Building Long-Term Innovation: The NYC Street Design Manual

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Why a Street Design Manual?

- Sustainability
- Complete Streets
- Accessibility
- Pedestrian-Friendly
- Safety
- Plazas
- Multimodal
- LID
- Visual Quality
- Cost-Effectiveness
- Bus Rapid Transit
- Transit-Oriented Development
- Greening
- Mode Shift
- Safety
- Active Design
- Safety
- Safety
- Livable Streets
- Bike-Friendly
Short-Term projects

Chelsea Plaza (Manhattan)
Short-Term projects

Pearl Street Plaza, DUMBO (Brooklyn)
Short-Term projects

9th Avenue (Manhattan)
Short-Term projects

Grand Army Plaza (Brooklyn)
Short-Term projects

Green Light for Midtown (Manhattan)
Short-Term projects

Summer Streets / Weekend Walks (Bronx)
## Capital projects

**Short-Term (Operational)** vs. **Long-Term (Capital)**

<table>
<thead>
<tr>
<th></th>
<th>Budget</th>
<th>Cost</th>
<th>Time</th>
<th>Impact</th>
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</thead>
<tbody>
<tr>
<td><strong>Operational</strong></td>
<td>Expense</td>
<td>$</td>
<td>Months</td>
<td>Short-Medium</td>
</tr>
<tr>
<td><strong>Capital</strong></td>
<td>Capital</td>
<td>$$$</td>
<td>Years</td>
<td>Long</td>
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</table>
Capital projects

- So many stakeholders!

Street Trees & GreenStreets: Parks

Street Planning, Scope Design, Operations & Maintenance: DOT

(Some) Street Design & Construction: EDC

Utilities: Various private companies & contractors

Sewers & Drains: DEP

Utilities: DEP

Final Design, Agency Alignment & Construction: DDC

Street Cleaning: DOS

Special Furniture & Upkeep: BIDs

Land Use & Urban Design: DCP

Other Reviews & Approvals: Art Commission, Landmarks, OMB

Vaults & some Sidewalks: DOB
## Capital projects

- How do we maximize the impact?

<table>
<thead>
<tr>
<th>Less difficult</th>
<th>More difficult</th>
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<tbody>
<tr>
<td>DOT In-House Projects</td>
<td>Private Development that impacts streets</td>
</tr>
<tr>
<td>Other City Agencies’ Street Work</td>
<td>State/Authority Projects that impact streets</td>
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<tr>
<td>Other City Agency Projects that impact streets</td>
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</table>

Less difficult More difficult

(Chart showing the relative difficulty of different types of capital projects)
Capital projects

- DDC & EDC 5-year Programs
NYC’s Approach

New York City Street Design Manual

- Comprehensive blueprint for safer, greener, livable streets
- Contains policies, guidelines & reference information
- To be used as guide for all Capital Projects
  - DOT, EDC, DEP, etc
  - Large private developments
NYC’s Approach

How it was developed

DOT
DCP
DDC
DEP
DOB

Inter-Agency Task Force formed

Site Visits
Committee Work & Research
Draft Concepts
Reviews & Approvals

Stakeholders

DPR
EDC
LPC
PDC
SBS
Mayor’s

Policy
Process
Framework
Toolbox
Cost-Benefit

[Diagram showing the flow of development process]
NYC’s Approach

Who it’s for

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

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 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
- 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 (2.1.2b), particularly as part of a boulevard treatment

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

**LANDSCAPING**
- 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 multilane 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

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**Median with Greenway and Sidewalk Cutline Avenue, Brookline**

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**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 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 when 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 pipework.

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**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.
Approvals – OMB

- Standards needed updating
  - Limited view of role of streets
  - 2 categories of elements – all or nothing
  - Best practices not “standard” elements
- Extended approval times

Then

<table>
<thead>
<tr>
<th>Standards – CAS-HW1</th>
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<td>Standard Elements</td>
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Approvals – OMB

- New standards & streamlined review
  - 3 categories of elements & levels of approval
  - Includes current best practices
- Can update framework as practices evolve
- Collaborative dynamic

DOT

Now

OMB

Standards – CAS-HW2

<table>
<thead>
<tr>
<th>Class 1 Elements</th>
<th>Class 2 Elements</th>
<th>Class 3 Elements</th>
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Street Design Manual
Approvals – PDC

- No specific standards
- Difficult to anticipate preferences
- Adds significant time to projects
Approvals – PDC

- SDM creates common playbook
- Should streamline approvals going forward
- More collaborative dynamic
NYC’s strategy:

- **Fast**: Quickly developed a product that can be refined going forward
  - A basis for discussion

- **Simple**: No legislative/regulatory actions were required
  - Downside: Less “teeth”

- **Accessible**: 
  - Readable & attractive
  - Usable by a broad range of stakeholders
NYC’s strategy:

- **Flexible:**
  - Development process: Stakeholders shaped format and content of final product
  - Guidelines: Not standards; not prescriptive
  - Implementation: Determining best mechanisms as we go based on experience & feedback
Street Design Manual

New York City Department of Transportation

www.nyc.gov/streetdesignmanual
streetdesignmanual@dot.nyc.gov

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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