
Glossary & Appendices

Richmond Terrace
St. George

↑ Richmond County Bank Ballpark
← Staten Island Borough Hall

→ St. George Terminal
Staten Island Ferry
St. George



Walk NYC

Glossary

A

AASHTO (American Association of State Highway Transportation Officials)

A nonprofit, nonpartisan association representing highway and transportation departments in the fifty states, the District of Columbia, and Puerto Rico, representing all five transportation modes—air, highways, public transportation, rail, and water. AASHTO publishes numerous design guidance publications, including *A Policy on Geometric Design of Highways and Streets* (“Green Book”). www.transportation.org

Accessibility

The design of facilities and public right-of-way that are easy, safe, and intuitive to use for people with disabilities. Accessible environments provide for a person's ability to independently navigate the space.

ADA (Americans with Disabilities Act)

The act that gives civil rights protections to individuals with disabilities, similar to those rights provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications. www.ada.gov

ADT (Average Daily Traffic)

The average number of vehicles to pass a certain point or use a certain roadway per day. Sometimes referred to as VPD (Vehicles Per Day), this is the calculation of the total traffic volume during a given time (in whole days) divided by the number of days in that period. (AASHTO: *A Policy on Geometric Design of Highways and Streets*)

APS (Accessible Pedestrian Signal)

A device that communicates information about pedestrian signal timing in non-visual formats such as audible tones, speech messages, and/or vibrating surfaces. Installation of APS in New York City is governed by the Accessible Pedestrian Signals Policy enacted October 21, 2019.

Arterial Street

The part of the roadway system serving as the principal network of through-traffic flow. The routes connect areas of principal traffic generation and important rural highways entering the cities. (ITE: *Traffic Engineering Handbook*)

B

Base Flood Elevation

The elevation of surface water resulting from a flood that has a 1% or higher annual chance of occurring in any given year.

Bicycle

Every two- or three-wheeled device upon which a person or persons may ride, propelled by human power through a belt, a chain, or gears, with such wheels in a tandem or tricycle, except that it shall not include such a device having solid tires and intended for use only on a sidewalk by pre-teenage children. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 102; Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Bicycle Buffer

A designated space marked with crosshatch markings or chevron markings separating a bicycle facility from traffic and/or parking.

Bicycle Facilities

A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking and storage facilities and shared roadways not specifically designated for bicycle use. (AASHTO: *Guide for the Development of Bicycle Facilities*)

Bicycle Lane/Bike Lane

A dedicated on-street or grade-separated lane for bikes that is typically delineated with markings, a curb or parking lane within the roadway, or is physically separated from the roadway for most of its length.

Bicycle Route/Bike Route

A bikeway designated by the jurisdiction having authority with appropriate directional and informational route markers, with or without specific bicycle route numbers. Bike routes should establish a continuous routing, but may be a combination of any and all types of bikeways (AASHTO: *Guide for the Development of Bicycle Facilities*). In New York City, five types of bike routes are set forth in the *Street Design Manual*: Shared Lanes, Conventional Bike Lanes, One-Way Protected Bike Lanes, Two-Way Protected Bike Lanes, and Grade-Separated Bike Lanes.

BID**(Business Improvement District)**

A not-for-profit corporation made up of property owners and commercial tenants who are dedicated to promoting business development and improving an area's quality of life. BIDs deliver supplemental services such as sanitation and maintenance, public safety and visitor services, marketing and promotional programs, capital improvements, and beautification for the area—all funded by a special assessment paid by property owners within the district. www1.nyc.gov/site/sbs/neighborhoods/bids.page

Bikeway

A generic term for any road, street, path, or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes. (AASHTO: *Guide for the Development of Bicycle Facilities*)

Bioswale

A planted area, generally in the sidewalk, that is designed to collect and manage stormwater, or rainwater, that runs off streets.

Bollard

A short vertical post or similar structure that can define areas in the streetscape. Bollards are often used to separate pedestrians or streetscape elements from vehicles. When placed in a line, bollards are used to prevent motor vehicles from encroaching on pedestrian space such as sidewalks or plazas. www.sfbetterstreets.org

BRT (Bus Rapid Transit)

A flexible, high-performance rapid transit mode that combines a variety of physical, operating, and system elements into a permanently integrated system with a quality image and unique identity. A BRT route is designed to improve the speed, reliability, and overall attractiveness of bus service. See SBS (Select Bus Service) for a NYC application of BRT.

BUG (Backlight, Uplight, Glare) Rating

A rating system that describes the types of stray light escaping from an outdoor lighting luminaire. The BUG system was developed by the Illuminating Engineering Society (IES) to make comparing and evaluating outdoor luminaires fast, easy, and more complete than older systems. www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf

Bulkhead

A vertical partition that prevents earth and fill from slipping into adjacent bodies of water.

Bus

Every motor vehicle having a seating capacity of more than fifteen adults, in addition to the operator, and used for the transportation of persons, and every charter bus, interstate bus, intrastate bus, school bus, and sight-seeing bus, regardless of seating capacity. (Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Bus Route

A street that carries one or more regularly scheduled local, commuter, or intercity bus lines running on a published schedule.

C

Capital Project

- A.** A project that provides for the construction, reconstruction, acquisition, or installation of a physical public betterment or improvement that would be classified as a capital asset under generally accepted accounting principles for municipalities, or any preliminary studies and surveys relative thereto, or any underwriting or other costs incurred in connection with the financing thereof;
- B.** The acquisition of property of a permanent nature, including wharf property;
- C.** The acquisition of any furnishings, machinery, apparatus, or equipment for any public betterment or improvement when such betterment or improvement is first constructed or acquired;
- D.** Any public betterment involving either a physical improvement or the acquisition of real property for a physical improvement consisting in, including, or affecting (1) streets and parks, (2) bridges and tunnels, (3) receiving basins, inlets, and sewers, including intercepting sewers, plants or structures for the treatment, disposal or filtration of sewage, including grit chambers, sewer tunnels, and all necessary accessories thereof, or (4) the fencing of vacant lots and the filling of sunken lots;
- E.** Any other project allowed to be financed by the local finance law, with the approval of the mayor and the comptroller;
- F.** Any combination of the above. (New York City Charter Section 210.1)

Cast-in-Place

A term describing a paving material, such as concrete, that is poured into place on site and set to harden.

CEQR (City Environmental Quality Review)

A process by which agencies of the City of New York review proposed discretionary actions to identify the effects those actions may have on the environment. CEQR is New York City's process for implementing SEQRA (New York State Environmental Quality Review Act), which requires that state and local governmental agencies assess environmental effects of discretionary actions before undertaking, funding, or approving such actions, unless they fall within certain statutory or regulatory exemptions from the requirements for review. www.nyc.gov/oec

Channelization

The separation or regulation of conflicting traffic movements into definite paths of travel by traffic islands or pavement marking to facilitate the orderly movements of both vehicles and pedestrians. (AASHTO: *A Policy on Geometric Design of Highways and Streets*)

Clear Path

A straight unobstructed path for pedestrian circulation on the sidewalk. (Rules of the City of New York, Title 34, Chapter 7, Section 7-06(c)(3)). (See also definition of clear path in DCWP's rules and in the ADA.)

Climate Risk Assessment

A detailed, project-specific analysis that includes a vulnerability and risk assessment, often followed by cost-benefit analysis, to assess and select investments in climate risk mitigation. Risk is assessed as a function of the likelihood and consequence of a given climate change hazard.

Coefficient of Friction

A value between 0 and 1 representing the ratio of the force of resistance between the horizontal motion of a body or object and a surface to the force pushing the body or object down on that surface. Surfaces with lower values, such as ice, are more slippery, while surfaces with higher values, such as concrete, are less slippery.

Collector Street

A part of the street system that provides both land access and traffic circulation within residential, commercial, and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system. In the central business district, and in other areas of like development and traffic density, the collector system may include the street grid, which forms a logical entity for traffic circulation. (FHWA: *Functional Classification Guidelines*)

Commercial District

A zoning district, designated by the letter C (C1-2, C3, C4-7, for example), in which commercial uses are allowed and residential uses may also be permitted, as described in the Zoning Resolution of the City of New York.

www1.nyc.gov/site/planning/zoning/about-zoning.page

Community Facilities

Used in this Manual to mean elements of the streetscape that serve useful functions to street users beyond infrastructure and vehicular operations. Examples include street furniture (e.g., bike racks and newsstands), public and café seating, public art, and plantings. Their use is generally authorized through permits, revocable consents, and/or maintenance agreements.

Concession

A grant made by an agency for the private use of city-owned property for which the city receives compensation other than in the form of a fee to cover administrative costs, except that concessions shall not include franchises, revocable consents, and leases. (NYC Charter, Section 362(a); Rules of the City of New York, Title 12)

Corner

The area created by extending the building line to the curb. (Mayor's Executive Order No. 22 dated April 13, 1995)

Corner Quadrant

The corner plus 10 additional feet extending away from the intersection along each intersecting roadway.

Crash

A collision, as between two automobiles.

Crosswalk

A. That part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway between the curbs or, in the absence of curbs, between the edges of the traversable roadway; **B.** Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 110)

CSO (Combined Sewer Overflow)

A discharge of excess wastewater from a combined sewer system (sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe) directly into nearby streams, rivers, or other water bodies during periods of heavy rainfall or snowmelt when the wastewater volume exceeds the capacity of the sewer system or treatment plant. www.epa.gov/npdes/combined-sewer-overflows-csos

Cut-Through Traffic

Traffic using minor roadways, usually residential streets, as shortcuts to avoid congestion on major streets. (APA: *U.S. Traffic Calming Manual, 1st Edition*)

Curb

A vertical or sloping member along the edge of a roadway clearly defining the pavement edge. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 111)

D

Design Life

The life expectancy of an asset or product as determined during design.

Design Speed

A selected speed used to determine the various geometric design features of the roadway. The assumed design speed should be a logical one with respect to the topography, anticipated operating speed, the adjacent land use, and the functional classification of highway. (AASHTO: *A Policy on Geometric Design of Highways and Streets*)

Design Vehicle

A selected vehicle, with representative weight, dimensions, and operating characteristics, which is used to establish highway design controls for accommodating vehicles of designated classes. (AASHTO: *A Policy on Geometric Design of Highways and Streets*)

Driver

Every person who operates or drives or is in actual physical control of a vehicle. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 113)

Driveway

Every entrance or exit authorized pursuant to applicable law and used by vehicular traffic to or from lands or buildings abutting a highway. (Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

E

Engineered Soil

A soil designed to achieve specific infiltration standards in a stormwater-capture installation.

F

Flag (sidewalk)

A flat slab of stone used as a paving material.

Flood Wall

A fixed vertical structure designed to prevent inundation by waters from an adjacent river or waterway.

Franchise

A grant by an agency of a right to occupy or use the inalienable property of the city (usually, streets or sidewalks) to provide a public service. (NYC Charter, Section 362(b))

Friction Coefficient

See Coefficient of Friction

Furnishing Zone

The section of the sidewalk between the curb and the through zone in which street furniture and amenities, such as lighting, benches, wayfinding signs, utility poles, tree pits, and bicycle parking are provided. The furnishing zone may also include green infrastructure elements, such as rain gardens or flow-through planters. In this Manual, the street furniture/curb zone is considered to be the same as the furnishing zone. (NACTO: *Urban Street Design Guide*, 2013)

G

Gateway

A combination of traffic calming and visual measures used at the entrance to a low speed street to slow entering vehicles and discourage through-traffic.

Green Book

See *A Policy on Geometric Design of Highways and Streets*

Green Infrastructure

An adaptable term used to describe an array of products, technologies, and practices that use natural systems—or engineered systems that mimic natural processes—to enhance overall environmental quality and provide utility services. As a general principle, green infrastructure techniques use soils and vegetation to infiltrate, evapotranspire, and/or detain stormwater runoff. In addition to effectively retaining and infiltrating rainfall, these technologies can simultaneously help filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon while also providing communities with aesthetic and natural resource benefits. www.epa.gov/green-infrastructure

Greenstreet

A vegetated area and its pathways within the right-of-way that are under DOT jurisdiction and maintained by Parks pursuant to an agreement between the two agencies.

Greenstreets do not include Stormwater Greenstreets. www.nycgovparks.org/greening/green-infrastructure

H

Hardening

Making infrastructure less susceptible to damage from external security, safety, and climate threats, such as extreme wind, flooding, or flying debris.

Highway

The entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 118)

High Water Table

The highest level of the groundwater in a given area, taking into account seasonal and periodic storm event fluctuations. This level can vary throughout the boroughs, and needs to be taken into consideration when designing stormwater management practices/green infrastructure.

Historic District (NYC)

Any area which (1) contains improvements that have a special character or special historical or aesthetic interest or value; and represent one or more periods or styles of architecture typical of one or more eras in the history of the city; and cause such area, by reason of such factors, to constitute a distinct section of the city; and (2) has been designated as a historic district pursuant to Title 25 of the Administration Code of the City of New York. (Administrative Code of the City of New York, Title 25, Chapter 3, Section 25-302(h))

Horizontal Deflection

The horizontal (sideways) movement of moving vehicles compelled through physical and/or visual changes to the roadway alignment, for example a bend in the road.

I

IESNA (Illuminating Engineering Society of North America)

A professional organization of lighting engineers. The organization has established recommended guidelines regarding levels of illumination for street and pedestrian lighting.

Inclusive Design

The process of creating convenient, safe, and accessible spaces for everyone. Accessibility is a critical component of universal design. In this Manual, the term "inclusive design" is used instead of "universal design."

Intersection

The area contained within the grid created by extending the curblines of two or more streets at the point at which they cross each other. (Rules of the City of New York, Title 34, Chapter 2, Section 2-01)

L

LED (Light-Emitting Diode)

A light source that converts electricity to light through the movement of electrons. It does not have a filament and is more efficient than incandescent bulbs. It consumes less energy, is more compact, and lasts longer than traditional light sources.

Limited Use Street

A legally mapped street to be temporarily closed to motor vehicles by the Department of Transportation, in accordance with lawfully authorized signs or other traffic control devices. (Rules of the City of New York, Title 34, Chapter 4, Section 4-12(r)(4))

Local Street

A part of the street system that comprises all facilities not on one of the higher systems (collector or arterial). The local street system serves primarily to provide direct access to abutting land and access to the higher order systems. Service to through-traffic movement is usually discouraged. (FHWA: *Functional Classification Guidelines*)

Local Traffic

Vehicular traffic whose trip origin and/or destination are in the immediate area of a given street.

LOS (Level of Service)

A methodology for measuring traffic flow based on traveler delay and congestion, defined in the *Highway Capacity Manual (HCM)*. Grades from A to F are used, from free flow to traffic jam conditions. Historically used primarily for motor vehicle traffic, LOS methodologies have also been devised for pedestrian, bicyclist, and transit operations.

M

Motor Vehicle

Every vehicle operated or driven upon a public highway which is propelled by any power other than muscular power, except as otherwise provided in Section 125 of the Vehicle and Traffic Law. (Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

MUTCD (Manual on Uniform Traffic Control Devices)

A document incorporated by reference in 23 Code of Federal Regulations (CFR), Part 655, Subpart F that is recognized as the national standard for all traffic control devices installed on any street, highway, bikeway, walkway, parking facility, or private road open to public travel. Traffic control devices include signs, signals, markings, and other devices used to regulate, warn, or guide traffic.

mutcd.fhwa.dot.gov

N

NACTO (National Association of City Transportation Officials)

A 501(c)(3) nonprofit association that represents large cities on transportation issues of local, regional, and national significance, and facilitates the exchange of ideas, data, and best practices. NACTO publishes numerous design guidance publications, including the *Urban Street Design Guide*. nacto.org/about

O

Operating Speed

The speed at which drivers are observed operating their vehicles during free-flow conditions. The 85th percentile of the distribution of observed speeds is the most frequently used measure of the operating speed associated with a particular location or geometric feature. (AASHTO: *A Policy on Geometric Design of Highways and Streets*)

P

Park Parking

The standing of a vehicle, whether occupied or not, otherwise than temporarily for the purpose of and while actually engaged in loading or unloading property or passengers. (Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Peak Hour(s)

The hour or hours of greatest vehicular traffic volumes on a given street or intersection, usually defined for weekday AM, MD (mid-day) and PM, and Saturday MD peak periods. The peak hours, rather than an entire day, are typically analyzed in a traffic analysis.

Pedal-Assist Bicycle

A bicycle equipped with fully operable pedals and an electric motor of less than seven hundred fifty watts (one horsepower) whereby such electric motor engages only when the operator is pedaling and the rate of speed of the bicycle is less than 20 miles per hour, and disengages or ceases to function when (i) the operator applies the brakes, (ii) the operator stops pedaling, or (iii) the bicycle achieves a speed of twenty miles per hour. A pedal-assist bicycle shall not be equipped with any throttle capacity or have any additional motorized equipment affixed to it. (Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Pedestrian

Any person afoot or in a wheelchair. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 130)

Pedestrian Plaza

An area designated by DOT for pedestrian circulation, use, and enjoyment on property under DOT's jurisdiction including but not limited to property mapped as public place or property within the bed of a roadway, and which may contain amenities such as tables, seating, trees, plants, lighting, bike racks, or public art. (Administrative Code of the City of New York, Section 19-157)

A Policy on Geometric Design of Highways and Streets

A document published by AASHTO, often referred to as the "Green Book," that contains "design practices in universal use as the standard for highway geometric design." store.transportation.org/item/collectiondetail/180

Public Highway

Any highway, road, street, avenue, alley, public place, public driveway, or any other public way. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 134)

R

Rain Garden

A planted depression that captures and absorbs rainwater that would otherwise flow into a storm drain. Infiltration and evapotranspiration are the primary means for water management in these systems.

Resiliency

The ability of people, the places where they live, and infrastructure systems—such as transportation and energy—to withstand a stress or shock event, to recover, and to emerge even stronger. In this Manual, resiliency is used in the context of climate-related threats including sea-level rise, coastal storms, and extreme precipitation and heat. (NYC: *One New York: The Plan for a Strong and Just City*, 2015)

Restricted Use Street

A legally mapped street to be permanently closed to motor vehicles by the Department of Transportation, and open to use by pedestrians. (Rules of the City of New York, Title 34, Chapter 4, Section 4-12(r)(4))

Revocable Consent

A grant by the city of a right, revocable at will...to an owner of real property or, with the consent of the owner, to a tenant of real property to use adjacent inalienable property (usually, streets or sidewalks) for such purposes as may be permitted by rules of DOT or DoITT. (For full definition, see NYC Charter, Section 362(c)(2); Rules of the City of New York, Title 34, Chapter 7, Section 7-01.)

Right-of-Way

A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes. (AASHTO: *Guide for the Development of Bicycle Facilities*)

Road

An open way for the passage of vehicles, persons, or animals on land. (FHWA)

Roadbed

The graded portion of a highway within top and side slopes, prepared as a foundation for the pavement structure and shoulder. (FHWA)

Roadway

That portion of a street designed, improved, or ordinarily used for vehicular travel, exclusive of the shoulder and slope. (Rules of the City of New York, Title 34, Chapter 2, Section 2-01)

S

SBS (Select Bus Service)

New York City's application of BRT, providing a complementary service to the subway system by connecting those neighborhoods with limited transit options to subway stations and major destinations. To improve reliability and service along these high ridership corridors, a combination of tools are implemented. This includes off-board fare payment, bus lanes, Transit Signal Priority, and longer spacing between stops. www1.nyc.gov/html/brt/html/home/home.shtml

Scoring (concrete)

Marking the surface of concrete for visual or textural effect. "Tooled joint" scoring refers to concrete sidewalk flag joints finished with a hand-trowelled border. "Simulated saw-cut joint" scoring refers to concrete sidewalk flag joints finished using a spacer to simulate the appearance of joints cut with a masonry saw.

Shared-Use Path

A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Shared-use paths may also be used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users. (AASHTO: *Guide for the Development of Bicycle Facilities*)

Sidewalk

That portion of a street, whether paved or unpaved, between the curb lines or the lateral lines of a roadway and the adjacent property lines intended for the use of pedestrians. Where it is not clear which section is intended for the use of pedestrians, the sidewalk will be deemed to be that portion of the street between the building line and the curb. (Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Simulated Saw-Cut Joint

See Scoring (concrete)

Source Control

An action to prevent pollution where it originates.

Source Reduction

The technique of stopping and/or reducing pollutants at their point of generation so that they do not come into contact with stormwater.

Stand Standing

The stopping of a vehicle, whether occupied or not, otherwise than temporarily for the purpose of and while actually engaged in receiving or discharging passengers. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 145; Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Stop Stopping

Any halting even momentarily of a vehicle, whether occupied or not. (Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Storm Surge

The abnormal rise of water generated by a storm, over and above the predicted astronomical tides.

Street

A street, avenue, road, alley, lane, highway, boulevard, concourse, parkway, driveway, culvert, sidewalk, crosswalk, boardwalk, and viaduct, and every class of public road, square and place, except marginal streets. (New York City Charter Section 210.7)

Street Tree

A tree growing in the public right-of-way. These trees provide a range of benefits, from increased property values to stormwater capture and urban heat island mitigation. www.nycgovparks.org/sub_your_park/trees_greenstreets/faq.html

Supplementary Cementitious Materials (SCM)

Industrial by-products that would otherwise have to be disposed of in landfills, providing cost savings to concrete manufacturers and reducing environmental impact by averting disposal. (DDC: *High Performance Infrastructure Guidelines*, 2005)

Swale

See Bioswale

T**Target Speed**

The speed at which vehicles should operate on a thoroughfare in a specific context, consistent with the level of multimodal activity generated by adjacent land uses, to provide both mobility for motor vehicles and a safe environment for pedestrians and bicyclists. The target speed is usually the posted speed limit. (ITE: *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities*)

Temporary Flood Protection Measure

A network of devices that can be deployed on surfaces to support reduction of flood impacts to buildings, roadways, and other assets.

Through Traffic

Vehicular traffic whose trip origin and destination are not in the immediate area of a given street.

Traffic

Pedestrians, ridden or herded animals, vehicles, bicycles, and other conveyances either singly or together while using any highway for purposes of travel. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 152)

Tooled Joint

See Scoring (concrete)

U

Traffic Calming

A speed management practice whose primary purpose is to support the livability and vitality of residential and commercial areas through improvements in non-motorist safety, mobility, and comfort. These objectives are typically achieved by reducing vehicle speeds or volumes on a single street or a street network. Traffic calming measures consist of horizontal, vertical, lane narrowing, and roadside interventions as well as other features that use self-enforcing physical or psycho-perception means to produce desired effects. (ITE and FHWA: Traffic Calming ePrimer; safety.fhwa.dot.gov/speedmgt/traffic_calm.cfm)

Traffic Control Devices

All signs, signals, markings, and devices placed or erected by authority of a public body or official having jurisdiction for the purpose of regulating, warning, or guiding traffic. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 153)

Truck

Except as otherwise specified in the Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b), any vehicle or combination of vehicles designed for the transportation of property, which has either of the following characteristics: two axles, and six tires; or three or more axles. (Rules of the City of New York, Title 34, Chapter 4, Section 4-13(a))

Unit Paver

A paving material that is precast, such as a hexagonal asphalt paver, or individually hewn, such as a granite block, such that each paver is a single unit that can be removed or replaced.

Universal Design

See Inclusive Design

Urban Heat Island Effect

The phenomenon wherein many urban and suburban areas experience elevated temperatures compared to their outlying rural surroundings; this difference in temperature is what constitutes an urban heat island. The annual mean air temperature of a city with one million or more people can be 1.8 to 5.4 degrees F (1 to 3 degrees C) warmer than its surroundings, and on a clear, calm night, this temperature difference can be as much as 22 degrees F (12 degrees C). (US EPA: *Reducing Urban Heat Islands: Compendium of Strategies*)

Useful Life

The period over which an asset or component is expected to be available for use by an entity, assuming regular and adequate maintenance.

V

Vehicle

Every device in, upon, or by which any person or property is or may be transported or drawn upon a highway, except devices moved by human power or used exclusively upon stationary rails or tracks. (New York State Vehicle and Traffic Law, Title 1, Article 1, Section 159; Rules of the City of New York, Title 34, Chapter 4, Section 4-01(b))

Vertical Deflection

The vertical (upward) displacement of moving vehicles by way of a raising of the roadbed surface, for example with a hump, table, or other raised element.

Vision Zero

New York City's action plan to improve street safety in every neighborhood and in every borough – with expanded enforcement against dangerous moving violations like speeding and failing to yield to pedestrians, new street designs and configurations to improve safety, broad public outreach and communications, and a sweeping legislative agenda to increase penalties for dangerous drivers and give New York City control over the safety of our own streets. www1.nyc.gov/site/visionzero/index.page

#

100-Year Floodplain

The area with a 1% or higher chance of flooding in any given year.

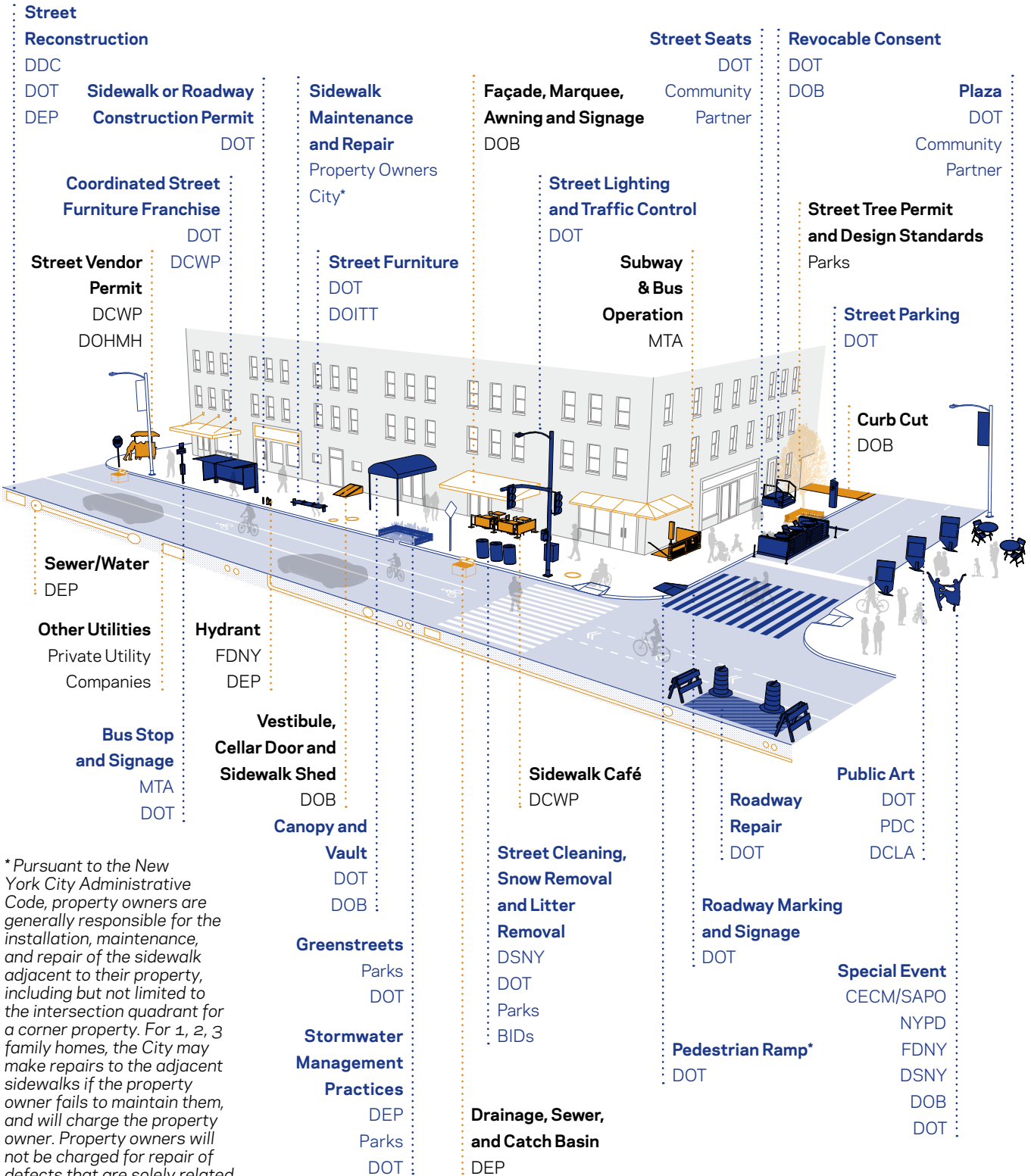
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Agency Roles on the City's Streets

This diagram summarizes the roles and responsibilities of city agencies and other entities related to the most visible aspects of the city's streets. It does not include all agencies with street-related roles and is not intended to be a literal representation of appropriate street furniture locations.

An expanded listing follows.



* Pursuant to the New York City Administrative Code, property owners are generally responsible for the installation, maintenance, and repair of the sidewalk adjacent to their property, including but not limited to the intersection quadrant for a corner property. For 1, 2, 3 family homes, the City may make repairs to the adjacent sidewalks if the property owner fails to maintain them, and will charge the property owner. Property owners will not be charged for repair of defects that are solely related to street trees.

The following are agencies, authorities, and other organizations that are frequently involved in the design of streets in New York City. This list is provided as a reference tool, for informational purposes only, and is not an exhaustive list.

Street Planning, Design & Construction

Street Capital Projects

DOT
(initiation, scoping, conceptual design)
www.nyc.gov/dot

DEP
(initiation, scoping)
www.nyc.gov/dep

EDC
(initiation, scoping, conceptual design, final design, agency alignment & construction)
www.nycedc.com

DDC
(conceptual design, final design, agency alignment & construction)
www.nyc.gov/ddc

Parks
(parks, greenstreets)
www.nycgovparks.org

NYSDOT
(state highways within New York City)
dot.ny.gov

Other city, state, and federal agencies and authorities for individual, typically site-specific projects

Comprehensive Street Planning

DOT
(for most public streets)
www.nyc.gov/dot

DCP
(zoning, private streets, transportation studies)
www.nyc.gov/planning

NYSDOT
(for state and federal routes)
dot.ny.gov

Design of Stormwater Best Management Practices/ Source Controls

DDC www.nyc.gov/ddc

DEP www.nyc.gov/dep

Parks www.nycgovparks.org

DOT www.nyc.gov/dot

Greenstreets

Parks www.nycgovparks.org

DOT www.nyc.gov/dot

Land Acquisition

DCAS www.nyc.gov/dcas

DDC www.nyc.gov/ddc

SBS www.nyc.gov/sbs

Law Department
www.nyc.gov/law

DCP (ULURP) www.nyc.gov/planning

Non-Capital Street Projects

DOT (design and implementation)
www.nyc.gov/dot

Universal Design

MOPD (Mayor's Office for People with Disabilities) www.nyc.gov/mopd

Street Tree & Tree-Bed Design Standards

Parks www.nycgovparks.org

Reviews, Approvals & Permits**Coastal Erosion Permits**

NYSDEC www.dec.ny.gov

Construction on Sidewalk or in Roadway, Permits

DOT www.nyc.gov/dot

Curb Cut, Existing Cellar Door, Marquee & Awning Permits

DOB www.nyc.gov/dob

Environmental Review (CEQR/SEQR/NEPA)

Lead agency and involved agencies vary by project

Emergency Vehicle Access Review

FDNY www.nyc.gov/fdny

Historic District Review

LPC www.nyc.gov/landmarks

Light Pole Banner Permits

DOT www.nyc.gov/dot

Newsracks

DOT www.nyc.gov/dot

Review of Works of Art and Structures (as defined in Chapter 37, Section 854 of the NYC Charter)

PDC
www.nyc.gov/designcommission

Revocable Consents

DOT www.nyc.gov/dot

DCWP
(sidewalk cafés)
www.nyc.gov/dcwp

DoITT
(telecommunications)
www.nyc.gov/doitt

Sewers, Catch Basins & Drainage Approval

DEP
www.nyc.gov/dep

Sidewalk Shed Permits

DOB
www.nyc.gov/dob

Sidewalk Work Permits

DOB
(Builder's Pavement Plan)
www.nyc.gov/dob

DOT
www.nyc.gov/dot

Special Event/Street Fair Permits

CECM www.nyc.gov/cecm

NYPD www.nyc.gov/nypd

Street Tree Permits (including Tree Guards)

Parks
www.nycgovparks.org

Street Vendor Permits

DCWP
www.nyc.gov/dcwp

DOHMH
www.nyc.gov/health

Vaults & Canopies: Permits

DOT
www.nyc.gov/dot

Water Quality Permits/Approvals

NYSDEC
www.dec.ny.gov

DEP
www.nyc.gov/dep

Wetlands Permits

United States Army Corps of Engineers
www.usace.army.mil

NYSDEC
www.dec.ny.gov

Operation & Maintenance

Coordinated Street Furniture Franchise (bus stop shelters, newsstands, automatic public toilets, bike shelters)

DOT
www.nyc.gov/dot

DCWP
www.nyc.gov/dcwp

Greenstreets Maintenance

Parks
www.nycgovparks.org

Roadway Maintenance and Repair

DOT
www.nyc.gov/dot

Roadway & Retaining Wall Inspection

DOT
www.nyc.gov/dot

DDC
www.nyc.gov/ddc

Sidewalk Maintenance and Repair

Property Owners

DOT
 (in certain zoning districts or through prior notice) www.nyc.gov/dot

Street Cleaning, Snow Removal & Litter Removal

DSNY
www.nyc.gov/dsny

DOT
www.nyc.gov/dot

Parks
www.nycgovparks.org

BIDs
 (Business Improvement Districts)
www1.nyc.gov/site/sbs/neighborhoods/bids.page

Street Operations (Street Lighting, Traffic Controls, etc.)

DOT
www.nyc.gov/dot

Supplementary Maintenance & Services, Street Furniture

SBS
www.nyc.gov/sbs

BIDs
 (Business Improvement Districts)
www1.nyc.gov/site/sbs/neighborhoods/bids.page

Tree-Bed Maintenance

Parks
 (first two years from planting)
www.nycgovparks.org

Property owners
 (after two years from planting)

Transit (Bus) Operations

MTA NYCT
www.mta.info/nyct

Utilities

DEP
www.nyc.gov/dep

Private Utilities
 Empire City Subway
www.empirecitysubway.com

Enforcement

Enforcement of Construction Permits

DOT
www.nyc.gov/dot

Enforcement of Traffic Rules (including parking regulations)

NYPD
www.nyc.gov/nypd

Stoop Line Enforcement

DCWP
www.nyc.gov/dcwp

Legal & Design Guidance References

The following are laws, rules, regulations, and design guidance documents that may be relevant to the design of streets. This list is provided as a reference tool, for informational purposes only, and is not an exhaustive list. All public and private actions must comply with all applicable laws, rules, and regulations, not solely those listed below.

Federal Laws and Regulations

Code of Federal Regulations (CFR)
govinfo.gov/help/cfr

Manual on Uniform Traffic Control Devices (MUTCD)
mutcd.fhwa.dot.gov

United States Code (USC)
uscode.house.gov

Americans with Disabilities Act (ADA)
www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards_prt.pdf

Clean Air Act (CAA)
www.epa.gov/air/caa

Clean Water Act (CWA)
www.epa.gov/laws-regulations/summary-clean-water-act

National Environmental Policy Act (NEPA)
www.epa.gov/nepa

National Historic Preservation Act, Section 106
www.nps.gov/history/tribes/Documents/106.pdf

Department of Transportation Act, Section 4(f)
www.environment.fhwa.dot.gov/env_topics/4f_tutorial/default.aspx

State Laws and Regulations

New York State Code of Rules and Regulations
www.dos.ny.gov/info/nycrr.html

New York State Department of Environmental Conservation (Title 6)
www.dec.ny.gov/regulations/regulations.html

New York State Environmental Quality Review Act (SEQR)
www.dec.ny.gov/permits/357.html

New York State Historic Preservation Act, Section 14.09
parks.ny.gov/shpo/environmental-review/state-regulations.aspx

New York State Department of Transportation (Title 17)
www.dos.ny.gov/info/nycrr.html

New York State Environmental Conservation Law (ECL)
public.leginfo.state.ny.us

New York State Highway Law
public.leginfo.state.ny.us

New York State Transportation Law
public.leginfo.state.ny.us

New York State Vehicle and Traffic Law (VTL)
public.leginfo.state.ny.us

Local Laws and Regulations

New York City Charter
www.amlegal.com/codes/client/new-york-city_ny

City Planning (Chapter 8)

Department of Buildings (Chapter 26)

Department of Citywide Administrative Services (Chapter 35)

Department of Consumer Affairs (Chapter 64)

Department of Design and Construction (Chapter 55)

Department of Environmental Protection (Chapter 57)

Department of Health (Chapter 22)

Department of Parks and Recreation (Chapter 21)

Department of Sanitation (Chapter 31)

Department of Small Business Services (Chapter 56)

Department of Transportation (Chapter 71)

Fire Department (Chapter 19)

Franchises, Revocable Consents, and Concessions (Chapter 14)

Landmarks Preservation Commission (Chapter 74)

Local Laws and Regulations (cont.)

Police Department (Chapter 18)

Public Design Commission/Art Commission (Chapter 37)

Administrative Code of the City of New Yorkwww.amlegal.com/codes/client/new-york-city_nyBudget; Capital Projects (Title 5)
NYC Traffic Rules

Construction and Maintenance (Title 27)

Consumer Affairs (Title 20)

Contracts, Purchases and Franchises (Title 6)

Environmental Protection and Utilities (Title 24)

Fire Prevention and Control (Title 15)

Health (Title 17)

Housing and Buildings (Title 26)

Land Use (Title 25)

Parks (Title 18)

Police (Title 14)

Sanitation (Title 16)

Transportation (Title 19)

Rules of the City of New Yorkwww.amlegal.com/codes/client/new-york-city_ny

City Planning (Title 62)

Community Assistance Unit (Title 50)

Department of Buildings (Title 1)

Department of Citywide Administrative Services (Title 55)

Department of Environmental Protection (Title 15)

Rules Governing the Construction of Private Sewers

Rules Governing the Use of the Water Supply

Department of Consumer Affairs (Title 6)

Department of Health (Title 24)

Department of Parks and Recreation (Title 56)

Department of Sanitation (Title 16)

Department of Small Business Services (Title 66)

Department of Transportation (Title 34)

NYC Traffic Rules (Chapter 4)
NYC Highway Rules (Chapter 2)
Revocable Consents (Chapter 7)

Fire Department (Title 3)

Franchise and Concession Review Committee (Title 12)

Landmarks Preservation Commission (Title 63)

Police Department (Title 38)

Public Design Commission/Art Commission (Title 57)

Zoning Resolution of the City of New Yorkwww1.nyc.gov/site/planning/zoning/about-zoning.page**City Environmental Quality Review**www1.nyc.gov/site/oec/environmental-quality-review/environmental-quality-review.pageCEQR Technical Manual
www1.nyc.gov/site/oec/environmental-quality-review/technical-manual.page

New York City Charter (Chapter 8)

Rules of the City of New York (Title 43 and 62)

National Design Guidance Sources**American Association of State Highway and Transportation officials (AASHTO)**
www.transportation.org*A Policy on Geometric Design of Highways and Streets*, 7th Edition (AASHTO: 2018; store.transportation.org/item/collectiondetail/180)*A Guide for Achieving Flexibility in Highway Design* (AASHTO: 2004; store.transportation.org/item/collectiondetail/31)*Guide for the Planning, Design, and Operation of Pedestrian Facilities* (AASHTO: 2004; store.transportation.org/item/collectiondetail/131)*Guide for the Development of Bicycle Facilities*, 4th Edition (AASHTO: 2012; store.transportation.org/item/collectiondetail/116)**American Planning Association (APA)***U.S. Traffic Calming Manual* (APA and American Society of Civil Engineers: 2009)**Federal Highway Administration (FHWA)**www.fhwa.dot.gov*BIKESAFE: Bicycle Safety Guide and Countermeasure Selection System*
www.pedbikesafe.org/bikesafe*PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System*
www.pedbikesafe.org/pedsafe*Pedestrian Facilities Users Guide* (FHWA: 2002; www.fhwa.dot.gov/publications/research/safety/01102/01102.pdf)*Designing Sidewalks and Trails for Access* (FHWA: 2001; www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalks/index.cfm)*Flexibility in Highway Design* (FHWA: 1997; www.fhwa.dot.gov/environment/publications/flexibility/index.cfm)

National Design Guidance Sources (cont.)

Public Involvement Techniques for Transportation Decision-Making (FHWA and FTA: 2015; www.fhwa.dot.gov/planning/public_involvement/publications/pi_techniques)

MUTCD (Manual on Uniform Traffic Control Devices)
mutcd.fhwa.dot.gov

Institute of Transportation Engineers (ITE)

www.ite.org

Urban Street Geometric Design Handbook (ITE: 2008; ecommerce.ite.org/IMIS/ItemDetail?iProductCode=TB-018)

Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (ITE: 2010; www.ite.org/pub/?id=E1CFF43C-2354-D714-51D9-D82B39D4DBAD)

The Design and Safety of Pedestrian Facilities (ITE: 1998; safety.fhwa.dot.gov/ped_bike/docs/designsafety.pdf)

National Association of City Transportation Officials (NACTO)

www.nacto.org

Urban Street Design Guide (NACTO: 2013; www.nacto.org/publication/urban-street-design-guide)

United States Access Board

www.access-board.gov

Accessible Public Rights-of-Way: Planning and Designing for Alterations (US Access Board: 2007; www.access-board.gov/attachments/article/756/guide.pdf)

ADA and ABA Accessibility Guidelines (US Access Board: 2004; www.access-board.gov/attachments/article/412/ada-aba.pdf)

The Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (US Access Board: 2002; www.access-board.gov/attachments/article/1350/adaag.pdf)

Accessible Rights-of-Way: A Design Guide (US Access Board: 1999; safety.fhwa.dot.gov/intersection/other_topics/fhwasa09027/99.htm)

Local Design Guidance Sources

DCP

www.nyc.gov/planning

New York City Bicycle Master Plan (DCP and DOT: 1997; nacto.org/references/new-york-city-bicycle-master-plan-1997)

DDC

www.nyc.gov/ddc

Active Design Guidelines: Promoting Physical Activity and Health in Design (DDC, DOHMH, DOT, DCP & OMB: 2010)

High Performance Infrastructure Guidelines: Best Practices for the Public Right-of-Way (DDC and Design Trust for Public Space: 2005)

Sustainable Urban Sites Design Manual (DDC: 2008; www.nyc.gov/html/ddc/downloads/pdf/ddc_sd-sitedesignmanual.pdf)

DEP

www.nyc.gov/dep

Standard Designs and Guidelines for Green Infrastructure Practices (DEP: 2017; www1.nyc.gov/assets/dep/downloads/pdf/water/stormwater/green-infrastructure/green-infrastructure-standard-designs.pdf)

PlaNYC Sustainable Stormwater Management Plan (NYC: 2008; www.nyc.gov/html/planyc/downloads/pdf/publications/nyc_sustainable_stormwater_management_plan_final.pdf)

DOT

www.nyc.gov/dot

Under the Elevated: Reclaiming Space, Connecting Communities (DOT and Design Trust for Public Space: 2015)

EI-Space Toolkit: Strategies for Reclaiming Sites Beneath Elevated Transportation Infrastructure, Version 1.0 (DOT and Design Trust for Public Space: 2019; designtrust.org/media/files/DesignTrust_EI-SpaceToolkit_v5.pdf)

Standard Highway Specifications (DOT: 2015; www1.nyc.gov/site/ddc/resources/publications.page#infra)

Standard Details of Construction (DOT: 2010; www1.nyc.gov/site/ddc/resources/publications.page#infra)

Street Lighting Specifications and Standard Drawings
www.nyc.gov/html/dot/html/about/dotlibrary.shtml#spec

Instructions for Filing Plans and Guidelines for the Design of Sidewalks, Curbs, Roadways and Other Infrastructure Components
www.nyc.gov/html/dot/html/permits/stpermit.shtml#instructions

Specifications for Furnishing All Labor and Material Necessary and Required for the Installation, Removal or Relocation of Street Lighting Equipment in the City of New York (DOT: 1992; www.nyc.gov/html/dot/html/about/dotlibrary.shtml#spec)

Typical Pavement Markings Drawings
www1.nyc.gov/html/dot/html/about/dotlibrary.shtml

**Local Design Guidance Sources
(cont.)**

MOPD

www.nyc.gov/mopd

Inclusive Design Guidelines: New York City (MOPD and International Code Council: 2010)

NYSDEC

www.dec.ny.gov

New York State Stormwater Management Design Manual (NYSDEC: 2015; www.dec.ny.gov/chemical/29072.html)

Parks

www.nycgovparks.org

Tree Planting Standards (Parks: 2016; www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf)

Park Design for the 21st Century: High Performance Landscape Guidelines (Parks and Design Trust for Public Space: 2010; www.nycgovparks.org/sub_about/sustainable_parks/design_guidelines.pdf)

Street Planning Resources

Downtown Brooklyn Traffic Calming Study (NYCDOT: 2004; www1.nyc.gov/html/dot/html/motorist/dntnbklyntraf.shtml)

Project Development & Design Guide (Massachusetts Highway Department: 2006; www.mass.gov/files/documents/2018/08/08/pddg.pdf)

San Francisco Better Streets Plan (City and County of San Francisco; www.sfbetterstreets.org)

Smart Transportation Guidebook: Planning and Designing Highways and Streets that Support Sustainable and Livable Communities (New Jersey DOT/Pennsylvania DOT: 2008; www.dvrpc.org/reports/08030A.pdf)

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§ National Association of City Transportation Officials

RIGHT: "Impulse" by Lateral Office and CS Design in partnership with the Garment District Alliance: Broadway between 37th and 38th Streets, Manhattan (Credit: Alexandre Ayer)



TENEZ LA BASCULE
POUR DESCENDRE
HOLD ONTO THE
SEESAW TO STEP
OFF



JOUEZ DE
MANIÈRE
SÉCURITAIRE
PLAY SAFELY



4 PERSONNES
MAXIMUM
4 PEOPLE
MAXIMUM



NE MONTEZ PAS
DEBOUT SUR LA
BASCULE
DO NOT STAND ON
THE SEESAW

MADISON JEWELERS