

Completing the Street : Rethinking How We Design Roads ?

Bronwyn Coomer-Smit

HOW THINGS WERE: THE GOOD OLD DAYS?



HOW DID WE GET HERE: PROGRESS?

In the middle of the 20th century motor vehicles became common and two ideas came to dominate thinking around the planning and design of roads.

1. "The role of roads is to facilitate fast journey times for cars." This was in terms of not only the geometric design of the roadway and signage but also the operation of traffic signals, with all being focused around 'efficient' and often fast movement of vehicles.
2. "The mixing of vehicular traffic and pedestrians is inherently dangerous" and ideally pedestrians should be kept separate and 'safe'.

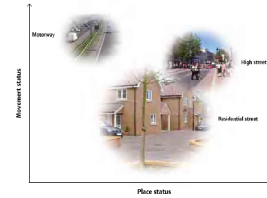
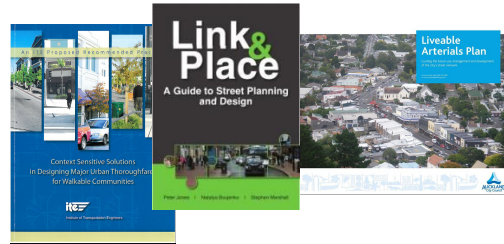


This thinking has resulted in road design elements that give **dominance to vehicles** often at the expense of other road users. Examples include free left turns for vehicles, increased turning radii at intersections, wider and more traffic lanes, more green time and phases at traffic signals allocated to vehicles.



This in turn has led to urban roads dividing neighbourhoods, creating sterile environments and increasing speeds which result in unsafe conditions for all road users. The introduction of regulation and enforcement has tried to compensate for this. Why do we have a speed limit of 50 km/hr on a road which has been designed to allow us to easily travel at 80 km/hr?

PLANNING AND DESIGNING STREETS IN CONTEXT



As a reaction to the outcomes of traditional or conventional road design philosophy, there has been a shift towards questioning the effectiveness of this process in delivering sustainable transport outcomes. This has resulted in a view that this thinking needs to be replaced, or at least complemented by a new street design philosophy.

This philosophy needs to include a process whereby the interaction of the **transport/movement function** for all users and the **adjacent land use/place function** within the corridor is taken into account. In other words the **context of the street** is recognised in planning and design.

DESIGNING BEYOND THE PAVEMENT

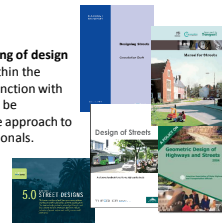
In order for the complete street design philosophy to be truly effective and successful we need to start doing things differently. A few ideas ?

Transport **policies, procedures and design processes** should focus to serve all users of transport. This means that all transport modes need to be considered equally within the context of the road environment, during all stages of the project from scoping to implementation.

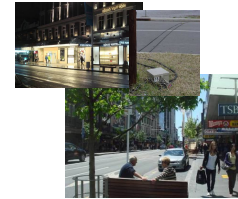


Policies and design processes should lead to the **rewriting of design manuals and guidelines**. The thinking encapsulated within the notion of completing the street should be used in conjunction with existing standards and guidelines. Some standards may be challenged and a much more inclusive and collaborative approach to the design of road corridors is required from all professionals.

"Sufficient flexibility is permitted to encourage independent designs tailored to particular situations" AASTHO Geometric Design Manual 2004



Creating a truly integrated design by complementing the standard output of traditional road design with a **three dimensional design**, including all aspects of the design within the area adjacent to the roadway and the adjacent landuse. This three dimensional design has the ability to assist with the safety audit process and can also be used to undertake an urban design audit of the transport project.



With the complete street design philosophy we need to implement different ways of **monitoring and tracking the outcomes**. We need to measure the success of a project in serving all users and the community. This can be around safety of all transport modes, multi modal level of service standards as well as community, environmental and economic outcomes.

COMPLETING THE STREET

One of the biggest challenges facing road designers is the retrofitting of existing urban arterial routes as these roads tend to be the most hostile towards cyclists, pedestrians and bus passengers. Completing an urban arterial street must deal with **controlling vehicular speeds and providing for all users. A few examples of success.**



Narrower traffic lanes (3.0m in urban areas)



Elimination of "free" left turn lanes at intersections



Retain kerb parking (especially through town centres and main streets)



Supporting public transport



Tightening kerb radii to the minimum needed



Treating stormwater in the road reserve



Introduction of raised medians



Kerb extensions in conjunction with on street parking



Use of shared road space for pedestrians and vehicles



Rethinking pedestrian and cycle provisions



"We shape our communities, and then they shape us" – Winston Churchill