

Institution: University College London
Unit of Assessment: 14 – Civil and Construction Engineering
Title of case study: A new approach to urban street planning and design
<p>1. Summary of the impact</p> <p>Peter Jones' research developed new principles for urban street planning and design, which have been incorporated into Department for Transport (DfT) and Department for Communities and Local Government (DCLG) national guidelines. The methodology has been used in the Mayor of London's Roads Task Force report; Transport for London (TfL) now requires boroughs to use the classification for all new submissions for funding for street schemes. It underpins the specification of an £650m PFI highway maintenance contract with LB Hounslow, and has been used by other UK local authorities. Internationally, the approach has been applied in Australia and included in draft regulations for urban planning in Beijing.</p>
<p>2. Underpinning research</p> <p>Research by Professor Peter Jones (Professor of Transport and Sustainable Development at UCL since 2005) has looked in detail at the design and operation of urban streets, using video surveys and collecting data on selected objective and subjective performance measures in a number of case studies. This found that urban street design has been dominated by meeting the needs of motorised vehicles, with consequential poor physical street environments that negatively impacted on local economic, social and cultural activity, and has resulted in unattractive public spaces. The underlying problem was identified as being due to the classification of streets purely in terms of their traffic movement functions, thereby ignoring other street user needs. To address this problem, he developed a comprehensive basis for identifying and classifying the various functions of different types of urban streets, recognising that urban streets accommodate a wide range of movement and non-movement activities. The research replaces the one-dimensional vehicle-based street classification with a two-dimensional classification, based on their 'Link' (movement by all modes of transport) and 'Place' (living) functions, and develops a comprehensive set of operational, planning, design and appraisal procedures that build on these principles. Link requirements are defined in terms of the movement needs of all street users (including pedestrians), while Place requirements describe the various economic, social and cultural activities that are to be planned for on and adjacent to the street.</p> <p>Some of the initial conceptual thinking emerged from the EU-funded ARTISTS project (2002 to 2005), involving academics, consultants and city authorities from several European countries, which looked at how urban streets could contribute to more sustainable urban communities. After he moved to UCL in 2005, Jones, together with Dr Stephen Marshall (Reader in Urban Morphology and Planning, at UCL since 2000) developed this abstract thinking into a practical street classification system that was trialled on the Transport for London Road Network (TLRN). A set of planning and design procedures was developed through research and case study applications in London largely funded by Transport for London. In 2007, Jones and Marshall published the detailed guide <i>Link and Place: A guide to street planning and design</i> [1], which was endorsed by Transport for London and the Chartered Institution of Highways and Transportation. Natalya Boujenko, a co-author in this publication, worked for Transport for London, and led the field trials.</p> <p>The Link and Place procedures developed through this research [2,3,5-7] include:</p> <ul style="list-style-type: none"> ▪ Defining requirements for highway construction and maintenance in urban areas, with the Link status determining the carriageway provision, and the Place status the provision and maintenance of the footway and street furniture, plus the street-cleansing regime. ▪ Measuring street performance in a comprehensive way that takes full account of the range of street functions. ▪ Determining the acceptability of the current performance of a street segment, by benchmarking this against appropriate regulatory requirements or comparative levels of performance – recognising that 'acceptable performance' may vary with Link and Place status levels. ▪ Prioritising segments of the street network for improvement, based on shortfalls in current performance and status levels.

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- Comprehensively assessing street design requirements, through detailed consideration of street activities and their space/capacity requirements, at desirable and minimum levels of provision.
- Identifying design objectives and constraints, and formulating these in the preparation of a comprehensive Design Brief.
- Developing a set of design options that meet the requirements set out in the Design Brief, with stakeholder involvement; and
- Appraising design options, in terms of their contribution to addressing the measured shortfalls in street performance, in a cost-effective manner.

For design purposes, the approach defines more precisely sets of user needs and identifies ways in which they might be met through providing different 'street design elements'; it moves away from the notion of a fixed 'road user hierarchy', recognising that priorities vary according to the type of street, and it provided guidelines on how to prioritise among competing user needs in different situations. It has proved particularly successful in engaging stakeholders in street design where space use is contested, bringing together the resident and business communities, alongside local politicians, transport planners, traffic engineers, land use planners and urban designers.

Between 2005 and 2008, Jones participated in the EPSRC-funded DISTILLATE project (co-ordinated through Leeds University), which developed a range of new decision support tools for local transport planning. As part of this, he developed a street design toolkit to help in generating acceptable streetscape design solutions in contentious situations [4, 8].

3. References to the research

- [1] Jones, P., Boujenko, N. and Marshall, S. (2007). *Link and Place: A guide to street planning and design*. Landor publishing, London. ISBN 1 899650 41 5. Available on request.
- [2] Jones, P. and Boujenko, N. (2009). "'Link' and 'Place': A new approach to street planning and design." *Road and Transport Research*, 18(4), pp. 38-48. [Won the John Taplin Best Scientific Paper award at the Australasian Transportation Research Forum Conference, Auckland, September 2009.] http://www.atrf.info/papers/2009/2009_Jones_Boujenko.pdf
- [3] Jones, P. and Boujenko, N. (2011). 'Street planning and Design using 'Link and Place'', *Journeys*, Issue 6, May 2011, pp.7-15. LTA Academy, Land Transport Authority, Singapore. [Invited article] http://www.ltaacademy.gov.sg/doc/J11May-p07Jones_LinkAndPlace.pdf
- [4] Jones, P., Kelly, C., May T., and Cinderby. C. (2009). "Innovative approaches to option generation". *European Journal of Transport and Infrastructure Research*, 9(3), pp. 237-258. http://www.ejtir.tudelft.nl/issues/2009_03/pdf/2009_03_04.pdf
- [5] Jones, P., Boujenko, N. and Marshall, S. (2008). 'A comprehensive approach to planning and designing urban streets.' Paper presented to the European Transport Conference, the Netherlands, October. Available on request.
- [6] Jones, P., Marshall, S. and Boujenko, N. (2008). 'Creating more people-friendly urban streets through 'Link and Place' street planning and design.' *IATSS Special Issue on Aiming for a Better Road Traffic Environment*, 32 (1), pp. 14-25. [Invited contribution from Japanese edited journal] <http://iatss.or.jp/english/research/32-1/pdf/32-1-02.pdf>
- [7] Marshall, S. Jones, P. and Boujenko, N. (2008). Planning streets by 'Link' and 'Place', *Town and Country Planning*, 77 (2), February 2008, pp. 74-79. Available on request.
- [8] Jones, P. and Thoreau, R. 'Involving the public in redesigning urban street layouts in the UK'. Paper to the Urban Streets Symposium, TRB, Seattle, June 2008. [Won a conference award] http://www.civitas.eu/sites/default/files/documents/Background_Paper_Public_Involvement_Jones_Thoreau.pdf

References [1], [2] and [8] best demonstrate the quality of the research.

Research grants: DISTILLATE (GR/S90829/01), £1.37m. Value to UCL from 2005 onwards, £150k.

4. Details of the impact

Use in national guidance documents: The 2010 publication 'Manual for Streets 2, wider application of the principles' [c], which carried ministerial endorsement, looked at the application of Link and Place principles to busier urban streets, and made reference to Link and Place applications. (This publication built on the influential national guidance document on street design: 'Manual for Streets' [Department for Transport and Communities and Local Government, 2007] which incorporated the basic principles of Link and Place.) Link and Place applications are also included in the Irish Department of Transport, Tourism and Sport's 2013 'Design manual for urban roads and streets', and in street design guidance for the South Australia government, which has been used to improve street design in SA urban areas.

Applications by local authorities and regional government: Jones' invited presentations on Link and Place and its potential uses has informed practitioners in the UK and abroad (including Hungary, Switzerland, China, New Zealand, Australia and the USA) and has led to several practical applications by consultants and local authorities. These include:

- West Midlands Red Route team, used in a series of corridor studies between 2009 and 2011
- Belgravia and Mayfair (by the MVA Consultancy); used to assess street function and appropriate design solutions in a study funded by the Grosvenor Estate and Westminster City Council in 2008 [g].
- Staffordshire County Council, as part of a county strategic assessment in 2012
- Galway City Council (by Taylor Young), as part of a strategic review of street network functioning in 2010 [d].
- South Australian Government, as part of a Transport and Public Health strategy in 2012 [a].
- Smart Move Adelaide, the city's 10-year transport and movement strategy, in 2012 [b].
- The Beijing Municipal Institute of City Planning and Design incorporated the approach into draft regulations for urban road space in 2013 (due to come into force in 2014) [m], following the publication of the main 2007 Link and Place report in Chinese in 2012 [e].
- East Staffordshire Borough Council's Town Centre Public Realm Implementation Plan for Burton-on-Trent, published in July 2012 [h], was informed by the methodology and offered a transparent, structured way of defining the street hierarchy and is used by the local authority to inform their strategy and spending on street and public realm improvements (up to £1m a year). It is also used to inform the guidance the council gives to developers as to what they are expected to provide in the public realm, and to what standard, as part of their proposals. [j]

Major UK applications: The first of these, in the London Borough of Hounslow, was as part of an £650m private finance initiative (PFI) to upgrade and maintain the borough's highway network over a 25-year period, starting in early 2013. The local authority needed a transparent method to define standards for highway reconstruction and maintenance, which would be objective and responsive to changing circumstances. The criteria for allocating a particular Link and Place status to each street segment is set out in the PFI contract, so that if circumstances change over the 25-year period, then the status of the relevant street segments will be reassessed, and the maintenance standards adjusted, if necessary. There was a national competition among local authorities to obtain PFI funding, and this novel application of Link and Place was reported by the Council as being one reason why Hounslow was successful in its bid for DfT and Treasury funding [i]. The council confirmed that its first targets had been met: as of 30 June 2013, 432km of streets and footways had been rehabilitated (15.4% of the total); 7.5% of street lighting replaced with LED and centralised control; and 8 bridges restored to meet load-carrying requirements [l].

The second application is in relation to a new strategic assessment of the future role of the London road network, initiated by the Mayor of London in autumn 2012. Jones worked on an independent Roads Task Force, comprising stakeholders representing different transport mode and business interests, plus NGOs and local authorities, to use a modified version of the Link and Place approach (in the form of a family of 'street types' based around 'Moving and Place' street functions), recognising that there is a diverse range of streets which perform different functions, and that priorities and appropriate design solutions will therefore vary across the network. TfL has said this allowed for a much more sophisticated approach to analysing and planning investment than the traditional road user hierarchy [k]. The RTF report was published in July 2013, with the 'Moving and Place' classification of streets being a core element [f]. It was warmly welcomed by a

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broad range of stakeholders, including the London boroughs [k]. TfL now requires that boroughs use this street classification when submitting funding bids for new schemes to TfL, though the LIP (Local Implementation Plan) process. The director of London Councils, which represents London's boroughs, confirms that the approach is already being used, with a £3m scheme to upgrade the street environment in Hornchurch completed in June 2013. In Bexleyheath, the balance between competing needs has been recognised in the planning process. [k]

Public engagement in street planning: Jones recognised the potential of the broader formulation of streets as providing a basis for carrying out more effective and consensual public engagement activities, since it explicitly recognises the legitimate interests of all street users groups, not simply motor vehicle drivers. In 2007-08, the street design toolkit he developed in the DISTILLATE project was applied in two exercises in the West Midlands (Bloxwich and Coventry), where the public had strongly objected to design proposals put forward by the local councils, which were then withdrawn. In both cases, new designs were generated by local stakeholders that were subsequently implemented with high levels of public and business support, and minimal objection [see outputs 8 and 4, pp. 250-252]. In 2008 Walsall Council commissioned UCL to provide two sets of the toolkit for their own use, in subsequent complex street design contexts.

Provision of training to urban planners: Jones has been invited to run various training events to explain the principles of Link and Place and its derivations to urban planners. In 2013 this has included sessions for Urban Design London (with 80+ London borough representatives, TfL staff and consultants in attendance), and as part of a training programme for engineers and planners from the UAE, organised by PTRC – the training arm of the Chartered Institute of Logistics and Transport.

5. Sources to corroborate the impact

- [a] Boujenko, N., Morris, P. and Jones, P. (2012). *Streets for People: Compendium for South Australian Practice*. Government of South Australia and Heart Foundation. ISBN: 978-1-74243-329-5. <http://bit.ly/streetsforpeople> See especially pp. 13-22 and thereafter.
- [b] Use of movement and place, Smart Move Adelaide, 2012, pp.18-27 <http://bit.ly/smartadelaide>
- [c] Chartered Institution of Highways and Transportation (2010). 'Manual for Streets 2: Wider application of the principles', London. ISBN: 978-0-902933-43-9. See especially pp. 13 and 14, and rest of Chapter 2. Available on request.
- [d] Galway City Council and Galway County Council (2010). 'Draft Galway City and Environs Walking and Cycling Strategy', October. <http://bit.ly/galwaycc>
- [e] Jones, P., Boujenko, N. and Marshall, S. (2012). *Link and Place: A guide to street planning and design*. Chinese language version. ISBN: 978-7-112-13806-7. Available on request.
- [f] Roads Task Force (2013). 'The vision and direction for London's streets and roads'. Transport for London, July 2013. See especially pp. 82-99. Available from: <http://www.tfl.gov.uk/corporate/projectsandschemes/28187.aspx>
- [g] Simon Adams and David Hampton [MVA Consultancy] (2008): 'Movement and social space in Mayfair and Belgravia'. Available on request.
- [h] Burton upon Trent Town Centre Public Realm Implementation Plan, pp.25-35 bit.ly/burtonIP
- [i] A statement from the Director of Planning at TfL confirms the benefits of the link and place approach for the Roads Task Force, and that TfL requires the use of the approach in boroughs' local implementation plans. Available on request.
- [j] A statement from a landscape architect at IBI Taylor Young, involved in the Burton plan, confirms the benefits of the council's adoption of the methodology. Available on request.
- [k] A statement from the Corporate Services Director, London Councils, confirms the positive reception for the Roads Task Force report and the use of Link and Place in Hornchurch and Bexleyheath. Available on request.
- [l] A letter from the London Borough of Hounslow confirms the details of the Highway Maintenance programme. Available on request.
- [m] A statement from a Seniro Engineer at the Beijing Transportation Research Centre confirms the use of the approach in Beijing's draft regulations. Translated copy available on request.