



A NEW ANGLE ON REGIONAL INFRASTRUCTURE

***Commentary on Regional Infrastructure:
New Economic Development Opportunities for the Hunter,
Illawarra and Western Sydney Regions***

Narelle Kennedy and David Forman

May 2003

A NEW ANGLE ON REGIONAL INFRASTRUCTURE

The old axiom holds that those who don't remember the past are doomed to repeat it.

It is a contention based on the other well-worn notion that history repeats itself.

But equally, it could be contended that those who don't understand the past are condemned to misunderstand the present and the future. The economies of the world, Australian and regions, have all undergone profound changes in the past 30 years. How could the relative strengths, weaknesses and alternative growth options for each be properly assessed outside of the context of where they have come from?

The Australian Business Foundation has something new to say about some of Australia's oldest regions.

Western Sydney, the Illawarra and the Hunter are as old as Australia's first colonial settlements. Parramatta, settled in 1788 shortly after Sydney Cove, pioneered much of the colony's agriculture and economic endeavours and for a time was the main administrative centre. The first Europeans to enter the Illawarra were George Bass and Matthew Flinders in 1796 in the 'Tom Thumb' opening up a fertile and resource-rich district. The Hunter, named after the Governor in 1797, became an early industrial stronghold.

As well as a rich indigenous history dating back many thousands of years, Western Sydney, the Illawarra and the Hunter pioneered Australia's industrial age.

The Australian Business Foundation recognised that one of the legacies of these pioneering regions was their strong investment in infrastructure underpinning their industrial base and patterns of community development.

Given the massive economic and social transformation and adjustments being experienced by these established industrial regions over the last two or three decades, we wondered if this past infrastructure investment could be put to better use for their future economic prosperity.

The end game was to discover how these "old economy" regions could capitalise on their sunk infrastructure to capture their fair share of high growth jobs and industries in today's faster, harsher and increasingly globalised business environment.

A new road for old regions

The group of infrastructure experts and stakeholders assembled to put their minds to this task concentrated not on technical assessments of infrastructure performance and gaps in the regions, but on the "political economy" of infrastructure.

High on their agenda for fixing infrastructure to secure better economic outcomes for established industrial regions were issues like:

- Regional identity and control of infrastructure choices.
- New and better ways of paying for and managing infrastructure.
- The mismatch between local community expectations and processes for political and bureaucratic decision making.

They came down in favour of four key areas for action:

- Investment in 'knowledge' infrastructure, like technology parks, industry clusters and education/business linkages that turn regions into hubs of high performance industries.
- Attention to infrastructure that connects people and places in and between regions, particularly transport and telecommunications, because of their role in stronger business and economic performance.
- Better and more imaginative alignment of State and regional responsibilities for infrastructure planning and use.
- Actions to build more effective partnerships between the public and private sectors for managing and financing infrastructure.

You can find the full story of the Australian Business Foundation's action research project on regional infrastructure in the publication, *Regional Infrastructure. New Economic Development Opportunities for the Hunter, Illawarra and Western Sydney Regions*. (see www.abfoundation.com.au).

What's different?

So, what's different about this work, and why should we sit up and take notice?

Underpinning it is a perspective on regional economies and their infrastructure needs that reflects the impact of the revolutionary changes we have seen in the world economy.

The brief history of the regions described above gives a clue to the most important change. Regional economies 150 years ago had to be largely self-sustaining, with one or at best, two industrial sectors that could be considered integrated into national and international markets.

While infrastructure in that environment had to connect to the wider economy, it primarily was focused on the needs of the regional economy and community. In other words, in a time when the tyranny of distance defined the Australian experience, regions were first and foremost inwardly focused communities satisfying their own basic economic needs.

Today, the tyranny of distance is perhaps more accurately described as the inconvenience or comparative disadvantage of distance.

Yet, ask most people what region they live in and they will have a ready answer.

Somehow, a powerful identification of people with the regions in which they live has persisted, even as the industries that were the foundation stones of those communities have been transformed and in some cases disappeared.

Within this context, the role of infrastructure has also changed in ways perhaps not previously deeply explored. In an economy that is strongly interconnected, where regional specialisations are complemented by other economic inputs from outside the regions, infrastructure is about making that connectedness as efficient as possible.

For regions to remain competitive in their areas of specialisation, infrastructure must be internationally competitive and encourage communities to be externally focussed.

By taking this perspective, the Australian Business Foundation study strikes a number of notes that are different from the usual.

Firstly, far from being just the secret business of transport economists or urban planners, infrastructure has a lot to do with whether ordinary Australians can find the jobs, homes, community facilities and lifestyles they aspire to.

This new look at infrastructure makes connections that haven't been made before. We've always known that good infrastructure can drive economic opportunities. What's new is that not all infrastructure is equal. The vital new ingredient is what's been termed 'knowledge' or learning infrastructure.

Knowledge infrastructure

Through knowledge infrastructure – like industry clusters, incubators and technology parks, business and education linkages, alliances between SME's and multinationals and connections between research bodies and business enterprises – regions can become hubs for new and revitalised industries with high growth paths and global reach.

To compete in today's fast-paced global business environment, companies must develop new business offerings, capabilities and innovations which competitors find hard to imitate or which have attributes that are more attractive to customers. Increasingly, such competitiveness depends more on knowledge, skills and creativity than it does on more traditional production factors such as land, labour and capital.

Ensuring that regions have a critical mass of firms creating and using such intangible knowledge assets is central to boosting innovation and competitiveness in regions. This is particularly the case for established industrial regions seeking to restructure their economic and skills base.

Investment in knowledge infrastructure is the tool to do this. This means attention to infrastructure that encourages the creation and flow of new ideas, technology transfer, joint learning, collaboration, global market intelligence and skills development. It also means harnessing these to create distinctive capabilities that come to characterise the region and drive its economic prosperity and social development.

The contribution of knowledge infrastructure to regional economic development is judged by how well it helps companies to learn and respond quickly to changing conditions, rather than either protecting or isolating them from competition or external change.

So says Analee Saxenian, the regional business development writer, whose description of the eco-system of Silicon Valley in her 1994 book *“Regional Advantage – Culture and Competition in Silicon Valley and Route 128”*, is a copybook example of knowledge infrastructure in action:

“Silicon Valley has a regional network-based system that promotes collective learning and flexible adjustment amongst producers of a complex of related technologies. The region’s dense social networks and open labour markets encourage experimentation and entrepreneurship. Companies compete intensely while at the same time learning from one another about changing markets and technologies through informal communication and collaborative practices; and loosely linked team structures encourage horizontal communication among firm divisions and with outside suppliers and customers.”

Identity Crisis

In pondering more imaginative ways for infrastructure to deliver greater economic benefits to the Hunter, Illawarra and Western Sydney regions, the role of a region’s own identity, cohesion and capacity for self-help proved to be a potent factor.

This manifested itself in debates about whether proximity to “Global Sydney” was a help or a hinderance to the three regions, or whether each should look to its own competitive strengths and go it alone.

Regional identity also featured in the tensions evident between local and regional communities and the various agencies of State Government for the control and direction of infrastructure decisions and budgets.

Rather than being a battlefield, this provides an opportunity to get above the fray. Regions with strong self-awareness and a sense of identity are more likely to take action to meet their own infrastructure needs and to take charge of their own economic and social futures.

Such an attitude lends itself to fresh approaches to funding and managing the infrastructure that local communities see as a priority, rather than those regions being a mendicant on a long list of competing priorities for State Government resources and attention.

You can imagine, for example, a new partnership model where regions invest in and own their own infrastructure by aggregating demand and negotiating competitive private investment deals.

Paradoxically, this strong self-help stance by regions is likely to show them the value of strategic collaboration with others. It doesn't take long to realise in this age of globalisation and specialisation, that a region of the size and scale of the Hunter, Illawarra or Western Sydney can't be self-sustaining. Markets are needed for goods and services. Skills and components need to be acquired. Capabilities can be leveraged nationally and internationally.

So, connectivity infrastructure remains a crucial tool of trade. Transport and telecommunications are as vital to the free flow of products, services, capital, people and information in a knowledge-based economy as they were at the outset of the industrial age.

Go for 'smart infrastructure'

An intriguing concept that can be used to capture the essential messages of the Australian Business Foundation's regional infrastructure project is that of 'Smart Infrastructure'.

The consultants, SGS Economics & Planning P/L, coined this term to collectively describe nine key drivers of regional competitiveness, which they propose should be used as the basis of Smart Infrastructure Audits by regions keen to boost their economic growth. (For more information on Smart Infrastructure Audits, contact SGS at sgs@sgs-pl.com.au).

SGS defines the elements of Smart Infrastructure as:

1. Factors that reduce investment and operating uncertainty, such as transparency in government processes, leadership directions and economic management.
2. Infrastructure to support basic production processes such as transport, labour, communications, power, and the like.
3. Workforce skills and accessibility to quality education institutions for ongoing skills development.
4. Infrastructures/programs that underpin the development and commercialisation of new ideas (i.e. innovations).

5. Business cultures that promote competition, collaboration, entrepreneurship, risk taking, and openness to new ideas.
6. Connectedness to other members of the value chain, including relevant research institutions and brokers of market intelligence, capital, etc., a characteristic that can be summed up by the term 'clustering'.
7. Quality living environments that offer the necessary services for attracting and retaining knowledge workers.
8. A strong cultural economy which helps to power the industrial economy with new ideas and keeps knowledge workers engaged with their local community.
9. Social cohesion, whereby the various economic and other agents in the community have a strong sense of shared future and a willingness to support each other's ultimate competitiveness.

In short, to move ahead, the Hunter, Illawarra and Western Sydney regions need a mix of infrastructure that supports the flow of ideas, people and products for these regions to be active and valued players in wider metropolitan and global economies.

Three practical initiatives

As an end note, if you want some immediate practical initiatives to put this new angle on regional infrastructure into action, try these three ideas.

1. Introduce an Innovation Linkages Program.

This would provide funds to facilitate a program of industry clustering to support business enterprises and related organisations in metropolitan and rural regions to collectively identify and address their industry's competitive strengths, gaps and opportunities. The program would provide a subsidy to encourage three or more companies or supporting organisations to build on pre-existing linkages to promote innovation and new capabilities in particular industries and regions.

The activities the Innovation Linkages Program subsidy could be used for would include:

- (a) to identify and foster the development of new technologies, products and services;
- (b) to find new markets and growth opportunities;
- (c) to undertake investigations to add value to meeting market needs;

(d) to assist knowledge and technology transfer and risk management decisions made by firms (e.g. connection between SMEs and multinationals);

(e) to undertake training and enterprise skills development.

Government funding would be used to provide the resources to facilitate the formation of clusters as described above and to assist with identifying gaps, capitalising on linkages and developing and implementing proposals for action.

Applicants for the Innovation Linkages Program subsidy would need to demonstrate that their proposed clustering activities would improve performance and boost innovation in an industry sector of high economic or regional significance.

The end goal would be to invest in the infrastructure to support industry clustering through which regions develop new competitive capabilities and industries.

2. Create new assets in the form of specialised key learning centres combining research and graduate education in fields critical to the future growth and development of NSW.

Knowledge or learning infrastructure also means knowledge institutions, notably the universities and CSIRO, but also hospitals and medical research centres.

NSW is well-endowed with knowledge assets of this kind and with excellent research institutions and research capacity. Much current effort is fragmented, however and lacks the critical mass that comes from interchanges of ideas and cumulative learning and breakthroughs from joint ventures and collaborations between connected research specialists and graduates.

NSW's knowledge infrastructure is underperforming on its potential because too few researchers are spread too widely across too many disparate research areas. There is a case for harnessing effort and eliminating wasteful duplication.

The community could benefit enormously from better linkages between research and postgraduate specialist teaching in concentrated key learning centres of excellence. These would focus on fields of research vital to NSW's future prosperity. This could either be through work towards solving intractable problems or forging new world class capabilities in emerging high-growth industries or technologies.

Key specialised learning centres would operate either virtually or geographically to bring together the necessary skilled people to create these new knowledge assets for the State.

Established industrial regions, like the Hunter, the Illawarra and Western Sydney, would be the ideal location for piloting one or more of such learning centres, as these regions seek to shift into more knowledge-intensive areas of economic activity.

For example, why not bring together the best researchers in urban development in an urban and regional strategy centre? Why not train medical researchers and hospital administrators in a NSW centre for medical research and advanced training? After all, research in medicine depends greatly on its use in clinical practice, so it makes sense to build this collaboration in early.

Or, thinking more divergently, a special cross-disciplinary centre in the social sciences for the study of social and community development could take advantage of the huge international interest in the field of trust and social capital building as a mechanism for reducing crime and social problems.

Similar thinking could apply to a centre for education and innovation, or to a centre for environmental management, salinity or sustainability in resource use.

NSW already has the researchers. What is needed now is the political will and resources to rationalise and concentrate this research effort into specialised centres of excellence to build substantial new knowledge bases to advance NSW's capabilities and growth.

The creation of this additional knowledge infrastructure, with critical mass and without duplication, would multiply the benefits across the community, starting with the regions that host the first key learning centres.

- 3. Pioneer a new form of Public Private Partnerships for new infrastructure assets through collaborative 'offers' which aggregate demand at regional level to make it feasible for private sector investment.

Much has been said and written about regional demand aggregation in recent times, as communities have become frustrated at seeing the public sector rely more heavily on private financing of infrastructure, at the same time as private investment flows are increasingly biased toward cities. Behind this is something telecommunications expert, Dr Terry Cutler, has recently dubbed the tyranny of density in relation to telecommunications.

The investment market for new telecommunications infrastructure is global, both at the supply of funds end and the demand for investment end. The fastest and highest rates of return are enjoyed in areas where the most consumers can be reached in the smallest geographic footprint. In situations where there are high up front capital hurdles, such as telecommunications, this results in apparently bizarre situations where investment after investment is made in the same neighbourhoods while other communities receive no new investment at all.

Telecommunications receives special mention in the Australian Business Foundation report because it is a factor on which better business performance in a knowledge-based economy strongly depends.

This suggests an acute need for innovative thinking in public/private partnerships in relation to telecommunications. Demand aggregation is an element of this, but it must be matched by an understanding of the needs, abilities and roles of other participants in proposed projects.

A model that would conceivably work would be one that defines what regional communities need and how they can organise themselves into an attractive economic or investment opportunity. Private investors need to understand and accept the rate of return available to them in regional infrastructure, and to help define the limits of their exposure. This in turn should identify exactly what points of market failure would prevent projects from proceeding without public sector involvement, allowing governments to also make the most focussed possible contribution.

Again, an historical perspective gives a context to this thinking. Hard infrastructure such as electricity, water and sewage in much of Australia was often built, owned and/or operated at the regional level in the past. The natural owners of infrastructure are always most likely to be best placed to make the case for investment.

Identifying those natural owners has become more difficult in a globalised economy where sources of investment and markets for production are often remote. Rediscovering and redefining the natural owners of regional infrastructure in the 21st century may well be the first step forward to a new understanding of regional infrastructure.