

Complete & Green Streets: Using Green Infrastructure to Create a Safer Environment

The 3rd Annual Watershed Conference November 1, 2019











NEW JERSEY FUTURE

SMART GROWTH RESEARCH, POLICY, ADVOCACY, AND ASSISTANCE

A street for cars

CHED

H

×INC

Credit: NACTO, NYC DOT

A street for cars, A street for

Pike St. Completed





Source: From Grey to Green: Sustainable Practices for Redeveloping a Vacant Shopping Center



What is green infrastructure?



A growing problem...





Very Heavy Precipitation is defined as the heaviest 1% of all daily events from 1958-2012.

CLIMATE CO CENTRAL





Stormwater never travels alone.

2

Source: USEPA

Why should streets be green?



Environment: Improved water quality, increased groundwater quantity, cleaner air



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

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



Streets = large percentage of a municipality's impervious cover





Identifying Green Street Opportunities

- New streets
- Street retrofits
- Capital plans





GREEN Streets

STOP

New Jersey

redit: Camden County Municipal Utilities Authorit

Broadway Triangle, Camden City Before

SCHOOL FAIR

an the

Credit: Camden County Municipal Utilities Authority

Broadway Triangle, Camden City After

Credit: Camden County Municipal Utilities Authority

Westfield Ave., Camden City Before

Credit: Camden County Municipal Utilities Authority

Westfield Ave., Canden City

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Westfield Ave., Camden City After



Westfield Ave., Camden City After



Washington Street, Hoboken



City of Hoboken @ @CityofHoboken · 24 Aug 2016 Bioswales collect stormwater runoff from streets/sidewalks & promote infiltration, capture & percolation of water

Jersey Water Works, Hoboken, Inc., Dawn Zimmer and 7 others



Jersey City, NJ

NOW I

LEAS

Millburn, NJ

K

#BES MALL DWNAROUND #MILL

II DONG UT

SNEED

Credit: Jennifer Duckworth, Millburn Environmental Commission

Millburn, NJ



Takeaways

- Green streets help to reduce combined sewer overflows, recharge and clean groundwater, and aid in traffic calming and pedestrian safety
- Plan green streets in tandem with other street retrofit
 projects
- Green streets can earn Sustainable Jersey points
- Fund green streets through **DOT local aid grants**
- Complete street policies and ordinances help to institutionalize green streets beyond resolutions and across administrations

Complete Streets = Green Streets!





NEW JERSEY GREEN INFRASTRUCTURE MUNICIPAL TOOLKIT

FROM STORMWATER TO CLEAN WATER

PREVENT

REDUCE FLOODING

IMPROVE YOUR COMMUNITY

INTRODUCING YOUR ONLINE, ONE-STOP GREEN INFRASTRUCTURE RESOURCE

GITOOLKIT.NJFUTURE.ORG



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
 - <u>A Conceptual Guide to Effective Green Street Design Solutions: Green Streets</u>
 - Managing Wet Weather with Green Infrastructure Municipal Handbook Green Streets
- Water Environment Research Foundation:
 - <u>Creating a Successful Green Street Program</u>
 - 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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COMPLETE & GREEN STREETS FOR ALL MODEL COMPLETE STREETS POLICY & GUIDE

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







Public Health & Safety







WHERE DO COMPLETE STREETS BELONG?

Complete Streets belong in urban, suburban and rural communities, but their design will vary to "fit" the context. Each street's surrounding land use patterns, destinations, anticipated users, and function within a Complete Streets network will determine how it is designed; there is no "one-size-fits-all" Complete Streets design.









Complete Streets in New Jersey

A Success Story



Why is a New Policy Needed?

Policy Problems

No Transparency or Accountability

Not providing exceptions in writing

No public involvement

Lots of Caveats

Exemptions on spending > 5-20% of cost

No Benchmarks

No Actual Policy

"when feasible" "if practical" "when possible" "except maintenance"

Lack of Implementation

What happened to implementation?

Strong, Stronger, Strongest

Resolution

official statement of support, includes "WHEREAS" statements

Policy

process and actions designed to ensure that Complete Streets are routinely considered in all transportation decisions

Ordinance

law that can be enforced



Public Health & Safety

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Pedestrian & Bicycle Fatalities



NJ is a federally designated Pedestrian-Bicycle Focus State

2018 - 34% of all motor vehicle fatalities were pedestrians or bicyclists

2019 – YTD 32% of all motor vehicle fatalities are pedestrians or bicyclists, UP almost 10% over previous 2 years.

FHWA, Pedestrian and Bicycle Safety Focus States and Cities NJ Fatal Motor Vehicle Crash Yearly Reports, 2018, 2019



Model Resolution: Spelling It Out



WHEREAS, Complete Streets encourage an active lifestyle through increased physical activity, social connectivity, and sense of community belonging, thereby lowering risk of obesity, reducing chronic disease, improving mental health, and promoting wellness; and



WHEREAS, traffic crashes are preventable and the only acceptable number of traffic deaths for my town is zero; and



Green Streets

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Green Streets





Model Resolution: Spelling It Out

WHEREAS, Complete Streets that incorporate sustainable Green Streets design elements, such as green stormwater infrastructure, traffic calming treatments, shade trees, and the use of recycled materials, protect and create a healthier natural and social environment, improve air and water quality, and reduce localized flooding; and

Model Complete Streets Policy

[Municipality/County] shall develop an integrated and connected multimodal transportation system of Complete Streets that serve all neighborhoods and populations. Towards this end:

- 5. Transportation projects and Master and Capital Plans shall include, when appropriate, sustainable design elements, including, but not limited to:
 - a. Green stormwater infrastructure practices
 - b. Traffic Calming
 - c. Shade trees and other vegetation
 - d. Permeable pavements including those made from recycled materials such as rubber, concrete, glass, and plastic.
- 6. Transportation projects and Master and Capital Plans shall include where appropriate pedestrian and bicycle design elements and transit amenities, including but not limited to: curb extensions, sidewalks, radar feedback signs, pedestrian countdown signals, pedestrian refuge islands, road diets, lane width reductions, chicanes, roundabouts, bike lanes, protected bike lanes, bike parking, lighting, wayfinding, seating, trash receptacles, transit amenities, etc.
- 7. The [municipality/county administrator or department head] shall lead the implementation of this Policy and formally coordinate with [planner, engineer, economic development, public works, health, etc.] with advice and input from [Planning Board, Complete Streets Advisory Body, Land Use Committee, Green Team, etc.] and to set measurable goals to ensure the successful implementation of the Complete Streets Policy in Priority Communities.
- 8. The [decision-making body] shall utilize the most current editions of guides, manuals, and best practices on street design, construction, operations, and maintenance that apply to bicycle, pedestrian, transit, stormwater and highway facilities. All manuals, standards, and guidelines shall be made publicly available online.

Program Reporting

- 1. The [governing body, agency, and/or advisory body that plans or implements transportation projects] shall establish benchmarks reflecting the ability of all users to travel safely and conveniently along highways, roads and streets within the agency's jurisdiction
- 2. Each such [governing body, agency, and/ or advisory body that plans or implements transportation projects] shall also develop plans and set goals to ensure the successful implementation of the Complete Streets Policy in Priority Communities. On or before [end of the fiscal year] each such agency shall prepare an initial report to identify barriers, and propose solutions to successful implementation of the Complete Streets policy in Priority Communities.
- 3. Each such agency shall provide a report on an annual basis to the [governing body] to allow the [department/governing body] to evaluate implementation of the Complete Street policy. Each annual report shall include the data collected pursuant to Program Reporting, as well as a list of ongoing and completed transportation projects during that fiscal year. If any exceptions are applied to transportation projects pursuant to Exceptions to Complete Streets Requirements herein, such projects and the relevant exceptions should be identified in the annual report. All benchmarks and reports shall be made publicly available online.
- 4. Each such [governing body, agency, and/ or advisory body that plans or implements transportation projects] shall assign appropriate responsibility to collect and monitor data under [department/municipality/county] jurisdiction and Priority Communities to determine compliance with the [department/municipality/ county] benchmarks. Benchmarks shall include but are not limited to:
 - a. Mileage of new and existing bicycle infrastructure including in Priority Communities (e.g., bicycle lanes, bike parking, paths, and boulevards)
 - b. Linear feet (or mileage) of new and existing pedestrian infrastructure (e.g., sidewalks, trails, transit amenities)
 - c. Number of new and existing ADA-compliant infrastructure (e.g., curb ramps, pedestrian buttons)
 - d. Number of new street trees
 - e. Number of Green Street practices (e.g., rain gardens, bioswales, permeable pavement)
 - 1. Number of peaesifian and bicycle lighting improvements.
 - g. Bicycle and pedestrian counts
 - h. Commute mode percentages (e.g., drive alone, carpool, transit, bicycle, walk)
 - i. The number and percentage of designated transit stops accessible via sidewalks and curb ramps
 - j. The number, locations, and causes of collisions, injuries, and fatalities by each mode of transportation
 - k. The percentage of children walking or bicycling to school
- 5. All benchmarks established by the (Department/ Municipal/County) shall be disaggregated by race/ethnicity, neighborhood, and vehicle ownership when feasible.

Economy

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Why Invest in Complete Streets?



Equity

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Model Resolution: Spelling It Out

WHEREAS, Complete Streets allow for safe, accessible, and convenient travel, reducing serious injuries and fatalities for all users of the roadway6, including pedestrians, bicyclists, children, older adults, people with disabilities, non-drivers, transit riders, residents of Priority Communities, and those who cannot afford a car or choose to reduce their car usage; and

WHEREAS, low- and moderate-income areas, whether in rural, urban, or suburban communities, are typically the least safe for pedestrians and bicyclists, especially for children walking and biking to school, due to long-standing infrastructure disparities and higher concentration of streets with faster-moving and higher-volume traffic; and

WHEREAS, procedures should be implemented that ensure fair treatment, equitable funding and resource distribution, and meaningful involvement of all communities in all phases from selection, planning, and design to construction and long-term maintenance; and









Model Resolution: Spelling It Out

The term **Priority Communities** refers to categories of **underserved** and **adversely impacted** populations.

Each county or municipality should evaluate who and where there are concentrations of underserved or marginalized populations based on available data. Below are some of the categories to consider when defining Priority Communities:

- 1. Minority Concentrations
- 2. Low-Income Concentrations
- 3. Other Indicators of Disadvantage:
 - a. Female Head of Household with Children
 - b. Persons with Limited English Proficiency
 - c. Carless Households
 - d. Elderly Populations/Children
 - e. Persons with Disabilities
 - f. Hispanic Populations
 - g. Other Ethnic Minorities
 - h. Families in Poverty with Children

NJ Complete Streets Working Group

AARP-NJ

- American Heart Association **Bicycle Coalition of Greater Philadelphia**
- NJ Bike & Walk Coalition
- NJ Conservation Foundation
- NJ Department of Community Affairs
- NJ Department of Transportation
- New Jersey Future, Jersey Water Works
- NJ Healthy Community Network
- Passaic County
- **Rails to Trails Conservancy**

Rutgers University:

- Voorhees Transportation Center, Bloustein School of Planning & Public Policy
- Water Resources Program, Agricultural Experiment Station Cooperative Extension Sustainable Jersey

Transportation Management Associations:

- Cross County Connection TMA
- Greater Mercer TMA
- RideWise TMA, Inc.

Tri-State Transportation Campaign

West Windsor Council







New Jersey Conservation

Rutgers

OUNDATION

New Jersey Agricultural Experiment Station

GERS

Edward J. Bloustein School

of Planning and Public Policy











SUSTAINABLE JERSE'













Congratulations to Early Adopters

- Scotch Plains
- Roselle Park
- Lower Alloways Creek
- Upper Township
- Eatontown: 1st Ordinance







Janna Chernetz, Esq. Tri-State Transportation Campaign Deputy Director & Director, New Jersey Policy janna@tstc.org

Putting the Policy into Action

HOW TO USE THE MODEL POLICY & GUIDE

Customizable

can be tailored to fit the needs of all communities

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Plans & Practices



Benchmarks/ Reporting



Checklists

Model Policy: Accountability

The Council shall establish a Complete Streets Advisory Body to help Anytown, NJ comply with the Complete Streets policy and to provide ongoing feedback to the town related to the implementation of the Complete Streets Policy.





Plans & Practices





Model Policy: Accountability

The Complete Streets advisory body shall consist of a broad group of stakeholders including:

- a. Elected Officials;
- b. Law Enforcement;
- c. Public Works;
- d. Planners;
- e. Engineers;
- f. Emergency Medical Services (EMS);
- g. Fire;
- h. Schools;
- i. Business and Developer Community;
- j. Civic And Advocacy Groups;
- k. Public Health Professionals;
- I. Transit Professionals; and
- m. Community Members, including Persons with Disabilities, Senior and Youth Organizations, Persons Representing Priority Communities.





Plans & Practices



Benchmarks/ Reporting



Model Policy: Accountability

Within two years of the effective date of this Policy, Anytown, NJ shall inventory and audit procedures, policies, plans, documents, training programs, performance measures and other guidance documents to be consistent with this policy.

The Council, Planner and Engineer shall routinely work in coordination with each other and adjacent jurisdictions, and any relevant advisory committees/teams, to create Complete and Green Streets and to ensure consistency with the Municipal Master Plan and Elements and any other existing Pedestrian/Bicycle/Multimodal Plans, Stormwater Management Plans, and Pollution Prevention Plans.





Plans & Practices



Benchmarks, Reporting



Checklists

Model Policy: Accountability

The Council shall establish benchmarks reflecting the ability of all users to travel safely and conveniently along highways, roads and streets within the agency's jurisdiction

Benchmarks shall include but are not limited to:





Plans & Practices





Checklists

Model Policy: Accountability

- a. Mileage by of new and existing **bicycle** infrastructure including in **Priority Communities** (e.g., bicycle lanes, bike parking, paths, and boulevards)
- b. Linear feet (or mileage) of new and existing **pedestrian** infrastructure (e.g., sidewalks, trails, transit amenities)
- c. Number of new and existing ADA-compliant infrastructure (e.g., curb ramps, pedestrian buttons)
- d. Number of new street trees
- e. Number of green street practices (e.g., rain gardens, bioswales, permeable pavement)
- f. Number of pedestrian and bicycle lighting improvements.
- g. Bicycle and pedestrian counts
- h. Commute mode percentages (e.g., drive alone, carpool, transit, bicycle, walk)
- i. The number and percentage of designated transit stops accessible via sidewalks and curb ramps
- j. The number, locations, and causes of collisions, injuries, and fatalities by each mode of transportation
- k. The percentage of children walking or bicycling to school





Plans & Practices



CONCEPT DEVELOPMENT

Benchmarks/ Reporting

Model Policy: Accountability



CONSTRUCTION

MAINTENANCE

PRELIMINARY

ENGINEERING



Enterprise Community.Org Opportunity 360



Census Tract 7012.01, Burlington City



9%

Unemployment Rate

Regional Average: 7% Annual Average Change in Tract from 2000: -4%

\$73,947 Median Household Income

Regional Average: \$66,285 Annual Average Change in Tract from 2000: 1%

Census Tract 7012.05, Burlington



11%

Unemployment Rate Regional Average: 7% Annual Average Change in Tract from 2000: 6%

\$56,202 Median Household Income

Regional Average: \$66,285 Annual Average Change in Tract from 2000: -1%

Sustainable Jersey Complete Streets Action, Jan 2020



Tier	Action	Points
1	Adopt a resolution with policy	10
2	Adopt checklists, advisory body, training, list of plans to update	10
3	Adopt benchmarks in policy	5
4	Adopt an ordinance	20

*Equity is part of every tier



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To download the Guide visit: www.state.nj.us/transportation/eng/ completestreets/resources.shtm

Complete & Green Streets Resources



Complete & Green Streets for All is a one-stop resource for adopting and implementing Complete Streets policies and practices. Developed by the NJ Complete Streets Working Group in partnership with the NJ Department of Transportation, it features:

- A state-of-the-art Model Complete Streets Resolution and Policy that can be adopted in full or tailored to meet your needs.
- A set of 4 comprehensive Model Checklists to ensure that Complete Streets are considered throughout the project development process.
- Tools & Resources on a wide range of topics related to Complete Streets policies and implementation.
- Guidance on the many benefits of Complete Streets highlighting Public Health and Safety, Green Streets, Economic Vitality and Equity.

EIGHT GOOD REASONS TO ADOPT A COMPLETE STREETS POLICY

- Provide an equitable transportation system that serves all residents.
- Reduce rates of injury and death from traffic crashes and improve road safety for all users.
- Shift transportation investments to safer, better-functioning streets, gradually creating Complete Streets networks and saving money by reducing the need for costly retrofits.
- Provide more transportation options and reduce traffic congestion, increasing transportation network capacity.
- Improve air quality and reduce localized flooding by installing green stormwater infrastructure, street trees, and other vegetation.
- Reduce rates of asthma and other respiratory issues by improving air quality through reduced traffic congestion and emissions.
- Encourage walking and bicycling, healthy habits that reduce rates of chronic diseases such as diabetes, heart disease, cancer and stroke through increased physical activity.
- Promote health equity by providing people who typically face significant barriers to better health with more opportunities to live healthier lives.

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To download the guide visit:

https://www.state.nj.us/transportation/ eng/completestreets/resources.shtm





NEW JERSEY Safe Routes to School

www.saferoutesnj.org

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Healthy Equitable Green

Sustainable prosperous