

BEYOND

SMART CITIES

LEED IMPLEMENTATION GUIDE

FOR DESIGN PROFESSIONALS

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LOCATION AND TRANSPORTATION - LT

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LEARNING OBJECTIVES

INTRODUCTION LOCATION AND TRANSPORTATION - LT

LEED FOR NEIGHBOURHOOD DEVELOPMENT LOCATION

SENSITIVE LAND PROTECTION / HIGH PRIORITY SITE

SURROUNDING DENSITY AND DIVERSE USES / ACCESS TO QUALITY TRANSIT

BICYCLE FACILITIES / REDUCED PARKING FOOTPRINT / GREEN VEHICLES

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LOCATION AND TRANSPORTATION



(LT) category rewards thoughtful decisions about building location, with credits that encourage compact development, alternative transportation, and connection with amenities, such as restaurants and parks. The LT category is an outgrowth of the Sustainable Sites category, which formerly covered location-related topics.



CRITERIA IN THIS CATEGORY

IP CR.LEED FOR NEIGHBOURHOOD DEVELOPMENT LOCATION

IP CR.SENSITIVE LAND PROTECTION

IP CR.HIGH PRIORITY SITE & EQUITABLE DEVELOPMENT

IP CR.SURROUNDING DENSITY AND DIVERSE USES

IP CR.ACCESS TO QUALITY TRANSIT

IP CR.BICYCLE FACILITIES

IP CR.REDUCED PARKING FOOTPRINT / IP:CR GREEN VEHICLES



MAXIMUM POSSIBLE CREDITS : 0 P / 16 C

LT- CR (8-16) - DESIGN

INTENT

To avoid development on inappropriate sites. To reduce vehicle distance traveled. To enhance livability and improve human health by encouraging daily physical activity.

POTENTIAL TECHNOLOGIES & STRATEGIES

There are no substantive changes to the credit requirements; refer to the LEED v4 reference guide, with the following additions and modifications.

LEED FOR NEIGHBOURHOOD DEVELOPMENT LOCATION

REQUIREMENTS

Locate the project within the boundary of a development certified under LEED for Neighborhood Development (Stage 2 or Stage 3 under the Pilot or v2009 rating systems, Certified Plan or Certified Built Project under the LEED v4 rating system)

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	All projects
LEED ND project information (name, ID number, rating system and version, certification level, and certification date)	X
Verify base map with LEED project boundary and LEED ND certified neighborhood or plan boundary	X

LT- CR (1-2) - DESIGN

INTENT

To cultivate community resilience, avoid the development of environmentally sensitive lands that provide critical ecosystem services and reduce the environmental impact from the location of a building on a site.

POTENTIAL TECHNOLOGIES & STRATEGIES

During the site selection process, give preference to those sites that do not include sensitive site elements and restrictive land types. Select a suitable building location and design the building with the minimal footprint to minimize site disruption of those environmentally sensitive areas identified above.

SENSITIVE LAND PROTECTION

REQUIREMENTS

Option 1. Previously Developed Land Locate the development footprint on land that has been previously developed.

Option 2. Avoidance of Sensitive Land Locate the development footprint on land that does not meet the following criteria for sensitive land:

- ☒ Prime Farmland
- ☐ Floodplains
- ☐ Habitat
- ☒ Water bodies and wetlands

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	Option 1	Option 2
Site map(s) showing project boundary, development footprint, any previous development, any sensitive areas, and any noise improvements in required buffers	X	X
Explanation of the previous development on the site	X	
Description of how the project team verified prime farmland, flood hazard, and sensitive habitat criteria were met		X

LT- CR (1-2) - DESIGN

INTENT

To build the economic and social vitality of communities, encourage project location in areas with development constraints and promote the ecological, cultural, and community health of the surrounding area while understanding the needs and goals of existing residents and businesses.

POTENTIAL TECHNOLOGIES & STRATEGIES

Most of the priority designations are intended to encourage investment in economically disadvantaged or low-income areas. Projects outside the U.S. should demonstrate that the site is in a priority area, as designated by an equivalent, nationally administered program with similar goals and operation.

HIGH-PRIORITY SITE AND EQUITABLE DEVELOPMENT

REQUIREMENTS

Many communities and governments have identified high-priority redevelopment sites. Putting these sites back into productive use has many environmental advantages over development in greenfields and environmentally sensitive areas. Building a project on a high-priority redevelopment site can revitalize the neighborhood and bring social and economic benefits to the surrounding community. Such projects also achieve savings because they are served by existing infrastructure.

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	Option 1	Option 2	Option 3
Victory map indicating previously developed land within 1 mile (1609 meters) of project boundary	X		
Document from historic preservation entity confirming location in historic district	X		
Victory map or other documentation confirming priority site designation		X	
Documentation from authority having jurisdiction declaring existence of specific contamination and confirming that remediation has been or will be completed to its satisfaction			X

LT- CR (1-5) - DESIGN

INTENT

To conserve land and protect farmland and wildlife habitat by encouraging development in areas with existing infrastructure. To support neighborhood and local economies, promote walkability and low or no carbon transportation, and reduce vehicle distance traveled for all. To improve public health by encouraging daily physical activity.

POTENTIAL TECHNOLOGIES & STRATEGIES

This credit rewards a project location that is surrounded by existing built density and within walking distance of a variety of services ("uses"). The density thresholds correspond to the minimum densities needed to support bus transit (seven dwelling units per acre, 75 DU per hectare) and fixed-rail transit (12 DU per acre, 30 DU per hectare). Two threshold types are listed, one combining residential and nonresidential densities, the second separating them. Project teams therefore have flexibility in calculating the surrounding built density based on the information available to them.

SURROUNDING DENSITY AND DIVERSE USES

REQUIREMENTS

Surrounding Density-3 points BD&C except Core and Shell, 2-4 points Core and Shell) Locate on a site whose surrounding existing density within a 1/4-mile (400-meter) offset of the project boundary meets the values in Table 1. Use either the "separate residential and nonresidential densities" or the "combined density" values.

IMPLEMENTATION

REQUIRED DOCUMENTATION

GR EOC-Approved Worksheet and Distribution Column	Option 1	Option 2
Analysis for map showing project start and location of existing, additional and non-sustainable/impervious surfaces (EOC) related to subject of project.		
Description of the previous developments on site.		
Are there any map showing project location and type of each use and existing roads?		X
Worksheet and Distribution Column	Option 1	Option 2
Analysis for map showing project start, previous development, and/or additional habitat in commercial project area related to project.		
Analysis for map showing project start location and type of transportation resources, and driving distance to each.		

If planned transportation resources are started, not sufficient they will be included in future community, local or state level of assessment or separate assessment of future development.

LT- CR (1-5) - DESIGN

INTENT

To encourage development in locations shown to have multimodal transportation choices or otherwise reduced motor vehicle use, thereby reducing greenhouse gas emissions, air pollution, and other environmental and public health harms associated with motor vehicle use.

POTENTIAL TECHNOLOGIES & STRATEGIES

Transit-oriented development locations support transit services by boosting ridership, while project occupants enjoy access to public transportation. Projects that are within walking distance of multiple transit routes will further encourage occupants and visitors to use public transportation. Schools should provide pedestrian and bicycle access to transit or be sited in a neighborhood to reduce busing.

ACCESS TO QUALITY TRANSIT

REQUIREMENTS

Locate any functionality of the project within a ¼-mile (400-meter) walking distance of existing or planned bus, streetcar, or informal transit stops, or within a ½-mile (800-meter) walking distance of existing or planned bus rapid transit stops, passenger rail stations (i.e. light, heavy, or commuter rail) or commuter ferry terminals. The transit service at those stops and stations in aggregate must meet the minimums listed in Table 1. Planned stops and stations may count if they are sited, funded, and under construction by the date of the certificate of occupancy and are complete within 24 months of that date.

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	All Projects	Subsidiary Capital	Subsidiary Capital II
Map showing project, project boundary, mineral exploration, and walking route and address to those stops	X	X	
Diagram or other service line documentation	X	X	
If applicable, documentation of planned transit or restoration of transportation needed service	X	X	
Map showing established boundary			X

LT- CR (1) - DESIGN

INTENT

To promote bicycling and transportation efficiency and reduce vehicle distance traveled. To improve public health by encouraging utilitarian and recreational physical activity.

POTENTIAL TECHNOLOGIES & STRATEGIES

Bicycling offers many individual and global benefits. For every mile (1 600 meters) pedaled rather than driven, nearly 1 pound (450 grams) of carbon dioxide (CO₂) emissions is avoided.

BICYCLE FACILITIES

REQUIREMENTS

☒ Design or locate the project such that a functional entry or bicycle storage is within a 200-yard (180- meter) walking distance or bicycling distance from a bicycle network that connects to at least one of the following:

☐ at least 10 diverse uses (see Appendix 1);

☐ a school or employment center, if the project total floor area is 50% or more residential; or

☐ a bus rapid transit stop, passenger rail station, or ferry terminal.

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	All projects, except those that have been previously approved by the Planning Commission	Others	All
Provide the planning board, board, and staff with a copy of the project's bicycle facilities design and a copy of the project's bicycle facilities design and a copy of the project's bicycle facilities design.	X	X	X
Provide the project's bicycle facilities design and a copy of the project's bicycle facilities design.	X		
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LT- CR (1) - DESIGN

INTENT

To minimize the environmental harms associated with parking facilities, including automobile dependence, land consumption, and rainwater runoff.

POTENTIAL TECHNOLOGIES & STRATEGIES

Parking demand can be reduced by locating projects in high-density, mixed-use areas or in places well served by transit, or by instituting transportation demand management strategies, such as providing preferred parking for carpools. To complement the use of these alternative modes or vehicle-sharing arrangements, vehicular parking itself can be limited by designing fewer spaces. This credit uses the Transportation Planning Handbook base ratios as a baseline against which reductions in parking supply can be compared.

REDUCED PARKING FOOTPRINT

REQUIREMENTS

Do not exceed the minimum local code requirements for parking capacity. Provide parking capacity that is a percentage reduction below the base ratios recommended by the Parking Consultants Council, as shown in the Institute of Transportation Engineers' Transportation Planning Handbook, 3rd edition, Tables 1B-2 through 1B-4.

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	All Projects
Site plan indicating parking area and preferred parking spaces	X
Calculations demonstrating threshold achievement	X
Drawings or photographs of signage or pavement markings indicating reserved status of preferred parking area	X

LT- CR (1) - DESIGN

INTENT

To reduce pollution by promoting alternatives to conventionally fueled automobiles.

POTENTIAL TECHNOLOGIES & STRATEGIES

Beyond climate change effects, conventional-fuel vehicles pose public health risks. Diesel exhaust from idling buses releases fine particulates, which can be especially harmful for children. 3. Idling delivery trucks at warehouse loading docks and diesel-powered yard tractors used to move cargo containers 4. emit nitrogen oxides (NO_x), sulfur oxides (SO_x), and particulate matter (PM).

ELECTRIC VEHICLES

REQUIREMENTS

Install electrical vehicle supply equipment (EVSE) in 5% of all parking spaces used by the project or at least two spaces, whichever is greater. Clearly identify and reserve these spaces for the sole use by plug-in electric vehicles.

IMPLEMENTATION

REQUIRED DOCUMENTATION

Documentation	All projects that have been previously approved by the Planning Commission	Others
	Subpart 1	Subpart 2
Provide the project's electrical vehicle supply equipment (EVSE) design and a copy of the project's electrical vehicle supply equipment (EVSE) design.	X	X
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