THE PEMULWUY PROJECT

Aboriginal Housing Company

MOVEMENT INFRASTRUCTURE REPORT

Preliminary Findings

27 October 2007

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Report reference:
7090_Space_Syntax_Report_Preliminary Findings
01_221007.pdf

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22 October 2007

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REALISING ECONOMIC AND SOCIAL POTENTIAL IN URBAN REGENERATION

This preliminary qualitative Report discusses cities and buildings, and outlines economic, social and urban safety criteria for the proposed redevelopment of the "Block". It considers a range of issues from the spatial organisation of the residential building to how the Pemulwuy Project might complement other redevelopment projects in the Redfern Waterloo area. The Report is a precursor to a quantitative analysis, assessment and strategic design Report.

To help solve the complex problem of regenerating neglected urban areas, it is important to use evidence rather than conjecture when assessing the likely economic and social performance of new developments. When viewed from this perspective, cities have two main functions. In ***urban centres***, the spatial layout of streets is shaped to generate movement and encounters between people, producing activity and trade, whereas in ***residential areas*** movement and activity are more controlled for safety reasons.

When urban centres are structured with accessible layouts, they work well because they naturally generate pedestrian and vehicular movement for easy access to many facilities. Movement-seeking land uses, like retail and commercial, migrate to movement-rich streets, producing economic multiplier effects, which attract even more building uses. Urban layouts that accommodate greater densities and more diverse land uses, build self-generating urban centres. The process is called the ***movement economy*** - a dynamic relationship between the spatial accessibility of urban layouts, pedestrian and vehicular movement, and the distribution of land uses.

Spatial accessibility is the ability and degree of ease that people and vehicles have when moving around urban environments. Block size, building form, character, connectivity and directness - all contribute to spatial accessibility. Although it is often easy to determine accessibility from a single given location to any other (we often do this in our head when giving directions), it becomes extremely difficult to determine accessibility from tens of thousands of different origins and destinations, as is the case in real urban environments.

Space Syntax research and applications throughout the world have found that despite the wide range of origins and destinations within cities, there are relatively stable movement patterns. The

pattern of journeys used by most people, most of the time, is relatively tractable and predictable. When viewed from this perspective, the evidence is clear that what is most important is not the specific origin and destination, but the character and patterns of the journeys themselves – the ***movement infrastructure***.

When spatial accessibility, movement patterns and land uses do not correspond with each other, then economically unsustainable, anti-social environments emerge. Poorly laid out, fragmented developments fail to realise their economic potential, social networks fail to cohere and property assets become under-used or abused through lack of access causing public safety problems.

The foundation stone for prosperous urban centres is a well-populated public realm – particularly its pedestrian movement infrastructure. Public and private transport networks are additional means by which more distant pedestrians are delivered to an urban centre for access to its facilities. Spatially integrating urban facilities with a highly accessible public realm produces the key ***economic multiplier effects*** that were once prevalent in cities.

Attractor buildings

Around the world, many developments in urban regeneration projects produce a collection of "attractor buildings" which have little regard for their urban layout, in the belief that attractors by themselves will generate sufficient levels of pedestrian movement for economic sustainability. The critical question for sustainable urban performance is how will the street system function with the right amount of pedestrian and vehicular movement to enable attractor buildings to achieve their full economic and social potential so that urban areas can self-generate and viable local neighbourhoods can be built?

URBAN SAFETY - Pemulwuy's residential development

The task for the Pemulwuy Project is to build a new viable and safe community in Redfern Waterloo. The residential component will house sixty-two families. The spatial organisation detailed in the architect's concept plans shows that the development will have six, three storied buildings, arranged around a series of private gardens, forming a single block bounded by Eveleigh, Louis, Caroline and Vine Streets. Along Eveleigh and Louis Streets, there will be three ground floor unit entrances with direct street access. For all other residences, access will be recessed from the street through gated courtyards next to the direct entrances. There will be no access to the residences from Caroline and Vine Streets where a Sports/Health Centre and an Elders' Centre will be located. (**Figure 1**)

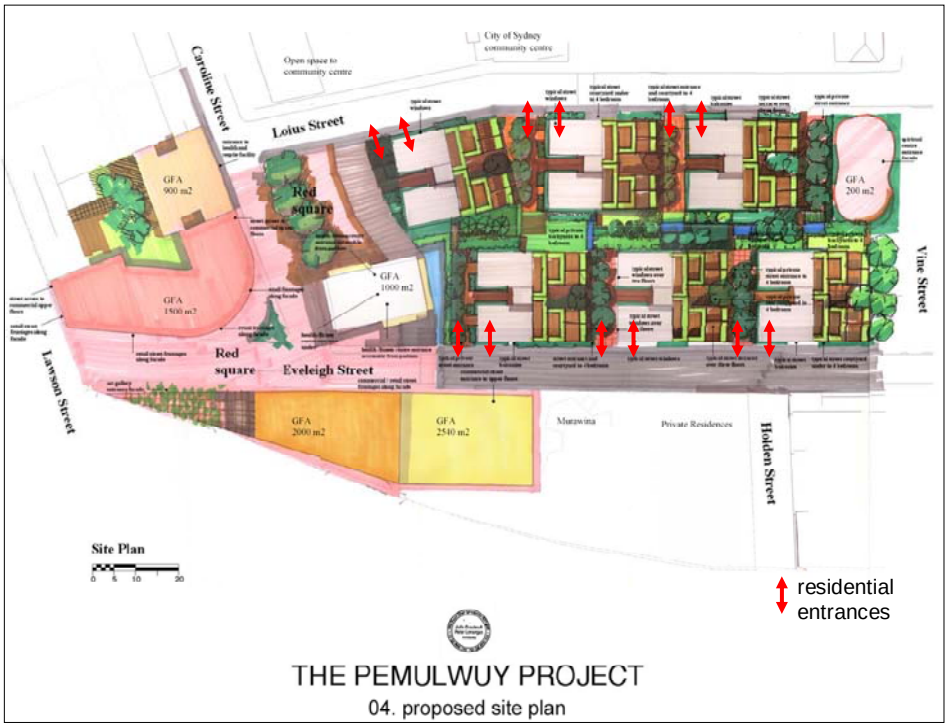

Figure 1: Red arrows show locations of residential entrances to the streets. (NOTE: Refer to October architectural drawings for latest layouts)

Natural surveillance occurs when inhabitants are able to "police" strangers in streets by having direct ***visual and physical*** access from building entrances to those streets. Simply over-looking strangers in streets from building windows alone is ineffective. The existing urban safety of Eveleigh and Louis Streets will be improved when both streets are made functionally accessible to the new entrances. Natural surveillance in Caroline and Vine Streets will be determined by the number of people visiting the Sports/Health and Elders' Centres, the location of building entrances and increased of pedestrian throughfareness.

ECONOMIC AND SOCIAL SUSTAINABILITY - Pemulwuy's public buildings

The non-residential component, the public dimension of the Project proposes some cultural, retail and commercial buildings. They will be located adjacent to the proposed Civic Square, and in Lawson, Eveleigh, Caroline and Vine Streets, and include an Aboriginal Arts Market. (**Figure 2**) These buildings alone will act as "attractors" and generate pedestrian activity.

However, except for Lawson Street, the local streets in the immediate area to the "Block" have very low pedestrian ***through-movement***. Passer-by movement, or through movement, is vitally important for the success of these public developments. To help maximise their economic and social sustainability, these buildings should be well-integrated with an improved movement infrastructure. Along with other developments in the Redfern Waterloo area, a more efficient movement infrastructure would naturally generate appropriate levels of pedestrian movement, improve commercial success, social vitality and help build a local ***movement economy***.

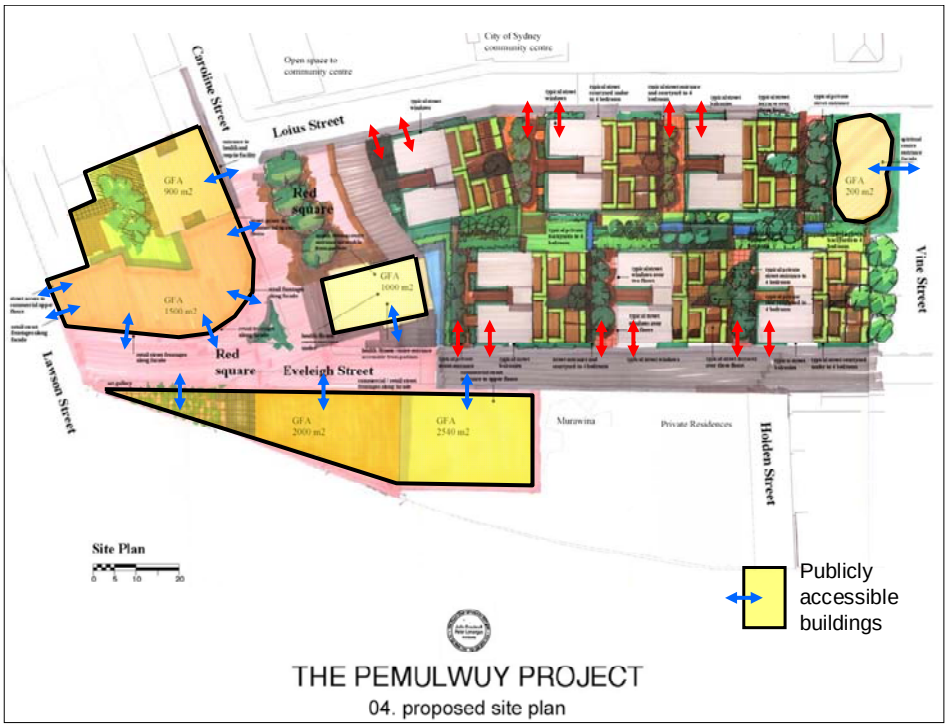

Figure 2: Blue arrows to yellow buildings show locations of public entrances to proposed commercial buildings. (NOTE: Refer to October architectural drawings for latest layouts)

HOW THE PEMULWUY PROJECT WOULD COMPLEMENT REDFERN WATERLOO

Low movement levels also occur in the larger area that contains the “Block”, and reinforce its character as a social enclave. That area is bounded by Lawson, Abercrombie and Cleveland Streets, and the railway corridor. (**Figure 3**) The enclave effect happens: (i) partly owing to spatial segregation resulting from poor traffic management conditions along Cleveland Street which makes the street a barrier for easy pedestrian movement north and south; (ii) partly owing to the general inaccessibility of the urban layout; and (iii) partly owing to the reputation, perceived or otherwise, for lack of urban safety around the “Block”.

Figure 3: Pink dotted line shows the immediate local urban area surrounding Pemulwuy (residential buildings in red and public buildings in yellow).

Under-performing buildings, which happen when there is low pedestrian movement, will diminish the “Block’s” reputation as a functioning part the local Redfern community. Good levels of pedestrian movement occur along Lawson Street, a route between Redfern Station and Sydney University. If Eveleigh Street was to become an equally well-used route, then both the residential safety and commercial viability components of the Project would significantly increase. The key is to capitalise on the potential for the whole area to attract distant as well as local pedestrians.

One suggestion to increase pedestrian levels is to develop part of the Pemulwuy Project as a pre-eminent Aboriginal Arts Centre for Sydney which might attract international visitors (after the Opera House and the Harbour Bridge). However for Pemulwuy to maximise its full economic and social potential, and also to eliminate the poor safety of the area, the Project’s public buildings should be spatially integrated with a well-used street and public space network.

HOW REDFERN WATERLOO WOULD COMPLEMENT THE PEMULWUY PROJECT

Greater mutual benefit would be realised if the neighbouring Redfern Waterloo developments were designed to be inter-accessible with each other, as well as Pemulwuy Project. They include: Eveleigh Station and Australia Technology Park to the south; Sydney University to the west; CUB site to the north; and the Redfern Street development to the west. (**Figure 4**)

Easily navigable routes that encourage thoroughfare pedestrian movement will improve the functional performance of the Redfern Waterloo area, as well as maximise the performance of the new attractions. It is important not to build fragmented, poorly laid out, separate projects which would economically “turn their backs” on the local area. Such developments would leave a legacy of a collection of underperforming projects, much like Darling Harbour and Olympic Park, where external financial support is needed.

While the Pemulwuy Project will work moderately well as it is designed, the critical point is to ensure that the surrounding projects are properly integrated with it and with an improved movement infrastructure.

Figure 4: Major proposed attractor projects (in blue) that would affect the movement patterns around Pemulwuy (in red and yellow).

HOW ECONOMIC POTENTIAL WOULD BE UNLOCKED IN REDFERN WATERLOO

The Pemulwuy Project lies at the heart of a potentially powerful movement infrastructure that would encompass the Redfern Waterloo Authority projects and the CUB redevelopment. (**Figure 5**) The urban integration of these neighbouring projects with the "Block" would directly improve Pemulwuy's economic and social sustainability, as well as improve its urban safety. A strategically designed movement infrastructure for the whole area would unlock its economic and social potential. This would enable all developments to work in concert for their mutual prosperity by producing a self-generating ***movement economy*** that functions without relying on external financial support.

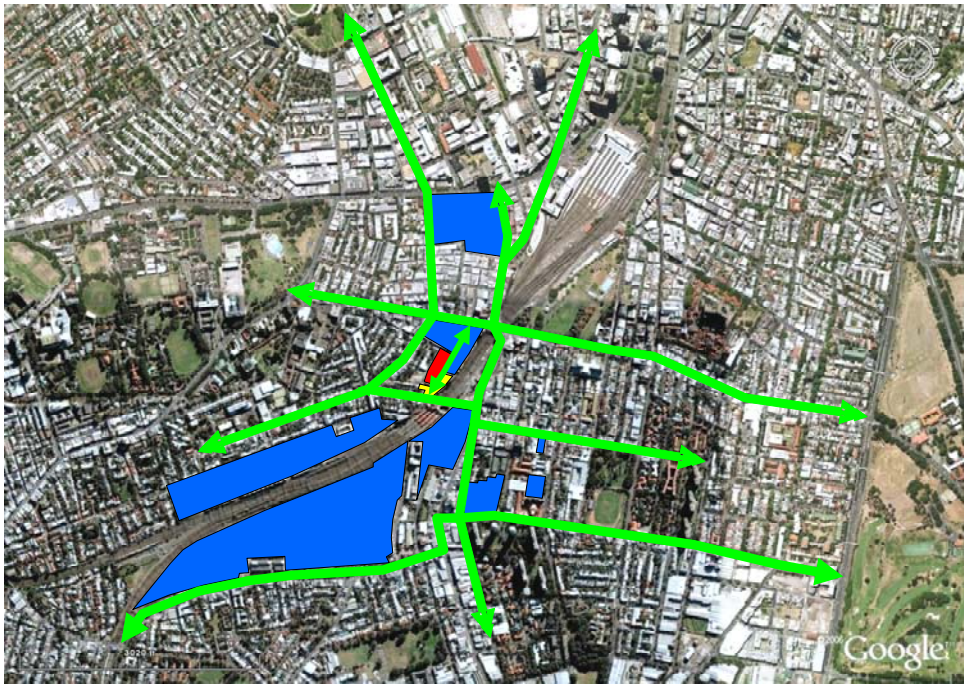

Figure 5: Thoroughfare movement patterns (in green) are crucial to improve the economic performance and urban safety for the Pemulwuy Project (in red and yellow).

In many complex urban regeneration projects, if there is a reliance on conjecture rather than evidence to determine the built form, the likely result will be a series of well-intended but fragmented attractor-only developments. Under-performance and under-use in such urban regeneration projects tends to limit investment return for both the public and private sectors.

A more economically sustainable approach to urban regeneration has been used by the Parramatta City Council where Space Syntax produced advice for significantly improving the proposed $1.4 billion Civic Place redevelopment. Analysis of the proposed design showed that it would improve the existing Civic Place pedestrian movement potential by 27%. However our strategic design recommendation showed how to improve the existing urban condition by 200%. An initial financial implication would suggest that investment return might be increased by one and a half to two times the original expectation.