



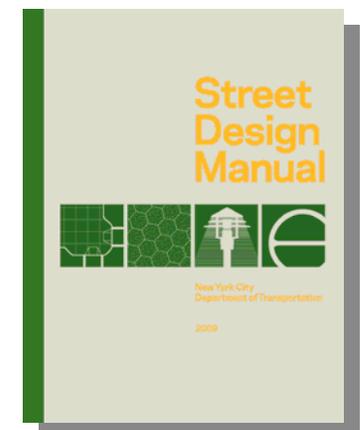
A tool for long-term change: The NYC Street Design Manual

Michael Flynn AICP, New York City DOT

TRB 89th Annual Meeting

Session: *Designing Streets for Cities*

January 11, 2010



Why a *Street Design Manual*?



Plazas

BRT

Bike Lanes

Greenstreets

BMPs

DOT Strategic Plan: *Sustainable Streets*

Safety

Mobility

World Class Streets

Greening

Infrastructure

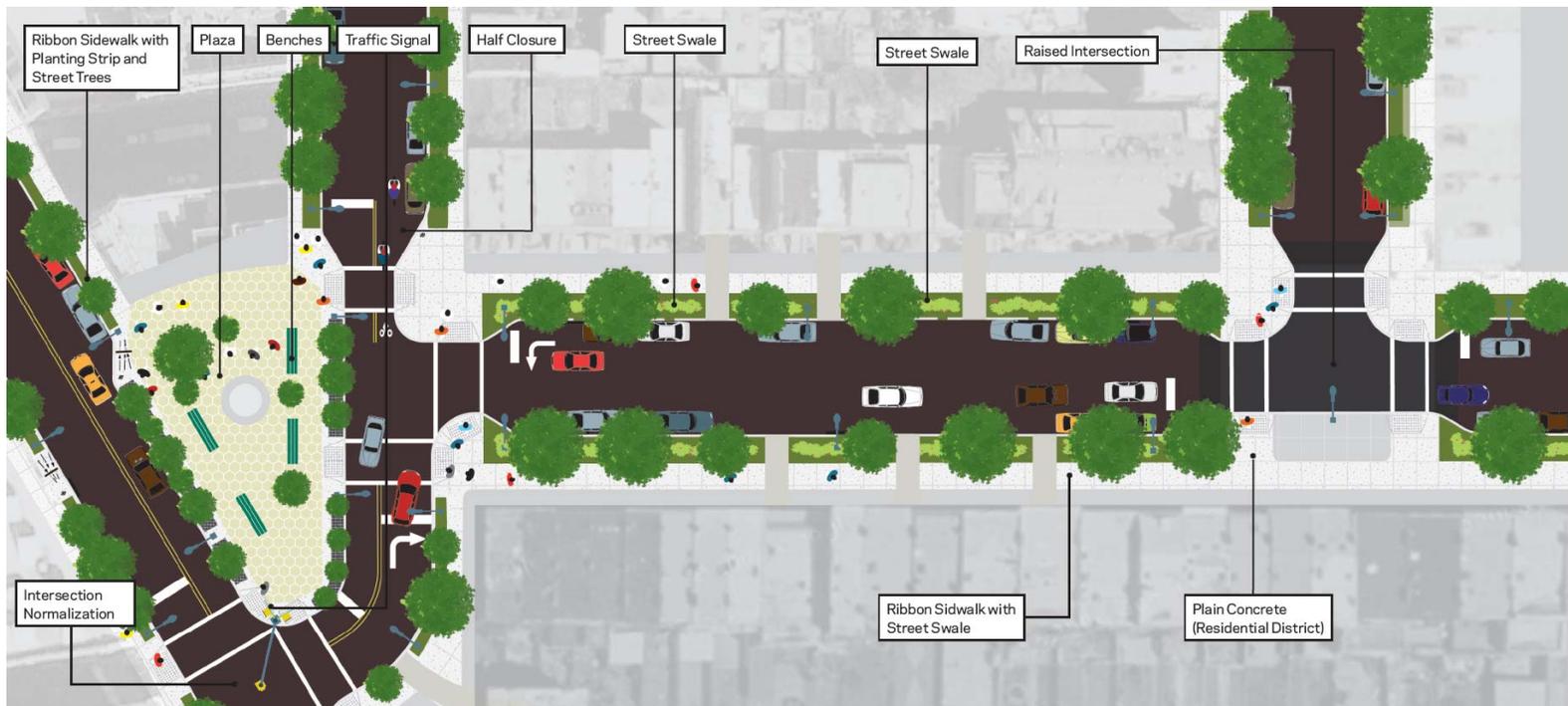
Global Leadership

Customer Service

StreetscapeNYC Task Force

Why a *Street Design Manual*?

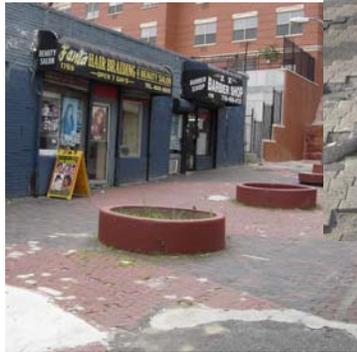
- Standards should better reflect the conditions and needs of a 21st century city and encourage design excellence



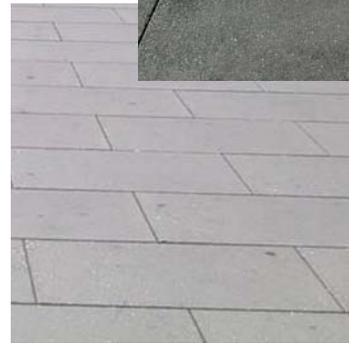
Examples of treatments appropriate to local streets

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

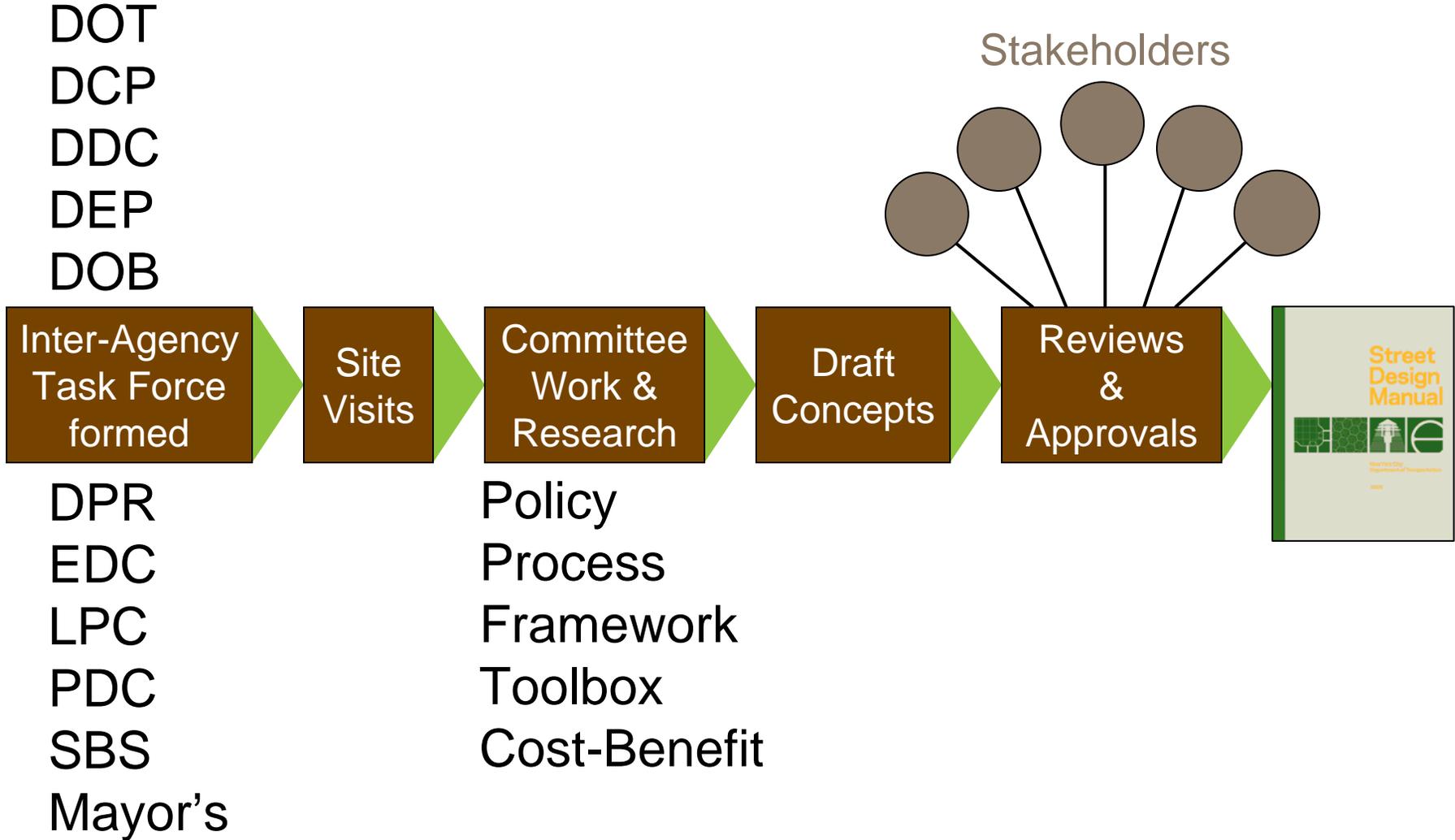


Why a *Street Design Manual*?

5 Deliver better projects, *faster*



How was it developed?



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**

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

Content

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 boulevard medians.

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



Median with Greenstreet and sidewalk: Carlton Avenue, Brooklyn

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 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 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 side 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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Content



Median on a local residential street: Glenwood Road, Brooklyn

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 soil 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 sewers and water mains

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

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

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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**



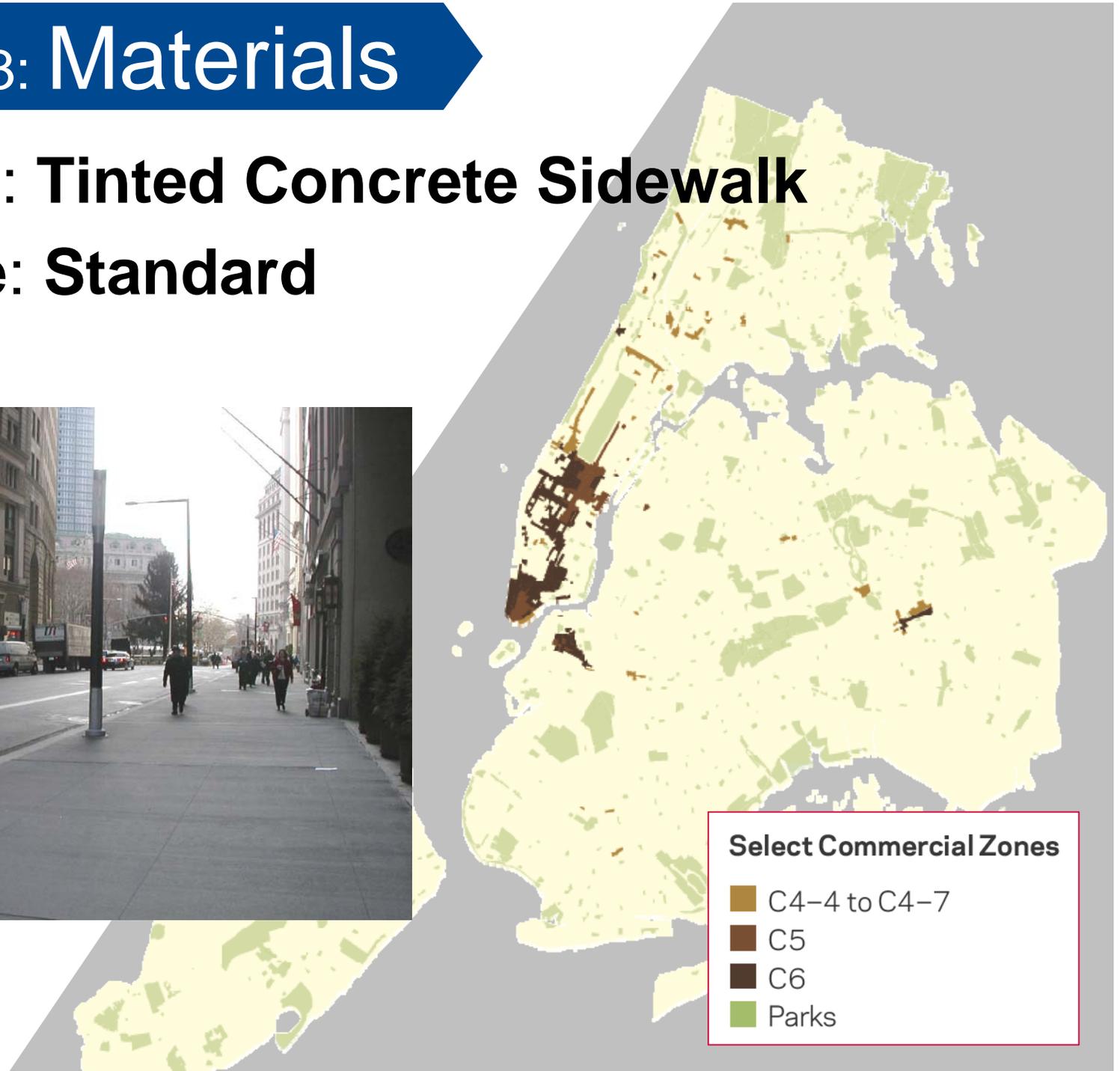
Chapter 3: Materials

- 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**



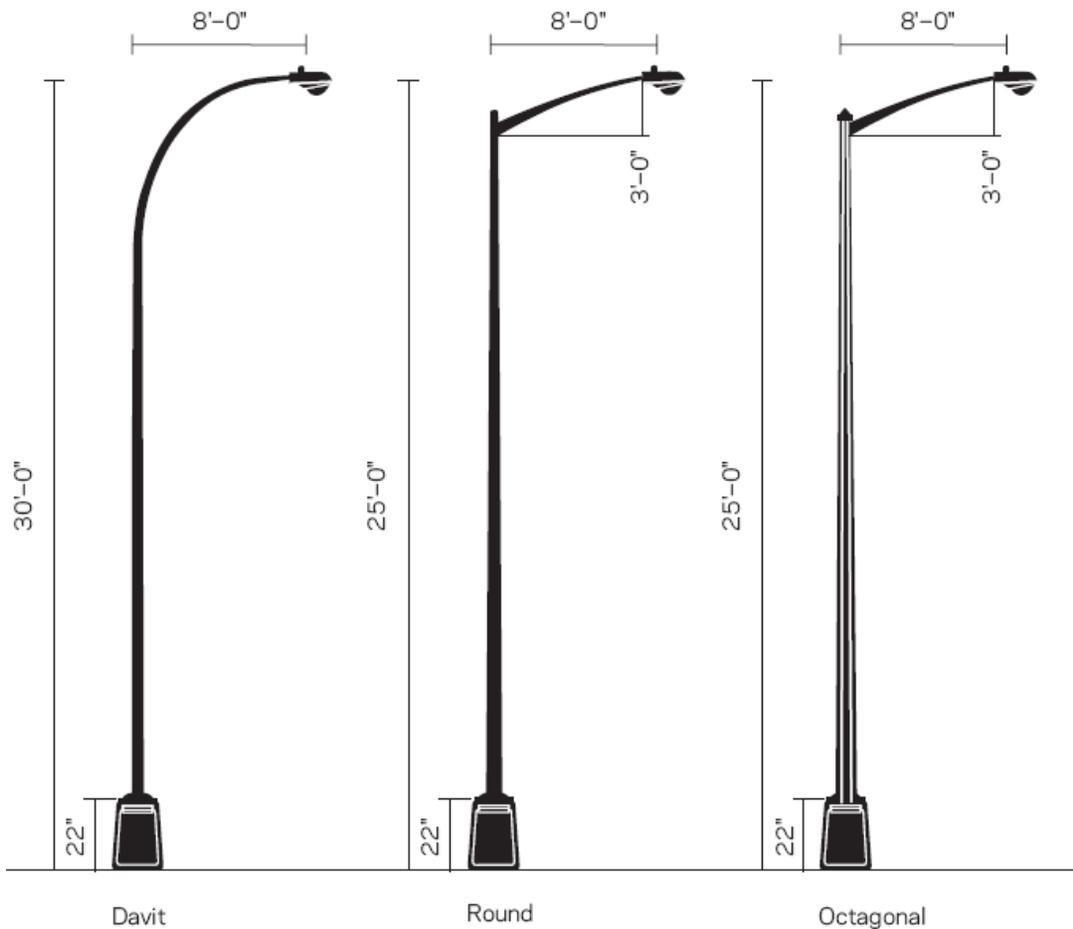
Chapter 3: Materials

- 3.1.1b: **High Albedo Asphalt**
- Usage: **Pilot**



Chapter 4: Lighting

- 4.1.1: Cobra Head
- Usage: Standard



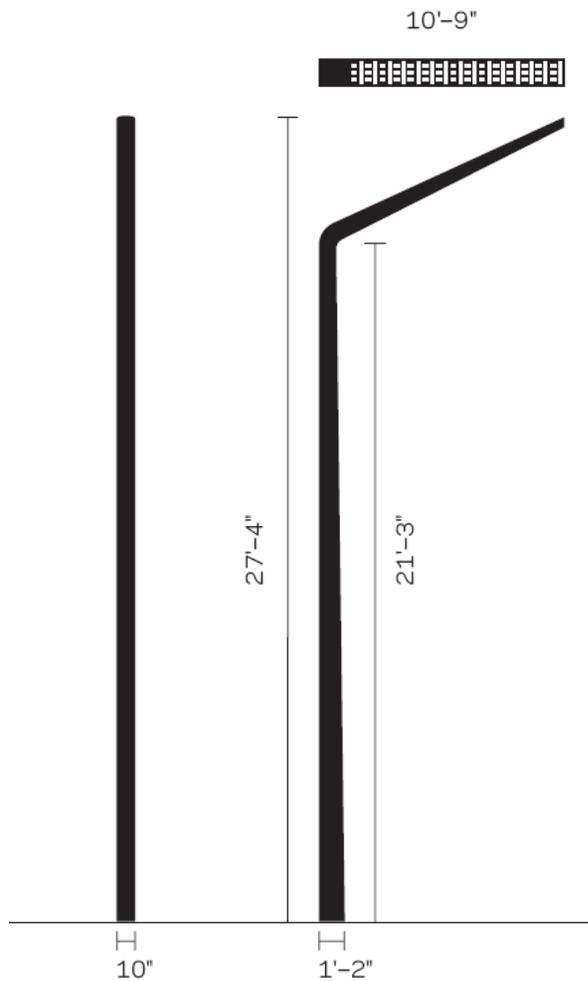
Chapter 4: Lighting

- 4.1.4: **Stad**
- Usage: **Optional**



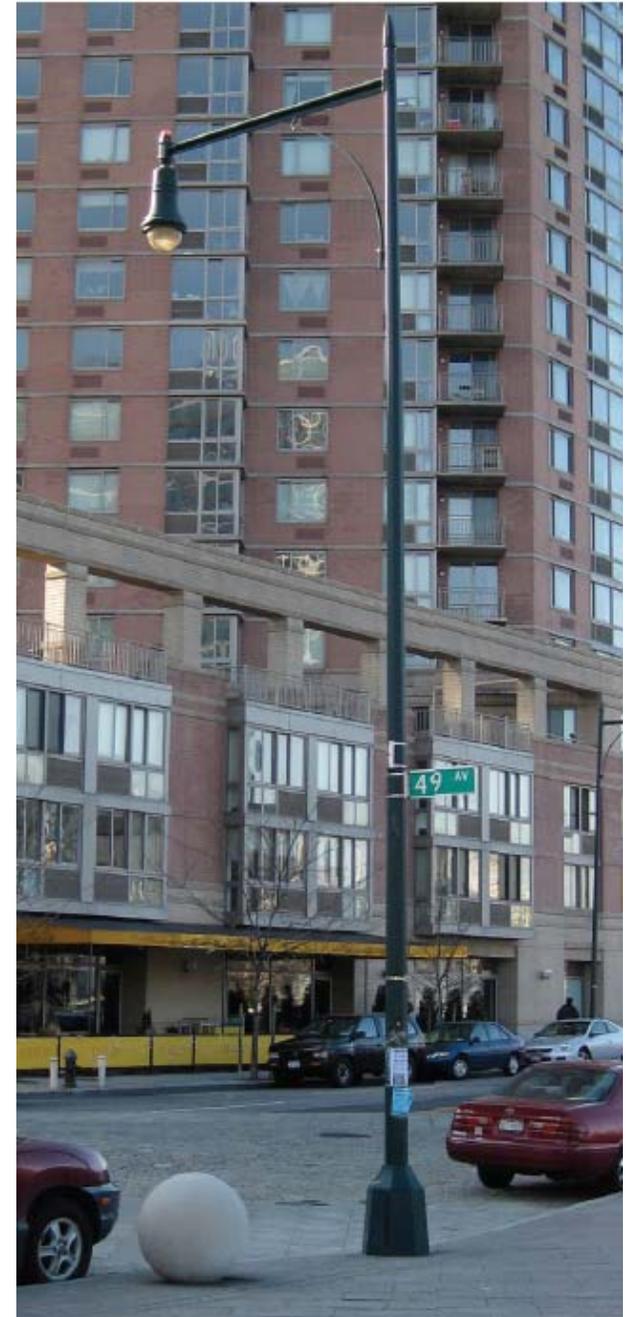
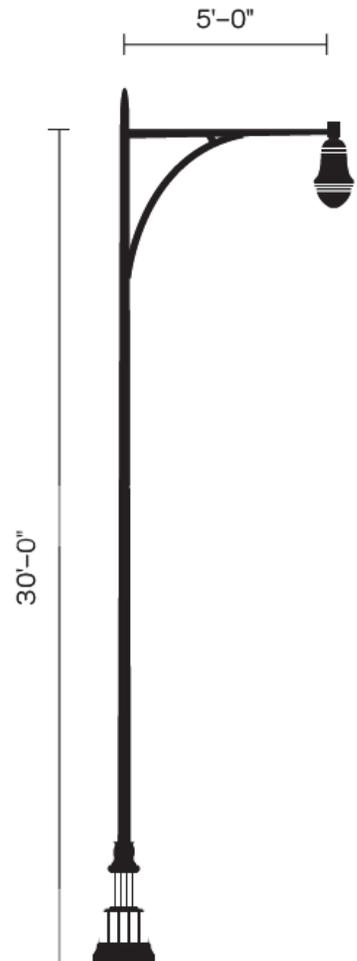
Chapter 4: Lighting

- 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:

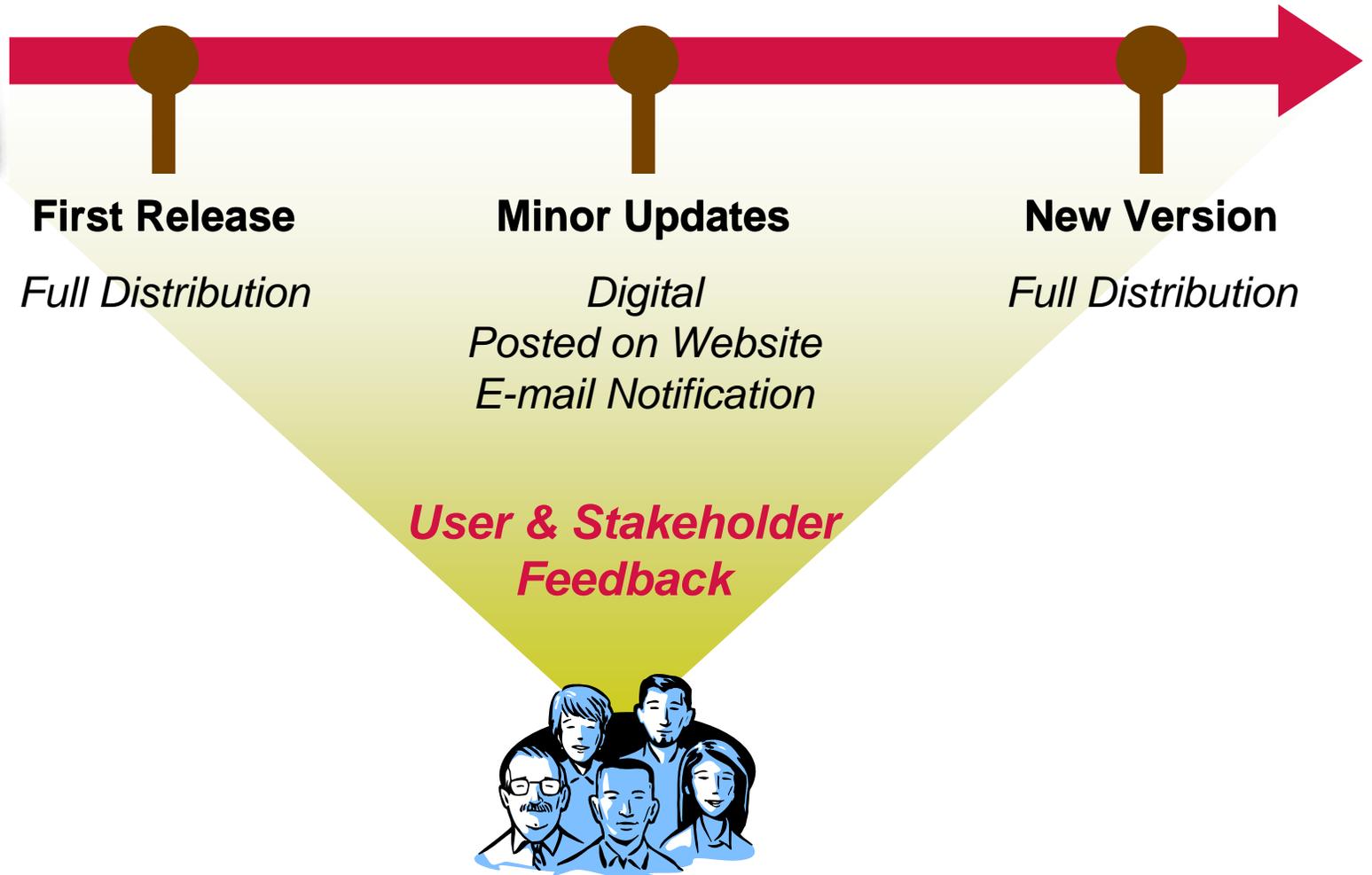
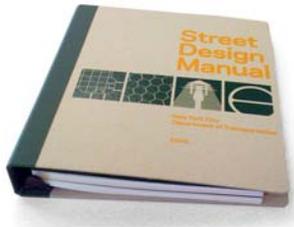
- Integrate into **DOT's capital program**
 - Scope development
 - Design review
- **“Piggyback”** on other entities' street work
 - DEP, EDC, MTA, PANYNJ, DPR, NYCHA, HPD, large private developments, etc
- General **education and encouragement** to other agencies and private entities

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



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



First Release

Minor Updates

New Version

Updates





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About DOT Street Design Manual

Latest Manual Update: May 20, 2009

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▶ Download the entire manual ([High Resolution: 198 MB](#)) ([Low Resolution: 6.8 MB](#))

▶ Individual chapters can be [downloaded](#) below.

▶ Print copies of the Manual in a convenient binder format are available for purchase from [CityStore](#).

About the Manual

The New York City 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 (DDC), City Planning (DCP), Environmental Protection (DEP), Parks and Recreation (DPR), 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

Street Design Manual

New York City
Department of
Transportation

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Partner Agencies

Dept. of Buildings

Dept. of City Planning

Dept. of Design &
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Protection

Dept. of Parks &
Recreation

Dept. of Small Business
Services

Design Commission

Economic Development
Corporation

Landmarks Preservation
Commission

Mayor's Office

Office of Management
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