

Street Design Manual



New York City
Department of Transportation

2009

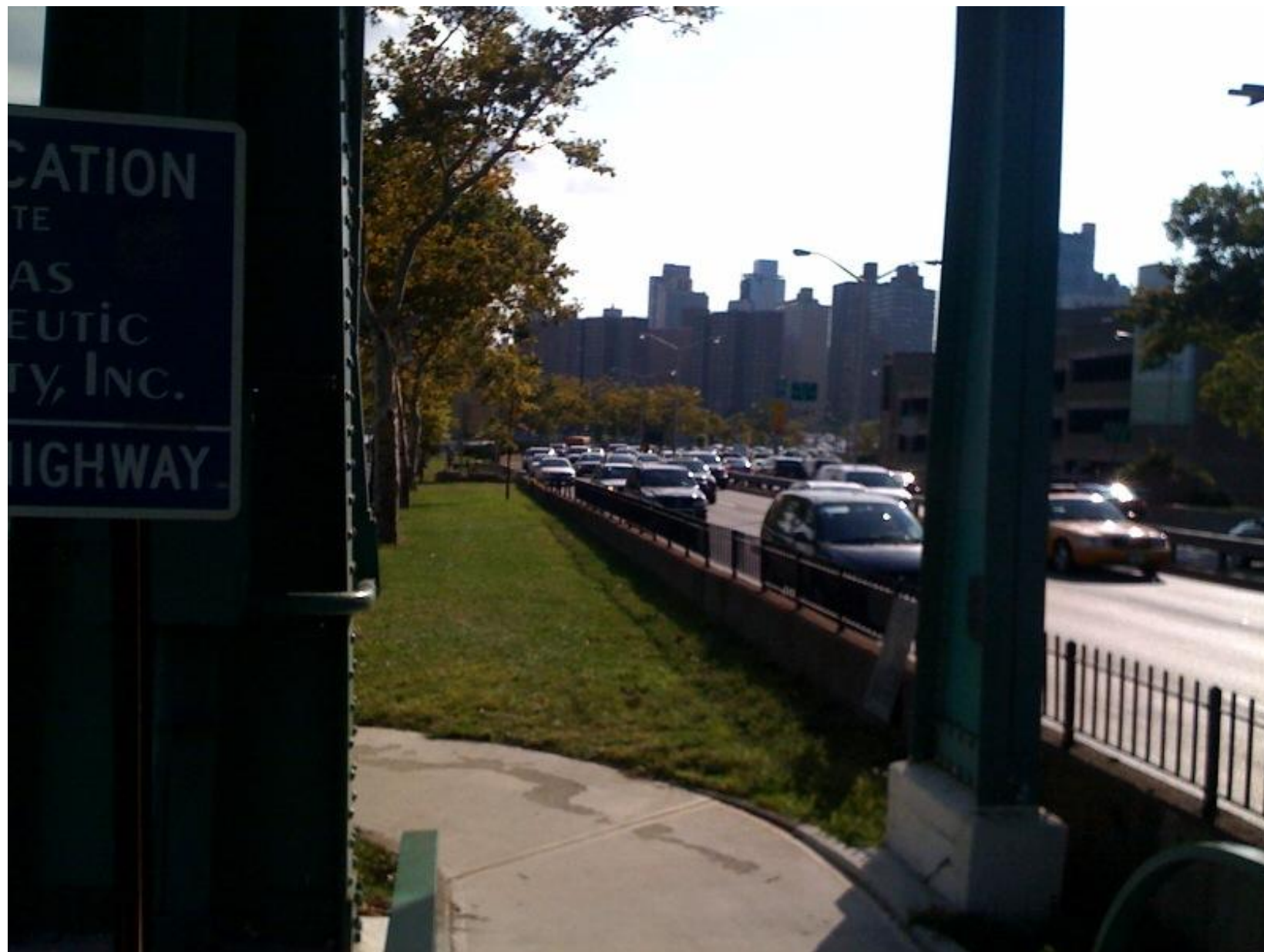
www.nyc.gov/dot



Lower East Side, Manhattan (1910)

Digitized by Google





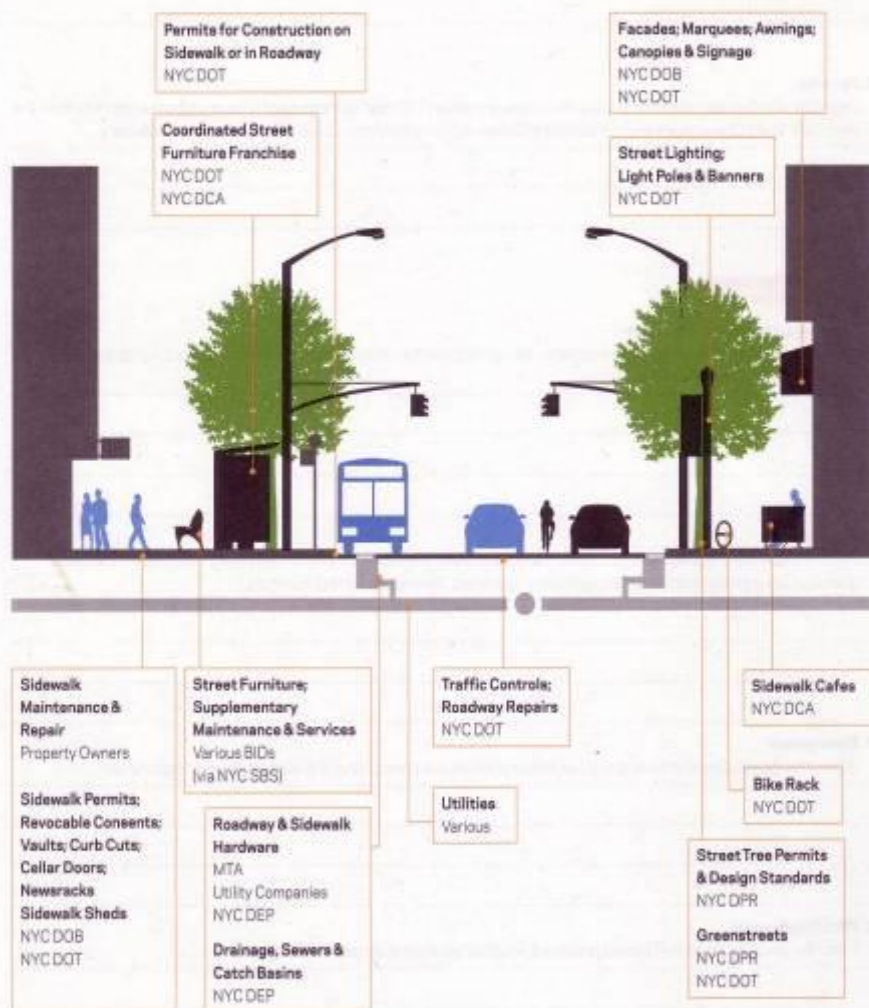




Agency Roles on the City's Streets

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.





Greenstreet with stormwater-capturing design; Amsterdam Avenue, Manhattan (Credit: NYC DPR)



9th Avenue, Manhattan after "complete street" improvements

















Department for
Transport



Manual for Streets



From Mike Biddulph CPLAN University of Cardiff

- Streets in context
- The design process
- Layout and connectivity
- Quality places
- Street users' needs
- Street geometry
- Parking
- Traffic signs and markings
- Street furniture and street lighting
- Materials, adoption and maintenance

- Supersedes ***Design Bulletin 32*** and ***Places, Streets and Movement***

Places, Streets & Movement

A companion guide to Design Bulletin 32
Residential roads and footpaths



- It focuses on residential streets, but many of its principles are applicable to high streets and lightly-trafficked lanes

- reducing the emphasis on the movement function of residential streets
- higher priority to pedestrians and cyclists
- more concern for the place function of residential streets, so that well-designed streets and spaces can serve the community in a number of ways
- emphasises the importance of collaborative working

Streets have five principal functions;

- **place:** *local distinctiveness, visual quality, social activity*
- **movement:** *pedestrians, cyclists, public transport, other private vehicles*
- **access:** *to buildings and public spaces for **all** users*
- **parking** and
- **drainage, utilities and street lighting.**



Figure 2.5 Typical road and street types in the Place and Movement hierarchy.

Andrew Cameron, WSP and Bob White, Kent County Council

Source: Manual for Streets

Study and propose a movement framework

Consider first



Consider last

Pedestrians

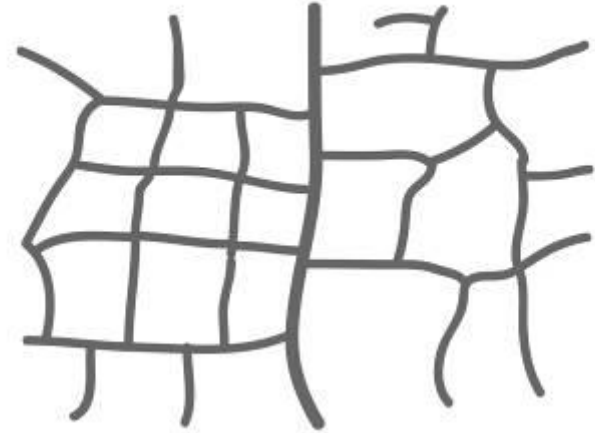
Cyclists

Public transport users

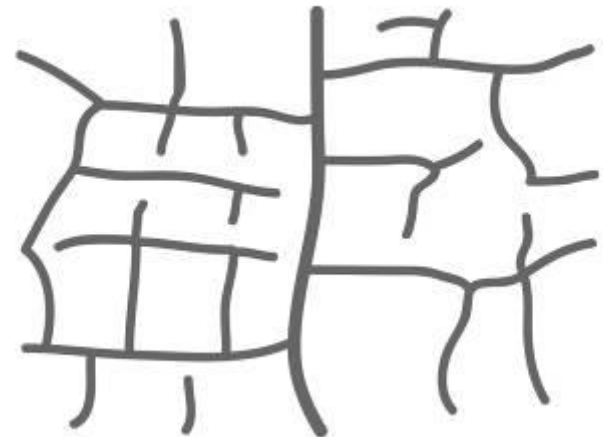
Specialist service vehicles (e.g. emergency services, waste, etc.)

Other motor traffic

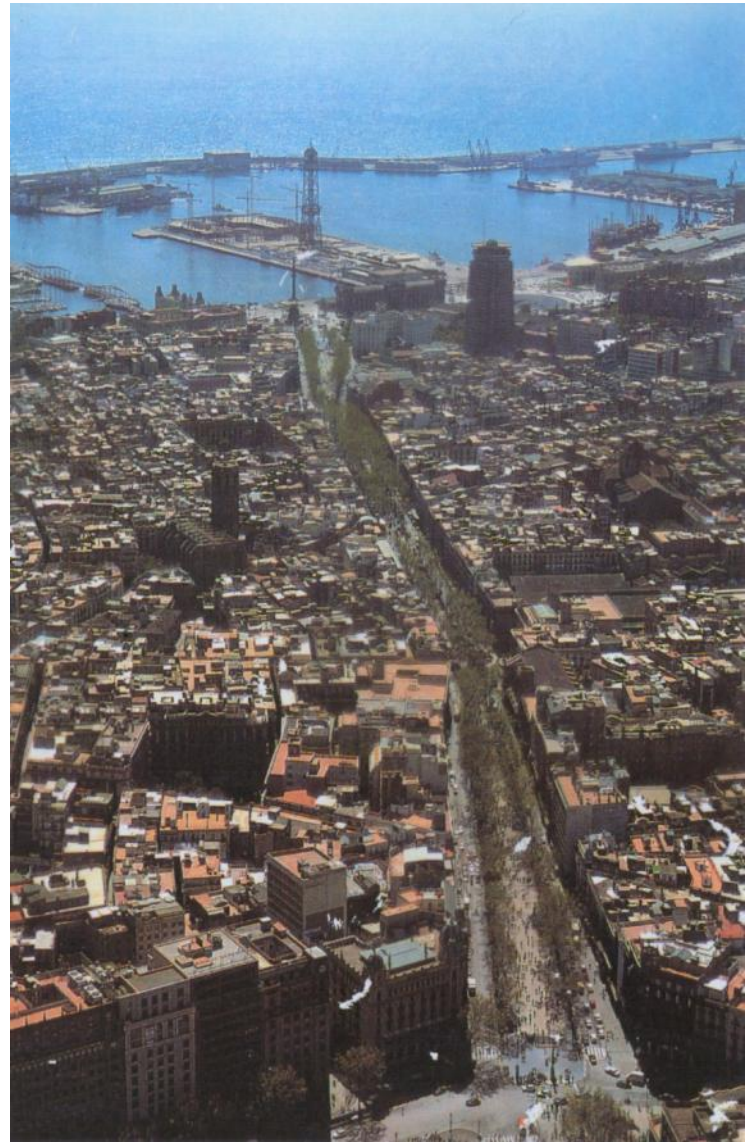
Pedestrian and cyclist network



Vehicular network

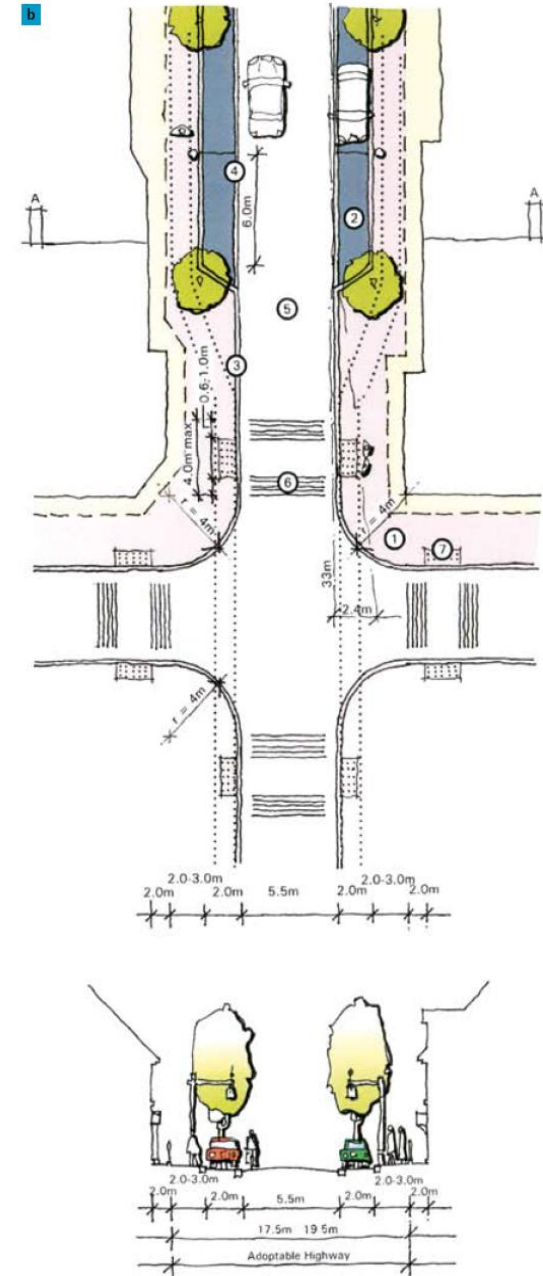


Accessibility and visual signals – legibility
Barcelona: Gothic quarter and Ramblas



Consider the following highways related issues in the development of schemes:

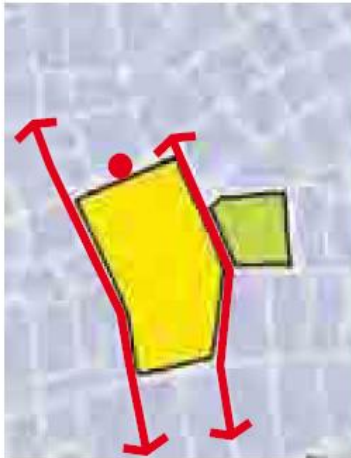
- connections to the surrounding area;
- connections through the site;
- street layout and dimensions;
- building lines;
- building heights;
- routes for utilities;
- parking provision,
- landscape design and structural planting;
- materials, management and maintenance regime;
- servicing and access for emergency vehicles;
- speed control;
- and SUDS and sewer routes.



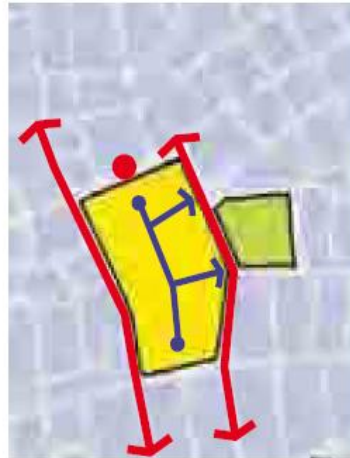
Layout and connectivity

Integrate new developments into the existing fabric

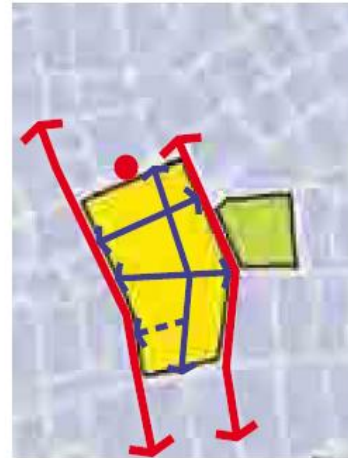
● Bus stop  Principal routes  Internal streets



Consider how best the site can be connected with nearby main routes and public transport facilities.



The typical cul-de-sac response creates an introverted layout which fails to integrate with its surroundings.



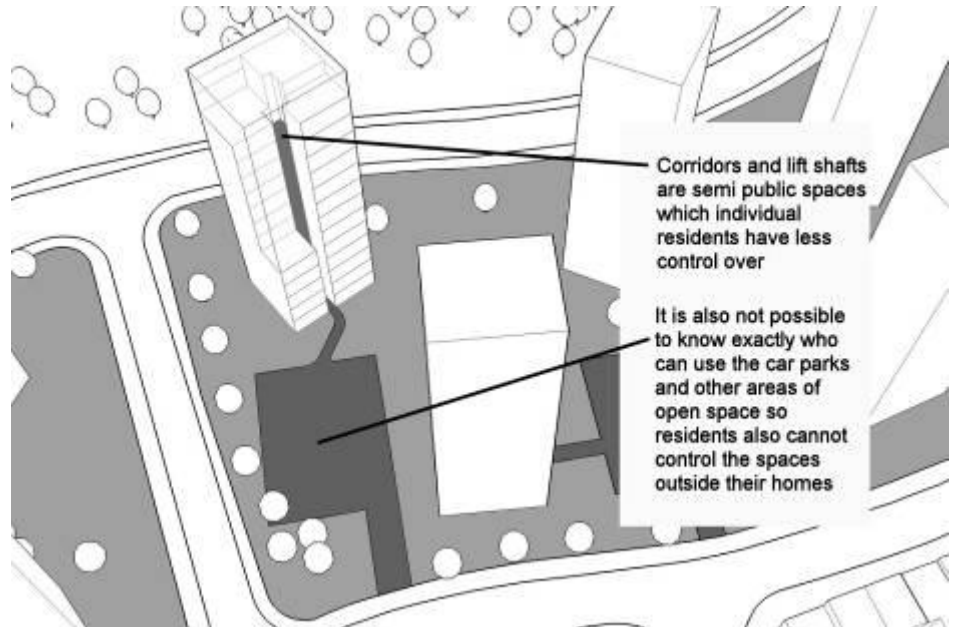
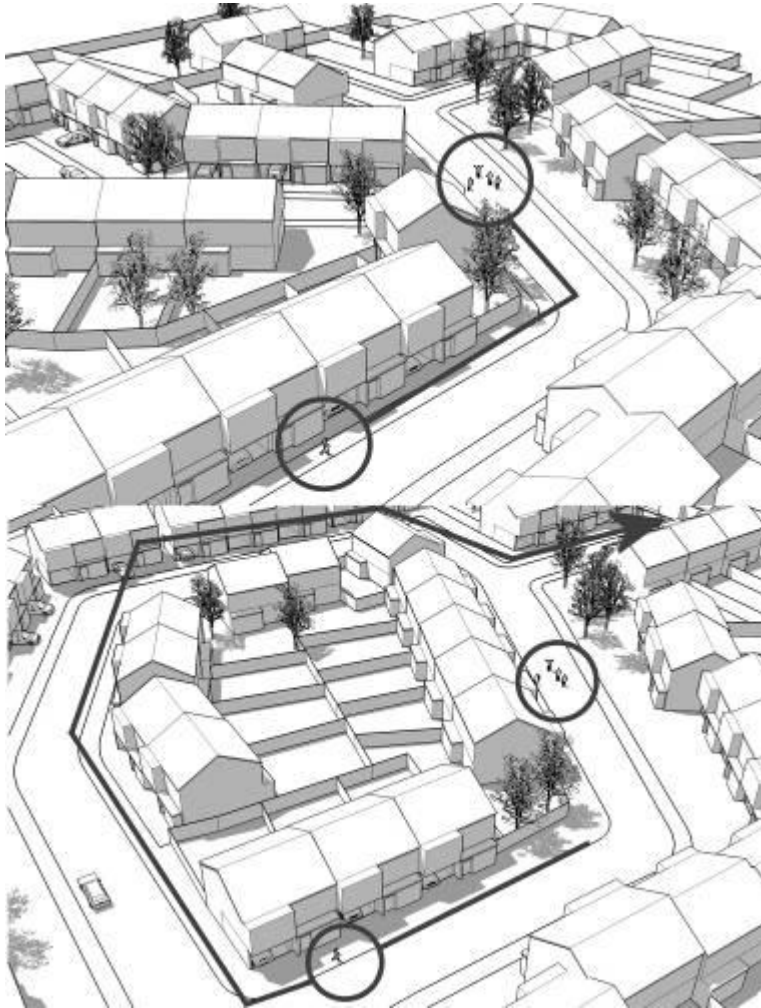
A more pedestrian friendly approach that integrates with the surrounding community. It links existing and proposed streets and provides direct routes to bus stops.



This street pattern then forms the basis for perimeter blocks which ensure that buildings contribute positively to the public realm.

Source: Manual for Streets

Consider crime prevention advice



From Mike Biddulph CPLAN University of Cardiff

Quality Places

Consider the impact of the section on the quality of a street

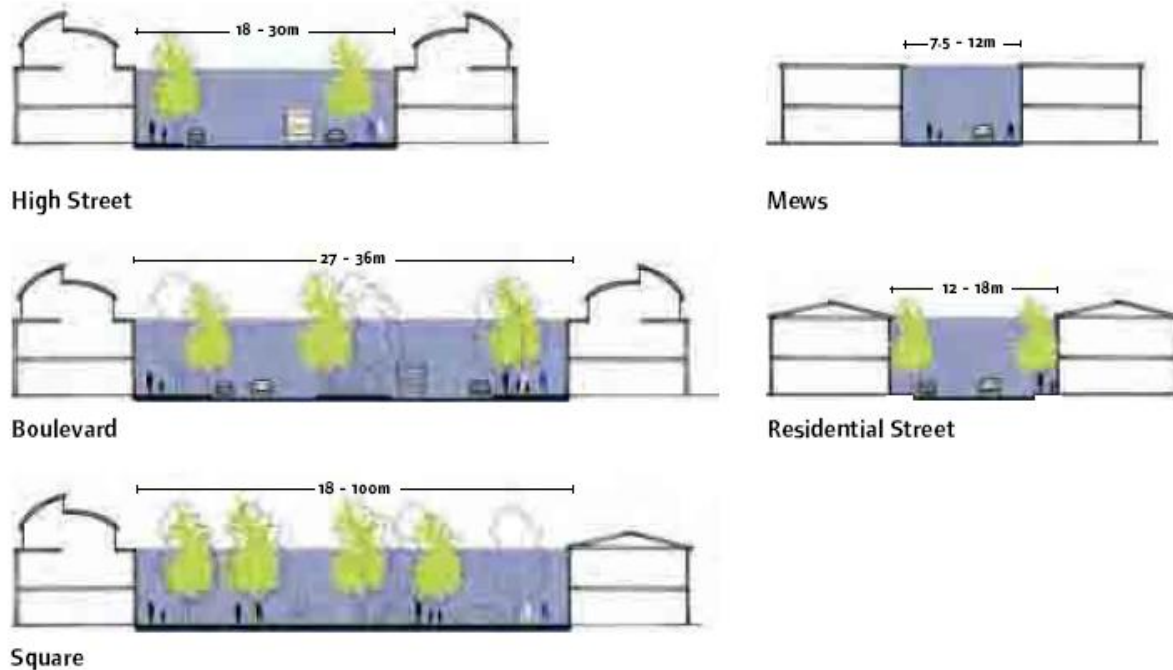


Figure 5.3 Typical widths for different types of street.



Ramblas, Barcelona,
Central Promenade, Ramblas
from Allan B Jacobs, Great Streets



Ramblas, Barcelona,
from Allan B Jacobs, Great Streets

Planting, street trees, lighting, hard landscaping and street furniture

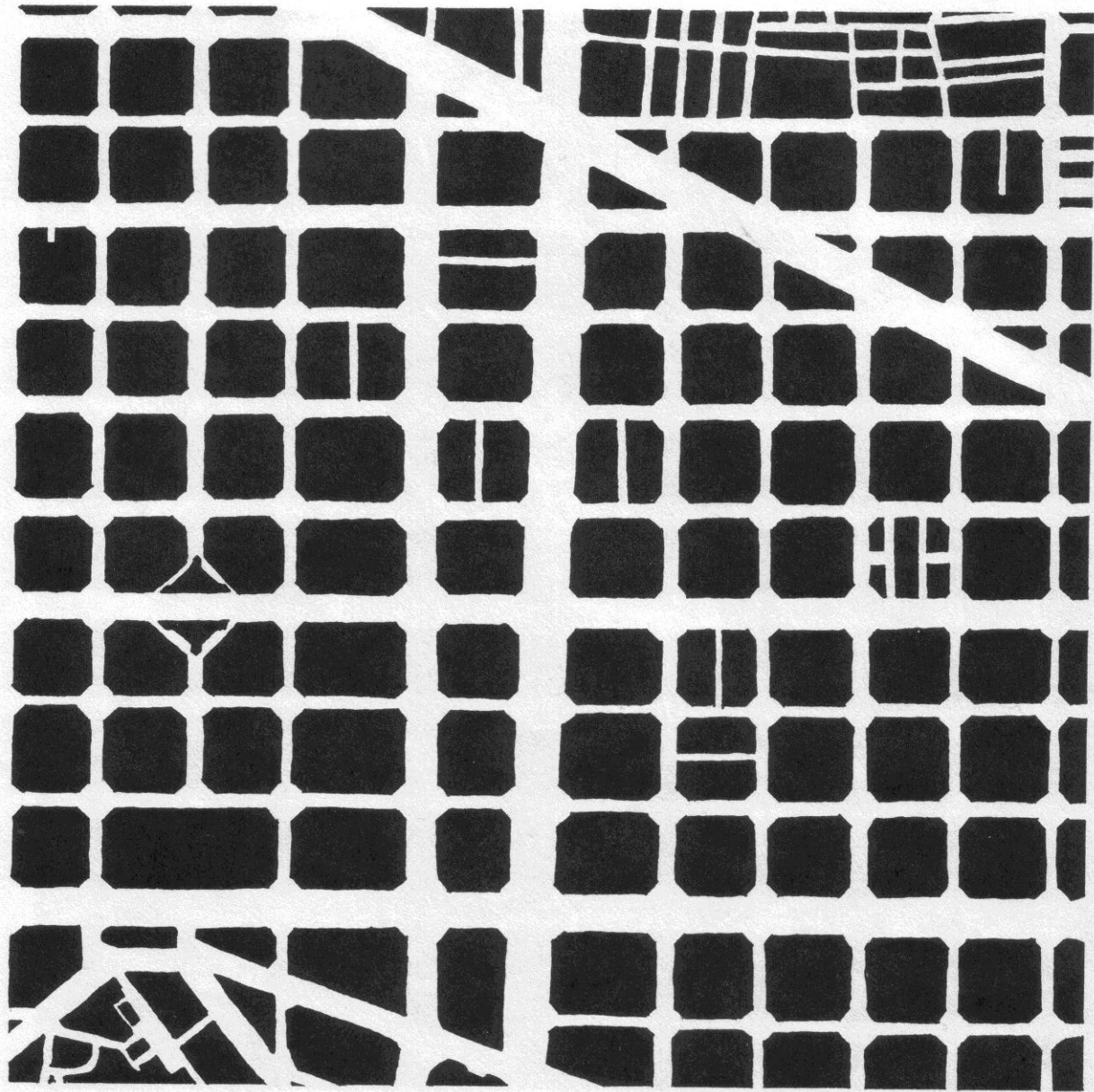


- reduce visual clutter: signage/road markings
- use local materials
- use "in keeping" street furniture and signage from a coherent palette
- retain historic associations
- integrate planting with ideas for the urban scene
- planting adds value
- protect and enhance habitats and biodiversity

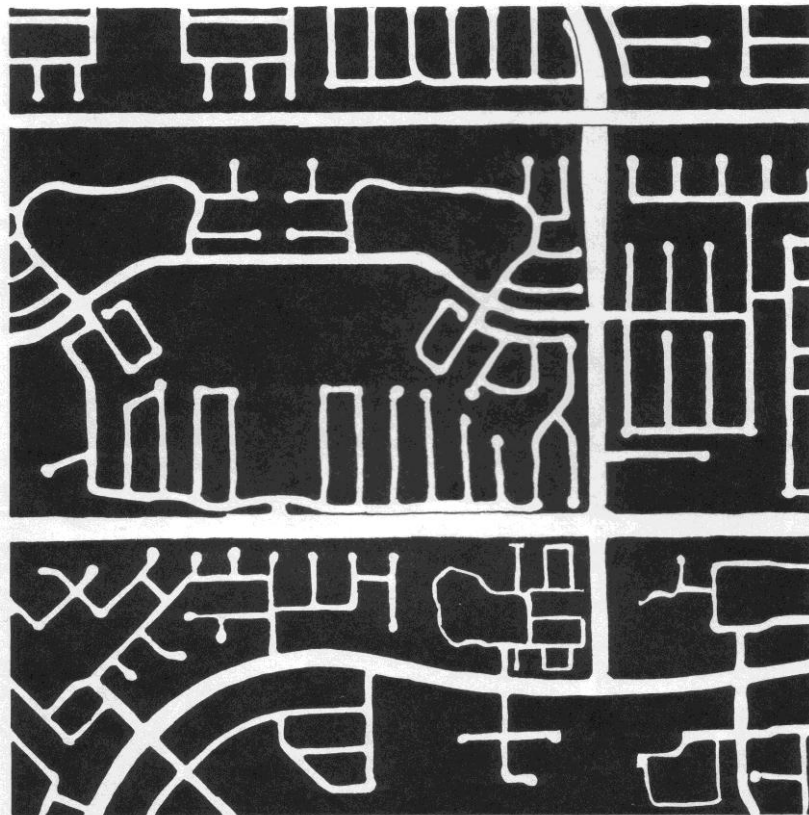
From Mike Biddulph CPLAN University of Cardiff



*Ramblas, Barcelona,
from Allan B Jacobs, Great Streets*



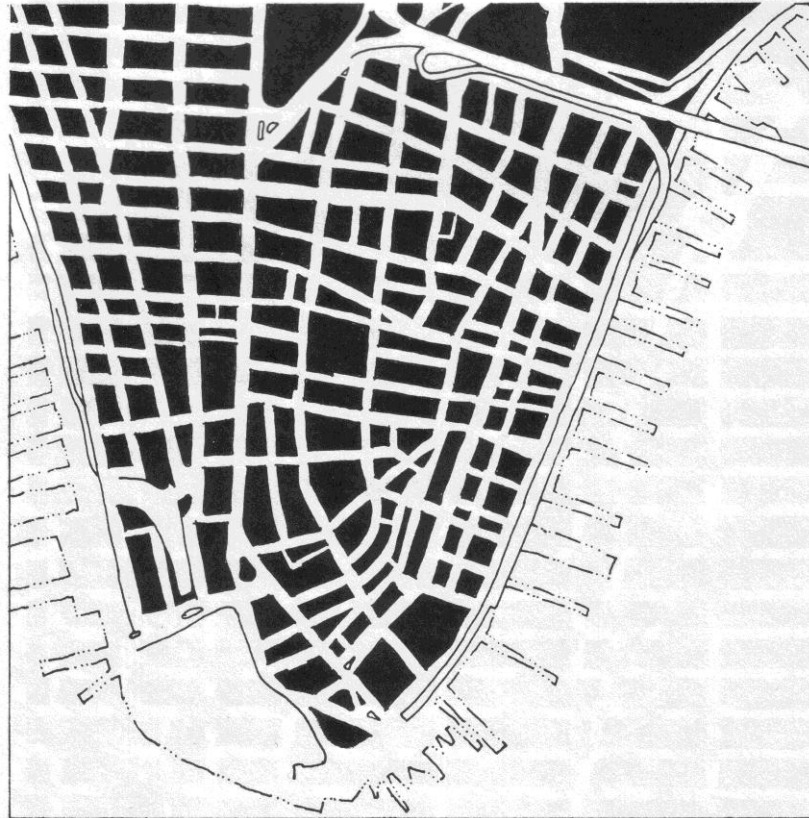
*Cerda's Grid, Barcelona,
from Allan B Jacobs, Great Streets*



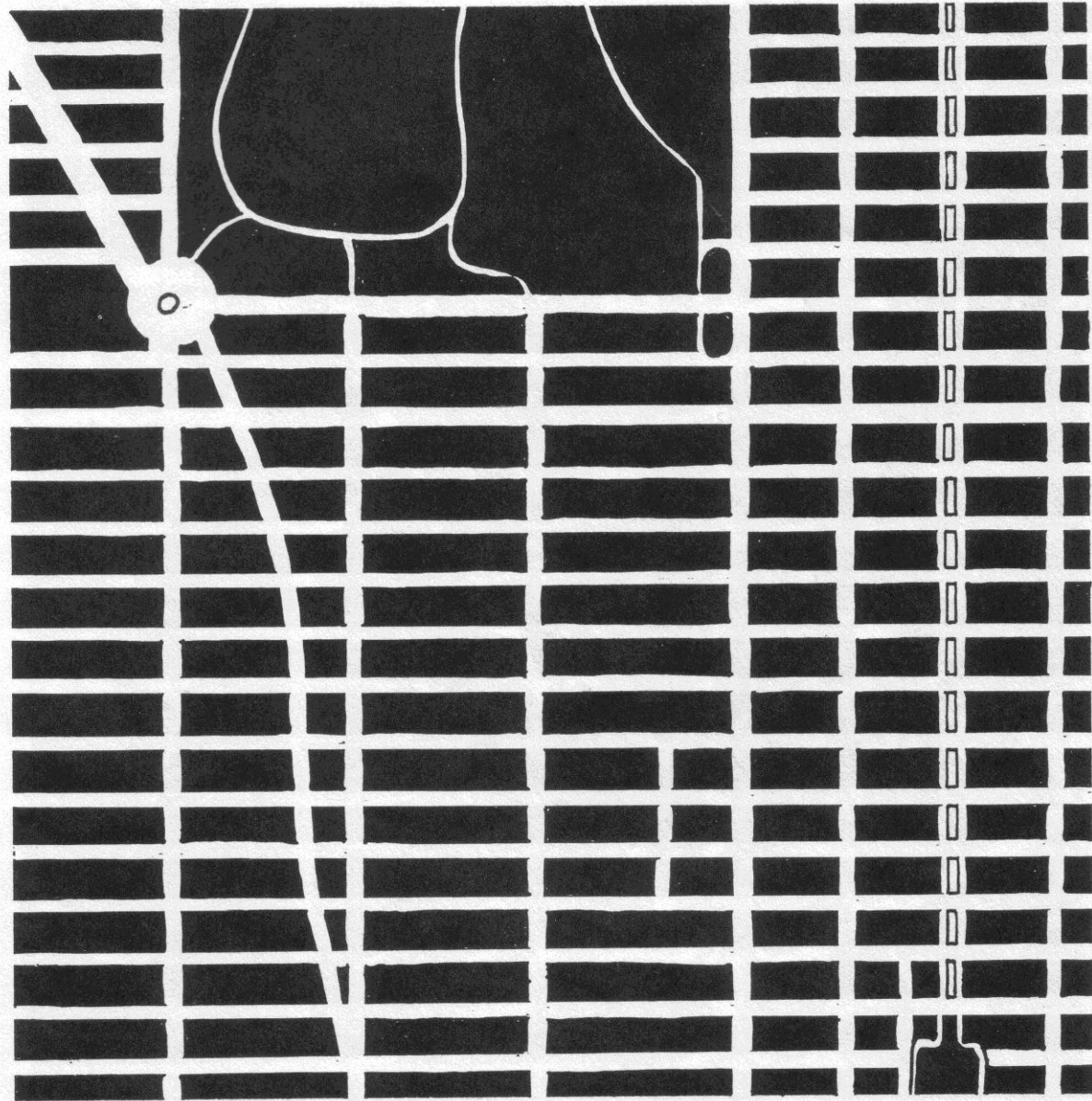
Irvine, CA,
from Allan B Jacobs, *Great Streets*



times. Knowing, in addition, that Venice has over 1,500 intersections, that lower Manhattan has about 220, and that the Irvine business area has 15 gives some dimensions to those differences. In 1989 the mayor of Irvine, interested in having a “downtown” in his city, one that had some street life as well as a mixture of uses that included housing, and supportive of a plan that might achieve such a center, looked at the one-square-mile map of his city next to others of Los Angeles and Santa Monica and San Francisco and said, “Ah, that explains it.”⁴ There are few streets in Irvine upon which a street life might take place.



*Lower Manhattan, NY,
from Allan B Jacobs, Great Streets*

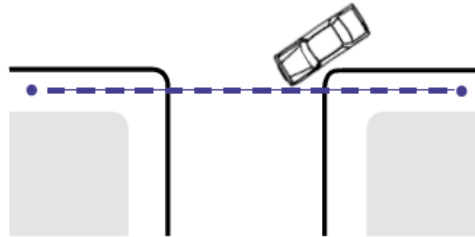


*Midtown Manhattan, NY, (Commissioners Plan
1811, from Allan B Jacobs, Great Streets*

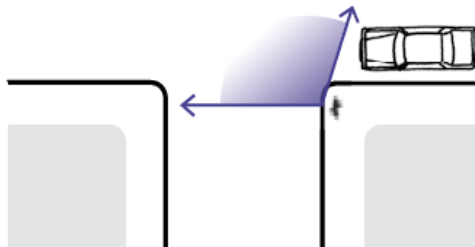
Street users' needs

Corner radii

Small radius (eg. 1 metre)

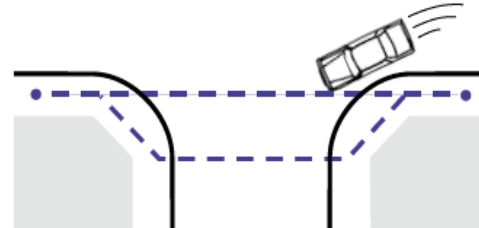


- Pedestrian desire line (---) is maintained.
- Vehicles turn slowly (10 mph – 15 mph).

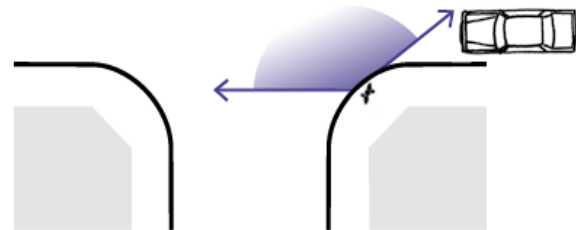


- Pedestrian does not have to look further behind to check for turning vehicles.
- Pedestrian can easily establish priority because vehicles turn slowly.

Large radius (eg. 7 metres)



- Pedestrian desire line deflected.
- Detour required to minimise crossing distance.
- Vehicles turn faster (20 mph – 30 mph).



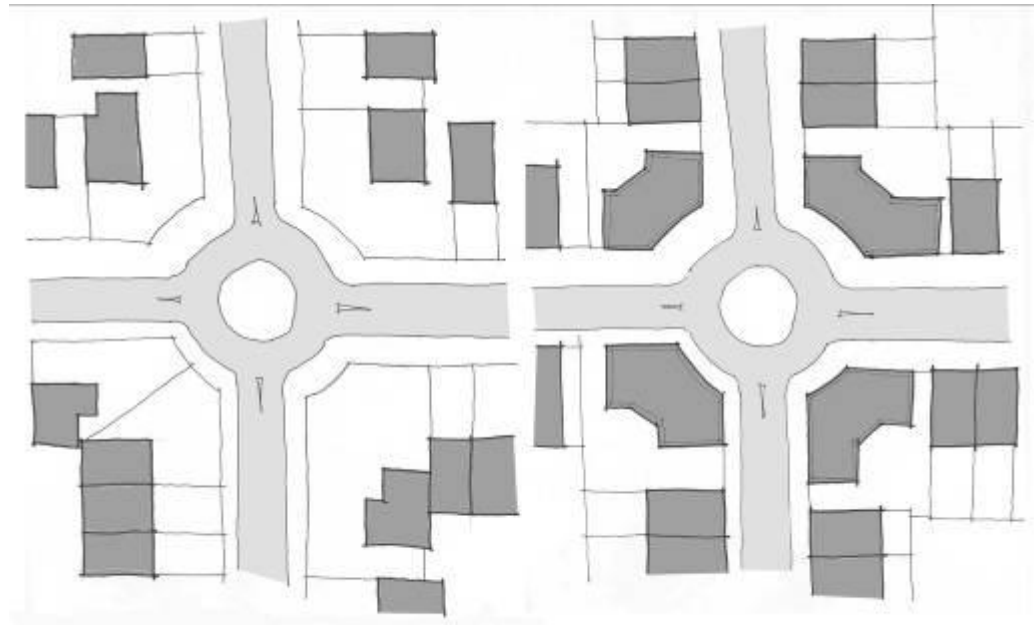
- Pedestrian must look further behind to check for fast turning vehicles.
- Pedestrian cannot normally establish priority against fast turning vehicles.

Devon County Council

Figure 6.3 The effects of corner radii on pedestrians.

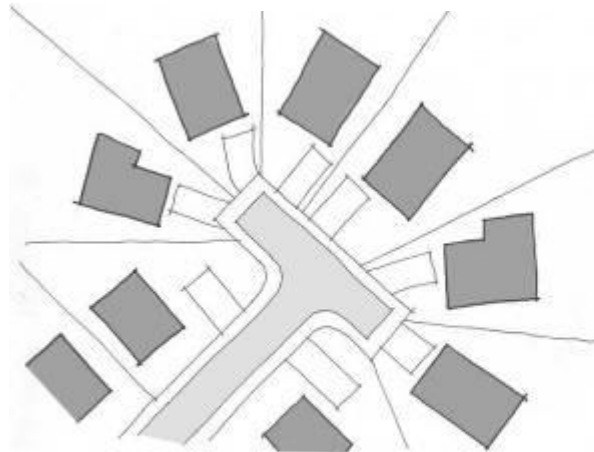


Consider the
role of built
form at
junctions



Weak

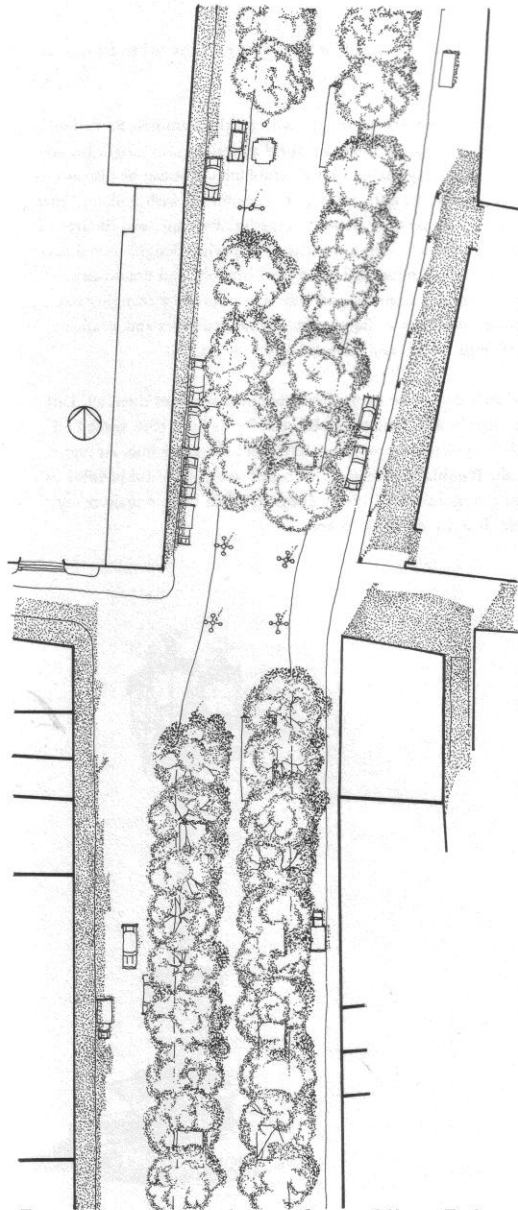
Better



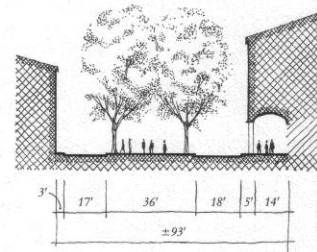
Weak



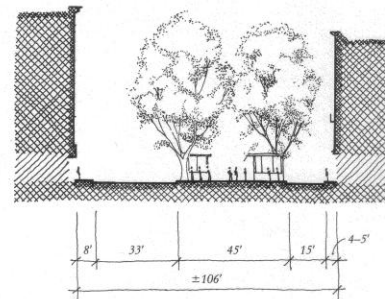
Better



*Ramblas at Carrer dels Tallers:
plan and sections*



Approximate scale: 1" = 50' or 1:600

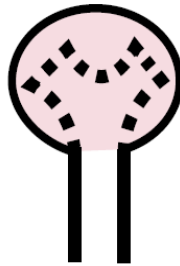
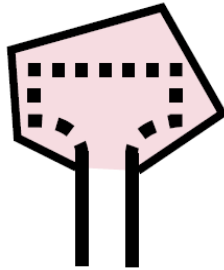
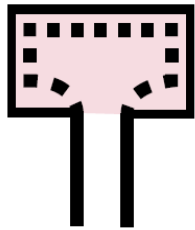
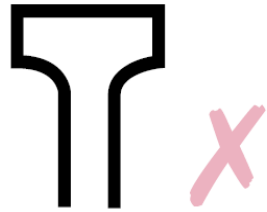


Ramblas, Barcelona, from Allan B Jacobs, Great Streets





From Mike Biddulph CPLAN University of Cardiff



Source: Manual for Streets

Design the space
not the turning head

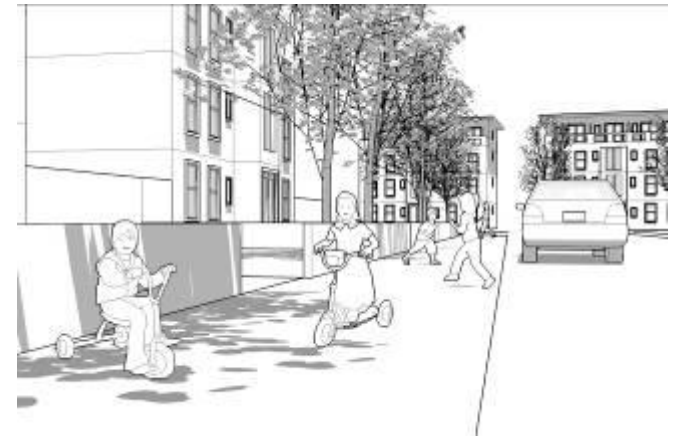
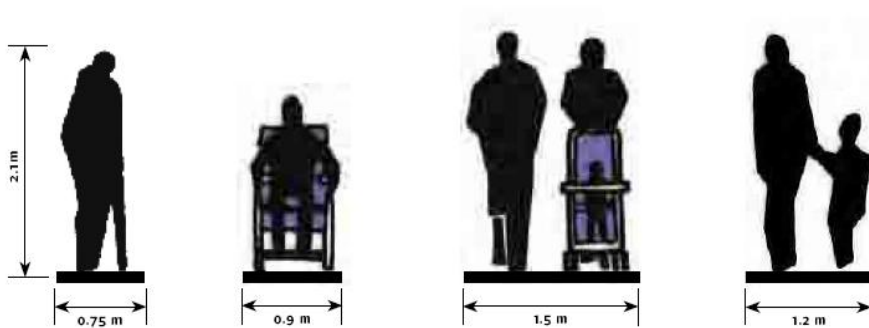


From Mike Biddulph CPLAN University of Cardiff

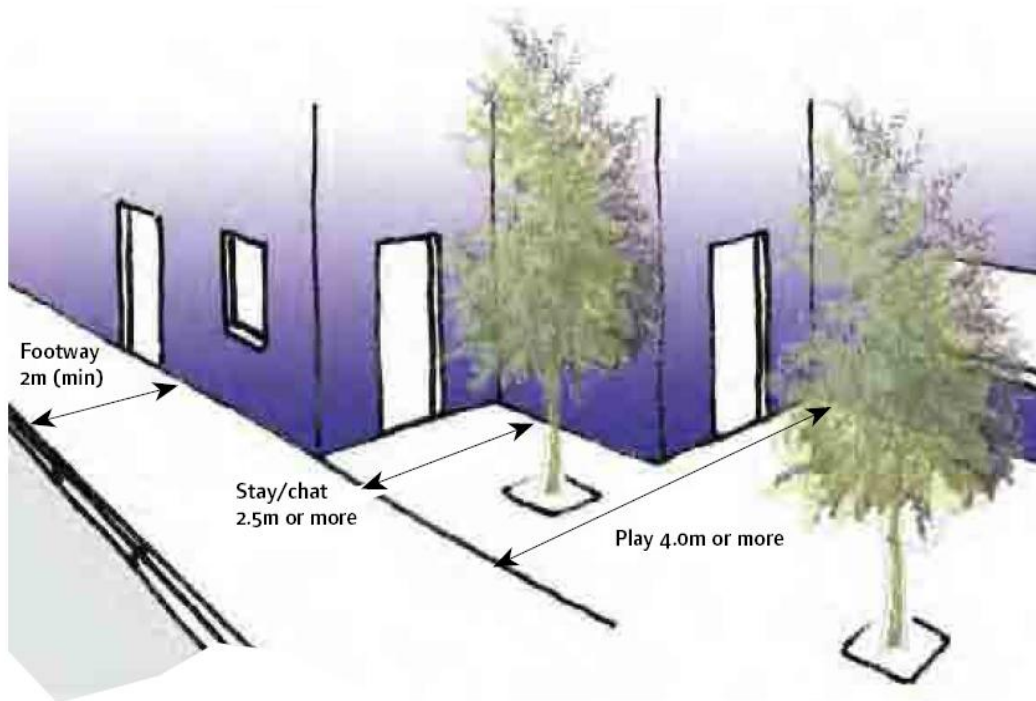
Calming



From Mike Biddulph CPLAN University of Cardiff



browsing, pausing,
socialising, playing



Devon County Council

Figure 6.8 The footway and pedestrian areas provide for a range of functions which can include browsing, pausing, socialising and play.



From MIKE Biddulph CPLAN University of Cardiff

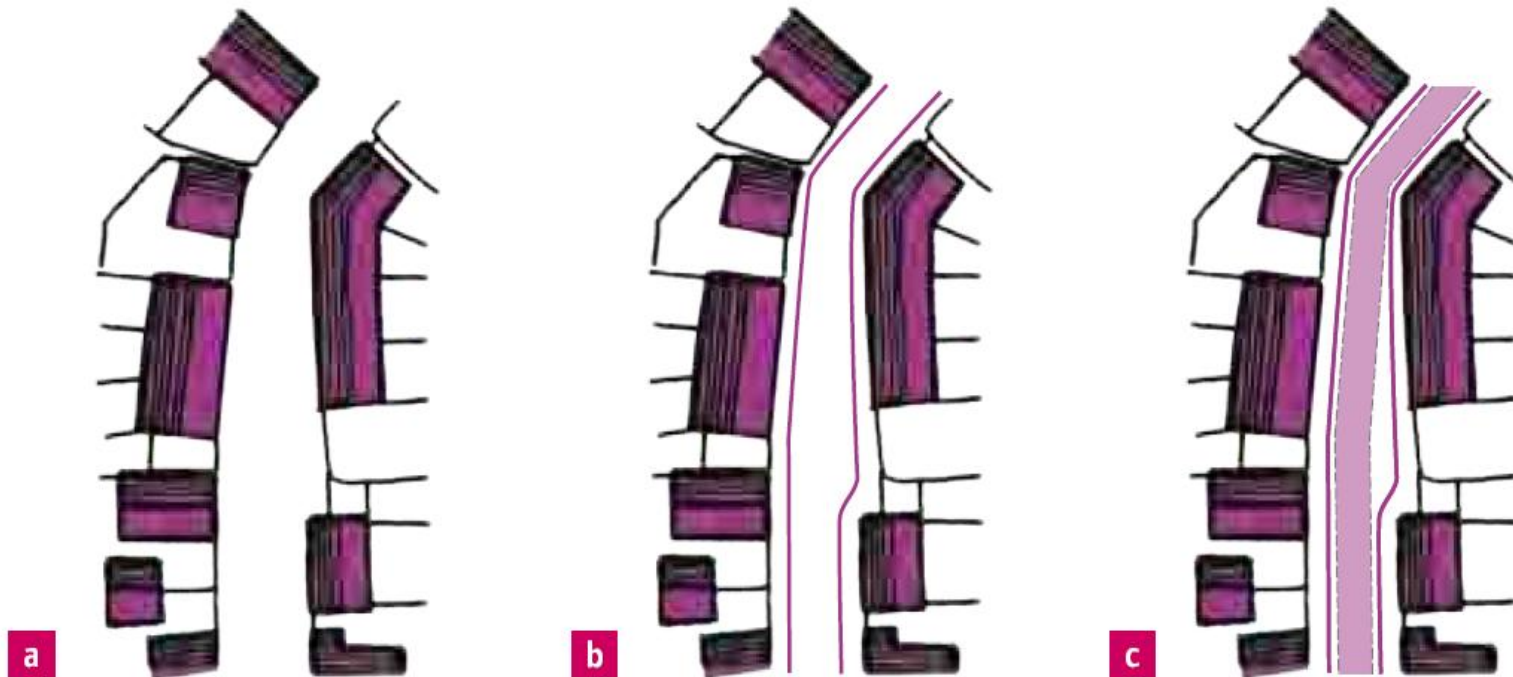




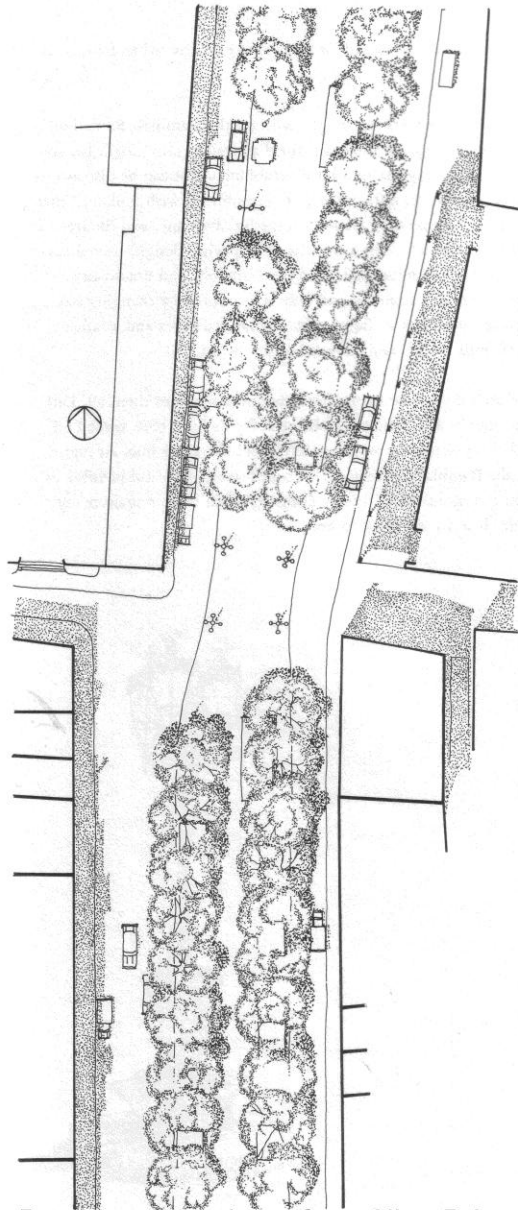


Tracking analysis:

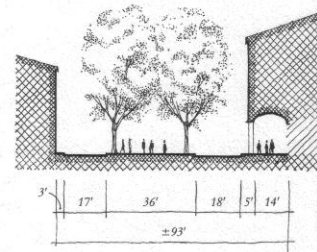
The form of a street and kerb line do not need to follow the vehicle track



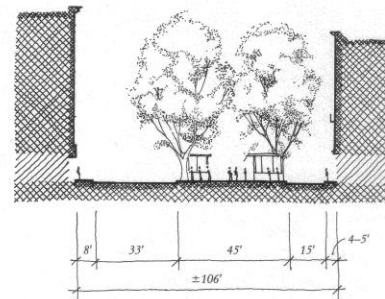
Source: Manual for Streets



*Ramblas at Carrer dels Tallers:
plan and sections*



Approximate scale: 1" = 50' or 1:600



Ramblas, Barcelona, from Allan B Jacobs, Great Streets

Shared surfaces and home zones

The absence of a formal carriageway requires drivers to acknowledge other users of the street



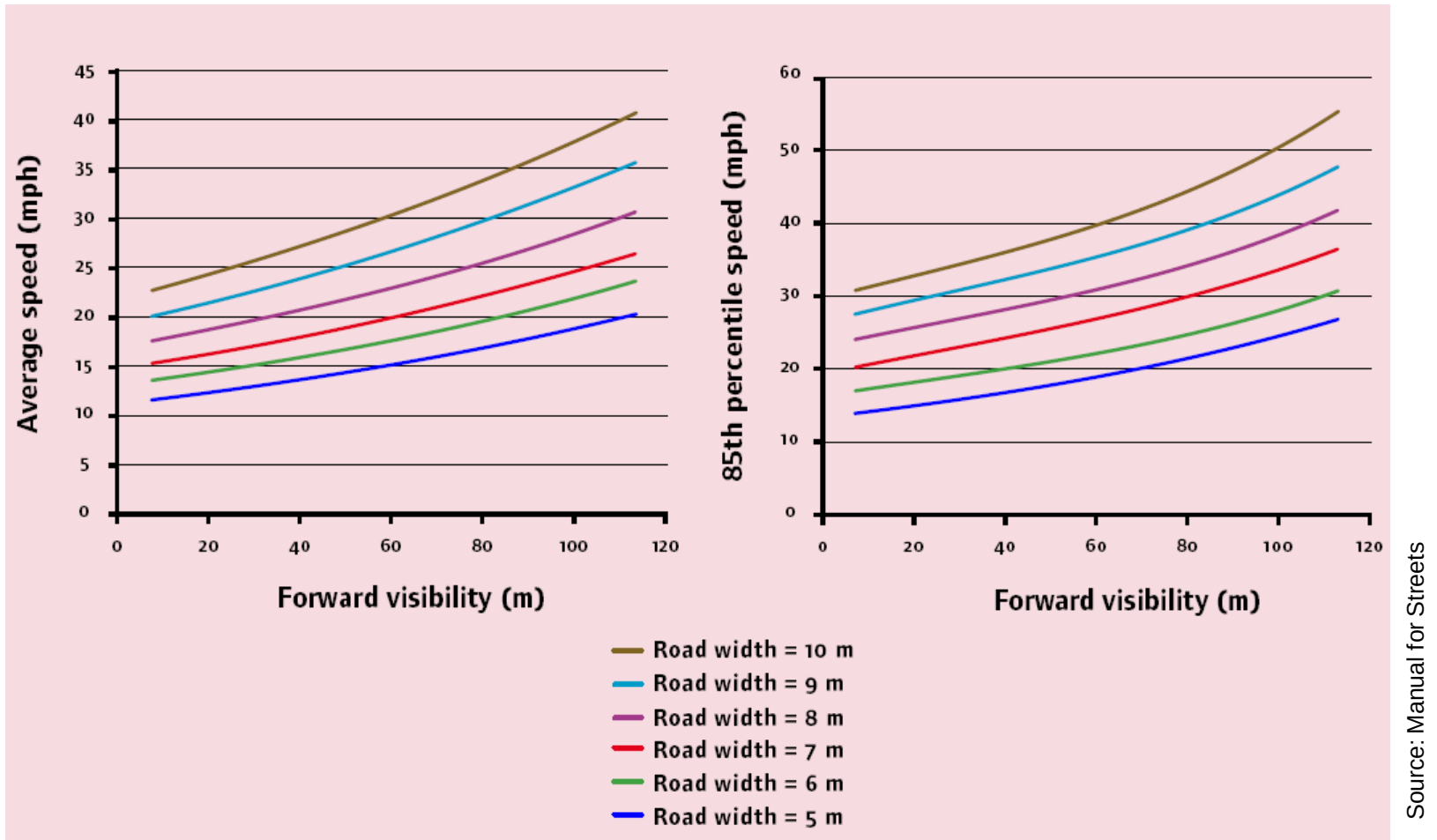
Shared surfaces and home zone



From Mike Biddulph CPLAN University of Cardiff

Geometry and speed:

Limits to forward visibility and highway widths are effective in reducing vehicle speeds



From Mike Biddulph CPLAN University of Cardiff



Parking: section starts with cycling



Parking: on street, courtyard, within the block, garages, on-plot
 From Mike Biddulph, CPLAN University of Cardiff
 The guidance encourages a variety of solutions within schemes

Some final thoughts

The document reinforces positive innovations and trends from across the UK: all the advice has been road tested

The guidance encourages inter-professional working

Strong emphasis on urban design of which highway design is regarded as a significant part





Go to Google Earth

Rambla de Catalunya, Barcelona, from Allan B Jacobs, Great Streets

- A sense of intimacy, despite the wide, almost 100-foot right-of-way, due, at least in part, to narrow sidewalks, narrow auto cartways, bay windows, signs, awnings. There is a great deal in the right-of-way.
- Many attractive stores.
- Each roadway, about 21 feet wide, can handle one parking lane and two moving lanes, though generally there is only one moving lane.
- Buildings are five to seven stories tall.
- Streetlight spacing varies: 45 to 70 feet apart.
- Trees are 21 feet apart.
- The central walkway, with benches, has a planting strip along the curb integrated with trees. This one-meter-wide planting strip stops before intersections and for about 75 feet in the center of the block.
- Cafes under temporary canvas structures are set up along parts of the central walkway during spring and summer.



The Ramblas.

Ramblas, Barcelona, from Allan B Jacobs, Great Streets

