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Learning Objectives

- 1) Define the elements of street design.
- 2) Draw upon innovative precedents for street design and the interfaces between buildings and streets.
- 3) Develop an argument for street design reform to cities and redevelopment agencies.
- 4) Describe sustainable street design strategies.

The Space in Between

Georgia Sheridan
Martin Leitner
Amber Hawkes





Perception



Photo: Sunset Strip,
West Hollywood, Georgia Sheridan



Photo: The Grove, Los Angeles, Georgia Sheridan



Image: Third Street, Los Angeles



Image: Place St. Michel, Paris



Photo: Franklin Village, Los Angeles, Georgia Sheridan



Image: Inglewood, CA, Amber Hawkes



Image: Larchmont, Los Angeles





Stills from William H Whyte's *The Social Life of Small Urban Spaces*, movie, 1990

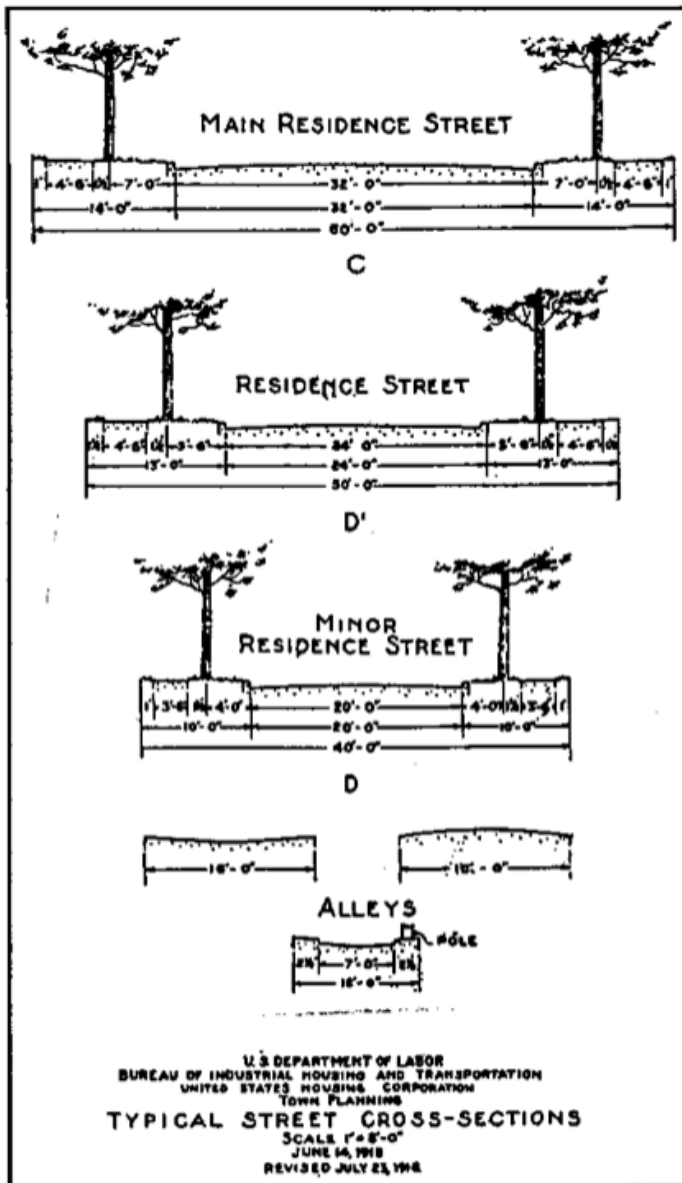


FIGURE 6. Recommended standards published by the United States Bureau of Industrial Housing and Transportation, 1919

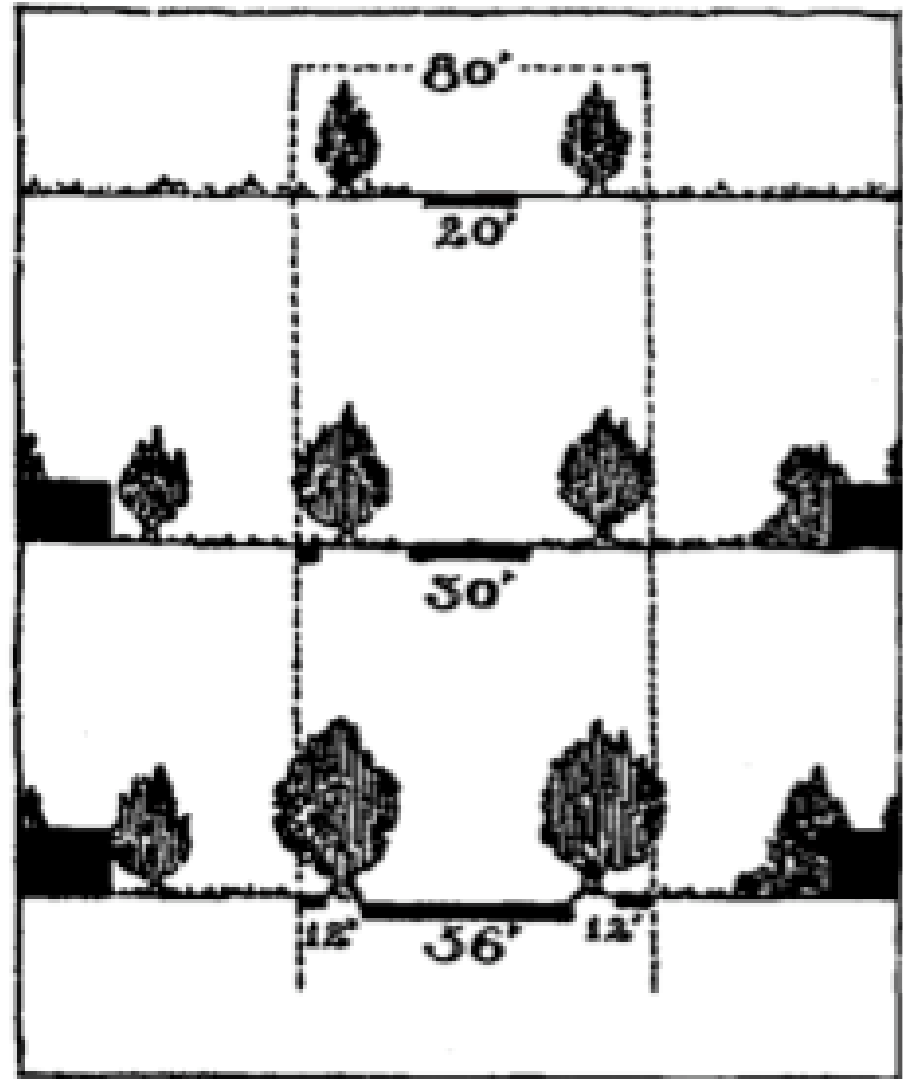


FIGURE 9. FHA's first publication of a recommended street width, illustrating how street improvements on an 80-foot right-of-way may be gradually increased as the neighborhood grows (FHA, 1936)



Complete Street



NE 131st and Fremont



SE 12th and Clay



N Willamette and Denver



NW Everett and 16th



SE Belmont and 55th



SW 12th and Montgomery



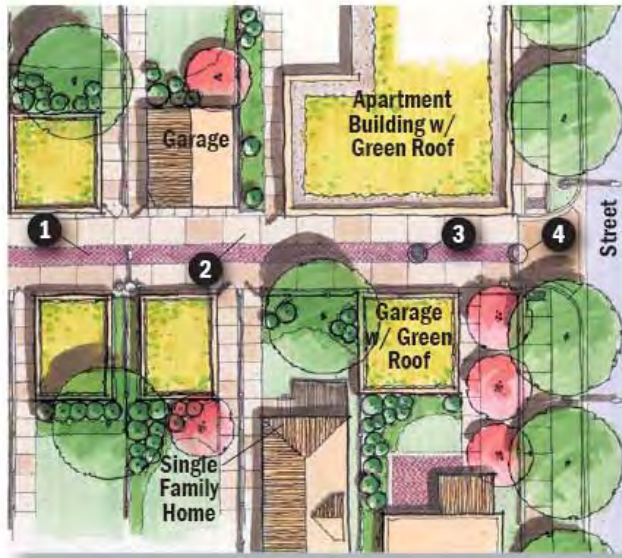
Green Street Stormwater Facilities

SUSTAINABLE STORMWATER MANAGEMENT

Green Street

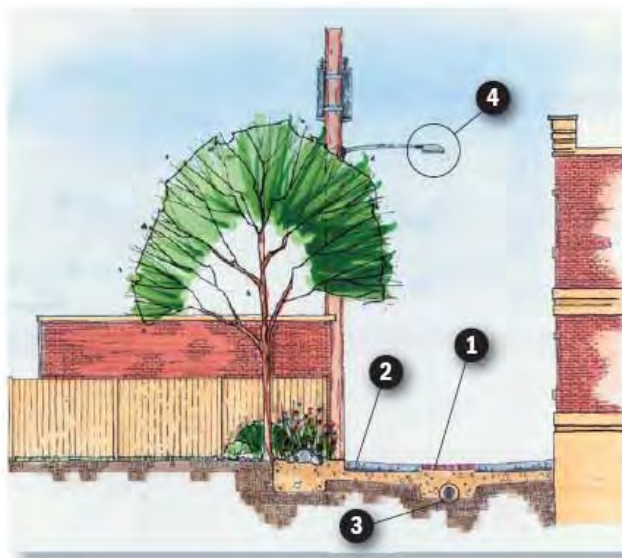
**Green Alley Pilot Approach #3:
Center Alley Infiltration Using
Permeable Pavement**

- 1 Permeable pavement material (permeable asphalt, permeable concrete, or permeable pavers)
- 2 High albedo concrete paving with recycled aggregate and slag
- 3 Optional inlet structure with pipe under drain
- 4 Energy efficient dark sky compliant light fixture



Plan

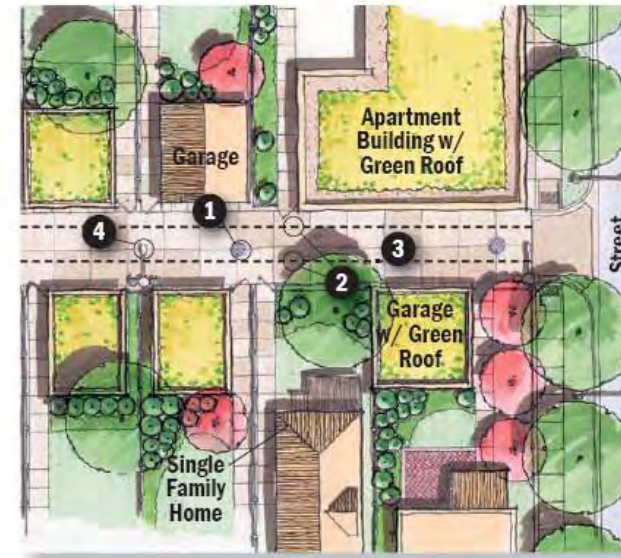
- 1 Permeable pavement material (permeable asphalt, permeable concrete, or permeable pavers)
- 2 High albedo concrete paving with recycled aggregate and slag
- 3 Optional pipe under drain
- 4 Energy efficient dark sky compliant light fixture



Section

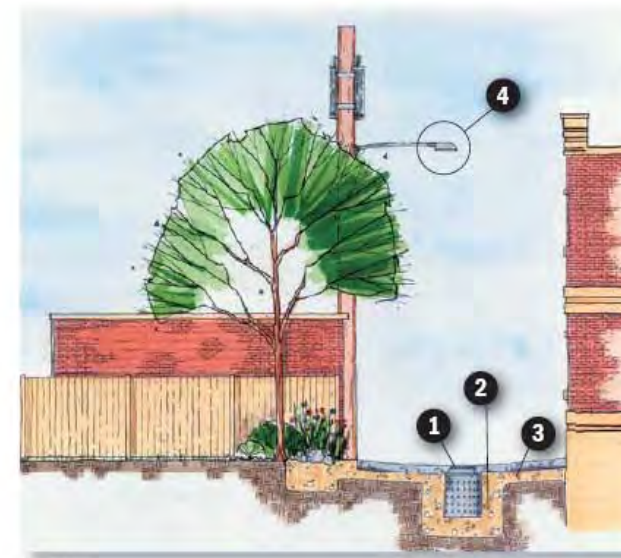
**Green Alley Pilot Approach #4:
Green Pavement Materials with
Subsoil Filtration System**

- 1 Inlet structure with perforated sides
- 2 Limits of infiltration trench below for additional storage capacity
- 3 High albedo concrete paving with recycled aggregate and slag
- 4 Energy efficient dark sky compliant light fixture



Plan

- 1 Inlet structure with perforated sides
- 2 Stormwater infiltration trench
- 3 Recycled concrete base material
- 4 Energy efficient dark sky compliant light fixture



Section

Credit: City of Chicago, Green Alley Handbook

INTEGRATION OF BEST MANAGEMENT PRACTICES

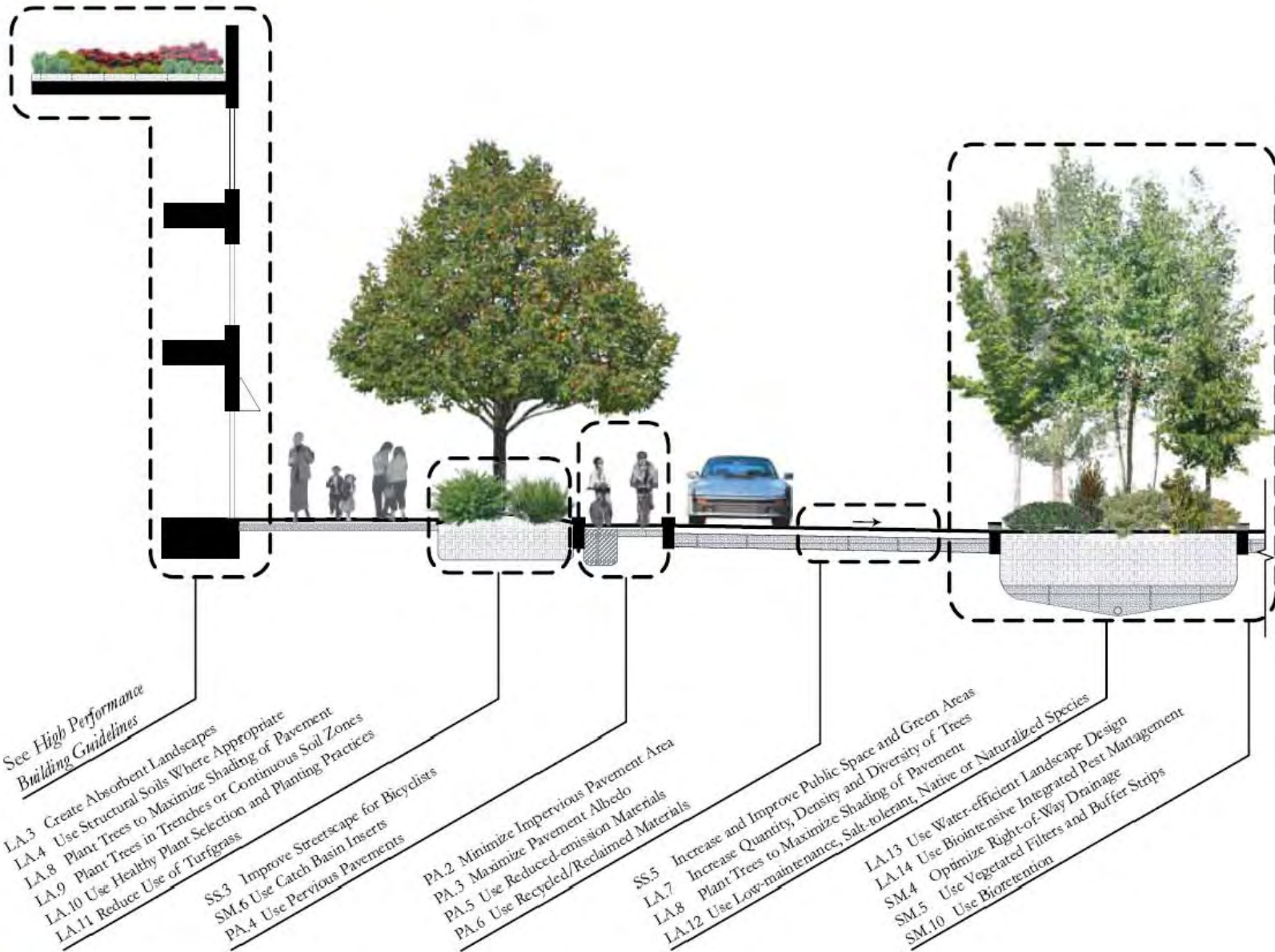




Image from: AHBE Architects, Los Angeles



Image from: Good Magazine

Livable Street

The New York Times

The New York Times

Real Estate

Real Estate All NYT

Search



WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS OPINION ARTS STYLE TRAVEL JOBS REAL ESTATE AUTO

PROPERTY SEARCH COMMUNITIES HOME FINANCE CENTER GREAT HOMES COMMERCIAL ALL CLASSIFIEDS

SQUARE FEET

Sidewalks of New York Become Premium Space



*Credit:
New York Times*



Photo simulation: City of New York, Car-free Broadway



Photo: City of New York, 200 new miles of bike lanes

The manual provides assistance in four major areas:

**Setting
Appropriate Goals
for Each
Project**

**Providing a
Framework for
Design
Decisions**

**Establishing
a Clear and
Consistent Design
Review
Process**

**Serving as
a Central,
Comprehensive
Reference
Guide**



Canal Street, Manhattan

*Credit: City of
New York
Street Design
Manual*

Land use, which varies widely in New York City, is one important planning criterion for street design



Low Density Residential



Riverdale, Bronx



Moderate Density Residential



Sunnyside, Staten Island



Medium Density Residential



Park Slope, Brooklyn



High Density Residential Mixed Use Commercial Overlay



Jackson Heights, Queens



Central Business District Commercial



Midtown, Manhattan

Sample Streets

Figure 1 Treatments Appropriate to Major Through-Streets



Tokyo, Japan (Credit: Rob Ketcherside)



Fulton Mall, Brooklyn

Slow Street

A local street which makes extensive use of traffic-calming measures to discourage vehicular through-traffic, reduce vehicle speeds, and green and beautify the streetscape, creating a comfortable environment for bicycling and walking.

Sometimes called "bicycle boulevards" or "Home Zones", Slow Streets are especially well-suited to local residential streets and streets adjacent to schools.

Slow streets should be paired with a reduced speed limit.

Typical Treatments

- o Mixed Roadway
- o Sidewalks
- o Gateways and Curb Extensions
- o Traffic Diverters
- o Neighborhood Traffic Circles
- o Individual Tree Pits/Connected Tree Pits
- o Greenstreets/Planted Areas
- o Unit paver roadway
- o Standard sidewalk and curb materials

Other Common Treatments

- o Shared Street
- o Raised Intersections
- o Street Swales
- o Distinctive crosswalk materials
- o Unit paver sidewalk
- o Granite curb

Transit Street

A street for exclusive or near-exclusive surface transit (bus) use or where transit operations are given priority.

Transit streets are streets where private vehicles have limited or no access, and bus use is prioritized. Delivery access may be allowed at all times or in off-hours, and bicyclists are sometimes allowed to share the bus lanes.

Transit streets often emphasize urban design and transit-supportiveness by including outdoor seating, landscaping, attractive street materials, and well-designed bus queuing areas and off-board fare collection. These measures help create an appealing street environment in the presence of high numbers of buses.

Typical Treatments

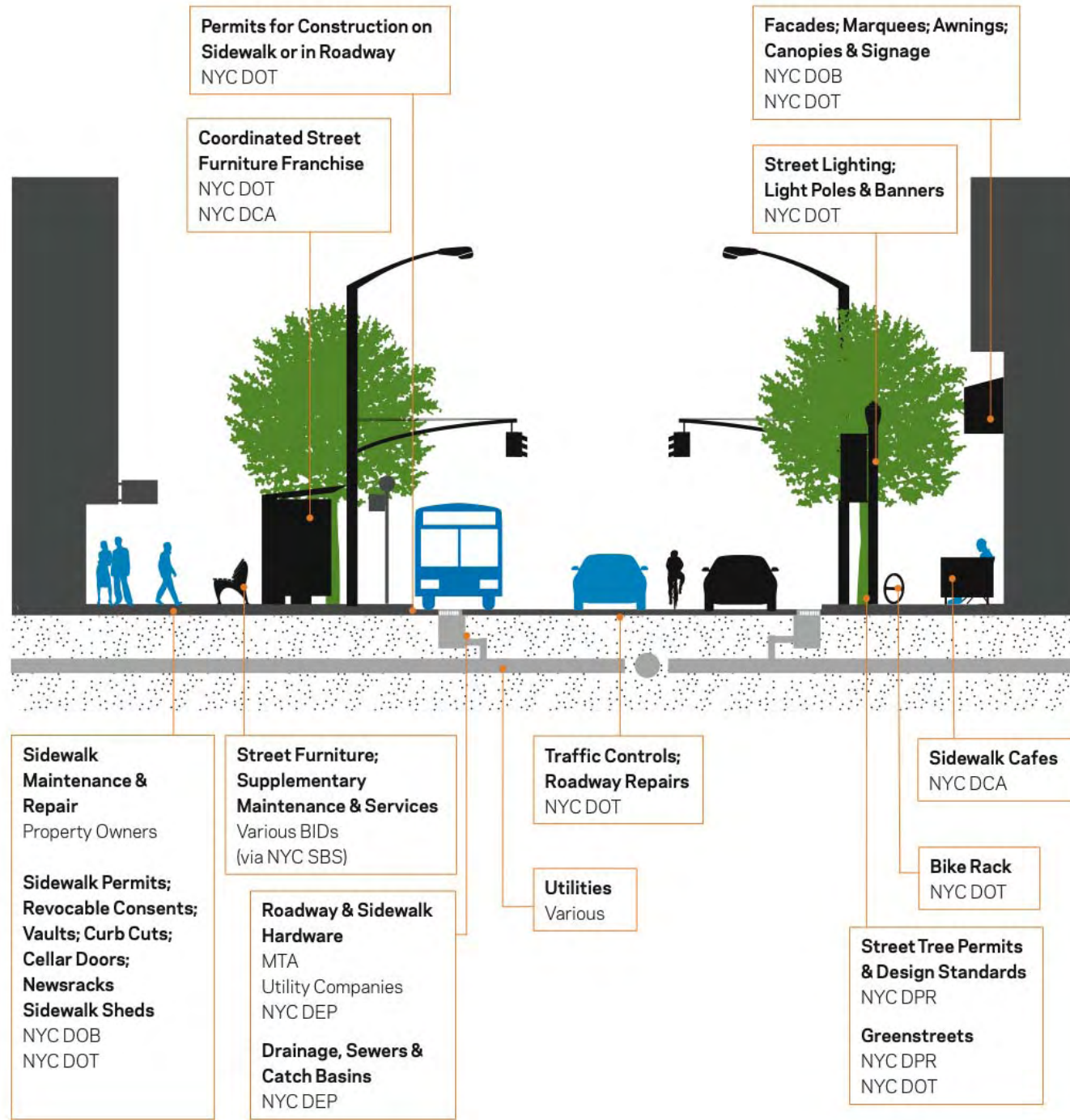
- o Mixed Roadway (vehicle access totally or mostly limited to buses)
- o Bus Lane/Busway
- o Sidewalks
- o Individual Tree Pits/Connected Tree Pits
- o Concrete or unit paver roadway
- o Tinted concrete and/or exposed aggregate sidewalk
- o Standard curb materials

Other Common Treatments

- o Curb Extensions
- o Gateways
- o Medians
- o Greenstreets/Planted Areas
- o Unit paver sidewalk or furnishing zone



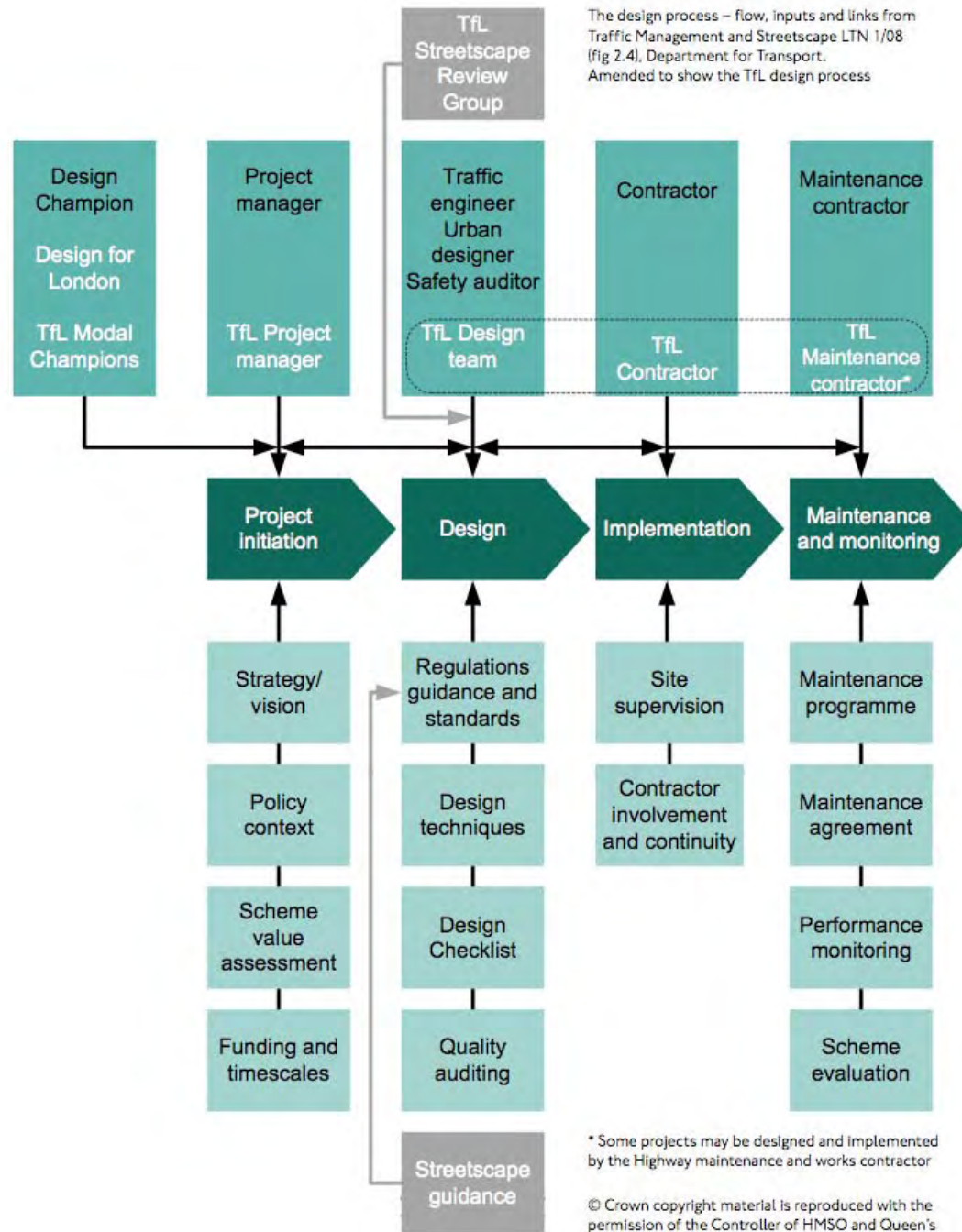
Image: NYC, Shared Street

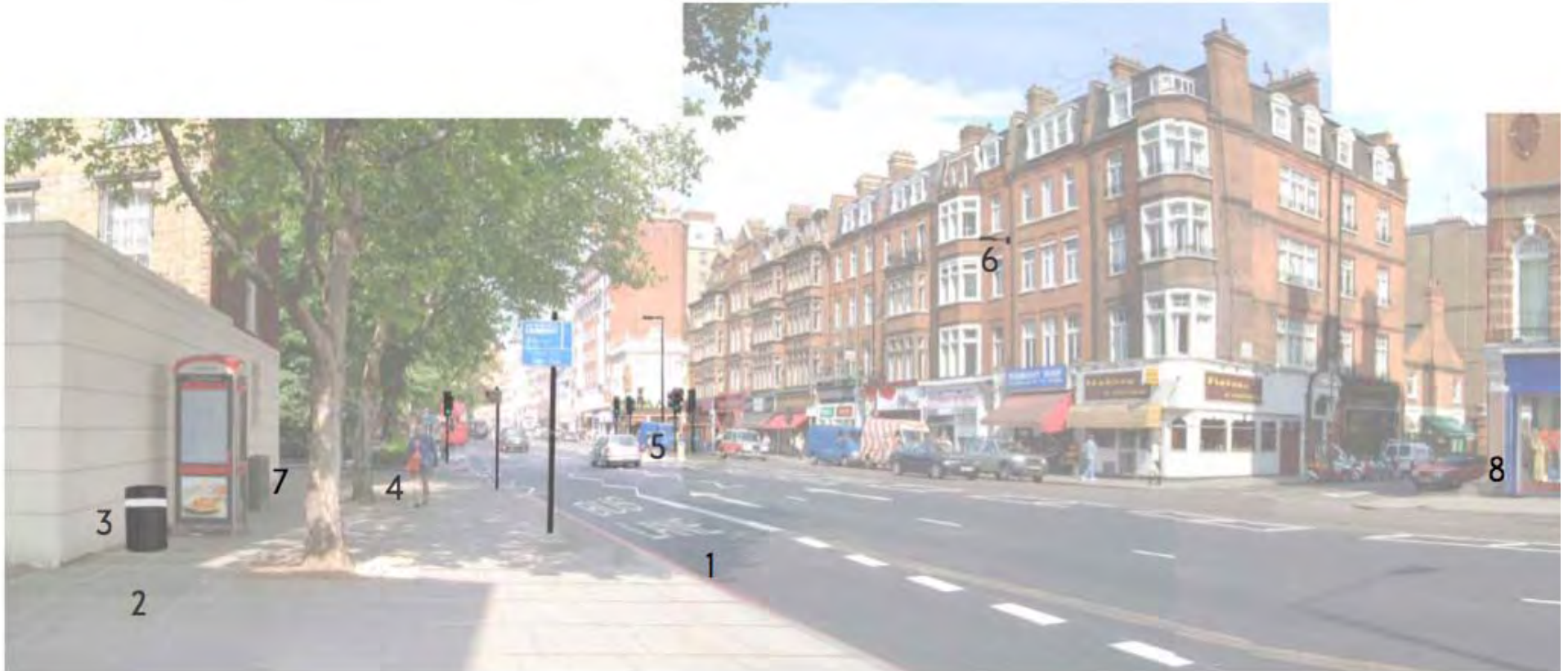


Towards a Strong Urban Renaissance

An independent report by
members of the Urban Task Force
chaired by Lord Rogers of Riverside







- 1 Traditional paving and kerbs retained
- 2 Inspection covers replaced with inset covers
- 3 Litter bin and control cabinet moved to rear of footway
- 4 Surfaces of tree pit enlarged to benefit street trees

- 5 Pedestrian guardrail removed from pedestrian refuge island
- 6 Street lighting improved and attached to buildings where practicable
- 7 All street furniture finished in black
- 8 Street clutter removed

Pigeons

Introduction

Pigeons thrive in urban areas. Their droppings have a destructive effect as their acidity can erode the surface of stonework. Gutters and drain pipes may become blocked, leading to flooding and associated problems. Droppings on footways may cause a problem for pedestrians.

Control methods

Cleaning of statuary, washing of footways, ledges and sills is a very expensive method. The alternative to regular cleaning is to use nets, spikes or gels to deter the pigeons using highway structures as roosts.

Measures may be taken to encourage people not to feed pigeons and to use litterbins provided.

Responsibility

Once pigeon droppings are deposited on the footway, removal is the responsibility of the local authority.

If TfL owns highway structures used as roosts by pigeons, TfL is responsible for introducing measures to prevent their use.

The London Local Authorities Act 2004 contains a wide range of powers for London local authorities. The Association of London Government have published Codes of Practice on prevention of nuisance from birds.

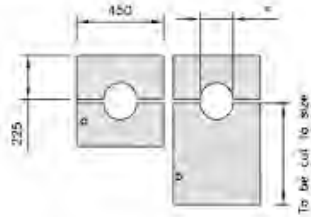
Reference

Association of London Government:

- Prevention of Nuisance from Birds: Code of Practice, 2005

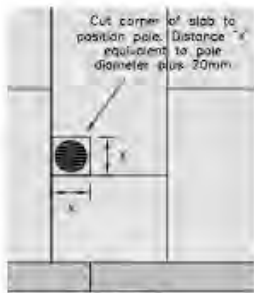


With reference to designer's duties under the Construction (Design and Management) Regulations 2007, design teams are reminded to use a hierarchy of control, so far as is reasonably practical, to i) eliminate the hazard, ii) reduce the risk iii) provide relevant information. Key risks include manual handling and dust inhalation.



- Optional treatment around posts:
1. Concrete ready-made at lengths of $a=225\text{mm}$ and $b=525\text{mm}$ with semi-circular cut-out with variable diameter from $x=60\text{mm}$ to $x=230\text{mm}$.
 2. On-site core drilled flag with semi-circular arrangement as indicated.

Detail A
Scale 1:25



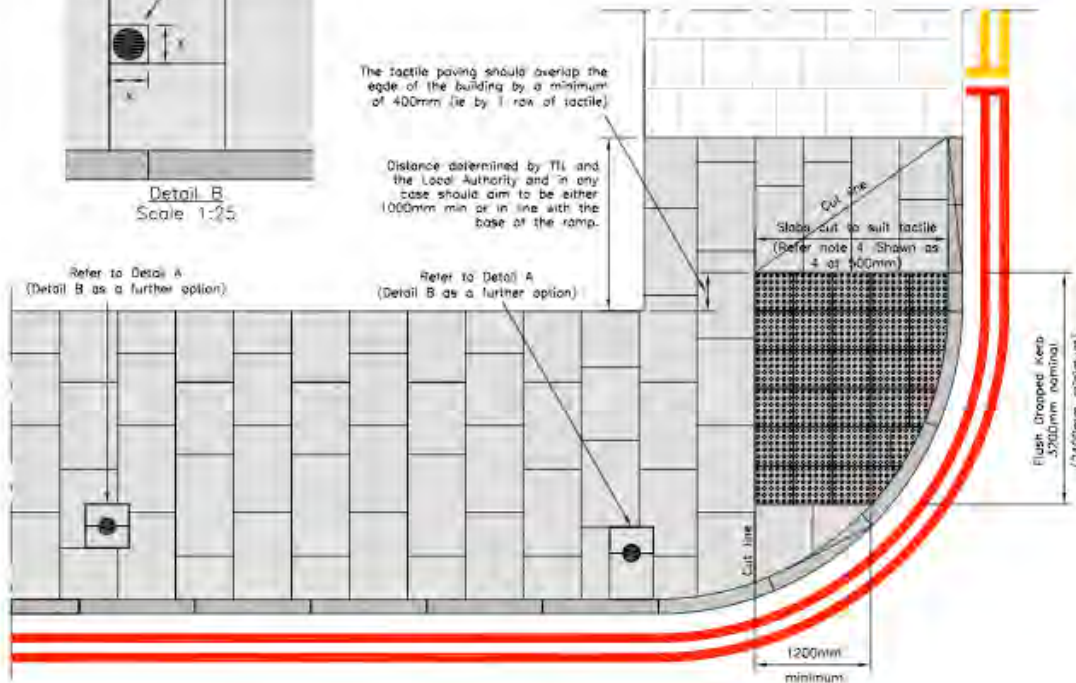
Detail B
Scale 1:25

The tactile paving should overlap the edge of the building by a minimum of 400mm (ie by 1 row of tactile).

Distance determined by TfL and the Local Authority and in any case should aim to be either 1000mm min or in line with the base of the ramp.

Refer to Detail A
(Detail B as a further option)

Refer to Detail A
(Detail B as a further option)



Plan
Scale 1:50

Notes

1. All paving to be laid on a 150mm thick type c7.5p concrete sub base extending 1000mm from back of kerb unless otherwise specified. The remaining area of footway to be laid on 100mm thick type c7.5p concrete sub base unless otherwise stated. All concrete flags and tactile paving to be bedded on a 30mm sand/cement mortar mix, butt jointed, with dry sand brushed into joints. The Resident Engineer should be advised where the preferred depth of construction cannot be achieved on site.
2. Concrete flags to be laid with courses set at 90° to kerb and a minimum overlap bond of 150mm.
3. The banding of paving to be cut around utility service covers unless directed by the Resident Engineer.
4. Concrete flags should not be cut so that a width less than 300mm remains. Previous courses should be cut to distribute evenly over width.
5. Granite kerbs to be fine picked 150mm x 300mm x 900-1200mm long. Standard kerb height to be 125mm above carriageway.
6. Granite kerb dropped over approximately 1800mm to provide a flush fine picked silver grey kerb (0mm upstand) over crossing width.
7. Existing utility service covers in paved areas to be replaced with recessed covers and infilled with matching paving. Covers to be adjusted to suit on site as directed by the Resident Engineer. (Ref Dwg's TFL/SG21 & SG22)
8. Lateral clearance to all street furniture to be 450mm minimum from face of kerb.
9. All work to be carried out in compliance with the requirements of The Manual Handling Operations Regulations 1992 (as amended in 2002).

Legend

- Charcoal grey blister paving: concrete modular, 400x400x65mm
- 150mm Granite kerb, fine picked
- Concrete flag, nominally 900x600x65mm
- Existing footway
- Road markings in thermoplastic, screed or equivalent

6	30/06/08	GUIDANCE ISSUE No 2	MOR	DVR
5	07/04/08	MINOR AMENDMENTS	UGA	CHK
4	17/12/07	MINOR AMENDMENTS	GSV	LD
3	16/08/05	GUIDANCE ISSUE No 1	SW	RD
2	02/08/05	CLIENT AMENDMENTS	RD	RH
1	10/06/05	MINOR AMENDMENTS	RD	RH
0	25/02/05	Original Issue	RD	RF
Rev	Date	Description	Checked	Approved



Project

Streetscape Guidance

Drawing Title

Uncontrolled Pedestrian Crossing
at Side Road

Drawing Status

GUIDANCE ISSUE No 2

Drawn PCJ	Designed TFL	Scale As shown	Sheet A3
Drawing No. TFL/SG06			Rev 6

Table 4.1 Context Zone Characteristics

Context Zone	Distinguishing Characteristics	General Character	Building Placement	Frontage Types	Typical Building Height	Type of Public Open Space
C-1 Natural	Natural landscape	Natural features	Not applicable	Not applicable	Not applicable	Natural open space
C-2 Rural	Agricultural with scattered development	Agricultural activity and natural features	Large setbacks	Not applicable	Not applicable	Agricultural and natural
C-3 Suburban	Primarily single family residential with walkable development pattern and pedestrian facilities, dominant landscape character	Detached buildings with landscaped yards	Varying front and side yard setbacks	Lawns, porches, fences, naturalistic tree planting	1 to 2 story with some 3 story	Parks, greenbelts
C-4 General Urban	Mix of housing types including attached units, with a range of commercial and civic activity at the neighborhood and community scale	Predominantly detached buildings, balance between landscape and buildings, presence of pedestrians	Shallow to medium front and side yard setbacks	Porches, fences	2 to 3 story with some variation and few taller workplace buildings	Parks, greenbelts
C-5 Urban Center	Attached housing types such as townhouses and apartments mixed with retail, workplace, and civic activities at the community or sub-regional scale.	Predominantly attached buildings landscaping within the public right-of-way, substantial pedestrian activity	Small or no setbacks, buildings oriented to street with placement and character defining a street wall	Stoops, dooryards, storefronts, arcaded walkways	3 to 5 story with some variation	Parks, plazas and squares, boulevard median landscaping
C-6 Urban Core	Highest-intensity areas in sub-region or region, with high-density residential and workplace uses, entertainment, civic and cultural uses	Attached buildings forming sense of enclosure and continuous street wall landscaping within the public right-of-way, highest pedestrian and transit activity	Small or no setbacks, building oriented to street, placed at front property line	Stoops, dooryards, forecourts, storefronts, arcaded walkways	4+ story with a few shorter buildings	Parks, plazas, and squares, boulevard median landscaping
Districts	To be designated and described locally, districts are areas that are single-use or multi-use with low-density development pattern and vehicle mobility priority thoroughfares. These may be large facilities such as airports, business parks and industrial areas.					

(Based on transect zone descriptions in SmartCode V-6.5, Spring 2005 Credit: Duany Plater-Zyberk & Company.)

Shaded cells represent context zones that are not addressed in this report.

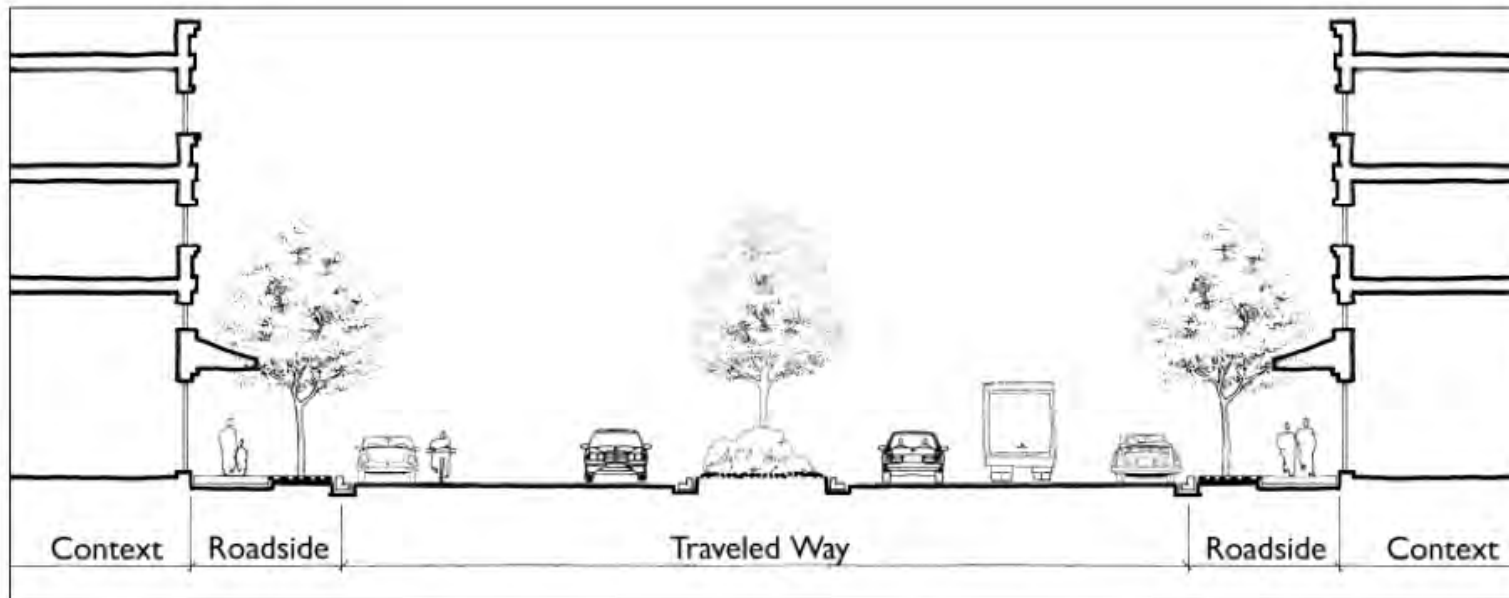


Figure 5.1 Components of an urban thoroughfare. Source: Community, Design + Architecture.

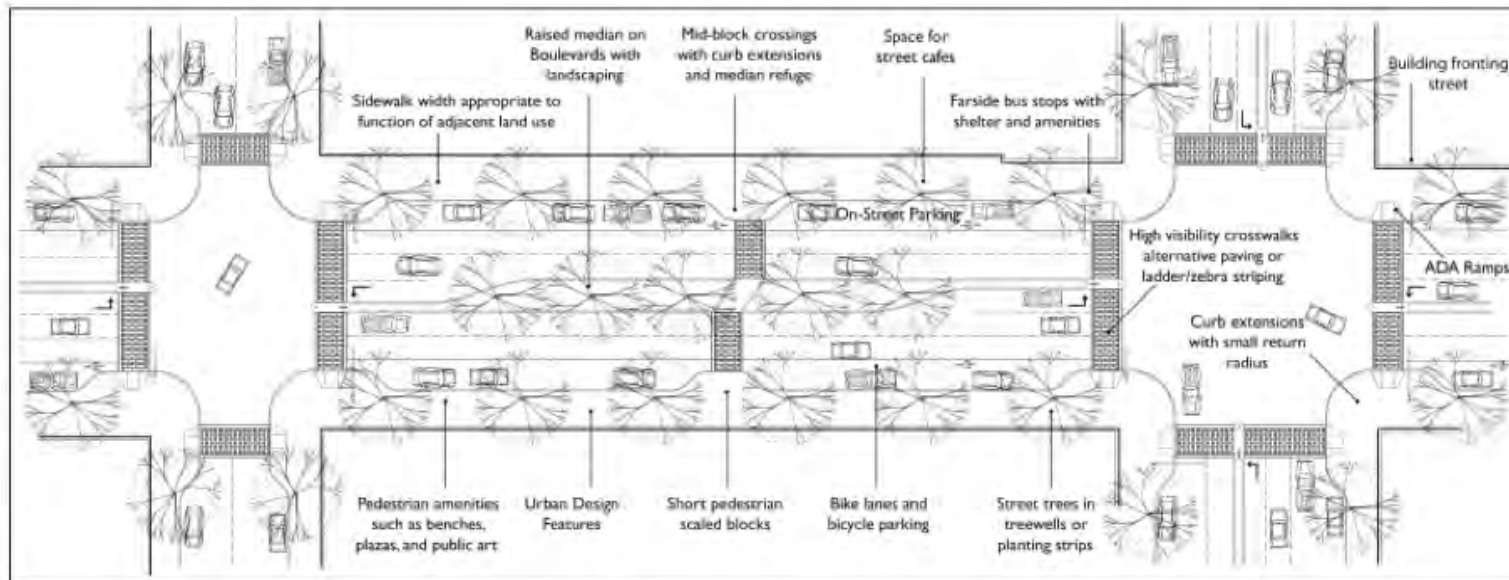


Figure 5.2 An illustration of the elements of a context sensitive thoroughfare. Community, Design + Architecture.

*Credit: ITE
Context Sensitive
Street Design*

DISTINCTIVE, UNIFIED OVERALL DESIGN



- Integrated site furnishings (Section 6.5)
- Pedestrian-oriented lighting (6.2)
- Minimize site cluttering (6.5)

SPACE FOR PUBLIC LIFE



- Reclaim excess street space for public use (5.4)
- Safe public seating for neighborhood gathering (6.3)
- Merchant participation (6.3)

PEDESTRIAN SAFETY



- Visible crossings (5.1)
- Slower turning speed (5.2)
- Shorter crossing distances (5.3)

PEDESTRIAN PRIORITY

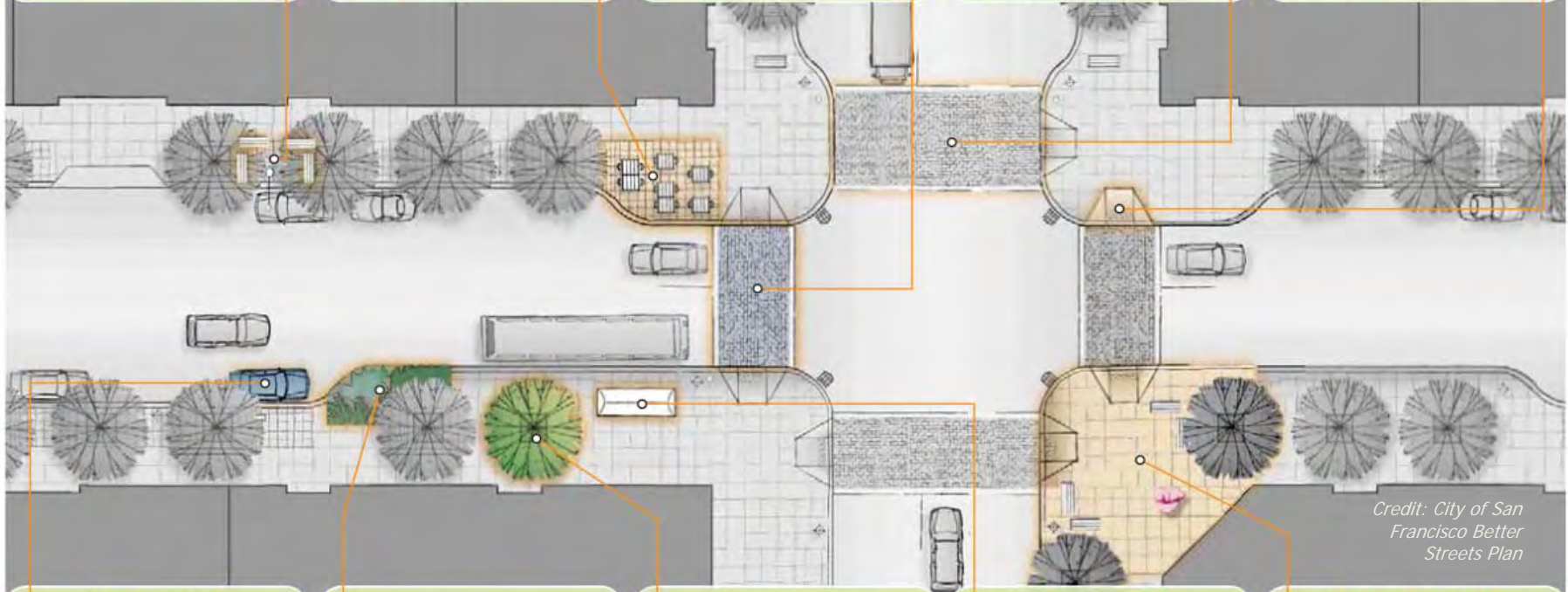


- Shared streets (5.8)
- Temporary or permanent street closures (5.8)
- Raised crossings (5.1)

UNIVERSAL DESIGN



- Generous, unobstructed sidewalks (4.2)
- Curb ramps for all users (5.1)
- Accessible pedestrian signals (5.3)



Credit: City of San Francisco Better Streets Plan

CREATIVE USE OF PARKING LANE



- Bicycle parking in the parking lane (5.8)
- Flexible use for cafe seating (5.8)
- Permanent mini-plazas (5.3)

ECOLOGY



- Stormwater management (6.2)
- Permeable materials (6.2)
- Streets as habitats (6.1)

EXTENSIVE GREENING



- Healthy urban forest (6.1)
- Expanded sidewalk plantings (6.1)
- Utility consolidation (6.8)

INTEGRATING Peds AND TRANSIT

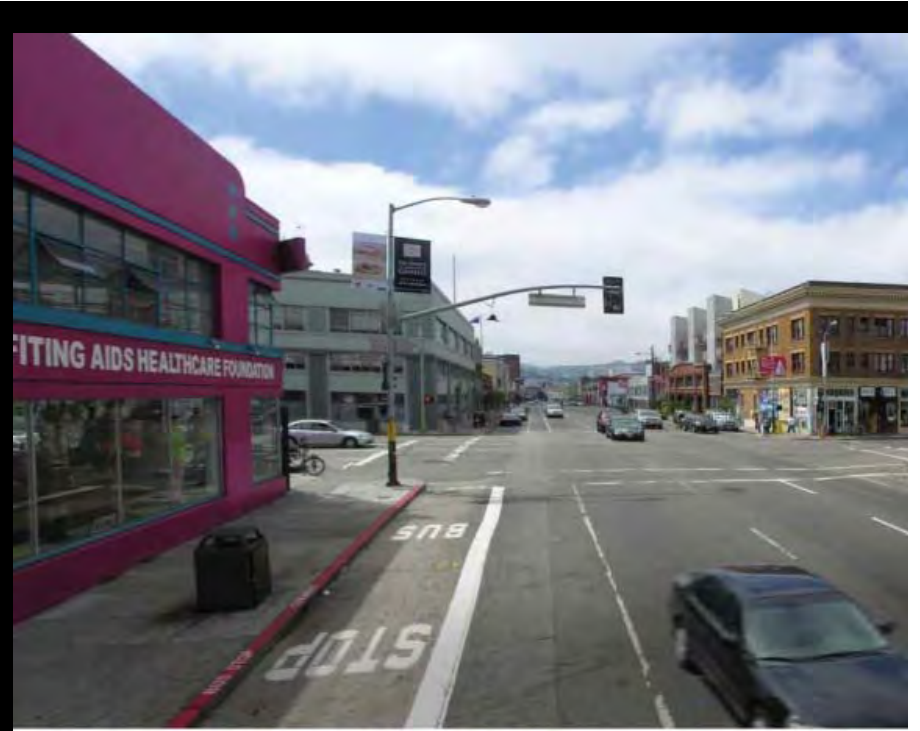


- Transit rider amenities (6.5)
- Bus bulbouts and boarding islands (5.5)
- Safe, convenient routes to transit

RECLAIMING EXCESS STREET SPACE



- Street parks and new plazas (5.8)
- Traffic circles (5.7)
- Landscaped medians (5.4)



Images from: San Francisco, Better Streets Plan

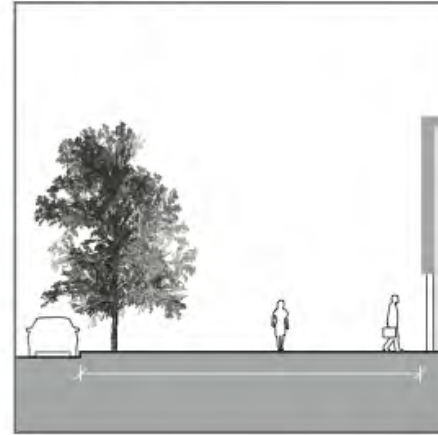
3 Provide adequate sidewalk width that accommodates pedestrian flow and activity yet is not wider than necessary.



Recommended



Not Recommended



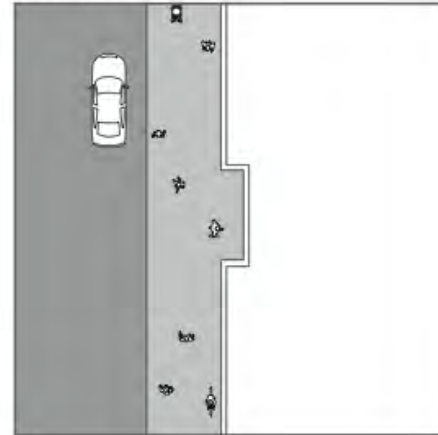
4 Utilize street furnishings to create a consistent rhythm (i.e., consistent height of light poles or consistent shade pattern of trees).



Recommended



Not Recommended



SIDEWALKS IMPLEMENTATION STRATEGY CHECKLIST



		Commercial	Industrial	Public Spaces	Open Spaces	Residential
1	Create a continuous and predominantly straight sidewalk and open space.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Create a buffer between pedestrians and moving vehicles by the use of landscape and street furniture (benches, newspaper racks, pedestrian information kiosks, bicycle racks, bus shelters, and pedestrian lighting).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Provide adequate sidewalk width that accommodates pedestrian flow and activity yet is not wider than necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Utilize street furnishings to create a consistent rhythm (i.e., consistent height of light poles or consistent shade pattern of trees).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Incorporate closely planted shade-producing street trees. They may be interspersed with existing or proposed palms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Plant parkways with ground cover, low-growing vegetation or permeable materials that accommodate both pedestrian movement and car doors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

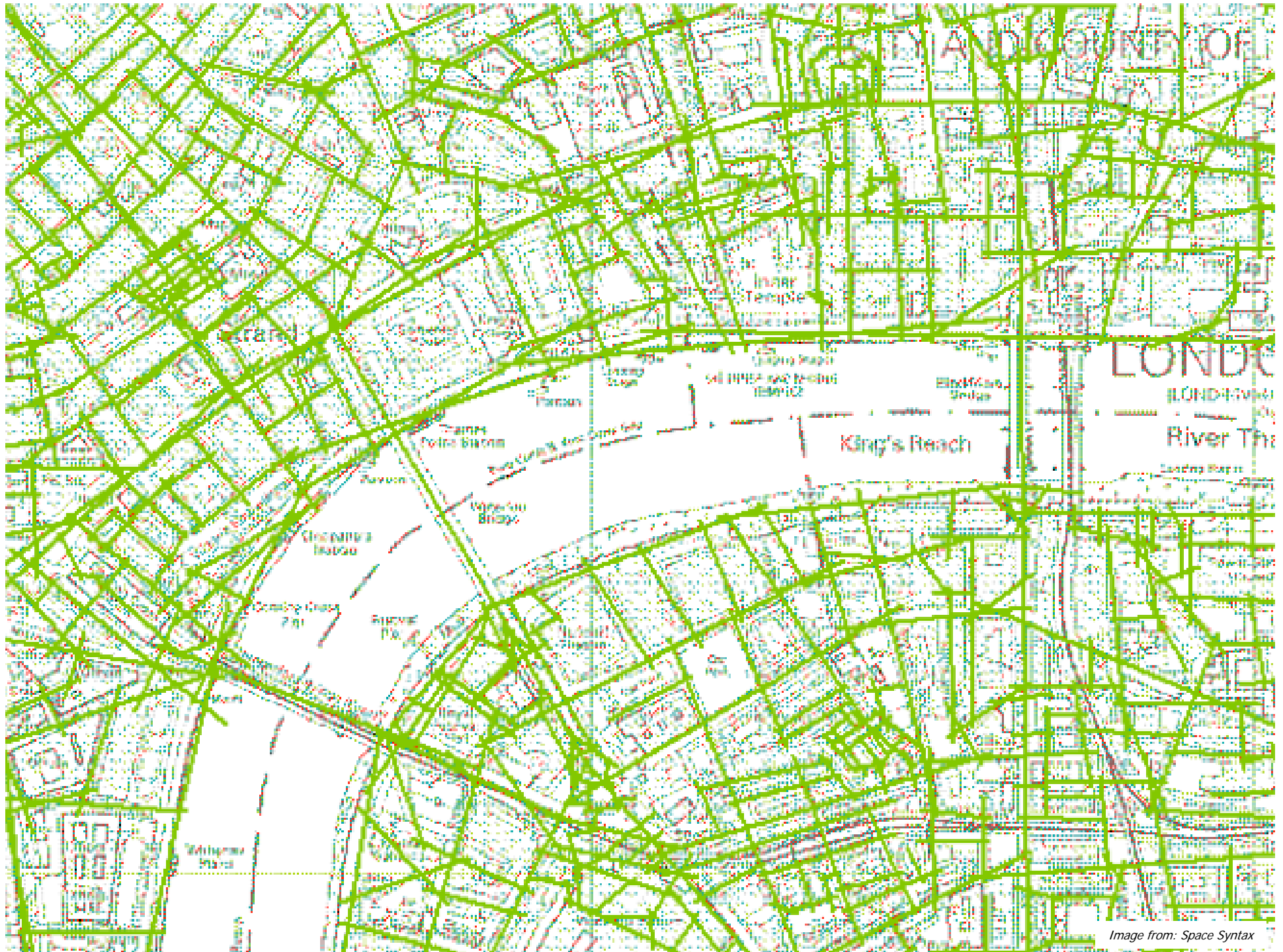


Image from: Space Syntax



Spatial integration

Image from: Space Syntax, London



Image: Trafalgar Square London

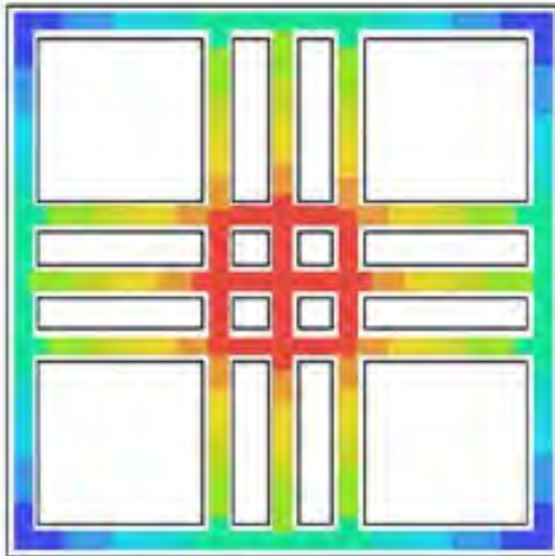
Trafalgar Square Evidence-based design & negotiation



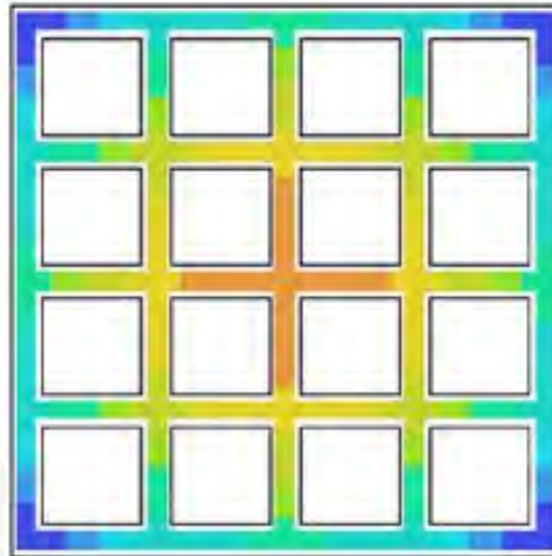
Tim Stonor
Placemaking in a regional setting Tools for spatial sustainability

UrbanBuzz conference

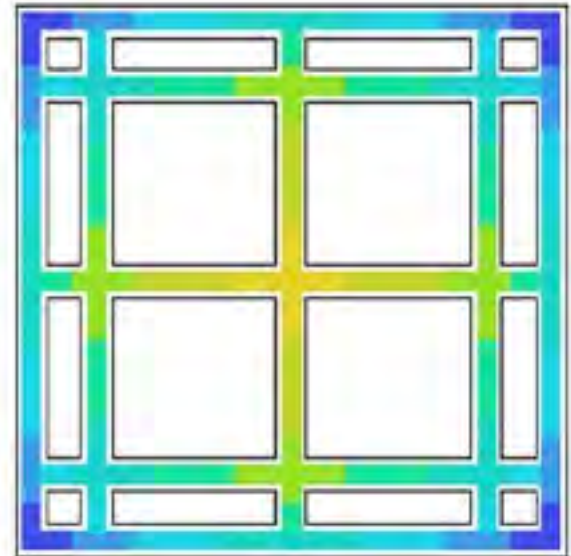
Image from: Space Syntax, London



Cell count 305
Mean all to all distance **2.69**



Cell count 305
Mean all to all distance **2.79**

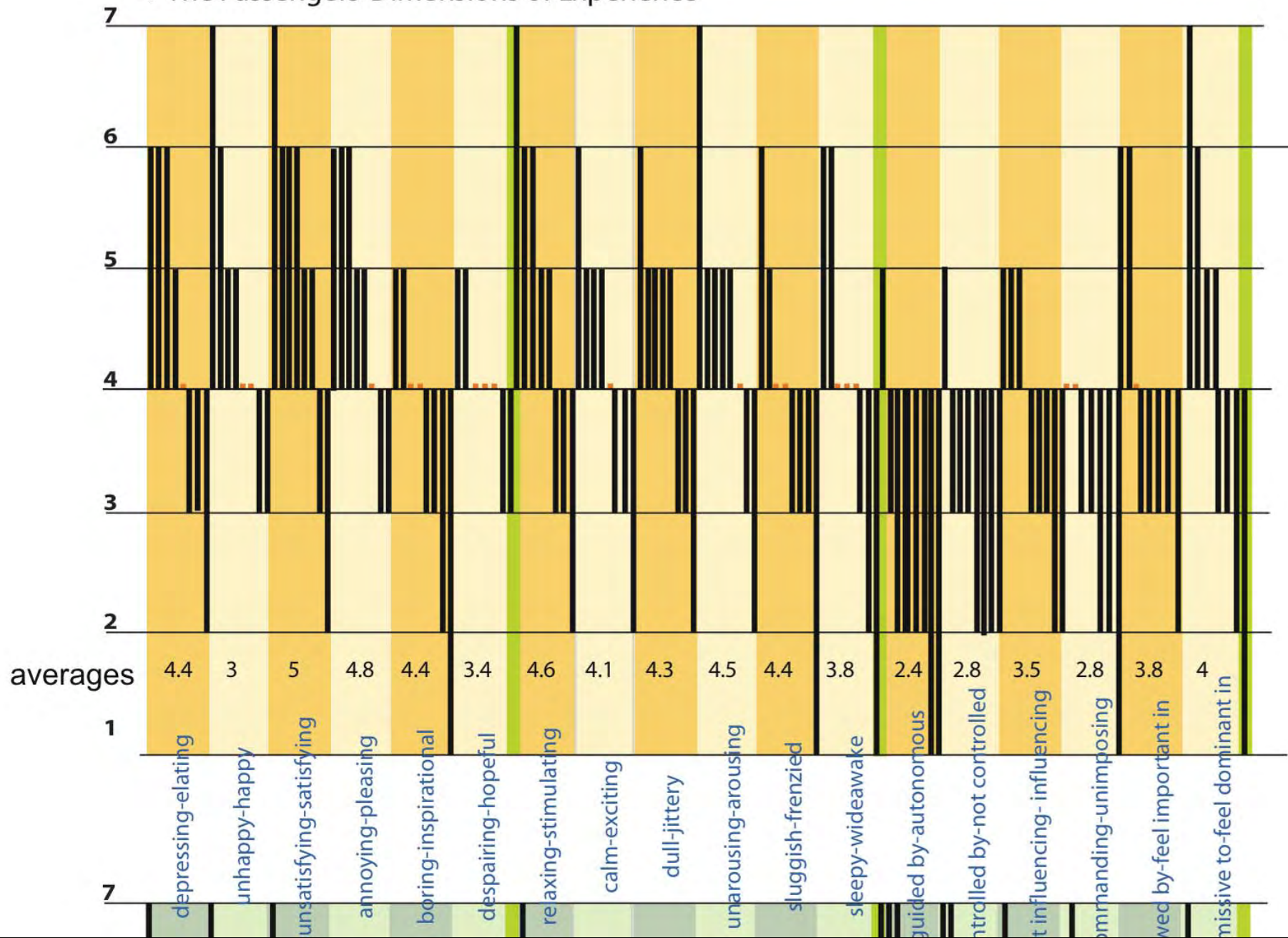


Cell count 305
Mean all to all distance **3.02**



Image: Millennium Bridge, London

↓ The Passengers' Dimensions of Experience





EXPERIENTIAL MAPPING IN A CONTROLLED ENVIRONMENT - A TRIP TO THE CARWASH, OCTOBER 4, 2006 - 15 MINUTES

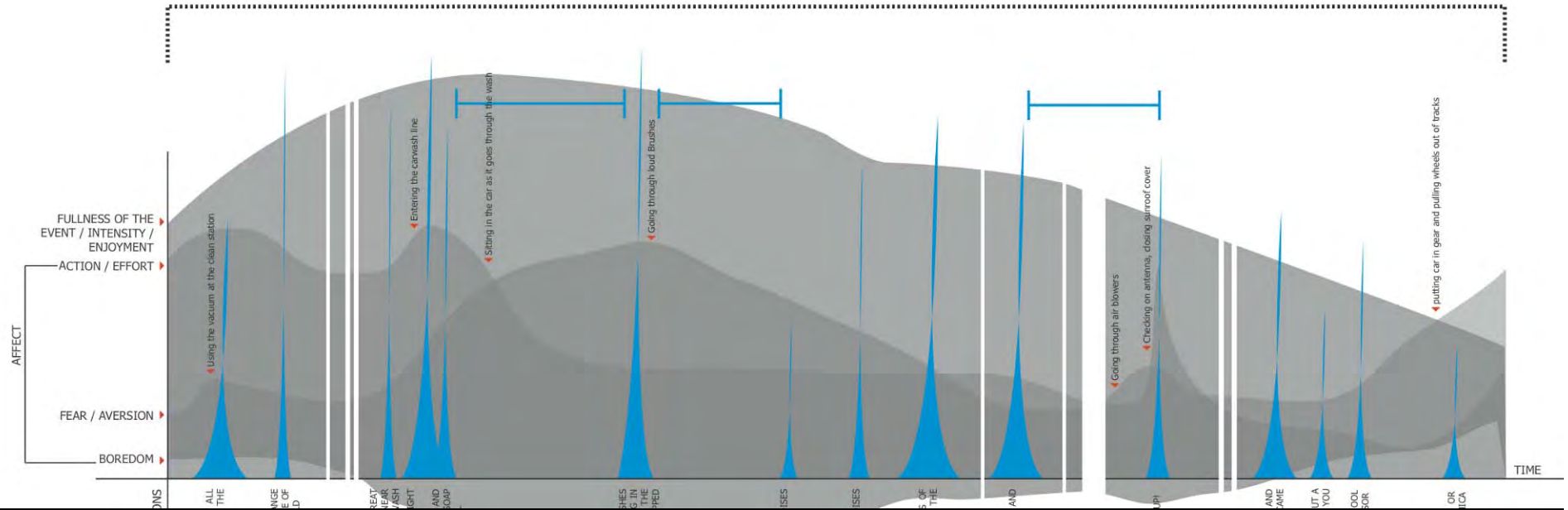




Photo: City of Berlin



Source: Ben Hamilton-Baillie



Source: Ben Hamilton-Baillie, Shared Street



Image: Shared Space, Sweden



Image: Shared Space, Brighton, England



Photo : Downtown Los Angeles, Kogi BBQ Taco Truck



Photo: City of Austin, South Congress Ave, "Hey Cupcake" Mobile Eatery



Photo: San Francisco Mission, Sunday Center-lane Church Parking, Georgia Sheridan



What is Parking Worth to Los Angeles?

METERED PARKING IN DOWNTOWN LOS ANGELES

26AC

14 AC

EMERSON

Habitat Housing Units
(26 acres at 50 dwelling units per acre)

1,300
(units)

Energy Geothermal Heating and Cooling Capacity
(1 well per space at 1 ton of heating/cooling per well = 6,624 tons)

Residential Use
(1100sf du requires 2.3 tons for heating/cooling)

2,280
(units)

Office Use
(120,000sf bldg requires 500 tons for heating/cooling)

26.5
(buildings)

Transportation
(6,624 parking spaces at 12 Smart Cars per parking space)

13,000
(smart cars)

Ecology
(22' per space x 6,624 spaces = 4.6 miles)

- Riverside Park on the Hudson in NYC 4 miles
- Downtown Los Angeles Parking Spaces 4.6 miles
- Emerald Necklace in Boston 9 miles
- Pershing Square, Echo Park, MacArthur Park 4.7 miles

Economy
176 sf/space at FAR 6 x 6624 spaces = 6.9M sf)

	Annual Revenue	Cap Rate	Value
Existing Metered Parking (\$1/hr)	\$ 21M	8.9	\$ 193M
Smart Car Robotic Parking (\$1/hr x 12 cars)	\$261M	8.9	\$ 2,300M
Residential (\$1.75/sf/mo)	\$146M	6.45	\$ 947M
Office (\$2.97/sf/mo Class A)	\$250M	7.0	\$ 1,745M
Retail (\$1.91/sf/mo)	\$160M	8.9	\$ 1,424M

Graphic from: Torti Gallas and Partners



Photo: City of Muenster, "Program fahrradfreundliche Stadt Muenster"



Image: Bryant Park, NYC

Thank you for your time!

QUESTIONS??

**This concludes the American Institute of Architects
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A Chapter of the American Institute of Architects

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