The new approaches

• Building on current good practice – possibly including ‘unauthorised’ innovations
The new approaches

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• Building from previous theory, but updated for today’s needs
The new approaches

• Building on current good practice – possibly including ‘unauthorised’ innovations
• Building from previous theory, but updated for today’s needs
• Retrofitting theory to support current good practice
Background

- Research into street type, road hierarchy and network structure
Background

- Research into street type, road hierarchy and network structure
- Research into arterial streets, street function and classification (ARTISTS project)
Background

• Research into street type, road hierarchy and network structure
• Research into arterial streets, street function and classification
• Further development for application to UK practice (with Peter Jones and Natalya Boujenko)
The problem

• How to resolve conflicts?
The problem

- How to resolve conflicts?
- How to allocate space to different users?
The problem

• How to resolve conflicts?
• How to allocate space to different users?
• How to decide the function of a street?
The problem

• How to resolve conflicts?
• How to allocate space to different users?
• How to decide the function of a street?
• How to decide which design criteria to use?...
The problem

- How to resolve conflicts?
- How to allocate space to different users?
- How to decide the function of a street?
- How to decide which design criteria to use?...
- Which manual to use?
The Schism

Guidance for ‘highways’ / strategic roads
(Design Manual for Roads and Bridges)

Guidance for local residential streets
(Manual for Streets)
The Schism

(1) Design according to different principles?

Guidance for ‘highways’ / strategic roads
(Design Manual for Roads and Bridges)

Guidance for local residential streets
(Manual for Streets)
The Schism

Guidance for
‘highways’ /
strategic roads
(Design Manual
for Roads and
Bridges)

(1) Design according to
different principles?

(2) Where to decide
the dividing line, and
on what basis?

Guidance for local
residential streets
(Manual for
Streets)
The Schism

Guidance for 'highways' / strategic roads
(Design Manual for Roads and Bridges)

(1) Design according to different principles?
(2) Where to decide the dividing line, and on what basis?
(3) No guidance for strategic urban streets e.g. high streets

Guidance for local residential streets
(Manual for Streets)
Street Function & Hierarchy

- Primary Distributor
- District Distributor
- Local Distributor
- Access Road

BUT:
Where do these come from?
Who decides?
Street Function & Hierarchy

- Who decides?
  - The engineer
Street Function & Hierarchy

- Who decides?
  - The engineer

- Where does it come from?
  - We don’t know…
Street Function & Hierarchy

• Who decides?
  - The engineer

• Where does it come from?
  - We don’t know…
  - Inherited from the past…
Street Function & Hierarchy

• Who decides?
  - The engineer

• Where does it come from?
  - We don’t know…
  - Inherited from the past…
  - The Buchanan Report
The Buchanan Report

- Buchanan envisaged pedestrian-friendly streets and precincts within ‘Environmental Areas’
The Buchanan Report

- Buchanan envisaged pedestrian-friendly streets and precincts within ‘Environmental Areas’

BUT

- Some arterial streets to be ‘upgraded’ to expressways
The Buchanan Report

- Buchanan envisaged pedestrian-friendly streets and precincts within ‘Environmental Areas’

BUT

- Some arterial streets to be ‘upgraded’ to expressways

HENCE question remains

- How to decide which streets become which?
Street Function & Hierarchy

NOT based directly on
- Traffic capacity
- Traffic volume
- Traffic speed
- Traffic composition (mode)
- Trip length
- Road standard

59 The principle of the hierarchy of distributors. Access roads are not shown.
Street Function & Hierarchy

IS based on

- Structural role in network

*59 The principle of the hierarchy of distributors. Access roads are not shown.*
Street Function & Hierarchy

IS based on
• Structural role in network...
• Geographical scale of significance...

Strategic

Local

59 The principle of the hierarchy of distributors. Access roads are not shown.
Street Function & Hierarchy

IS based on
• Structural role in network...
• Geographical scale of significance...

Strategic

Local
Street Function & Hierarchy

IS based on
- Structural role in network...
- Geographical scale of significance...

Strategic

Local
Street Function & Hierarchy

IS based on

• Structural role in network...

• Geographical scale of significance (strategic → local)...

• Topological property of ‘arteriality’ – all top tier roads connect up contiguously

(Streets & Patterns)
The Buchanan Report

- Clear, coherent and concise
- Robust and flexible in practice
- Served needs of its day
The Buchanan Report

- Clear, coherent and concise
- Robust and flexible in practice
- Served needs of its day

But

- Now perceived as too transport oriented
Conventional practice

- Geared to movement of private motor traffic
Conventional practice

- Geared to movement of private motor traffic
- ‘Access function’ assumed to be inversely related to the ‘movement function’
Conventional practice

- Geared to movement of private motor traffic
- ‘Access function’ assumed to be inversely related to the ‘movement function’
- Street function primarily determined by transport planners/engineers…
The need for reform

- To address streets as well as ‘roads in urban areas’
- To explicitly recognise the ‘place’ role of streets
- To recognise a wider range of actual street types, including strategic urban streets
The challenge

- Should address the ‘reform’ agenda
- Should be robust and flexible in practice (like the Buchanan approach)
- Should be accepted by transport professionals and urban professionals
The key

• Street ‘function’ is not based on ‘unassailable’ traffic engineering criteria
The key

- Street ‘function’ is not based on ‘unassailable’ traffic engineering criteria
- It is geographical / topological
The key

- Street ‘function’ is not based on ‘unassailable’ traffic engineering criteria
- It is geographical / topological
- It can be related to urban planning criteria for geographical status
The key

- Street ‘function’ is not based on ‘unassailable’ traffic engineering criteria
- It is geographical/topological
- It can be related to urban planning criteria for geographical status
- It is no more or less subjective or ‘political’ than urban planning criteria
Traffic in Towns

- Explicitly roads-oriented (transport professionals)
- Ranking based on geography / topology
- Urban function inverse of traffic function (streets = access roads)
An evolving formulation

Streets & Patterns

• Transport and urban roles are independent – not inversely related
An evolving formulation

Streets & Patterns

- Transport and urban roles are **independent** - not inversely related
- Same units – ranked from strategic to local
An evolving formulation

**Streets & Patterns**

- Transport and urban roles are **independent** – not inversely related
- Same units – ranked from strategic to local
- Transport Professionals + Urban Professionals
An evolving formulation

**Arterial Streets for People**
- Discrete Categories
- Simpler Labelling
- More explicit treatment of
  - Status categorisation
  - Classification process
  - Professional roles
  - Link to streetspace allocation / design

[ARTISTS Classification Table]

<table>
<thead>
<tr>
<th>PLACE STATUS</th>
<th>LOCAL</th>
<th>Neighbourhood</th>
<th>District</th>
<th>City</th>
<th>National</th>
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<td>Ia</td>
<td>Ib</td>
<td>Ic</td>
<td>Id</td>
<td>Ie</td>
</tr>
</tbody>
</table>

**PLACE STATUS**
Trade-off of street-space
Trade-off of street-space
An evolving formulation

**Manual for Streets**

- Movement v Place
- To assist setting objectives
- Relation to ‘street character types’
An evolving formulation

**Link & Place**

- Core of integrated system of street planning and design
- Further more explicit handling of streetspace allocation / design
- Relation to network assessment / design appraisal
Link & Place

Street Planning
• Link / Place Street Classification
• Street Plan
• Strategic Network Assessment

Street Design
• Design Brief
• Area Assessment Techniques
• Design Development
• Link / Place Design Techniques
• Design Appraisal
Three dimensions of integration

- Link role & Place role
Three dimensions of integration

• Link role & Place role
• Network planning → individual street design
Three dimensions of integration

- Link role & Place role
- Network planning → individual street design
- Transport and urban professions
Implications

• New ‘hierarchy’ based on Link and Place
• Guide decisions on allocation of space to different uses/users
• Link status – by transport professionals
• Place status – by urban planners/designers
• Allocation of status is not merely a technical decision but a ‘political’ decision
• Role for input from the public / stakeholders
“Beyond Manual for Streets”?

- Arterial streets (DfT)
- A basis for treatment of all streets and roads (MfS and/or DMRB)
- Integration with principles of ‘Link and Place’
  - Link status (network role)
  - Explicit treatment of place status
  - Explicit role for urban planners/designers in deciding street function
- Public transport
New integrated guidance?

- Learning from latest evidence & best practice (UK and beyond)
- United by a coherent set of theories & concepts
- Inter-professional / multi-disciplinary scope