

URBAN ECONOMICS BY DESIGN: THINKING FROM DOWN UNDER

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Based on their experience in Australasia, Kobus Mentz and Susannah Goble discuss how, by considering urban economics, urban design, and local governance concurrently, greater efficiency, prosperity and social equity can be delivered at differing levels of city scale. The authors are, respectively, director and planner of Urbanismplus, one of New Zealand's most respected and awarded planning and urban design private firms.

The nexus between urban economics, urban design, and the politics of local governance is seldom understood. Economic strategies often lack a spatial (place-based) dimension, as much as urban plans often lack an economic logic. These inter-relationships are important if we want our cities to be more efficient and our communities more equitable and prosperous. In addition, sustainability imperatives demand we deliver more with fewer resources.

This paper will discuss examples of how this can be done at city-wide level by locating the right uses and intensities at the right locations and favouring consolidation over expansion. At precinct level it will illustrate how employment creation, economic efficiencies, and social uplift can be assisted through place-making, exploiting the movement economy, and harnessing the power of retail. Micro design suggestions will be offered to show how the market can be coaxed into accepting new, more efficient, typologies. It will offer methods that unlock complex planning challenges quickly and that direct local authorities towards a virtuous economic cycle by better aligning their strategies, resolving internal disconnects and leveraging more effectively off external entities. While the examples are drawn from Australasia and some elements are culturally-specific, most principles have universal application.

City-Wide Level

Put the right stuff, in the right place, at the right intensity

So often the significance of large scale urban planning attri-

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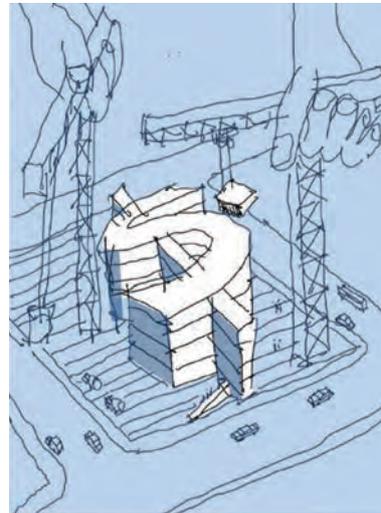


Figure 1:
Good urbanism and
good economics are
compatible.
(illustration by K. Mentz)

butes are obscured by more charismatic or trendy local initiatives, such as buildings with iconic status or green credentials, some under the guise of so-called 'landscape urbanism'. Yet getting the fundamentals right at scale can, through their significant multipliers, produce more meaningful benefits which may apply indefinitely.

The Melbourne 2030 Growth Strategy was an outstanding example of this principle. Signed agreements were negotiated between five city councils and four state ministries which determined commitments to minimum densities, intensification around rail stations and city centres, new rail and bus infrastructure, employment land, and strategies to reduce travel, as well as biodiversity corridors and a raft of environmental outcomes. When independently measured benefits were astounding, including AUD\$25-43 billion savings to the Victorian economy, 14% less travel, and up to 23% less travel time. The

consequential environmental savings are extensive. Although a complex process, these outcomes were achieved by simply putting the right infrastructure and uses, in the right places, at the right intensity.

While many of the strategy's attributes remain intact, aspects such as the all-important urban growth boundaries have been subsequently undermined due to politicians succumbing to pressure from vested interests. These challenges highlight the importance of the relationship between local governance and implementation, as discussed later.

Contrary to Melbourne, the subsequent Greater Christchurch Urban Development Strategy ensured its key attributes were enshrined into local planning law. Early on the community was asked to select between three growth options varying from sprawl, to 'business as usual', and 'smart growth' (more intensive development focussed on public transport nodes). The measured consequences of each option were described such as: land take (2,110 to 6,850 ha), infrastructure costs (NZD\$430m to \$580m), traffic congestion increase (190% to 630%), vehicle emissions increase (49% to 103%) and water use increase (35% to 55%).

A mid-range option was selected which became the point of departure for the process that applied the same 'right stuff in the right place' approach. The resulting strategy is recognised as an international best practice example by the Commission for Architecture and the Built Environment (CABE). This clearly articulated and quantified Spatial Plan proved particularly useful after the devastating 2011 earthquake as a tool to reconsider the disposition of growth in the region.

Mend before you extend

While the case in general against sprawl and for smart growth is well established, counter arguments persist. These are often premised on housing affordability grounds (not restricting supply), liveability or lifestyle preferences, or the self-interest of landowners who wish to develop.

However the cost of infrastructure (water supply, sewerage, transport, and health services) can be as much as double, and more on the periphery. A recent Curtin University study found that for 1,000 dwellings it cost \$309m in infill areas and \$653m on the edge (Trubka., Newman & Bilsborough, 2008). Further efficiencies are realised when development draws on existing infrastructure, which is already incurring maintenance and renewal costs, and utilises existing resources to their full capacity.

Newman and Kentworthy's (1999) work as far back as the 1990s established a clear link between density and the energy consumption of private passenger travel. Hong Kong at a density

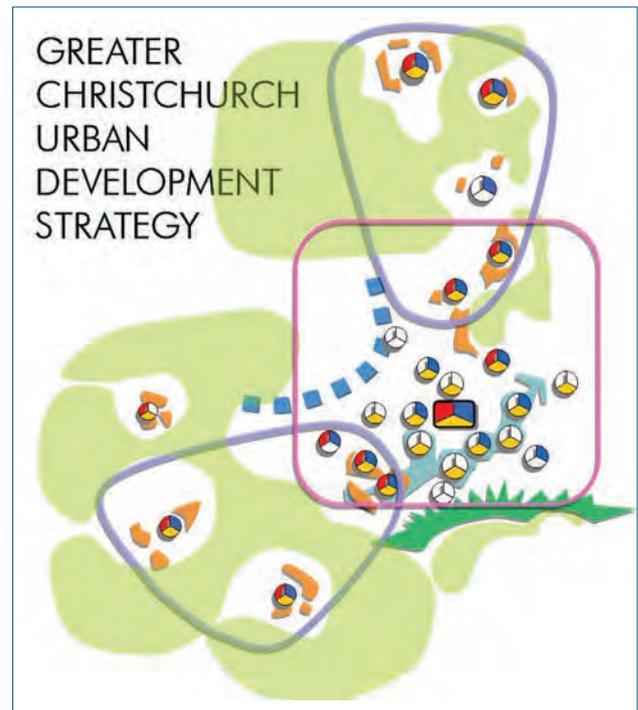


Figure 2: Greater Christchurch Urban Development Strategy. (source: K. Mentz, Urbanismplus)

of 300 persons/ha use approximately 3,000 mega joules (MJ) of energy per capita against Houston with under 20 person/ha using around 64,000 MJ. We are compelled to develop denser and more efficient cities from an energy, economic, as well as environmental perspective. Urban transport alone, according to Peter Calthorpe (2010) accounts for 30% of carbon emissions in the USA, and 20% when measured globally.

Balance agglomeration strategies with the value of local employment

Many city experts are promoting strategies that will increase the agglomeration of jobs in city centres, they argue economic productivity benefits derived from increased specialisation, a deepening of the labour market, and knowledge spill over, resulting in greater innovation. Auckland City recognises that it needs to increase its 15% of jobs in the CBD when compared to Sydney's 22%, Melbourne's 28% and London's 33%. Accordingly it is undertaking a range of initiatives, including the strong promotion of a new city rail link, to significantly strengthen its public transport network.

This approach should be balanced with providing jobs and services in outlying areas where it is needed to avoid sterile dormitory areas and support the complex needs of local communities. Local jobs will significantly reduce the need to travel at all.

Adapt planning approaches to meet the changing needs of employment uses

It is useful, at the city-wide scale, to differentiate between residentially compatible and non-compatible employment uses. More flexible zoning arrangements, with less distinction between living and working, should reflect the increasing range of residentially compatible uses. Industrial uses, often less glamorous in planning terms, are vital to urban economies. Their proximity to other related businesses (so called value chains) is also important. If these links are weakened efficiencies are diminished. Industrial land, due to its lower land value is vulnerable to change. Consider the consequences if big employers are forced to move, play this through over a 10 or 20 year period, and if necessary consider measures to protect their positions.

Consider proximity

Proximity ranks different places by how far they are from a range of amenities such as major education facilities, hospitals, employment opportunities, and public transport destinations. Places with high proximity are valuable as they require less travel and should be considered for strategic development opportunities. Unfortunately many of the cities' poorest people live in areas of low proximity, this means that year on year their disadvantage is compounded. Improved transport connections, strengthened community services, and targeted employment strategies should be considered.

A useful approach is to rank all large sites against their proximity and land value. Identify those sites with high proximity and low land value, where the market has not yet recognised their attributes. The opportunity is to affordably invest in housing or services while deriving the social and environmental benefits of less travel.

Connect social initiatives with economic benefits

Economic and social needs are intertwined. Job creation, as an economic issue, is the flip side of unemployment, a social issue. In addition we know poverty is linked with crime and crime comes at a cost, as Socrates ostensibly said 'poverty is the parent of crime'. However crafting approaches that deliver economic benefits from social and planning initiatives can be very complex.

An example of this is the Tamaki Transformation Programme, New Zealand's most ambitious social regeneration project. Here an early, more comprehensive action plan, was estimated to be able to grow New Zealand's GDP by \$2 billion and directly support 20,700 jobs over 30 years. These calculations stem not only from increased productivity, but also the savings in social support costs and benefits from the reductions in crime levels.

Key to this was the comprehensiveness of the approach. The 20 year plan captured central, regional, and local government priorities and offered a strategic sequence of spatial and non-spatial initiatives. Innovative foundation period projects included pathways to health sector careers for Maori and Pacific residents, a technology-based learning network for children, and state housing renewal demonstration projects. At the heart of the strategy is a redeveloped peoples' park and living precinct. A community service hub would serve as a catalyst for private sector participation and regeneration.

Provide well-connected street networks

How we lay out our streets matters. Their patterns can determine safety, retail viability, and movement efficiency. Well-connected street networks generally offer travel savings over more convoluted ones.

Small changes can add up, in Auckland 25,000 kilometres are being saved per year just by linking three culs-de-sacs in a low density suburb. Nearby some fourteen landowners were persuaded to abandon cul-de-sac layouts to form a neighbourhood of linked up streets resulting in substantial ongoing travel savings.

Bill Hillier's (1989) work is seminal in this regard. His Space Syntax approach maps street patterns as a series of axial lines, then measures how many intersections each line has. These are ranked in categories from the most integrated (most intersections) to the least integrated. His early research showed high correspondence between the degree of integration and degree of pedestrian usage. The more connected the street, the more pedestrians, even when compared with less connected patterns in higher density areas. Later work showed higher degrees of integration result in higher degrees of safety (reduced burglaries), while constitution (active frontages which offer observation onto the street) played a role, this was secondary. In addition, higher degrees of integration also resulted in higher land values in retail areas.

Hillier's latest work, still in progress, postulates that knowledge economies will also benefit from connected networks as innovation is also reliant on the stimulus of chance encounters brought about from external sources (Hillier, 2016). These are difficult to achieve in more exclusive arrangements including isolated neighbourhoods, business parks, and gated communities.

Precincts and Places

Recognise the inter-dependency of economic and place-based strategies

Wealth creation and employment strategies are mostly con-

cerned with financial, regulatory, organisational, educational, and promotional issues. Few integrate effectively with the place-based dimension. However strategy and place are inter-dependent. Strategy can suggest how a place should be improved, and a place can suggest latent economic opportunities embedded in its attributes.

The success of more complex precinct-wide employment approaches are heavily dependent on the attributes of the site and where it sits in the city-wide network. Where, for instance, should uses which will reduce 'leakage' be best located? Can different initiatives be concentrated in one location for greater momentum toward transformational change?

Specific potential employment uses can be identified by determining which classes of use are under-represented in an area when compared to other comparable areas. Further research can determine which initiatives are required to overcome barriers to their establishment. Business attraction initiatives can recommend specific locations that will best suit their needs and offer synergies with other businesses.

Promote 'quality of place' as an economic attribute

The 'old' economies based on 'comparative' advantages, inherent in the resources or attributes of their region (such as tourism destinations, manufacturing based on a local resource, or agriculture) manifested in the segregation of uses such as industrial areas, business parks, shopping centres or malls, and dormitory housing areas, each with their own zoning. Locational considerations for these economies are usually land value, labour skills, accessibility, and housing conditions.

However many communities are striving to develop 'competitive' advantages which go beyond the 'comparative' ones. Often

referred to as the 'new economies', those developing 'competitive' advantage include areas such as the service, green, knowledge, and creative economies. These industries are made up of new businesses that are small (often 6 people or less) requiring small premises which can be easily acquired. The entrepreneurs that lead these businesses are mobile and can choose locations based on their preference around quality schools, health services, natural amenity, and urban quality. As a result 'quality of place' has become, to some degree, a driver of employment.

Capitalise on the competitive benefits of creativity

Richard Florida's (2005) work comprehensively underlines the competitive importance of quality of place, alongside technology and diversity, to attract the 'creative class' who will deliver creative economies. When the arts and creative industries are developed and promoted in a manner which integrates their organisational efforts with their place-based attributes they can deliver significant results. Melbourne does this well, Rob Adams, the Director of City Design in Melbourne, argues that a return on investment in the arts of up to 11:1 can be achieved, in comparison with between 2 to 4:1 for investments in roads (Noble, 2008).

Small scale efforts can also deliver results. Dunedin, a small university city with a static population of around 125,000, recently established a 'creative quarter' in a historic warehouse precinct which has already resulted in new businesses (some new to the city), new apartments, a hotel, car parking building, cafes, shops, and a pop-up theatre located in a rescued character building. Buildings left vacant for over ten years and others threatened by demolition due to earthquake strengthening requirements have been given new life.

Key to success was a transparent process which secured endorsement from the public and the council. A clearly articulated sequence of place-based initiatives was set which reduced the impact of an adjoining arterial road, better linkages with local parks and squares, and the creation of pedestrian friendly local places. This resulted in the removal of planning barriers and attracted \$500,000 in early funding for public realm improvements, a \$70,000 re-use grants scheme, and earthquake strengthening subsidies for eleven projects.

Persist in compact city and smart growth approaches

The earlier mentioned economic benefits of favouring intensification and smart growth strategies over sprawl are hard to realise on the ground. Achieving the right policy settings is one thing but convincing the market (and sometimes the local community) to build complex and more intensive environments is another.

Figure 3: Employment Clusters. (Source: Derek Kemp, Prosperous Places, and Kobus Mentz, Urbanismplus)



The path of least resistance is often still to deliver environments where uses are separated, uncomplicated, and predicated on the convenience of the car user, all with significant economic, social, and environmental consequences. The challenge is to deliver high quality, commercially viable, and locally acceptable forms of urbanism that are more efficient and sustainable. Higher densities, public transport, and the creation of communities with thriving and diverse centres are core. The public realm should foster social and civic life and a range of living and employment options should be available.

There are often many hurdles to overcome such as low land values, which make low density housing and commercial options more attractive, powerful construction and development entities that resist change, professions that perpetuate conventional planning and transport practices, the dominance of car use, the spatial needs of large format uses, land owner interests, and local 'not in my backyard' attitudes.

There are fortunately more and more successful examples emerging, these are often the result of many years of advocacy, leadership, and policy changes at governance level followed by implementation approaches which combine innovative design, community engagement, funding, and implementation practices.

Target town and city centres as catalysts for employment

In recent years many new public realm-based town centres have been built, however few have managed to achieve significant amounts of non-retail jobs. An outstanding exception in this regard is University Hill in Whittlesea, a new town adjacent to Melbourne (Figures 4 & 5). The large site adjoining the RMIT remote campus had remained vacant as successive plans to build technology parks had failed. The left leaning council, rightly concerned with the dormitory status of their city, in-

sisted on permitting only employment uses and no housing or retail (to protect their other centres).

A 3-day inquiry by design workshop managed to illustrate that with this approach only a modest amount of light industry jobs would be created, many within categories which were in decline. Instead a public realm-based approach, which combined industry, offices, retail, housing, and community facilities would generate up to 30% more higher quality jobs. The project is now being realised, numerous shops, apartments, offices, commercial/industrial buildings, and community facilities have been built. Employment is anticipated to exceed expectations.

The key approaches behind this outcome are discussed below.

Harness the power of retail

There are a range of techniques, in addition to those mentioned above, required to create or regenerate centres. Core to these is the ability to harness the power of retail. Retail generates significant, energy attracting high footfalls, traffic, and land values. It also draws substantial monetary benefits for the community. Yet when configured in closed systems such as shopping malls and stand-alone shopping centres very few non-retail jobs are created, as little as a quarter when compared to traditional town centres. Some of the absent jobs may go elsewhere, but those that need an integrated urban setting will just not exist or eventuate.

Viable retail settings can be created within a system of public streets and squares. Smaller specialty stores can be made viable by locating them along the pedestrian flows between anchor stores. Community focal points can be created with good public spaces and community/civic facilities, and the visual effects of parking can be minimised. Street markets can add vitality and give local expression, however they should com-

Figure 4: View of the proposed new main street at University Hill.
(source: MAB Corporation Pty Ltd)



Figure 5: Aerial view of University Hill.
(source: MAB Corporation Pty Ltd)





Figure 6: A viable retail setting along pedestrian flows between anchor stores. (source: Kobus Mentz, Urbanismplus)

plement not suffocate existing shops. Events can shift user and investor perceptions of underdeveloped urban areas.

Utilise the movement economy

Planners often shy away from heavily trafficked streets. While understandable in living environments, in commercial environments their 'passing trade' can represent a significant opportunity. This is partly due to the economic benefits of retail often being reduced to 'planned trips' whereas spontaneous custom is a very important aspect of many local or speciality stores. New urban plans which place the commercial centre in the middle of a precinct/neighbourhood with the busy street on the periphery therefore often fail. Hillier's work shows us that the more integrated (often busiest) streets produce the higher retail land values. Commercial centres, to be more viable, should therefore engage with these streets directly. If traffic conditions are deemed to be too harsh, consider slip roads, back lanes, or 'T-ing' off at right angles. With the viability of a local centre enhanced the need for locals to travel will be reduced.

Coax the market through incremental approaches

Housing intensification strategies often meet market resistance to houses that offer less outdoor space than nearby counterparts, typologies that are new to the area, or purchasing areas that are not yet perceived as 'desirable'. In some cases bold approaches which offer radical density increases above the norm succeed, especially if associated with major new contextual changes such as new rail stations, new employment areas, or retail nodes. However in marginal areas early investment in the amenity components will be critical to building enthusiasm for the vision and confidence in it being delivered. A more

incremental approach may be required which responds intelligently to the local market conditions and perceptions. One approach may be to offer a small early stage of conventional lower density typologies while market confidence is being established and in order to facilitate cash flow. This should not be located at the heart of the development where, in the long term, higher density would be more desirable.

'Hybrid' typologies may follow to get the 'ball rolling'. These are a step closer to the optimum but distinguished by very small scale design differences that will help to overcome market resistance. An example is the so called single storey 'smart house', located on one side boundary, with an outdoor living court with good solar access adjacent to one another. Use of this transitional approach often gains market confidence in less than a year to graduate up to multi-storey dwellings on 40% less land area, which can be followed by an appetite for terraced housing. To support this approach, communications should draw attention away from the size of the land and emphasise design attributes such as privacy, solar access, and indoor-outdoor flow.

Where back lane units meet resistance due to the outdoor walk from garage to house, consider providing a narrow enclosed link. Maintain efficiency by combining it with a laundry or storage function.

Where multi-storey apartments serviced by lifts meet price resistance and three to four storey walk-ups suffer user resistance, consider three storey apartments where you only walk up one level to a double-storey apartment which has an internal stair (which only gets used later when accessing bedrooms). Three levels of density are achieved and with changed perceptions, taller buildings with lifts will become viable.

Where multi-storey viability for small commercial buildings are hampered by the disproportionate costs of lift/stair cores, consider convincing several owners to pool their ownership to form a larger building footprint with a single lift core.

At Harbour View a mixed use, mixed density demonstration project in Auckland, these incremental approaches helped shift perceptions in the market. Its commercial success, outperforming its conventional counterparts by 2:1, instilled developer confidence in the approach when the industry was still delivering low density cul-de-sac sprawl. Now higher density projects are a more regular occurrence in the region.

Develop methods that unlock complexity quickly

One interpretation of Ashby's (1956) 'Law of requisite variety', is that a complex system like the urban environment takes an equally complex process to manage (or produce) it. This rings true for many of the processes behind the outcomes described

above. Advancing sustainable urbanism in any democracy is indeed complex, as most sizable initiatives involve so many stakeholders, technical, and legal dimensions. There is also an increased urgency to crystallise the complexities promptly so that action can follow.

A variety of workshop-based methods can be helpful catalysts in this regard. Successful methods focus on the issues critical to a productive outcome and involve a combination of those most affected, those with the most knowledge, and those who have the ability to block or progress the project. They combine rational and creative methods, evaluate various options, and also allow 'left field' ideas to manifest. Where evidence-based, measurable approaches reach their limit value judgements, based on agreed principles, should be applied.

With adaptations these processes can be used to unlock various complex design, planning, and governance issues. Recently two 2-day growth area workshops unlocked economic returns of AUD\$50 million additional retail spend, 4,680 new jobs, and an additional AUD\$1.2 million in council revenues in a mid-size city in northern NSW. A community based masterplan with commitments to affordable housing, biodiversity linkages, infrastructure funding responsibilities, and programme timetables were secured.

Transport related outcomes can also be achieved. In Auckland NZ\$80m was saved in a 4-day workshop with the removal of a grade-separated motorway underpass, while maintaining transport efficiency and delivering a more business friendly and pedestrian friendly outcome. North of Wellington a 3.5-day workshop saved NZ\$275m on a proposed new motorway, while preserving natural habitats and improving urban connections.

Local Governance

Drive local governance towards a virtuous economic cycle

The urban environment is at once a political system and a product of politics. Different political approaches will deliver different urban outcomes. These may vary on a continuum from socialist (command economy with highly regulated central planning) to libertarian (unfettered free enterprise with minimal planning and regulation). The emphasis on the roles of the private and public sectors will differ accordingly. Where the private sector is often best at innovation, efficiency, and capital attraction, it struggles to operate outside its boundaries. The public sector is best at setting a framework for development that coordinates, connects, integrates, and helps enable a vision that reflects the wider public interest.

The earlier mentioned urban design and urban economics approaches are therefore only as effective as the wider political

and governance environment in which they are set. The quality of local governance can have a profound effect on the economy of a city or region. Even beyond the issues of corruption and general competence, local authorities have the potential to stifle or stimulate the local economy.

Central governments can pull some 'big levers' such as macro policies, tax conditions, employment regulations, and the financial framework, yet they cannot respond to the on-the-ground needs of local businesses and economies which vary from place to place. Yet good local economics are fundamental to all areas of local sustainability. Local revenue is required to fund vital environmental and social initiatives, and local self-sufficiency.

Local governance approaches vary, from providing only the basic services to directly providing significant social, economic, and environmental services. The former minimalist approach may result in lower rates, but runs the risk of communities not fulfilling their economic potential, while the latter runs the risk of accumulating debt and developing unsustainable finances.

However with a good understanding of the financial consequences of their policies, strategies, and organisational practices, local authorities can develop sustainable financial pathways with increased income from rates, operations and assets, as well as reductions in spending on the costly consequences of anti-social behaviour and environmental degradation.

A virtuous economic cycle can be created if these gains are re-invested (Figure 7). The sequence, starts with gains from improved alignment (1) and investment (2) in leverage projects (described later), which, if successful, deliver efficiencies, more income and more rates (3). This widening of income (4) allows for a widening of investment (5) back into leverage projects, and so the cycle continues.

Align, align, align

As indicated in Figure 8, four critical areas in this regard are: how holistic and well aligned the policies and strategies are (sustainable urbanism); how integrated the organisation is internally (deFrag); how well it leverages off external entities (leverage); and how accurately these attributes are reflected in the budgets (sustainable finance).

Local authorities should look holistically at their region to create conditions which allow businesses and community groups to prosper while balancing public good and private gain. Unnecessary barriers should be removed and, where cost benefits can be proven, they should apply resources to stimulate productivity.

Foremost however, they need to ensure their plans, policies, and strategies have a sound sustainability logic and are

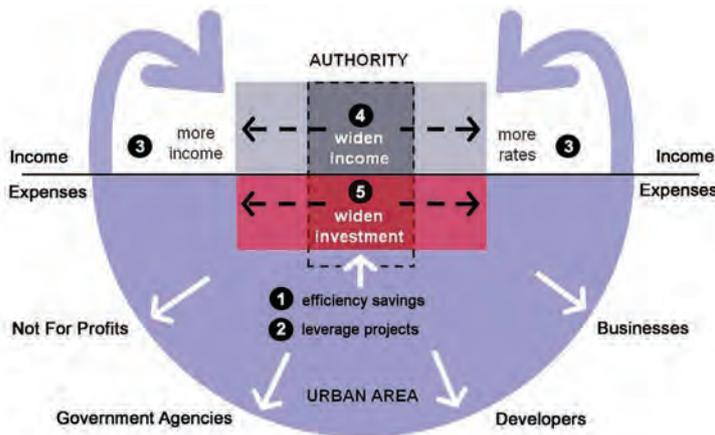


Figure 7: A vicious economic cycle.

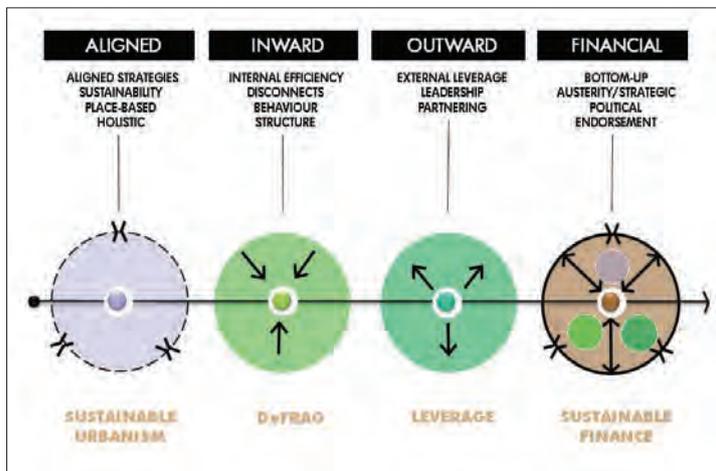


Figure 8: Four areas to drive a virtuous economic cycle.
(source: Kobus Mentz, Urbanismplus)

aligned. Alignment is rare as these instruments are usually developed over different time periods, often through different cycles of political thinking.

Again through the appropriate workshop process this can be dealt with promptly. Misalignment can be brought to the surface and remedied, gaps identified and a prioritised, and a strategic sequence of actions established. In one case agreement was reached between local authorities, business, and community leaders within three days. Medium term projects worth AUD\$72 million and long term projects worth AUD\$86 million were identified and prioritised, putting the council in a strong position to apply for state government funding for major infrastructure projects.

It is helpful to map each strategy where possible so that the spatial dimension is understood, as often new co-locational possibilities are discovered (Figure 9). At all times strategies should be interrogated against the overall vision of the council. Initiatives should be rated in terms of their ability to transform so that a strategic sequence is established. The simple matrix in Figure 10 could be used as a tool.

Resolve internal disconnects

In order to deliver integrated external outcomes local authorities also have to be integrated in their internal behaviour. Discipline specialists and departments need to have reconciled their approaches within all areas such as transport, environmental, urban design, recreation, social needs, and so on.

This needs to be addressed periodically. Self-analysing and non-threatening approaches are best. One such process called ‘deFrag’ enables teams and departments to evaluate how well they, and other teams, are delivering on the objectives of all key projects. Disconnects and their remedies are identified, such as improved communications, cross representation on projects, or organisational changes.

Leverage more effectively off external entities

While increasingly compelled to deliver more with less funding, few local authorities utilise the vast resource within their community effectively. Yet there are many external entities



Figure 9: Draft strategy maps by discipline.
From left to right: biodiversity, community attributes, public transport, and employment.
(source: Kobus Mentz, Urbanismplus)

with which they share common objectives such as not-for-profit groups concerned with environmental and community needs, economic development, and employment creation. Constructive engagement with business groups, landowners, and developers can also often ensure public good is achieved while maintaining the viability of projects (Figure 11).

Underpin sustainable urbanism with sustainable finance

When faced with a need to reduce debt, local taxes, or fund asset renewal local authorities often revert to across the board cuts, delivered in a top down manner. If applied in the extreme this will leave no room to progress toward the virtuous economic cycle described earlier and may threaten their technical capacity, corporate culture, strategic objectives, and staff morale.

There are alternatives to making simple cuts (Figure 12). Consider making an even wider range of cuts, then re-investing a portion in a more strategic manner with a preference for those 'leverage' activities that will deliver a dividend. This will also allow for the reconsideration of outdated practices. Engage councillors, senior management, and discipline leaders in an open, collective analysis of all services and their strategic value, revenue generation opportunities, and savings through improved internal practices. Agree a time scale for debt reduction then develop a range of

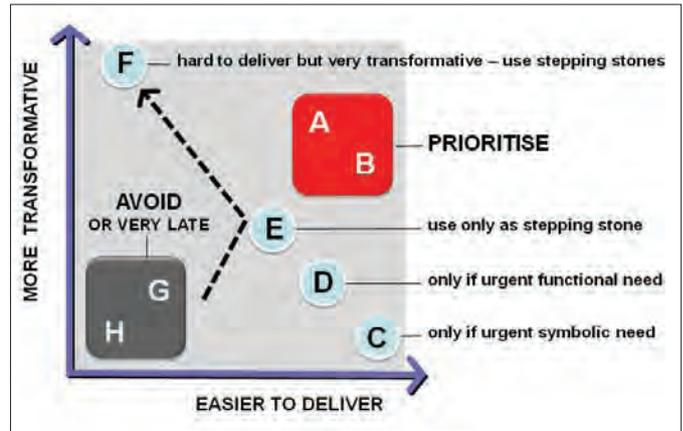
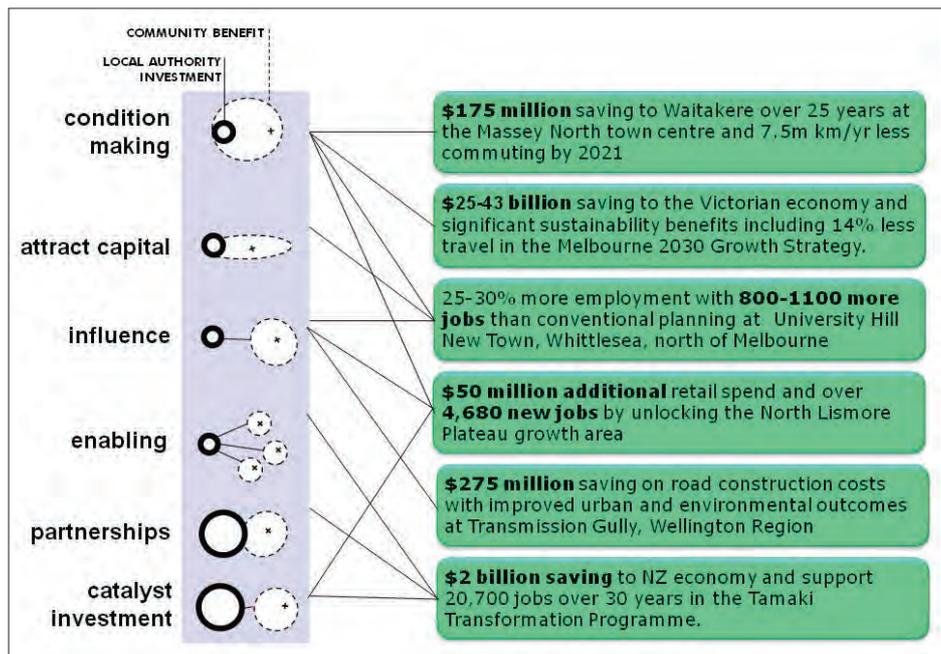


Figure 10: Prioritising strategic projects. (source: Kobus Mentz, Urbanismplus)

Figure 11: External leveraging. (source: Kobus Mentz, Urbanismplus)



options from across a continuum of austerity to growth. Craft a pathway that moves from a position of debt and asset neglect, to that of financial sustainability while delivering sustainable urbanism (Figure 13).

Conclusion

More sustainable environments, which offer greater efficiency, prosperity and social equity, can be delivered at differing levels of city scale, but to do so urban economics, urban design, and local governance need to be considered concurrently.

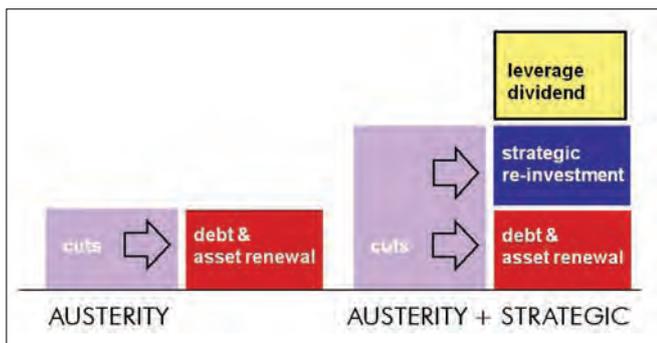
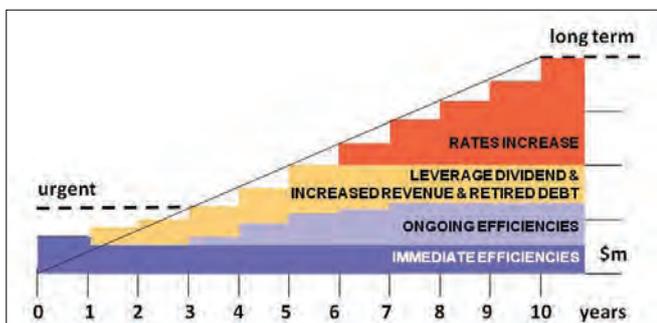


Figure 12: Undertake cuts to allow strategic re-investment and provide for leverage benefits. (source: Kobus Mentz, Urbanismplus)

Figure 13: Stairway to financial sustainability. (source: Kobus Mentz, Urbanismplus)



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