

WHAT ARE GREEN STREETS AND GREEN PARKING LOTS?

There is a lot of variability in how a “green street” or “green parking lot” is defined. For the purposes of this guidebook, they include streets and parking lots designed with a landscape and/or paving system that captures, slows, filters, and potentially infiltrates stormwater runoff. Green streets and parking lots provide stormwater reduction and water quality benefits to runoff before discharging to local creeks. Specific design strategies are discussed in detail in Chapter 2.

Figure 1-11 below describes different levels of green design based on how aggressively a particular site manages runoff. For example, a street or parking lot with substantial landscape areas and a system of broad canopy trees to capture rainfall is a Level 2 design, even though it has no dedicated stormwater treatment measures. On days with minimal rainfall, a majority of the rainfall may be captured within the tree structure and ground landscaping.

However, green streets and parking lots are






Green Streets and Parking Lots

are designed with a landscape element and/or pervious pavement system that captures, slows, filters, and potentially infiltrates stormwater runoff into the ground.

most commonly thought of as introducing some type of stormwater treatment measure (e.g., vegetated swale, planter, rain garden, etc.) to actively capture and manage surface runoff at its source. This is a Level 3 design and represents the most common perception of a green street or parking lot. But green streets can move beyond a Level 3 design.

The concepts of livability and stormwater management are intertwined for Level 4 and 5 designs and are primarily related to green streets rather than parking lots. A Level 4 green street not only encompasses the attributes of Levels 1, 2, and 3, but also provides a direct emphasis

Figure 1-11:
GREEN STREETS AND PARKING LOTS CAN BE “MULTIPLE SHADES OF GREEN”

Level 1	Maximizes landscape areas along the street and minimizes overall impervious areas of the land. Some runoff from sidewalks may be managed in landscape areas.	
Level 2	Significant tree canopy is added to the urban streetscape.	
Level 3	Fully manages street, sidewalk, and driveway runoff by using a landscape system. Design solutions are cost effective, provide direct environmental benefits, and are aesthetically pleasing.	
Level 4	Green street provides direct focus on alternative modes of transportation including mass transit, biking, and walking.	
Level 5	Green street frontage manages both public and private stormwater runoff. Building, site, and street frontage become one integrated space designed for stormwater management.	

SOURCE: NEUVENGAN ASSOCIATES

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on alternative transportation options, such as walking, biking, and/or using mass transit. More people using alternative transportation lessens the number of vehicles generating pollution. Furthermore, incorporating mass transit stops, bike lanes and racks, carpool drop off areas, or other similar site design measures can reduce the overall impervious area required.

The “greenest,” and most difficult level to achieve, is a Level 5 design. This comprehensive approach allows stormwater to be managed within the entire street “envelope,” which blurs the line between public and private space. Stormwater from private driveways and buildings could be managed within the public right-of-way. Conversely, stormwater from the street could utilize available landscape space within private property. This is currently not a widely-accepted condition here in the United States; however, in many European cities, this type of a green street is becoming more common.

New and redevelopment projects offer more opportunities to achieve a Level 4 or 5 design. Other projects (especially retrofits), due to a multitude of site constraints, might only be able to achieve a Level 3 design. Regardless, the most important consideration is to always strive to reach the highest level of green design possible. When a high level of green design is applied to street and parking lot sites throughout the County, the overall health of the watershed, the San Francisco Bay, and the Pacific Ocean will improve.



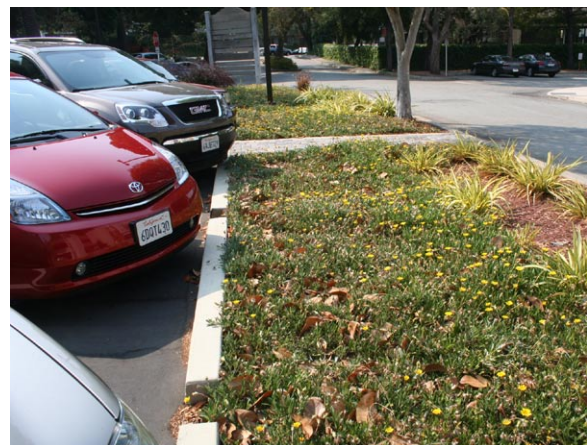
SOURCE: KEVIN ROBERT PERRY - CITY OF PORTLAND

Figure I-12: Green streets can be urban in form.



SOURCE: KEVIN ROBERT PERRY - CITY OF PORTLAND

Figure I-13: Green infrastructure can also be very free-form and artistic.



SOURCE: NEVUE NGAN ASSOCIATES

Figure I-14: A vegetated swale within a green parking lot in San Mateo County.