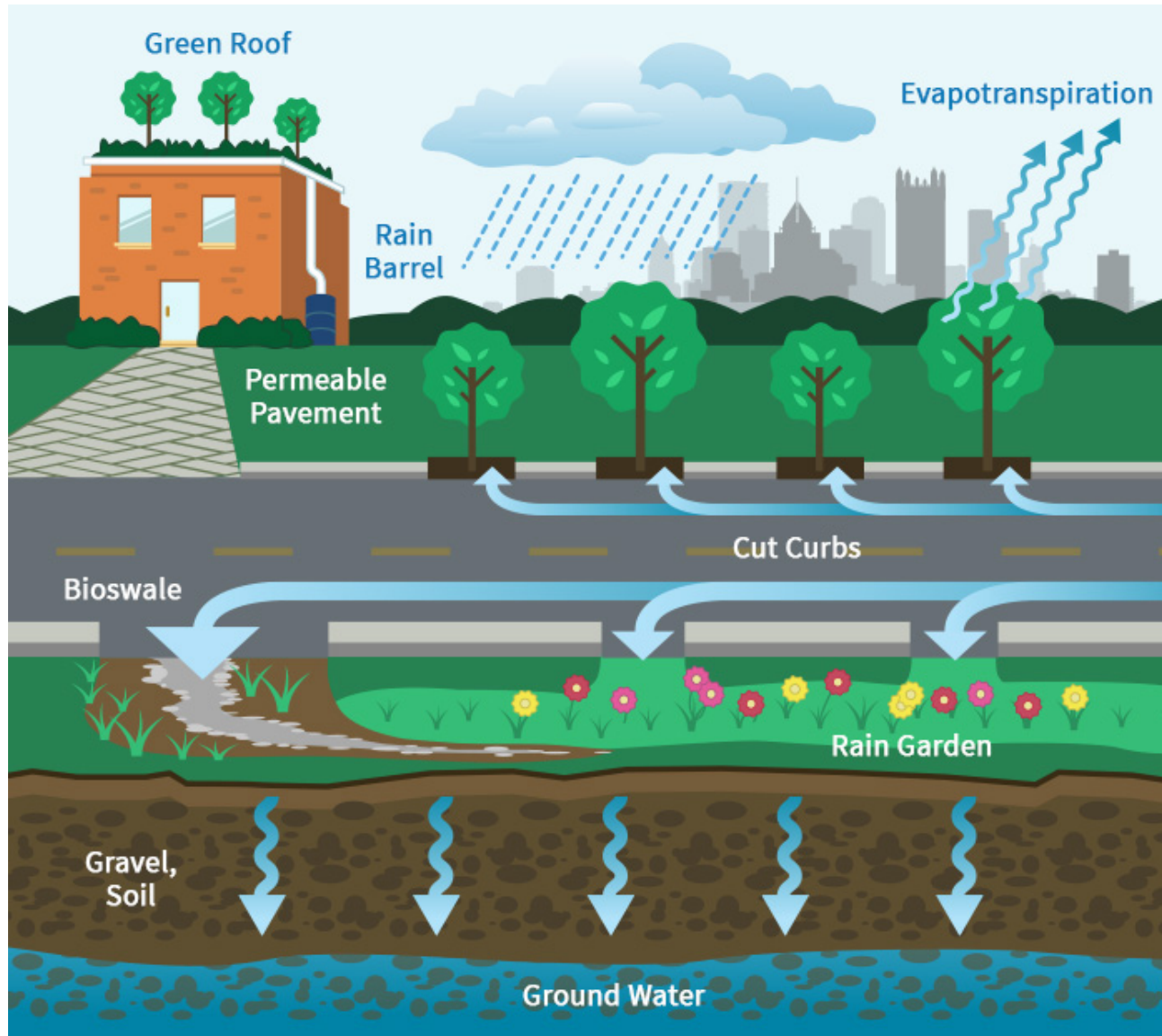
What is a Green Street?

A green street is a stormwater management approach that incorporates vegetation (perennials, shrubs, trees), soil, and engineered systems (e.g., permeable pavements) to slow, filter, and cleanse stormwater runoff from impervious surfaces (e.g., streets, sidewalks). Green streets are designed to capture rainwater at its source, where rain falls. Whereas, a traditional street is designed to direct stormwater runoff from impervious surfaces into storm sewer systems (gutters, drains, pipes) that discharge directly into surface waters, rivers, and streams.

Source: EPA



Wait...What is green infrastructure?

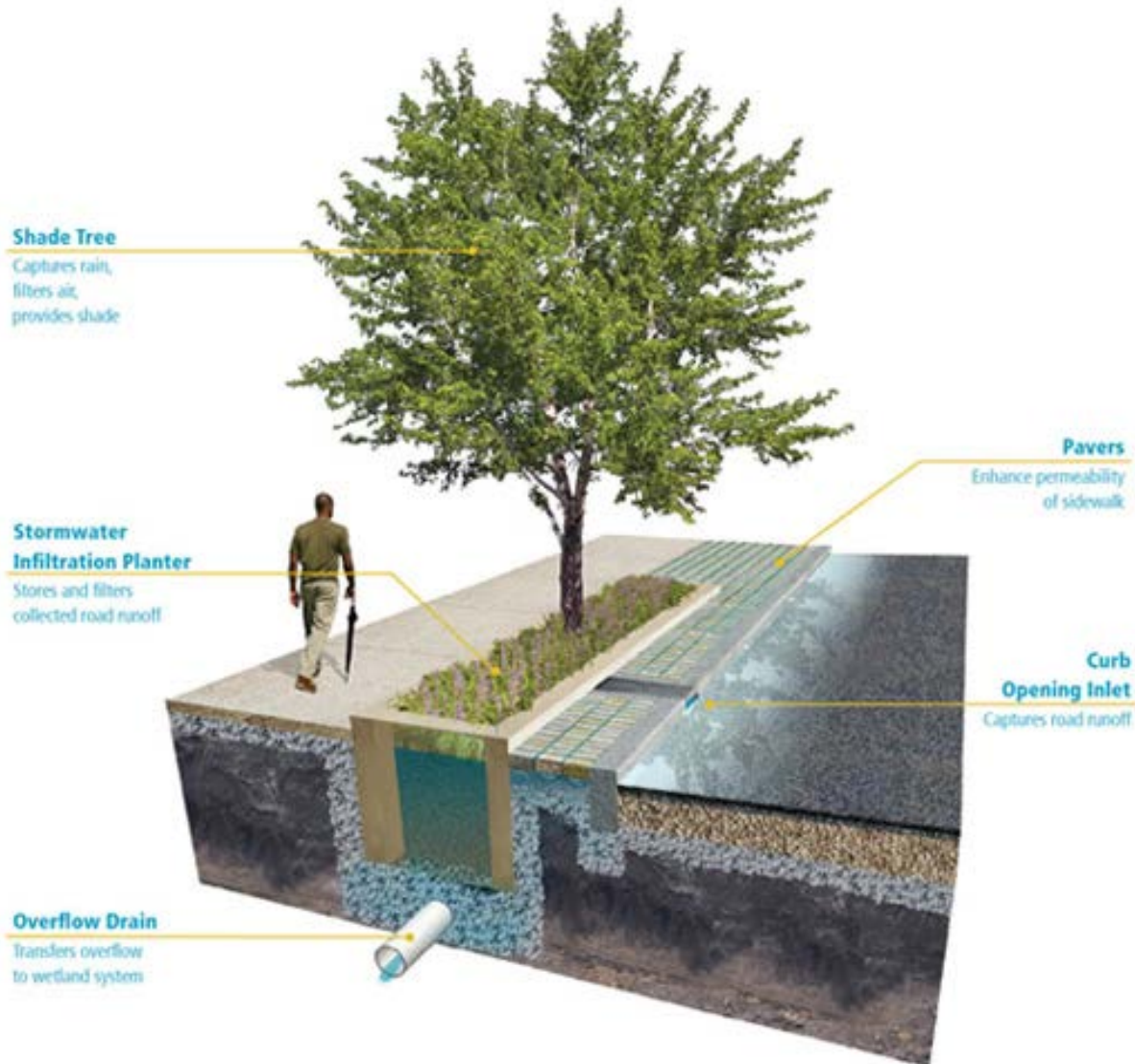


An approach to managing stormwater by either enabling it to infiltrate into the ground where it falls or by capturing it for later reuse.

Green Street Practices:

- Stormwater tree trenches
- Curb bump outs
- Permeable Pavement

How does it work?



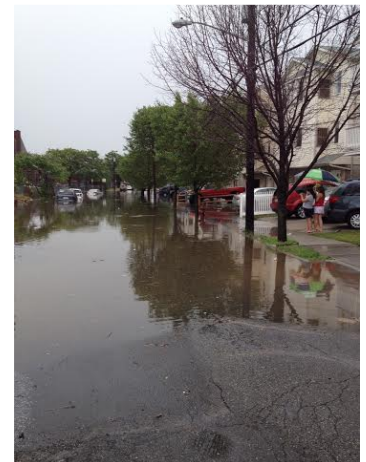
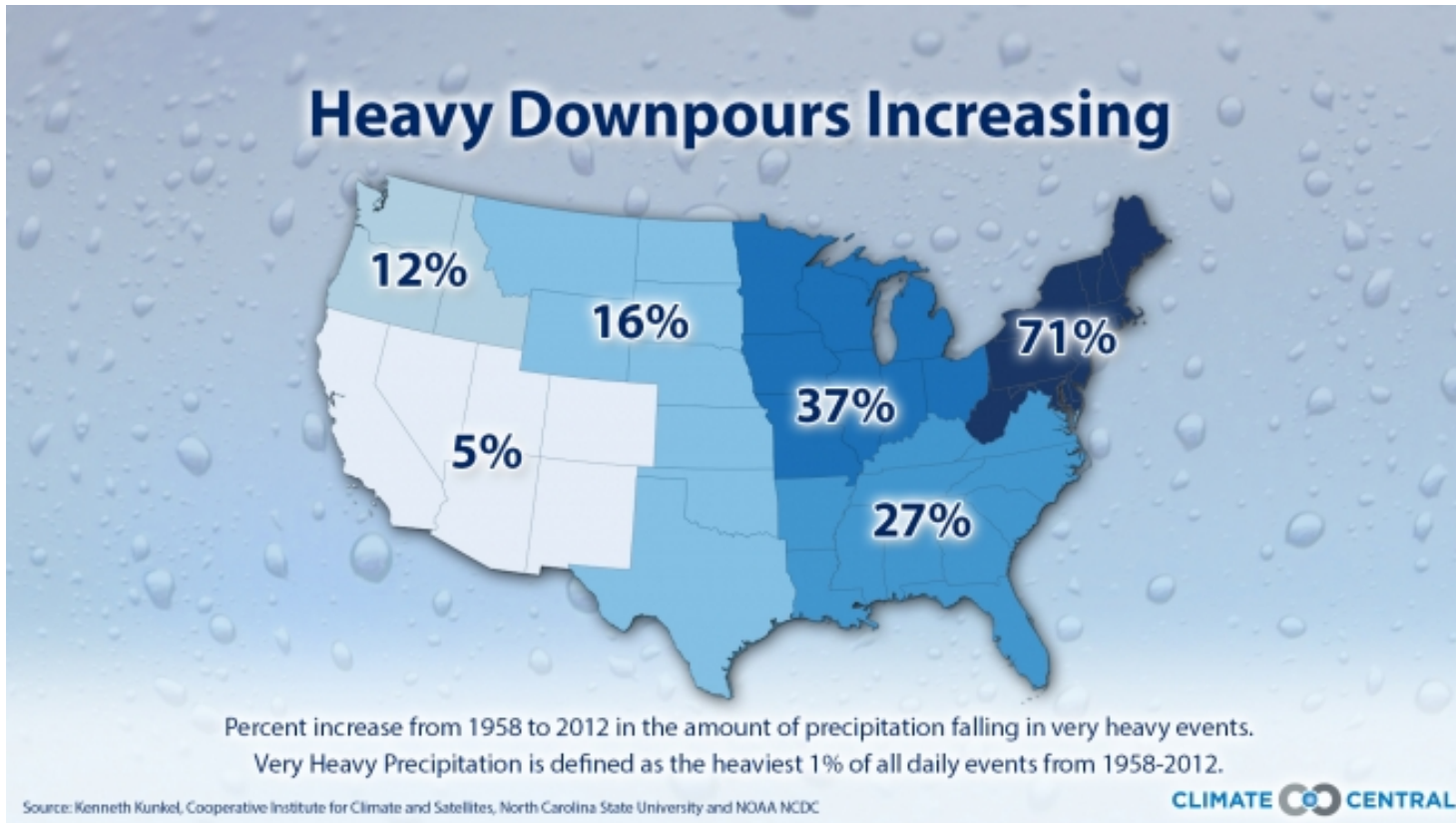
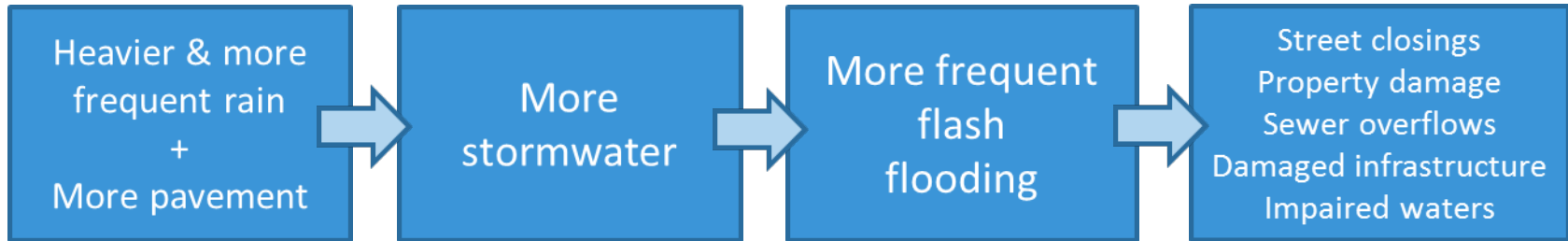
Source: Philadelphia Water Department


Anatomy of a Green Street



Source: EPA

A growing problem...





Stormwater never travels alone.

Source: USEPA

Why should streets be green?



Economy: Construction cost savings, Energy costs savings, maintenance costs, higher property values, jobs creator



Environment: Improved water quality and groundwater quantity, cleaner air



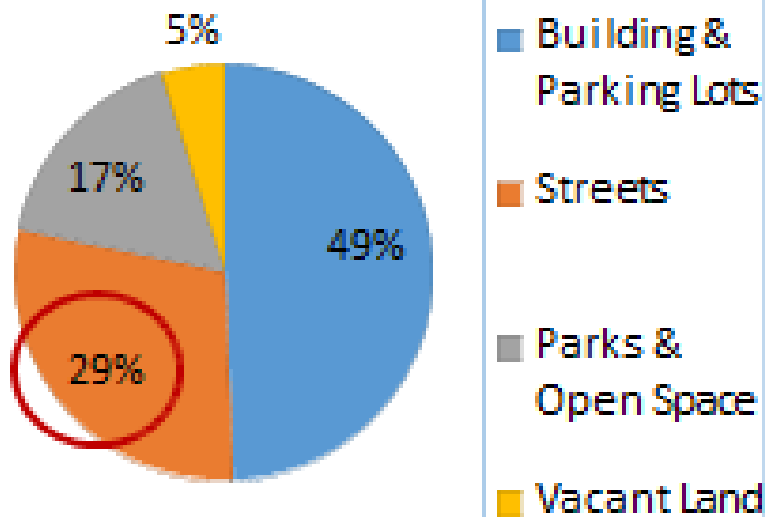
Society: Public health benefits, safer neighborhoods, slower and safer streets



Streets =
large
percentage
of a
municipality's
impervious
cover

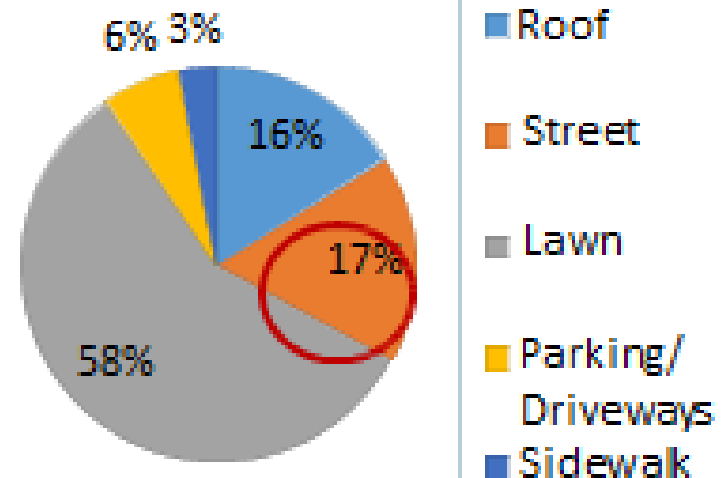
Why Green Streets?

Land Area by Use in New York City



Source: Urban Impact Lab

Land Area by Use for a Residential Development in Olympia, WA



All Transportation Surface = 26%

(PlaNYC Sustainable Stormwater Management Plan, 2008) (Impervious Surface Reduction Study, Olympia, WA, 1995)

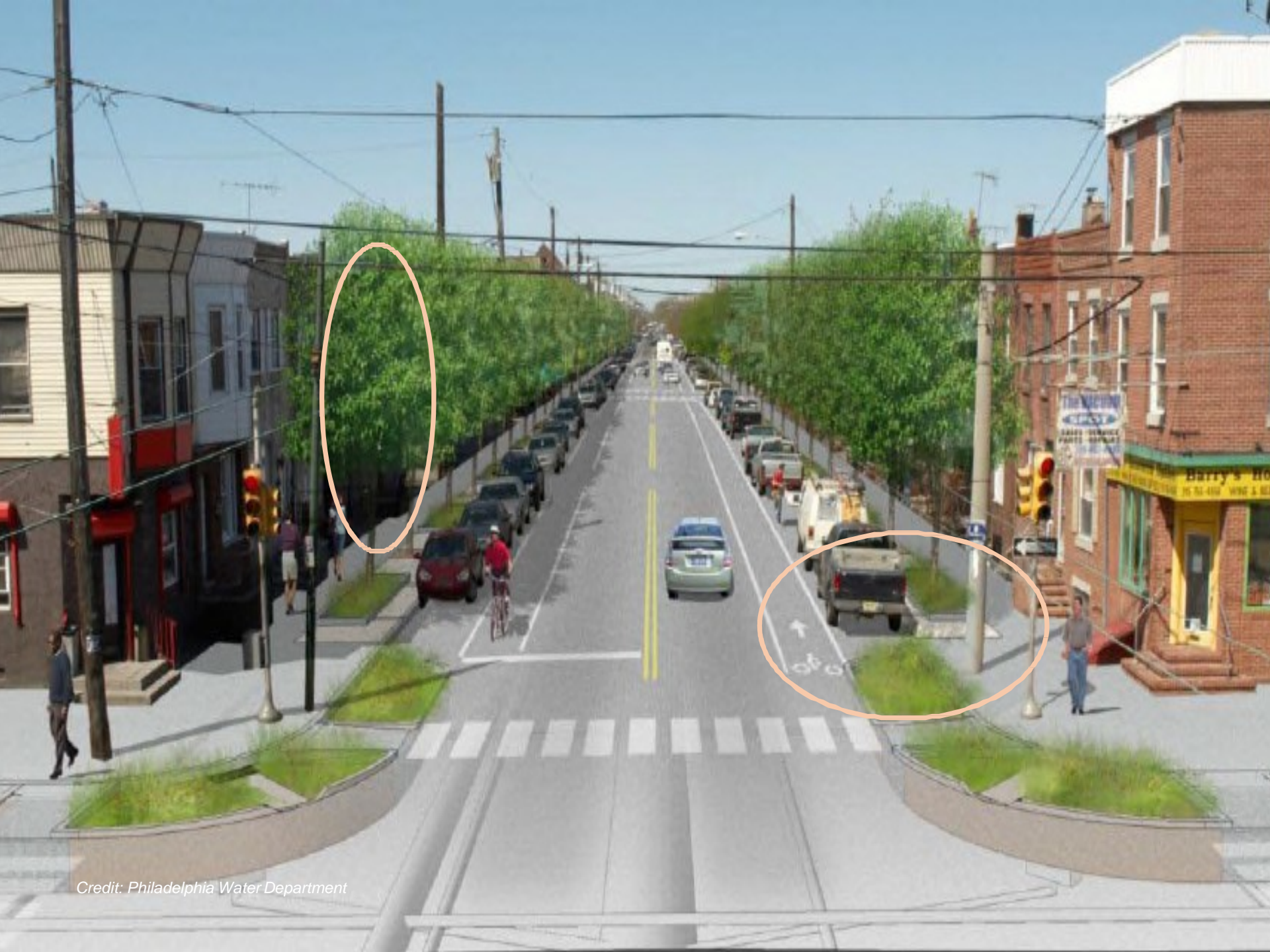
Identifying Green Street Opportunities

- New Streets
- Street retrofits
- Municipal capital plans





Credit: Philadelphia Water Department



Credit: Philadelphia Water Department

Washington Street in Hoboken, NJ



Takeaways

- GI is a powerful tool with big benefits. If you dismiss it, you might be opting for higher-cost alternatives.
- No need to reinvent the wheel, but GI is different. Requires a team approach and sharp attention to detail in design, construction and maintenance.
- Think outside the curb. Talk to local DPW and engineers. Is there a problem green infrastructure can help solve?
- You have expensive assets to protect. Green infrastructure can help.
- Complete streets = green streets

Resources

- [EPA: Learn about Green Streets](#)
- [WERF's Green Streets Basics and Design](#)
- [A Conceptual Guide to Effective Green Street Design Solutions: Green Streets \(PDF\)](#)
- [Managing Wet Weather with Green Infrastructure - Municipal Handbook - Green Streets \(PDF\)](#)
- [The City of Portland Oregon: A Green Street Overview](#)
- [National Association of City Transportation Officials, Urban Street Stormwater Guide](#)
- [City of Philadelphia Green Streets Design Manual](#)



Thank You!

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