A tool for long-term change: 
The NYC Street Design Manual

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Session: Designing Streets for Cities
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Why a Street Design Manual?

 DOT Strategic Plan: Sustainable Streets

 StreetscapeNYC Task Force
Why a *Street Design Manual*?

- Standards should better reflect the conditions and needs of a 21st century city and encourage design excellence.

Examples of treatments appropriate to local streets.
Why a *Street Design Manual*?

2. Ensure coherent streetscapes in neighborhoods

Replace these…  …with these
Why a *Street Design Manual*?

3. Encourage innovative best practices

- Durable Materials
- Stormwater Management
- Energy Efficiency
- Traffic Calming
Why a Street Design Manual?

1. Consolidate guidance & specifications across agencies

- DOT
  - Standard Specifications
  - Geometric review
  - SCARA
- Landmarks
  - Sidewalk Guidelines
- Planning
  - Lighting Catalogue
  - Zoning & Special Zoning Districts
  - High Performance Landscape Guidelines
  - Greenstreet designs
  - Tree Planting Standards
- Parks
  - High Performance Infrastructure Guidelines
- DDC
  - Sustainable Urban Sites
- Design Commission
  - Guidelines
- DEP
  - Drainage & catch basin requirements
- DOB
  - Builders Pavement Plan
Why a *Street Design Manual*?

5 Deliver better projects, *faster*
How was it developed?

Inter-Agency Task Force formed

- DOT
- DCP
- DDC
- DEP
- DOB

Site Visits

Committee Work & Research

- Policy
- Process
- Framework

Draft Concepts

- Toolbox

Reviews & Approvals

Cost-Benefit

Stakeholders

Mayor’s
Who is it for?

- Government Agencies and staff
- Planning, Engineering & Design Consultants
- Private Developers
- Utilities & Contractors
- Community & Neighborhood Groups
- Elected Officials
NYC’s Approach

- **Build on flexibility** of AASHTO Green Book, MUTCD, etc
- **Specifically orient guidance to New York City context & stakeholders**
- **Encourage innovation without being prescriptive**
- Create a common, flexible **basis for ongoing dialogue** among stakeholders that can continue to evolve

⇒ Manual is a **beginning, not an end**
Introduction/Policy

Chapter 1: Using the Manual
Guidelines for incorporating the Manual into the design process.

Chapter 2: Geometry
A “toolbox” of geometric street treatments to enhance safety, mobility and sustainability.

Chapter 3: Materials
Specific materials with recommendations for use and references to appropriate specifications.

Chapter 4: Lighting
Street and pedestrian lights that meet energy-efficiency, technical, and visual quality criteria.

Chapter 5: Furniture
Freestanding elements that are part of NYC DOT’s coordinated street furniture franchise and site furnishings used by other agencies.

Glossary
Definitions of frequently used terms and abbreviations.

Appendix A:
Design Review Cover Sheet
A project summary to accompany submission of project designs to NYC DOT and other agencies for review.

Appendix B:
Guide to Jurisdictions
Agency responsibilities for particular street operations and infrastructure.

Appendix C:
Citations
Reference to laws, regulations, and reference sources.

Appendix D:
DOT Design Review Process
A summary of NYC DOT’s streamlined design review process.

Index
**Median**

**USAGE: WIDE**

A raised area separating different lanes, traffic directions, or roadways within a street.

The width as well as design of medians can vary widely. They can range from narrow raised concrete islands to tree-lined promenades to intensively landscaped boulevards or medians.

In contrast to **MEDIAN REFUGE ISLANDS (2.2.3)a**, medians extend for most or all of the street block.

**Benefits**

- Reduces risk of left-turn and vehicle head-on collisions
- Calms traffic by narrowing roadway
- Enhances pedestrian safety and accessibility by reducing crossing distances and providing refuge for pedestrians to cross roads in stages
- If designed for walking access, can provide additional pedestrian capacity
- Greens and beautifies the streetscape with trees and/or plantings
- Improves environmental quality and can incorporate stormwater source controls
- Can provide space for a SIDEWALK (2.2.1) and/or SEPARATED BIKE PATH (2.1.2) particularly as part of a boulevard treatment

**Considerations**

- May impact underground utilities
- Design must account for impact of median on emergency vehicle

- Landscaping or stormwater source controls require a partner for ongoing maintenance
- Changes in traffic circulation resulting from addition of median should be understood so as to not force drivers to travel on inappropriate routes or make U-turns
- If continuous, median may prevent left turns into driveways on opposite sides of street

**Application**

- Two-way streets with three or more roadway travel lanes in total
- Consider on all two-way multiline streets
- On streets of limited width, it may be preferable in some situations to include other treatments (e.g., expanded sidewalks or dedicated transit or bicycle facilities) rather than a median if there is not adequate room for all treatments and travel lanes

**Benefits**

- Reduces risk of left-turn and vehicle head-on collisions
- Calms traffic by narrowing roadway
- Enhances pedestrian safety and accessibility by reducing crossing distances and providing refuge for pedestrians.
Median

**Usage: Wide**

A raised area separating different lanes, traffic directions, or roadways within a street.

The width as well as design of medians can vary widely. They can range from narrow raised concrete islands to tree-lined promenades to intensively landscaped boulevards and medians.

In contrast to **Median Refuge Islands** (2.2.3a), medians extend for most or all of the street block.

**Benefits**
- Reduces risk of left-turn and vehicle head-on collisions
- Calms traffic by narrowing roadway
- Enhances pedestrian safety and accessibility by reducing crossing distances and providing refuge for pedestrian to cross road in stages
- If designed for walking access, can provide additional pedestrian capacity
- Green and beautifies the streetscape with trees and/or plantings
- Improves environmental quality and can incorporate stormwater source controls
- Can provide space for a sidewalk (2.2.1) and/or separated bike path (2.1.2b), particularly as part of a pedestrian treatment

**Considerations**
- May impact underground utilities
- Design must account for impact of median on emergency vehicle movement and access
- Landscaping or stormwater source controls require a partner for ongoing maintenance

**Application**
- Two-way streets with three or more roadway travel lanes in total
- Consider on all two-way multilane streets
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**Considerations**
- May impact underground utilities
- Design must account for impact of median on emergency vehicle movement and access
- Landscaping or stormwater source controls require a partner for ongoing maintenance
### Design

Medians should be wide enough to provide refuge to pedestrians at crossings: 5 feet minimum; 6 feet or greater preferred.

Medians should extend beyond the crosswalk at intersections wherever possible, while accommodating vehicle turning movements; the “nose” of the median should not infringe on the crosswalk width at intersections and should include bollards to protect pedestrians from wayward vehicles.

Provide a path across the median at crossings, flush with the roadway and as at least as wide as the crosswalk.

Provide a large pedestrian storage area at crossings to permit groups of pedestrians to safely wait to cross.

Medians must provide tactile cues for pedestrians with visual impairments to indicate the border between the pedestrian refuge area and the motorized travel lanes.

Include street trees or plantings wherever safe and feasible, using structural trees where appropriate.

Use unpaved and permeable surfaces wherever possible with medians.

Include planted areas and stormwater source controls within medians wherever possible when a maintenance partner is identified.

Medians must be designed so as to maintain drainage of stormwater and not cause ponding.

Grade roadways to direct stormwater towards medians if the medians include sufficient stormwater source controls.

If work includes tree planting, consider the location of utility infrastructure, including NYC DEP mains and storm sewers.

### Sustainability Opportunities

Locate trees and/or plantings within median.

Maximize permeable surface of median, e.g., with vegetation, permeable paving, or both.

Design any planted areas within median so as to capture stormwater according to current standards.
Chapter 2: Geometry

- 2.2.2: Curb Extension
- Usage: Wide
Chapter 2: Geometry

- 2.1.2a: Bike Lane
- Usage: Wide
Chapter 2: Geometry

- 2.1.2b: Bike Path
- Usage: Limited
Chapter 2: Geometry

- 2.2.2: Raised Crossing
- Usage: Limited
Chapter 2: Geometry

2.3.8: Raised Intersection

Usage: Pilot
Chapter 2: Geometry

- 2.4.2: Greenstreet/Planted Area
- Usage: Limited
Chapter 2: Geometry

- 2.4.3: Street Swale
- Usage: Pilot
3.3.1: Untinted Concrete Sidewalk

Usage: Standard
Chapter 3: Materials

- 3.3.1a: Tinted Concrete Sidewalk
- Usage: Standard
Chapter 3: Materials

- 3.3.10: London Pavers
- Usage: Optional
Chapter 3: Materials

- 3.4.1b: Concrete with Exposed Glass Aggregate Furnishing Zone
- Usage: Optional
Chapter 3: Materials

- 3.1.1b: High Albedo Asphalt
- Usage: Pilot
Chapter 4: Lighting

- **4.1.1: Cobra Head**
- **Usage: Standard**

![Cobra Head Diagrams]

- Davit
- Round
- Octagonal
Chapter 4: Lighting

- 4.1.4: Stad
- Usage: Optional
Chapter 4: Lighting

4.1.13: LED Type A

Usage: Pilot
Chapter 4: Lighting

- 4.1.6: Flatbush Avenue
- Usage: Historic
Chapter 4: Lighting

- 4.2: Pedestrian Lighting
- Usage: Optional
Implementation

- How can we make the greatest possible impact?

Easier to affect → More difficult to affect

| DOT In-House Projects | Other City Agencies’ Street Work | Other City Agency Projects that impact streets | State/Authority Projects that impact streets | Private Development that impacts streets |
Implementation

Proactive mechanisms:

- Integrate into DOT’s capital program
  - Scope development
  - Design review
- “Piggyback” on other entities’ street work
  - DEP, EDC, MTA, PANYNJ, DPR, NYCHA, HPD, large private developments, etc
- General education and encouragement to other agencies and private entities
Implementation

Reactive mechanisms:

- **Reviewing projects** and suggesting design improvements as part of:
  - Public Design Commission review process
  - Issuing permits
  - Approving EIS’s

- Encourages the public, community groups and elected officials to **hold us accountable**
Updates

First Release
Full Distribution

Minor Updates
Digital
Posted on Website
E-mail Notification

New Version
Full Distribution

User & Stakeholder Feedback
Upcoming Updates:

- **3.3.8**: Successful Treatment Promoted from Pilot to Limited
- **4.3.4**: New, Promising Treatment Added as Pilot
- **2.1.6**: Unsuccessful Treatment Removed

Timeline:
- First Release
- Minor Updates
- New Version
Updates

The New York City DOT Street Design Manual provides policies and design guidelines to city agencies, design professionals, private developers, and community groups for the improvement of streets and sidewalks throughout the five boroughs. It is intended to serve as a comprehensive resource for promoting higher-quality street designs and more efficient project implementation.

First released in May of 2009, the Manual is the product of an Inter-agency Task Force headed by the Department of Transportation and joined by the Departments of Design and Construction (DOCC), City Planning (DOP), Environmental Protection (DEP), Parks and Recreation (DOHR), Buildings (DOB), the Economic Development Corporation (EDC), the Landmarks Preservation Commission (LPC), the Design Commission (DC), and the Mayor’s Office.

The Manual builds on the experience of innovation in street design, materials and lighting that has developed around the world, emphasizing a balanced approach that gives equal weight to transportation, community, and environmental goals. It is designed to be a flexible document that will change and grow, incorporating new treatments as appropriate after testing. The use and continued development of the
Partner Agencies
Dept. of Buildings
Dept. of City Planning
Dept. of Design & Construction
Dept. of Environmental Protection
Dept. of Parks & Recreation
Dept. of Small Business Services
Design Commission
Economic Development Corporation
Landmarks Preservation Commission
Mayor’s Office
Office of Management & Budget

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