National Capital Region Transportation Planning Board

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TPB Tech Item #6

MEMORANDUM

TO: Transportation Planning Board Technical Committee

FROM: Michael Farrell, Transportation Planner IV
Department of Transportation Planning

SUBJECT: Draft Green Streets Policy and Policy Template

DATE: September 26, 2013

The TPB Technical Committee will be briefed on most recent versions of the following documents:

1. A regional Green Streets policy inventory;
2. A draft regional Green Streets policy; and
3. A Green Streets policy template.

The TPB Technical Committee was briefed on these documents at the September 6th meeting and asked to provide comments before September 27th. However, since the TPB will not be able to review these documents at its' October 16th meeting, we have taken the opportunity to extend the comment period. We would appreciate receiving any additional comments no later than Thursday, October 24th

Background

On December 18, 2012, the Anacostia Watershed Restoration Partnership requested that the TPB develop and approve a regional policy on Green Streets, similar to the regional policy on Complete Streets adopted in May 2012. The Partnership cited Prince George's County's recently adopted Complete and Green Streets policy as a positive example. At its January 2013 meeting the TPB Technical Committee directed staff to organize a stakeholder workshop to determine what gaps, if any, a regional policy could help fill.

Accordingly, Department of Transportation Planning and Department of Environmental Programs staff held a Green Streets workshop on April 8th, 2012, with over 90 people in attendance. Workshop participants concluded that green streets are often the most cost-effective response to stormwater runoff regulations. Additional benefits of green streets include enhanced groundwater supplies, beautification, cooler temperatures, reduced building energy use, enhanced air quality, increased property values, and economic development.

The TPB Technical Committee was briefed on the outcome of the workshop, as well the results of a survey on Green Streets policies and practices of the local governments in the Washington region, at its May 3rd meeting. Technical Committee members requested additional documentation of existing Green Streets and stormwater policies and practices in the Washington region.

The TPB was informed of the outcome of the workshop at its May 15th meeting.

In response to comments from the TPB Technical Committee, DTP and DEP staff prepared a regional Green Streets policy inventory and a draft regional Green Streets policy modeled after the TPB's Complete Streets policy.

Staff also prepared a Green Streets policy template, similar to the Complete Streets policy template which was attached to the TPB's Complete Streets policy. This Green Streets policy template incorporates language from the Prince George's Complete and Green Streets Policy, as well as elements of Green Streets policies from Portland, OR, Los Angeles, New York City, Philadelphia, and the Charles River Watershed Association.

The State Technical Working Group, the Anacostia Watershed Management Committee, the Bicycle and Pedestrian Subcommittee, and the Climate, Energy and Environment Policy Committee have been briefed. The current draft documents reflect comments received thus far.

DRAFT 9/25/2013

DRAFT Green Streets Policy for the National Capital Region

I. Background

The National Capital Region Transportation Planning Board (TPB) supports a transportation system that enhances the region's natural environmental quality and the appearance of its communities, makes alternate travel modes such as walking and bicycling more attractive, and focuses economic development in walkable activity centers. These goals are embodied in COG's *Region Forward* (2010), the TPB *Vision* (1998), and the draft Regional Transportation Priorities Plan.

Storm-water runoff from impervious surfaces, including urban streets and roads is a major threat to water quality in the Washington region. Urban roads, along with sidewalks and parking lots, are estimated to constitute almost two-thirds of the total impervious surface cover and contribute a similar ratio of storm-water runoff.

On December 18, 2012, the Anacostia Watershed Restoration Partnership requested that the TPB develop and approve a regional policy on Green Streets, similar to the regional policy on Complete Streets. At the direction of the TPB Technical Committee, a stakeholder workshop was held on April 8th, 2012 to review current Green Streets policies and practices. Workshop participants concluded that Green Streets are often the most cost-effective response to storm-water runoff regulations, and that a directive from the top of a government can help ensure that various agencies within a government will cooperate to implement Green Streets.

Staff then drafted *Green Streets Policy* and *Guidance* documents with input from the TPB Technical Committee.

II. Definitions

(1) GREEN STREET.

Green Streets are an alternative to conventional street drainage systems designed to more closely mimic the natural hydrology of a particular site by infiltrating all or a portion of local rainfall events. A green street uses trees, landscaping, and related environmental site design features to capture and filter storm-water runoff within the right of way, while cooling and enhancing the appearance of the street.

(2) GREEN STREETS POLICY.—The term ‘‘green streets policy’’ means

A directive at the local, state, regional, or federal level that requires the use of green streets techniques to manage storm-water runoff from transportation facilities in a manner appropriate to the function and context of the relevant facility.

(3) GREEN STREETS PRINCIPLE;—The term ‘‘green streets principle’’ means

A specific component of a Green Streets policy.

IV. Policy Statement

The National Capital Region Transportation Planning Board endorses the concept of Green Streets and strongly encourages its member jurisdictions and agencies that do not already have a Green Streets policy, or who are revising an existing policy, to adopt a Green Streets policy that includes common elements that the TPB believes reflect current best practices, as represented by the attached *Green Streets Guidance and Policy Template*.

V. Documentation and Reporting

1. Within six months of the adoption of this policy, and every two years thereafter, Transportation Planning Board staff will conduct a survey of the TPB member jurisdictions and agencies regarding their adoption and implementation of Green Streets policies.

2. Within two years of the adoption of this policy, the TPB will create a regional information clearing house, which will provide access to state and local project web sites where detailed and timely information on the design of transportation projects can be found, so that the public may judge whether and how well such projects implement Green Streets principles.

V. Promotion

With six months of the adopting of this policy, the TPB will sponsor training on Green Streets best practices for personnel responsible for the design, construction, and maintenance of streets.

Green Streets Policy Inventory for the Washington Region[1]

Jurisdiction	Green Streets Policy?	Summary of policy
Washington D.C.	Yes	The Green Streets program is part of several programs including the Low Impact Development (LID) Action Plan for SW management, Great Streets, and Sustainable DC Plan. The Complete Streets Policy includes Green Streets principles such as creating more green space in transportation, improving pedestrian environment, and environmental enhancement.

Maryland

State Stormwater Management Requirements for State and Federal Projects[2]:

1. New

At a minimum, runoff from 1 inch of rainfall must be treated with environmental site design.

2. Reconstructed

Environmental site design (ESD) must be implemented to the *maximum extent practicable* to provide water quality treatment for the first 1 inch of rainfall for a minimum of 50 percent of the existing impervious area within the limit of disturbance.

Additional Information

- The Stormwater Management Act of 2007 defines ESD as "…using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources."
- Maryland State Highways Administration (MD SHA) is a leading partner in the Green Highways Partnership. MD SHA has become involved in a number of demonstration projects promoting innovative stormwater management practices, including low impact development strategies and water quality banking.

Jurisdiction	Green Streets Policy?[3]	Summary of Policy
Bowie, MD	Yes	Plans and objectives include: Increased tree canopy coverage,

[1] Sources include COG's Climate Energy and Environment Policy Committee (CEEPC) Annual Survey and pertinent websites.

[2] These requirements presumably apply to state highways. In Maryland, local roads fall under local authority.

[3] Yes=Jurisdiction has an overarching policy (that goes beyond state requirements) to incorporate low impact development and other landscaping features in new and reconstructed roads under its authority.

No=Jurisdiction may have low impact development policies in general plans but do not have a specific policy for low impact development or green infrastructure in road construction.

		and more trees planted on streets (150 annually), LID stormwater management including bio-retention cells instead of retention ponds in their Environmental Infrastructure Action Plan
Charles County, MD	No	Stormwater Management Retrofit: Dry swales, Bio-retention systems, and shallow wetlands. Street Tree Planting. Comprehensive plan includes state-required Green Infrastructure elements. Developed LID/ESD Design Manual.
College Park, MD	No	No clear overarching local policy. Some work related to the Green Infrastructure Master Plan Coordination and Implementation for the Anacostia River Watershed, which applies to all jurisdictions in the watershed. Energy-efficient street lights are among the Green Initiatives.
Frederick County, MD	Yes	County has a Green Infrastructure Plan, which includes items such as revitalizing natural resource gaps, supporting development patterns, and land use planning to meet water quality standards. The plan includes Storm Water Action Items, with a goal to 'Incorporate the use of non-structural stormwater management, including vegetated swales and bio-retention.' The Sustainable Action Plan includes energy efficient lighting.
City of Frederick	No	The 2009 Sustainable Practice Action Plan calls for exploring an LID stormwater management policy employing bioretention facilities, filter/buffer strips, grassed swales, and rain barrels. This action plan also calls for implementation of Energy Efficient lighting. Later, ESD Treatment Practices were approved in 2010 to follow environmental site design to the maximum extent practical.
City of Gaithersburg	Yes	Gaithersburg Master Plan Process contains several green street policies including: Green Infrastructure, green stormwater management, street trees, and increased street light efficiency. The city's ESD stormwater policies include: bio-retention swales and curb inlets, enlarged sidewalk tree boxes, and green roofs and facades.
Montgomery County, MD	Yes	Very intensive LID program including: Bioretention, bioswales, curb extensions, tree boxes, rain gardens, and pervious sidewalks. Numerous implemented projects throughout the county.
Prince George's County, MD	Yes	Countywide Green Infrastructure Functional Master Plan supports street planters, curb extensions, tree box filters, bioswales and bioretention.

City of Rockville, MD	No	Implemented the Street Tree Master Plan.
Takoma Park, MD	No	At least two Green Street projects in progress.

Virginia

State Requirements for Stormwater Management for Roads and Highways:[4]

1. New

Technology approach: Determine the required best management practice to treat the entire post construction impervious area within the right of way plus permanent easement area per outfall.

2. Reconstructed.

Performance approach: Design the best management practice for a water quality volume based on net increase in impervious area plus 10% of pre-construction impervious area. The goal is to determine the best management practice that would remove pounds of phosphorus to 10% less than existing loading

Additional Information

Currently DCR has no published credits for LID practices in meeting water quality requirements. However, such practices are being requested as a means to improve water quality. Language in the VDOT Subdivision Street Acceptance Policies is encouraging LID practices, even to the allowance of such inside VDOT right of way. For those items inside the right of way, maintenance provisions are agreed upon either through VDOT or the Locality.

VDOT holds an Municipal Separate Storm Sewer System (MS4) permit for facilities located in 13 urbanized areas in Virginia. VDOT's Watershed Implementation Plan includes a provision to encourage LID where appropriate.

[4] In Northern Virginia, most roads are built and maintained by the state. However this group does not include those roads within the Cities, some Towns, some private subdivision streets, and the secondary roads in Arlington County. Local governments can partner with the state in some cases on Secondary Roadways to implement stormwater management in state rights of way with execution of maintenance agreement as per VDOT's Subdivision Street Acceptance Requirements (SSAR).

Jurisdiction	Green Streets Policy?	Summary of Policy
City of Alexandria, VA	In Progress	Alexandria has an Eco-City Charter and an Environmental Action Plan that incorporate green street principles. Environmental elements such as trees are included in City Master Plan and associated small area plans; and Transportation Master Plan. Implemented several green infrastructure and Low Impact Development (LID) projects, including a pervious trail.
Arlington County, VA	Yes	Large Green Streets project. Several green stormwater management projects in progress and implemented. See FAQ page for green streets. Also has an efficient streetlight program.
City of Fairfax, VA	Yes	The city has several green infrastructure projects. The Watershed Management Plan includes describes the duties of the Green Infrastructure Planning sub-department. Department of Environmental Services implements LID projects.
Loudoun County, VA	Yes	A Green Infrastructure Strategic Plan includes green stormwater management. Stormwater Management Plan, details BMPs.
City of Manassas, VA	No	Urban tree canopy plan and efficient streetlight are part of sustainability plan. Green infrastructure included in the Old Town street plan.
Fairfax County, VA	In Progress	Comprehensive Plan contains several ecological and water resources objectives and policies to support stormwater treatment through Low Impact Development. Environmentally-sensitive streetscaping concepts have been implemented in several neighborhood stormwater improvement projects and incorporated in design guidelines for Tysons Corner.
Prince William County, VA	No	The County's stormwater management program lists Low Impact Development among its methods.

Acronyms

BMPs **Best Management Practices-**
Stormwater facilities such as rain gardens (a small depressed area with amended soils and native plants designed to capture and filter runoff), grassed swales, infiltration trenches, permeable pavement, stormwater planters, tree box filters, and vegetated roofs. (http://www.epa.gov/oaintrnt/stormwater/best_practices.htm)

ESD **Environmental Site Design-**
Same as Low Impact Development.

LID **Low Impact Development-**

An approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. LID incorporates practices such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions. (http://water.epa.gov/polwaste/green/)

Note: ESD and LID are contrasted with **Traditional Stormwater Management design** which focused on collecting stormwater in piped networks and transporting it off site as quickly as possible, either directly to a stream or river, to a large stormwater management facility (basin), or to a combined sewer system flowing to a wastewater treatment plant. (http://www.epa.gov/oaintrnt/stormwater/)

MS4 **Municipal Separate Storm Sewer System-**

An MS4 is a conveyance or system of conveyances that is:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.;
- Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
- Not a combined sewer; and
- Not part of a Publicly Owned Treatment Works (sewage treatment plant).

MS4 jurisdictions must complete a permit and develop a stormwater management plan under Clean Water Act regulations.

Attachment A

DRAFT Green Streets Guidance and Policy Template

I. Green Streets Guidance: Elements of an Ideal Green Streets Policy

The following elements should be part of a comprehensive Green Streets policy. An ideal Green Streets policy:

- Includes a vision for how and why the community wants to green its streets.
- Covers all transportation facilities.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations for the entire right of way.
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design standards while recognizing the need for flexibility in balancing user needs.
- Directs that green streets solutions will complement the context of the community.
- Establishes performance standards with measurable outcomes.
- Includes specific next steps for implementation of policy, such as
    - Revising agency procedures and regulations to reflect the policy
    - Developing or adopting new design guides
    - Offering training for staff responsible for implementing the policy
    - Gathering data on how well streets are serving the goals of the policy

II. Green Streets Policy Template

Beginning on the effective date of this policy, all (insert jurisdiction or agency) financed and approved transportation projects in (insert Jurisdiction or Agency) shall use trees, landscaping and related environmental site design features to capture and filter stormwater runoff within the right of way, in a manner appropriate to the function and context of the facility.

Inclusions

1. All (insert jurisdiction or agency) financed and approved road, driveway, parking lot, sidewalk, trail, and transit related construction and reconstruction projects in (insert Jurisdiction or Agency).

2. The (agency or jurisdiction) will review and revise, as deemed necessary by the (Executive), plans, manuals, policies, processes and the capital improvement program to foster the implementation of green streets on public roadways projects, including privately built projects approved by the (agency or jurisdiction) or on non-(agency or jurisdiction) projects funded in part or entirely by (agency or jurisdiction) funds.

3. This policy shall be applied with due consideration to adjacent land uses and the urban, suburban, or rural context in which a project is located.

4. This policy shall be applied in a manner that is consistent with applicable federal, state, and local environmental requirements.

5. Public input shall be required before implementation of a Green Streets policy.

Exemptions

Project-specific exemptions shall be approved by a senior manager of the responsible agency.

This policy does not apply:

1. To a new transportation facility construction or modification project for which, as of the effective date of the adoption of the policy, at least 30 percent of the design phase is completed.

2. When the cost to the exempted project in achieving compliance with the green streets policy within the right of way would be excessively disproportionate to the total cost of the project, in which case an off-site mitigation project must be carried out.

3. When the existing and planned development and impervious surface densities around a particular project are so low as to have no significant impact on water quality during the design life of the facility.

4. To the following project types:

    a. Emergency maintenance and repair projects

    b. Sidewalk and multi-use path maintenance and repair.

c. Tree planting

d. Utility pole installation

e. Street Light poles

f. Traffic Signal poles

g. Traffic Control Signs

h. Fire Hydrants

i. Where this use of funds would violate contracted or legal restrictions.