Balanced intervention is needed to boost pedestrian priority

As a city where the private car is the mode of choice, and significant change is likely to occur over a period of time, opportunities to achieve greater pedestrian priority should be balanced and seek to maintain the function and capacity of the road network.

Over time, more radical measures can be implemented as travel behaviour changes.

> Initial attention should be directed towards a balanced suite of measures to realise the latent pedestrian priority in the network.

> Shorter signal phases – opportunities to change signal phasing to enable more frequent pedestrian crossing and reduce the likelihood of risky crossing behaviour should be explored.

> Kerb build-outs – at busy intersections potential build-outs to shorten crossing distance should be investigated. In conjunction with shorter signal phases, to allow more frequent crossing, opportunities exist to increase the capacity of pedestrian crossings without compromising the ‘green time’ allocated to cars.

> Medians and refuge islands to make crossing busy roads safer – on busier routes and streets with multiple lanes in each direction, explore opportunities to establish medians to support safer opportunistic crossing.

> Slower vehicle speeds in urban core – within the urban core, where typical vehicle speeds are low, investigate opportunities to reduce the speed environment to improve safety for pedestrians and cyclists. Lower speeds can also support less restrictive road design standards, enabling street tree planting and lane width reductions.

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Strategy Idea No. 5
Challenge the trend of traffic dominated streets

Delays at signals...
Signals favour vehicle movement

Signals on the Gold Coast Highway have 120 second cycle times and an average wait of **> 60 seconds**

<table>
<thead>
<tr>
<th>Delay</th>
<th>Likelihood of risk taking</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 10</td>
<td>Low</td>
</tr>
<tr>
<td>10 &lt; delay ≤ 20</td>
<td>Moderate</td>
</tr>
<tr>
<td>20 &lt; delay ≤ 30</td>
<td>High</td>
</tr>
<tr>
<td>30 &lt; delay ≤ 40</td>
<td>Very high</td>
</tr>
<tr>
<td>40 &lt; delay ≤ 60</td>
<td></td>
</tr>
<tr>
<td>&gt; 60</td>
<td></td>
</tr>
</tbody>
</table>

Excessive wait times increase risk taking
Case study - Greater pedestrian priority is needed to make walking attractive

Walking in the coastal strip
A walk from Elkhorn Avenue to the Esplanade and foreshore highlights the delays experienced when moving around busy urban areas on the coast.

Excessive waiting
A walk down Elkhorn Ave, heading west from Chevron Island to the beach reveals that pedestrians spend around 40% of their time waiting for a green light.

Very short pedestrian green time at crossings makes it almost impossible to meet a green light when approaching on foot, resulting in constant interruptions to the walk.

Vehicle priority is a barrier to pedestrian movement
Car dominated intersections with lengthy wait times interrupt walking trips and encourage risky behaviour.

Gold Coast Highway or Gold Coast Boulevard?
The Gold Coast Highway provides an opportunity for a great ‘people street’, fringed with active uses and a lively public realm. The name of the street could be changed to Gold Coast Boulevard, to clearly indicate a shift in the function and importance of this street in the city.
Strategy Idea No. 5

Challenge the trend of traffic dominated streets

Match footpath capacity to growing demand

Throughout the GCRT corridor, extremes of footpath provision can be observed. In some streets generous footpaths are provided, while other areas, particularly outside the coastal strip, have limited or no provision.

The Corridor Access and Mobility Study (CAMS) provides a comprehensive review of existing footpath provision and future demand associated with the day-to-day life of the city and GCRT related pedestrian movements. In addition to necessary upgrades to address existing deficiencies, it recommends significant footpath widening in numerous locations, particularly focussed around key station approaches and in the traditional street based centres including Broadbeach, Surfers Paradise and Southport.

The GCRT project will generate increased pedestrian movement to and from stations. Walking connections must be capable of supporting the volume of pedestrian trips projected, and be activated, safe, shaded and well sheltered.

Surf Parade, Broadbeach - pedestrian pinch points created by restaurant seating areas

Wider, unencumbered walkways are needed!

Surf Parade in Broadbeach is an example of a vibrant high street being choked by its own popularity.

Key opportunities exist to enhance walkability and access to restaurants and cafes with better managed footpath allocation and the establishment of clear walk zones to support GCRT and local centre vitality.

Challenge the trend of traffic dominated streets

GOAL A city where it is a pleasure to walk and linger

RECOMMENDATIONS

> Improve pedestrian safety and comfort by preserving clear walk zones in bustling centres and planted buffers on busy roads
> Encourage surveillance and activation, particularly around GCRT stations
> Commence a city wide greener street programme aiming to deliver 10,000 trees in ten years
> Develop new models for the delivery of public space and facilitate the delivery of new compact spaces in association with the renewal of major publically owned sites
> Foster a rich and engaging urban environment reinforcing existing and emerging quarters and a coordinated approach to public art, lighting and finishes

Prepared by HASSELL for GCCC
New models for public space in an intensifying corridor

While the corridor as a whole is well provided with green spaces, there is relatively limited provision of space of an appropriate quality and function in the intensive coastal strip, including Chevron Island, Surfers Paradise and parts of Broadbeach.

With significant growth planned for the corridor, additional provision will be needed to cater for growing needs. The scarcity of land within the coastal core challenges the traditional model of pro-rata green space provision and places emphasis on the quality and function of new public spaces rather than size. New and innovative ways are needed to provide the amenity and relief, appropriate to a busy urban environment.

Existing under-utilised open spaces, particularly those associated with the waterway network, could perform a more significant role in the open space network, a role that could be significantly amplified through the creation of new public waterfront walkways.

Significant sites, particularly those in public ownership, provide important opportunities for the creation of new public spaces and focal points for the community. These spaces should aim to foster public life, community interaction and well-being, and forms of recreation that can flourish in a compact urban context. This could include playgrounds for “urban” families and distinctive placemaking elements such as water play areas and interactive artworks.

‘Urban’ public spaces
Within the intensively developed coastal core, the emphasis for public space provision should be on quality, function and connectedness, rather than size.

With increasing densities of workers and residents, there is an imperative for greater investment in public spaces and their maintenance.

Innovative models for private space
Key opportunities exist within new developments to support more expansive and usable spaces in, around and on top of new buildings. Greener buildings advance the aspiration for more subtropical development forms on the Gold Coast.

Innovative models for private space (By WOHA)
Transform roads into public spaces

The single most significant opportunity to enlarge and improve the quality of public realm in the corridor exists in the road network. There are significant latent opportunities to transform roads into well loved, vital and vibrant spaces. Part 3 of this study - Better Gold Coast Streets and Places - outlines a suite of practical actions to improve the quality and accessibility of streets, and facilitate a transition from ‘roads’ to ‘streets’.

Priority actions for the Gold Coast to create the right conditions to foster street life include the need for street tree planting, footpath improvements and greater investment in the quality and distinctiveness of furniture, public art and materials.
Revegetating Gold Coast streets

In a context where a quantifiable and compelling case can justify space to accommodate the ‘hard infrastructure’, trees and vegetation have disappeared from many Gold Coast streets. There are significant challenges to providing street trees throughout the corridor.

Pressure on the road network to accommodate growing capacity demands, and a wider range of movement functions is increasing. Many streets will be required to support greater vehicle capacity and more vehicle lanes, dedicated cycle routes, wider footpaths to serve the GCRT, and upgrades to underground utilities and services. As a finite resource, the limited area of land in the city’s road reserves will be insufficient to meet every need. With this spectrum of competing demands, it will be necessary to define priorities for the road network to achieve city-wide movement and livability objectives.

As outlined in Strategy Idea 4, the quality of the urban environment is a key influence on journey experience. To achieve the aspiration of a significant shift in travel behaviour, improving the quality and attractiveness of the Gold Coast’s streets is a key priority.

Street trees are an important ingredient in a quality public realm, and in a subtropical climate they are critical to achieving appropriate levels of shade and shelter. In 2011 Gold Coast City Council surveyed temperatures on a hot Gold Coast summer day and determined that the air temperature in streets with good tree cover can be more than 10°C cooler than streets without tree cover, and more than 5°C cooler than streets with awnings and structured shade.

Attention is required to balance the competing interests for space in the road reserve and release opportunities for street tree planting. Detailed strategies for investigation are outlined in Part 4 - Better Gold Coast Streets and Spaces.

Planting the private realm for greener streets

Sometimes, planting street trees within the road reserve may be impossible due to underground and overhead utilities and carriageway setback requirements. However, opportunities may exist for trees to be established in the front setback of redevelopment sites to provide shade on footpaths and a greener streetscape.

The effect of tree planting on temperature in streets

<table>
<thead>
<tr>
<th>Typical Avenue</th>
<th>Typical Boulevard</th>
<th>Typical Main Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Street 10°C cooler</td>
<td>Surf Parade, Broadbeach</td>
<td>Surfers Paradise Blvd (North)</td>
</tr>
</tbody>
</table>

More trees = cooler streets
Trees cool air temperature by up to 10°C

Average temperature
- Cool
- Moderate
- Hot

In the subtropics, trees are part of the ‘hardware’ for building a transport network.
Safer streets for people

Successful places are responsive to the needs of people. A wide range of needs must be considered in establishing movement routes and in devising a public realm that supports universal and equitable access. These spaces must be safe and secure, with a mix of activities and building forms to encourage surveillance and discourage anti-social behaviour.

Within centres, existing pavements are frequently crowded with cafe tables and planter boxes which leave limited space for pedestrian thoroughfare, and some streets are already suffering from over crowding in busy periods. The provision of minimum clear walking zones on footpaths, particularly on station approach streets, will require attention. Design guidance that encourages the orientation and configuration of upper level layouts of buildings to provide surveillance over streets and public spaces is required. Buildings and spaces should be designed to promote definition between public and private space, create legibility, clear sight lines and minimise creation of unsafe spaces. The principles of Crime Prevention Through Environmental Design (CPTED) are also applicable to the design of streets and public spaces. Provision of good lighting and the potentially CCTV where appropriate should be considered in public areas.

Urban richness and quarters

Distinctive and memorable places are defined by rich, multi-layered and authentic experiences. Strategies could be developed to foster the distinctiveness of established and emerging city precincts through a co-ordinated approach to lighting, furniture and place detailing. Although some progress is being made, the Gold Coast is still developing a strong cultural overlay that links to city quarters, such as a China Town or Little Italy.

In conjunction with broader city-wide economic development strategies, potential exists for local place management activities to foster creative industry opportunities and develop more diverse and distinctive precinct characters and city offering.

Streets and spaces for people and a greener Gold Coast

GOAL Walking and cycling are safe and convenient

RECOMMENDATIONS

> Increase footpath widths to match patronage requirements for GCRT and to support increasing street life and walking
> Enhance pedestrian priority at busy intersections with changes to signalling arrangements and kerb alignments
> Review speed limits in the urban core and opportunities for medians on busy routes to support safer and more convenient pedestrian crossing
A need for greater diversity

The existing built form on the Gold Coast is polarised at each extent of the height and density spectrum. The typical forms of development are either high rise towers or detached and low rise walk-up residential. The development scenario explorations (see Strategy Idea No. 1) highlighted that a continued emphasis on the tower form as the primary vehicle to accommodate growth, will have adverse impacts on amenity, views, overshadowing, and breezes.

There is a need for greater diversity in the range of building forms on the coastal core, not only to preserve amenity, but also to provide more choice for residents, businesses and visitors. New medium rise building forms could accommodate a more significant proportion of projected growth, especially affordable housing.

Impediments exist for a shift in the predominant form of development.

> Views are perceived as a driver for real estate sales
> Land is expensive and difficult to assemble
> Community mistrust of ‘density’ and subsequent lack of political appetite to drive this change
> Regulations don’t support cost effective mid-rise
> The development and construction industries on the Gold Coast are not geared for delivering efficient mid-rise development

Key benefits that can accrue from a more diverse approach include:

> Ability to accommodate significant proportion of growth development avoiding further expansion of the city’s footprint
> With scarce fringe land to be exhausted within a decade, encouraging a transition to new multi-unit forms of construction is needed to secure the future of 40% of Gold Coast jobs which are directly related to the development and construction industry
> Avoiding a ‘forest of towers’ outcome that would diminish liveability
> Enable more affordable forms of housing within well serviced urban areas to help reduce the cost of living
> Provide a wider choice of housing types to meet the diverse needs of the community

Existing forms contribute little to urban quality at street level

The form of many buildings in the coastal strip has been driven by a desire to capture views or maximise site yield. Many buildings fail to address the street, or to create a positive interface that defines public and private space.

The resulting streetscapes are often devoid of activation and surveillance. They are dominated by pleasant but uninteresting landscaping and private recreation facilities, or by half basement parking structures and privacy screens.

Action is needed to achieve more responsive forms of development that build, rather than diminish urban quality and street life. Part 4 - Better Gold Coast Buildings - provides guidance on new building typologies that could be developed.

Existing forms are polarised

Medium rise forms are missing

<table>
<thead>
<tr>
<th>Typical low rise development</th>
<th>Typical high rise development</th>
<th>New mid-rise</th>
<th>New tower</th>
</tr>
</thead>
<tbody>
<tr>
<td>New mid-rise forms might be sleeved around typical high rise development to provide better street presence and enclosure.</td>
<td>A potential new typology for a subtropical tower, sleeved with development that addresses, defines and activates the street.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Street ‘enclosure’ to boost legibility

‘Enclosure’ is the proportion of a street’s perceived width to the height of the built fabric (buildings, fences, and walls) that defines its edges. Perceived width is influenced by the width of the road reserve and the distance that buildings are set back.

The degree of enclosure in a built environment can communicate clear messages to people moving through it; for example, dense, highly enclosed streets communicate ‘city’ or ‘urban’, whereas more open streets speak ‘suburb’. These visual cues are intuitively understood, and help people to orient themselves or ‘read’ their environment (also referred to as ‘legibility’). Buildings should reinforce these traditional cues and promote levels of enclosure relative to intensity of activity and location in the city.

Positive public interface

Development can create a positive interface between public and private spaces. In residential buildings, protecting privacy for residences can be achieved while encouraging casual surveillance of the street and communal spaces to enhance safety.

In centres, uses can be established that transition between private units or commercial, and the public realm at ground. The number and frequency of building entries and tenancy frontages in these areas will affect the level and mix of activity in the adjoining street or public realm. It is important for the activation of centres to achieve an appropriate amount of active building frontage to the public realm.
An agenda for quality

A set of values has been defined in Part 4 - Better Gold Coast Buildings - to underpin higher quality development that reinforces streetscape and city shaping outcomes. The values seek to encourage more responsive building design for people, places, buildings, transport, and sustainability.

Key areas for action include:

> Support the creation of well defined and consistent street edges so that “build-to” lines, where appropriate, bring development closer to the street frontage

> Embrace the coast’s subtropical climate and encourage indoor/outdoor living, celebrating vegetation and green spaces in, over and around buildings

> Encourage buildings to provide enclosure to lanes and public spaces appropriate to local levels of activity and position in the city

> Design to manage wind, provide shade and shelter, and ensure spaces are comfortable and climate responsive

> Promote more energy efficient buildings and actively encourage natural ventilation for all appropriate building forms

> Encourage sensitive orientation, sitting and arrangement of buildings to preserve the privacy of non-public spaces, particularly residential uses.

> Encourage the orientation of buildings and configuration of upper level layouts to provide surveillance over streets and public spaces.

Resilient and adaptable buildings

Fluctuations in market trends and current street based retail vacancy rates in the coastal core highlight the need for building forms that can support a range of uses at ground level.

The influence of climate change and sea level rise must also be factored into planning and design. Guidance should ensure floor levels and car parking respond to the risks of climate change, storm surge and flooding.
Case study - Affordability on the Gold Coast

A city in affordability crisis
The Gold Coast was recently identified as the twelfth least affordable place to live on the planet in an international survey of seven western countries.

Existing residential towers are well located relative to services and employment, but they are expensive to buy into. Conversely detached dwellings on the urban fringe may be cheaper to buy or rent, but they can require higher expenditure on transport and other outgoings (such as water for garden maintenance), that make them expensive to live in. This difference between “affordable housing” (the cost of housing) and “affordable living” (the combined cost of housing and other living expenses) is often overlooked in discussions about housing.

According to MacroPlan, only 10% of the market can now afford to live in the typical high density apartment.

Urgent attention is needed to address housing and lifestyle affordability. Diverse building forms could be part of the answer.

Building diversity is a solution…
Medium rise forms are missing

High (10+ storeys)
> Build costs = $3,000 / sqm
> Avg 110 sqm unit = $330,000 (plus land costs - typically near beach, with a significant premium)
> Sale price = $10 – $15,000 / sqm

Entry Point = $700,000
Source: MacroPlan Australia August 2011

Medium (4-9 storeys)
> Build costs = $2,400 / sqm
> Avg 80 sqm unit = $190,000 (plus land costs)
> Sale price = $4 – $6,000 / sqm

Entry Point = $400/450,000
Source: MacroPlan Australia August 2011

Gold Coast Rapid Transit | Corridor Study
Prepared by HASSELL for GCCC
Urban expansion vs consolidation

Ongoing growth combined with a diminishing greenfield land supply create a turning point for the Gold Coast. Historically, low density urban expansion has been the typical response to these pressures given the market’s ability to deliver housing in this form efficiently and a lower up front capital cost for households.

The planning framework supports a growth pattern with a strong emphasis on higher density infill development - an approach that recognises that sprawl results in higher living costs, and a greater environmental impact.

A greater diversity of building forms will be critical to accommodate growth within the urban footprint without diminishing amenity and liveability.

Strategy Idea No. 7

Design buildings to foster ‘street life’ and a distinct Gold Coast character

A supportive planning framework

A transparent and proactive stance that provides clear guidance to the development community about where the city wants to focus growth and development activity, is needed.

Encourage intensification and diversity in coastal strip

Significantly higher plot ratios than those allowed under the current planning framework are supported by the typologies proposed in Part 4, enabling the equivalent yield supported in higher Residential Density (RFD) zones to be accommodated in lower rise, more diverse, urban and affordable building forms.

Development entitlements and building height

Preserving existing building height entitlements will be a priority while also encouraging the market towards more compact and efficient building forms with higher plot ratios. The building typologies provide a framework to achieve these outcomes.

Design quality bonus

A review of GCCC’s Policy 18 relating to the awarding of bonuses, and its application, is required in order to promote greater clarity for the market about what type of design outcomes are desirable and what level of development is acceptable in an area.

Greater transparency and clarity around the criteria and assessment of incentive based bonuses would be beneficial.

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Consideration should be given to mandating a baseline level of design quality through codes, while preserving scope for to support exceptional noncomplying proposals.

Improving established strata-title development

Many existing strata titled high rise developments follow the traditional approach of a tower in a landscape setting. These developments often fail to provide a quality public realm interface or optimise the use of scarce urban land. Opportunities should be explored to support modest development opportunities associated with existing strata-titled high rise developments, potentially enabling low-scale, infill at the street edge.
Existing controls support nodal form

The current Gold Coast planning framework has generous height allowances for development throughout the corridor, but relatively modest floor area entitlements.

Opportunities exist to accommodate higher levels of growth within the existing building height control envelope, and potentially encourage lower forms as part of a diverse range of building types and sizes to preserve views, minimise shadowing and help reinforce the poly-centric city form of the Gold Coast in its skyline.

Design buildings to foster ‘street life’ and a distinct Gold Coast character

GOAL A city with more responsive and distinctive Gold Coast architecture

RECOMMENDATIONS

> Encourage more distinctive and climatically responsive design
> Promote a greater diversity of building forms to accommodate growth
> Manage future building form to preserve views, breezes and minimise shadowing impacts
> Encourage buildings that contribute to a quality urban environment and foster street life
> Support variety of housing types to boost affordability and bring families back to the coastal core
Strategy Idea No. 8
Create genuine communities

**Build the permanent residential population**

Holiday and short term accommodation has progressively become the dominant form of housing in the highly urbanised coastal zone of the Gold Coast.

Key opportunities exist to boost housing choice and affordability in the corridor to provide alternatives to the current trend for families and permanent residents at the fringe with limited access to services. Attracting a permanent residential base back to the urban core of the coast would help to realise a range of key benefits, including:

> Greater sense of community and social capital providing greater support and services for a range of disadvantaged groups
> Greater opportunities for casual surveillance and “ownership” of public and private spaces leading to reduced likelihood of antisocial behaviour
> Higher levels of pedestrian movement and activity in the public realm supporting more viable local and street based retail
> Increased opportunities for local social and community events (such as festivals and markets)

Attracting a permanent residential base back to the urban core will also increase the existing demand for social and community services in this area, and require a corresponding increase in provision.

**A stronger and more inclusive community**

The creation of a strong community is not only driven by the built components of an urban environment, but is grounded in the establishment of soft infrastructure. A community development strategy should be implemented to facilitate community capacity building and to help the re-emerging community strengthen local connections and identity. This in conjunction with a comprehensive community engagement strategy will help inform the community during the process of establishment and change. The strategy should cater for the inclusion and wellbeing of specific demographics such as the ageing population, people with disabilities, young people and families and how these target groups will have a heavier reliance on access to:

> Public transport
> Affordable housing
> Community and social services, facilities and networks
> Pedestrian-friendly environments
> Employment, education and training.

**Active and healthy lifestyles**

Research highlights the benefits of mixed use urban neighbourhoods and good public transport in promoting more active and healthy lifestyles. The corridor presents significant opportunities to improve the pedestrian and active transport environment and make walking and cycling more attractive. The GCRT project, combined with broader improvements to the public transport system can also encourage incidental activity in association with public transport trips. Key areas for action could include:

> The completion of ‘missing’ pedestrian and bikeway linkages including the riverwalk, oceanway, greenbridges and other connections between residential communities, the beach and activity centres. Linkages need to be safe, comfortable and shaded to encourage use
> Increased activation of parks and open spaces to promote active recreation and to accommodate an increased range of user demands
> Mixed use development locating places to live, work and play within close proximity
> Direct and convenient access to public transport stations

**Strengthen Gold Coast places**

Place making is a collaborative approach to creating interesting, safe and vibrant places for people. While predominately focused on the public realm it involves developers, the private sector and the community.

The successful evolution of the Gold Coast from a loose cluster of historic villages towards a dynamic polycentric city will rely in part on the successful differentiation of each centre in the network. A key outcome will be to foster the attributes that make one place distinct from another and provide it’s unique role and identity in the city.

A key opportunity exists to develop place-making strategies to shape the various cultural, community and city life overlays defining the identity of key centres in the corridor.
Housing affordability

As a city with one of the highest costs of living in Australia, the Gold Coast’s affordability pressures are most pronounced in the high amenity coastal corridor which contains some of the most sought after real estate in the country. While the predominant form of development has changed over time, existing housing options remain relatively limited and choice is polarised between high rise apartment buildings or detached and low rise walk up residential.

Ocean views, access to local amenities and development entitlements have reduced the affordability of established low rise housing, and new development is predominantly high rise and targeted at the premium end of the market. High levels of short term and holiday rental accommodation limit the supply of housing for private lease or long term rental, which further limits housing choice. Key opportunities exist to encourage a greater diversity of building forms and housing types in the corridor, to boost the range of housing options available and provide for various levels of affordability. Infill housing offers particular opportunities to reduce the overall cost of living and car reliance associated with traditional greenfield and urban fringe housing options, providing advantages for lower income households, the elderly and people with mobility constraints.

Particular emphasis is needed to ensure the planning framework encourages more efficient forms of development that are more affordable to build and make better use of available land.

Future development within the corridor can make a significant contribution to broadening housing choice and responding to the city’s housing needs as outlined in the housing needs assessment and policy review. Key areas for action include the promotion of diverse housing choices, more smaller dwellings and affordable housing options, and in particular the development of a policy platform that encourages the delivery of affordable housing in the corridor.

Building form and affordability

Taller development forms are subject to more stringent building code requirements which have construction cost implications. Opportunities exist to encourage more intensive forms of development that do not exceed critical height and construction cost thresholds to boost affordability. This could include the promotion of lower rise buildings that do not require lifts and medium rise buildings that do not require sophisticated sprinkler systems.

Market misalignment with need for greater affordability

Research highlights concerns for the declining provision of affordable housing options in the private rental market across Australia’s major cities. The analysis reveals particular concern in a number of cities, including the Gold Coast, where the number of low income households significantly outstrips the number of dwellings available in the rental market which are considered to be affordable (Wulff et al 2009).
Strategy Idea No. 8
Create genuine communities

Oil and mortgage vulnerability
The VAMPIRE (Vulnerability Assessment for Mortgage, Petroleum and Inflation Risks and Expenses) index, developed by Griffith University’s Urban Research Programme, compares the relative financial pressure on households associated with housing debt and oil reliance across urban and fringe locations of selected Australian cities. The study highlights the trend for households in the outer suburban mortgage belts to experience greater pressure than inner city households as a result of deficits in urban infrastructure and services, higher car dependence and longer journeys.

The GCRT project in combination with corridor wide planning strategies can play a strategic role in reducing mortgage and oil vulnerability, through promoting infill development, a wider range of housing affordability in central locations and supporting improved public transport accessibility to other areas of the Gold Coast.

Community safety
A vibrant city relies on the ability for its residents and visitors to live without the fear of antisocial or criminal behaviour that could compromise personal safety or security. Significant opportunities exist to shape the urban environment to reduce real and perceived risk through incorporating Crime Prevention Through Environmental Design principles.

Planning and design mechanisms should contribute to enhancing public safety outcomes throughout the corridor. Elements to be considered include the potential for promoting casual surveillance by residential and other uses, appropriate lighting, clear sight lines, clarity of public/private realm definition, management of after hours access, and the use of security measures, including electronic surveillance.

Clear definition is needed between public and private spaces to enhance the quality and safety of both the public and the private realm, and to engender clear areas of ‘ownership’. Where possible, movement corridors should be clearly public in nature, allowing safe access during the day, and if intended for night time use supported by measures such as lighting and casual surveillance.

Promoting adaptability
The widespread adoption of multi-unit, body corporate and strata title tenure arrangements can impede the future adaptability, improvement or renewal of building stock. Opportunities could be explored to support greater adaptability and the potential for improvements or additions to building stock in the future, including new buildings that could occupy the redundant street edges of existing tower blocks. New buildings could be designed to be adaptable, as well as support housing for people with disabilities and the ageing population. Opportunities should be explored to support a minimum provision of new housing designed to be adaptable in accordance with AS4299- Adaptable Housing (1995). It is recommended that AS4299 is considered in conjunction with the Liveable Housing Design Guidelines especially the platinum level of these Guidelines. Provision could be made for the development of specific housing developments for older people, with buildings designed with attention to the provision of high amenity residential environments, capable of being adaptable and accommodating on-site care.

Activation and community safety
A mix of uses should be provided to encourage activity and casual surveillance throughout the day and night. The following matrix illustrates the way different uses can overlap to provide an appropriate level of activity that also provides casual surveillance for safety and security – essential in any urban area. Uses should be located and integrated to ensure potential conflicts are minimised, for example; sensitive receiving environments such as residential uses are not collocated with noisy night time uses.

<table>
<thead>
<tr>
<th>USE</th>
<th>Primary level of activation</th>
<th>Secondary level of activation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>Day - 9pm</td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>8am - 6pm</td>
<td>8pm - 9pm</td>
</tr>
<tr>
<td>University</td>
<td>8am - 9pm</td>
<td>6pm - 9pm</td>
</tr>
<tr>
<td>Residential</td>
<td>9am - 9pm</td>
<td>9am - 9pm</td>
</tr>
<tr>
<td>Retail</td>
<td>8am - 9pm</td>
<td>9am - 9pm</td>
</tr>
<tr>
<td>Café/ Restaurant/ Pub</td>
<td>9am - 9pm</td>
<td>9am - 9pm</td>
</tr>
</tbody>
</table>

Key
Primary level of activation
Secondary level of activation

Building design should support casual surveillance of streets and public spaces, and wherever possible, frequent ground floor entries to promote street life and activity.
Social infrastructure

Well planned and coordinated social infrastructure is fundamental to the economic and social well being of a community. The study area represents a key infill growth corridor for the city, and demand for existing services is already high. New infrastructure will be needed to maintain the quality and accessibility of services to support planned growth, and a growing demand for State and Commonwealth funded services is anticipated. Opportunities to encourage investment in service delivery, both by public and private investors, need to be explored. The future community profile in the corridor is likely to differ substantially to the typical greenfield communities that many of the accepted standards have been prepared to guide.

In this context community infrastructure planning will need to respond to the existing levels of provision in the study corridor as well as the likely future community profile and their specific needs.

With the limited availability of land, opportunities exist for an ‘urban’ model of community and social service and facility provision, which may focus more on accommodating specific community uses and activities within existing and new buildings rather than an approach focused on land which is more typical to new community planning. Historic development trends along the urbanised coastal zone has led to an increase in land value and forced some service providers to seek alternative locations. Attracting service providers and facilities to this area will be dependant on adopting alternative ‘urban’ delivery models which are attractive and affordable.

Integrated ‘urban’ models of social infrastructure

As our cities intensify and land becomes more scarce, creative ways are needed to accommodate social and community services and facilities. The Coin Street development in London provides a mixed use precinct and exemplar for community infrastructure integration within a high density, ‘urban’ setting. It includes community parklands and riverside walkways, a neighbourhood centre, community and sports centre, affordable housing and design studios.

Accessibility for all

A wide range of needs must be considered in establishing movement routes and in devising a public realm that supports universal and equitable access. Spaces and streets must provide for the needs of the whole community and cater for people of all ages and abilities, as well as prams and mobility aides. Cyclists and other street users must be given adequate priority to ensure places are safe, walkable and accessible by all modes of transport.

The Corridor Access and Mobility Study (CAMS) identifies key upgrades to pedestrian and cycle connections throughout the corridor. Key actions and recommendations of the CAMS study are included in the Better Gold Coast Places section, which in conjunction with the corridor wide access and public realm strategies, support a clear hierarchy of connections to provide a logical, direct and easy to interpret pattern of routes around the city and to the proposed light rail stations. Detailed recommendations are outlined in the full CAMS report which addresses universal access and way finding objectives including tactile communication (surface textures and treatments), graphic (signage) and audible communication elements, architectural clues, landscape treatments, landmarks and lighting to assist community navigation of new connections and street crossing improvements.

The Commission for Architecture and Built Environment (CABE) highlights a number of key outcomes to promote inclusivity:

- Inclusive: so everyone can use them safely, easily and with dignity
- Responsive: taking account of what people say they need
- Flexible: so different people can use them in different ways
- Accommodating: for all people, regardless of their age, gender, mobility ethnicity or circumstances
- Welcoming: with no disabling barriers that might exclude some people
- Realistic: offering more than one solution to help balance everyone’s needs and recognising that one solution may not work for all.

Create genuine communities

GOAL Create socially sustainable communities, drawing families back to the urbanised coastal zone by providing an attractive alternative to low density living

RECOMMENDATIONS

> Develop a community development strategy to facilitate community capacity building and help the re-emerging community strengthen local connections and identity
> Develop a community engagement strategy to inform the community during the process of establishment and change
> Develop an overarching place making strategy, which recognises and supports local identity and incorporates a range of actions including public space development and provision of public art
> Establish a policy platform to encourage diverse and affordable housing, with delivery supported by a housing diversity guide
> Explore incentives to encourage provision of adaptable and accessible housing.
> Implement the CAMS study and universal design frameworks to ensure universal access to the public realm, including public buildings, open space and transport connections

Prepared by HASSELL for GCCC
Strategy Idea No. 9
A resilient and sustainable city
Transport and land use

Transit Orientated Development

Many cities around the world focus commercial and employment activities in a central CBD and organise transport networks in a ‘hub and spoke’ pattern to move workers to and from the CBD each day. The Gold Coast has evolved to pose a rare and distinctive urban structure which combines a poly-centric centre hierarchy with a strong linear concentration of population and activities along the coast line. This atypical form, offers particular opportunities for the development of a highly effective public transport network, linking existing and emerging centres and releases key opportunities to pursue Transit Orientated Development and local containment objectives.

Transit Oriented Developments (TODs) are described as “mixed use residential and commercial areas designated to maximise the efficient use of land through high levels of access to public transport. The main objective of a TOD is to ensure more efficient land use and increased patronage is achieved in association with investment in public transport infrastructure”.

TOD is a planning approach that promotes using both urban land and infrastructure efficiently to maximise community benefit, by clustering specific activities (including commercial, residential, retail or other uses) around public transport nodes and improving residential access to the transport facility. TODs are widely viewed as an effective tool for curbing urban sprawl and car dependency, creating more walkable, mixed use centres with good transit connectivity. Both the South East Queensland Regional Plan (SEQRP) and the Gold Coast City Council Economic Development Strategy 2020 encourage the adoption of TOD principles in land use planning.

Car parking

A key principle of the TOD Guide is to, “Locate, design, provide and manage car parking in TOD precincts to support walking, cycling and public transport accessibility”. (p.29). It is good practice that “traffic and parking is managed to ensure it does not compromise pedestrian movement and local amenity” (p.29). The TOD Guide provides indicative and aspirational maximum parking standards and states that, “Parking rates in TOD precincts should be no more generous than the base maximum. However, planners are encouraged to adopt the preferred maximum where possible” (p.29).

Some key objectives of the Corridor Study include integrating land use and transport, reducing dependence on the private motor vehicle and promoting walking and cycling. In order to achieve this and create more attractive streets and places, carefully managed car parking is required. This may mean reducing the amount of car parking in certain key transit areas to increase pedestrian access and reduce off-street car parking in areas that are well serviced by the light rail. Street parking can also be reduced on key east/west linkages into the light rail corridor to allow more efficient movement systems and to promote the use of public transport, walking and cycling.

Other ways of managing car parking that can be explored for the corridor include:
> Shared car parking between different land uses in key transit locations;
> Car share schemes
> Hire car share schemes, particularly for tourists
> Car parking provided in secondary centres (outside of light rail corridor) rather than those in the corridor (so people travel into the corridor on public transport)

Council is currently working on its new Transport Strategy, due for delivery in mid 2012, which will further address the management of car parking in detail.

Green travel behaviour

In order to promote a modal shift in travel behaviour and reduce citywide reliance on fossil fuels, green travel behaviour should be fostered across the city. A key opportunity for the establishment of this green travel behaviour can be provided in journeys between the home and the workplace, in particular, green travel plans for new (and existing) workplaces could be established, accompanied by management and governance arrangements to make precinct wide sustainability initiatives a possibility. A framework of proactive programmes should be developed to:
> Encourage voluntary rather than directed change
> Focus on modes other than the private car
> Clearly demonstrate health, environment, social and economic outcomes
> Provide amenity and facilities to support change.
Strategy Idea No. 9
A resilient and sustainable city
Economic diversity and vitality

Harness GCRT value capture opportunities

Stage 1 of the GCRT project is to be undertaken in one of the most highly urbanised corridors in Australia. While the projects’ overarching objective is to improve transport connections between key coastal precincts, the construction requirements have also presented an opportunity to revitalise these suburbs and provide improved urban amenity.

To facilitate the construction of the GCRT project, the acquisition of a substantial number of properties acquisitions has been undertaken in the Gold Coasts most significant coastal suburbs.

With early works construction now underway, the process has commenced to analyse and plan strategies for individual residual surplus parcels of land. As an extension of this process, the Property team is examining the future use potential of the more significant of these residual parcels of land for use as mixed use, medium/ high density commercial, residential and community non-residential purposes.

The GCRT project will seek to incorporate into a commercial usage plan any opportunities these residual parcels may present to create improved local facilities for the community. Several other sites near or adjacent to the acquired parcels of land will also be included in research into potential sites as “value ads”. The State Government now has the opportunity to provide a leadership role in meeting these priorities through effective use of the land acquired for the project.

Shaping a sustainable regional economy

The GCRT presents the Gold Coast with a once-in-a-generation city building opportunity. A network city will allow the building of an economic base through industry and sectoral specialisation. Across the Gold Coast a network city will maximise economic, employment, social and environmental multipliers by encouraging ‘key nodes’ of specialisation in optimal locations.

Extracting optimal performance from a ‘network city’ relies upon efficient movement of people and labour linked by timely, efficient and accessible movement networks, a degree in intracompetitiveness amongst nodes but a strong level of synergy and cohesion that creates regional, nationally prominent employment hubs combined with liveable and affordable residential options. The GCRT will provide the impetus for significant change across the Gold Coast. Some of the key opportunities that the GCRT will present are as follows:

World class health and knowledge precinct
The Gold Coast Health and Knowledge Precinct is a Specialist Centre that supports educational and health and medical activities including a public and private hospital and university. The precinct provides for uses that promote knowledge creation and entrepreneurial activity in science and technology, research and development and other supportive economic activities, surrounded by integrated mixed use residential. It is a relatively large undeveloped location which can be shaped into exemplar precinct, including retail, services and accommodation (e.g. mini-economy).

Nationally competitive CBD
Southport to become key Principal Activity Centre (PAC) within the corridor and reinvent itself through intensification and diversification. The GCRT provides a key opportunity for Southport to become an exemplar origin and destination TOD and/or urban environment.

Business tourism mecca
Broadbeach will be a thriving tourism centre that provides one of the city’s principal cultural and entertainment focuses. The GCRT will provide the opportunity to re integrate the city’s key entertainment destination into the urban fabric and links with business tourism.

Linkages with QLD growth industries (e.g. Mining, energy, ICT)
Identify ways to capitalise upon the ‘future’ growth industries (shift to green/renewable, climate change impacts, communications – National Broadband Network (NBN)).

Capitalise upon NBN
In early stages ensure that development coincides with this ‘soft’ infrastructure delivery. It is the Gold Coast’s pathway to the world.

Retention of domestic and international students
Study – play – work – live. Retaining students to reinvest their knowledge and create economic contributions.

Create key centres of activity
Cities and urban centres will continue to attract population growth due to diversity of lifestyle, education, employment and accommodation options. GCRT will assist in creating a fully-functional city, in providing the opportunity to create key centres of activity e.g. GCHKP; Southport, Surfers Paradise and Broadbeach, through critical mass in the short to medium term and leverage them before dispersing activity to other areas.

Commonwealth Games
Key leverage opportunity of successful bid for the Commonwealth Games, as it will ensure investment in public infrastructure, public transport, business investment, branding and city image and result in long term employment opportunities and legacy outcomes.

Accessibility and utilization of public open spaces: key opportunities include Gold Coast Cultural Precinct at Evandale; Broadwater Parklands; Cascade Gardens; reengaging with water-based recreation (canals, waterways, beaches).

Prepared by HASSELL for GCCC
Gold Coast hinterland rainforest
Strategy Idea No. 9
A resilient and sustainable city
Environment and climate change

Climate change strategy
Recognising the risks of climate change, the Gold Coast City Council have adopted a Climate Change Strategy (2009-14) which sets out a mitigation and adaptation activities. The strategy focuses on long term mitigation of climate change through reducing greenhouse gas emissions and shorter term adaptation measures to increase the city’s ability to cope with projected climate change impacts.

As part of the strategy, the Gold Coast City Council has set targets for its operations to be carbon neutral by the year 2020 through emission reduction and offset strategies. The strategy is structured around four focus areas:

- Council mitigation – reduction of greenhouse gas emissions from Council’s day-to-day operations, fleet and buildings
- Community mitigation – reduction of greenhouse gas emissions from the Gold Coast community including residential properties, businesses and transport.
- Council adaptation – using our corporate risk management approach to respond to governance, leadership and planning challenges presented by climate change when delivering services to the community now and in the future.
- Community adaptation – managing and reducing the vulnerability of the Gold Coast community to the potential impacts of climate change and maximising the potential opportunities also presented.

Risk aware planning for corridor growth
Planning for growth in the corridor should adopt a ‘risk aware’ stance in relation to the potential impacts of climate change. It will be important to recognise and manage impacts without suspending growth.

A balanced suite of measures should be pursued to ensure appropriate levels of protection from potential flooding and storm surge events in new development. Building controls should be reviewed to ensure immunity in new development for habitable rooms as well as plant, car parking and essential infrastructure.

Existing urban areas that are at potential risk should be recognised and adaptability, emergency measures prepared to manage impacts.

As some areas are identified for increased density in the Corridor Study, it will potentially be impacted by climate change events. Development will be required to demonstrate no adverse impacts upstream, downstream or to adjacent properties from any form of flooding. This can be achieved through appropriate building design and should be addressed during the development assessment process.

Planning for the corridor study is based on existing flood mapping from the adopted GCCC Planning Scheme. Recent flood studies have been completed that take account of potential sea level rise and increase in subtropical cyclone activity and year round rainfall intensity. Comparisons indicate minimal changes to the extent of flooding in the corridor, and the existing adopted levels have been used for planning purposes for the corridor study.

Reduce energy needs and city carbon footprint
Traditional aspirations for building design and efficiency can be challenged to realise significant reductions in energy consumption. Along with more sustainable transport behaviour, the adoption of greener building standards presents the single biggest opportunity to reduce the city’s energy consumption and carbon footprint.

Opportunities exist to encourage more sustainable buildings on the Gold Coast through a range of potential sustainability initiatives including:

- Mandatory building rating targets established via planning scheme, covenant or other mechanism
- Green energy management practices for large buildings or precincts such as chilled water plant or central energy plant
- High efficiency lamps and lighting
- Climate responsive building design standards supporting cross ventilation, minimum overhangs and shading as well as
A framework of recommendations summarises the key activities to progress the nine strategic ideas to reposition the city. The recommendations are further refined and expanded as part of the implementation framework for the corridor study included in Part 6.

## 1. Realise a bold future for one of Australia’s most distinctive and vibrant cities

**GOAL** Positively plan for growth and harness opportunities created by GCRT to realise a more vibrant and prosperous future for the Gold Coast

**RECOMMENDATIONS**

- Reinforce distinctive Gold Coast lifestyle ‘drawcards’ including subtropical climate, access to beaches, waterways, scenic rim and iconic high rise beachfront
- Recognise and harness ‘corridors of opportunity’ that are rich in catalyst sites and offer long term city building and future expansion opportunities
- Strengthen poly-centric form of the city and establish excellent public and green transit linkages to realise aspiration for a ‘network city’
- Capitalise on opportunities created by GCRT for transit orientated development and sustainable infill regeneration to ease pressure on scarce greenfield land

## 4. Provide greater choice for access and mobility

**GOAL** A city with a truly integrated movement system that provides choice

**RECOMMENDATIONS**

- Reinforce GCRT as the backbone of a new accessibility paradigm
- Establish integrated city wide public transport network including new east-west rapid bus corridors and key intermodal interchange points to support convenient access between inland centres and communities and the coastal strip
- Improve existing walking connections and provide new links to support direct and convenient access to activity centres and in particular GCRT stations and public transport nodes
- Improve quality of existing streets and spaces to improve journey experience and attractiveness of the public transport system
- Remedy key missing links and expand the cycle network to foster the Gold Coast as a leading cycle city

## 7. Design buildings to foster ‘street life’ and a distinct Gold Coast character

**GOAL** A city with more responsive and distinctive Gold Coast architecture

**RECOMMENDATIONS**

- Encourage more distinctive and climatically responsive design
- Promote a greater diversity of building forms to accommodate growth
- Manage future building form to preserve views, breezes and minimise shadowing impacts
- Encourage buildings that contribute to a quality urban environment and foster street life
- Support variety of housing types to boost affordability and bring families back to the coastal core
2. Reconnect discrete urban communities

**GOAL**: Reconnect the fragmented mosaic of urban communities

**RECOMMENDATIONS**

- Create an active transport network where walking and cycle trips can be shorter and more direct than car based trips without diminishing the functionality of the road network.
- Investigate the potential for a ‘green bridge’ building programme to release opportunities for a comprehensive network of walking and cycling connections.
- Increase the quality and function of east-west pedestrian, cycle and vehicle routes.
- Improve quality of north and south routes and manage the ‘barrier effect’ of busy intersections.
- Establish rapid district and local bus routes, fed by improved pedestrian and cycle links, to support the role and function of GCRT.

3. Re-engage the city with its blue edges and water rich context

**GOAL**: Embrace the special water-rich landscape as a defining feature and part of daily city life

**RECOMMENDATIONS**

- Boost the quality of The Esplanade to strengthen its presence and role as an interface between the city and beach.
- Strengthen ‘moments of celebration’ where east-west streets terminate on the beach, particularly on streets with direct access to GCRT stations.
- Explore opportunities for the delivery of additional water crossings and waterfront promenades connecting key city precincts, centres and communities.
- Investigate feasibility of passenger and tourist ferry services to provide a wider choice of transportation modes and greater diversity of passenger experience.
- Harness the waterway network to enable more private boat use.

5. Challenge the trend of traffic dominated streets

**GOAL**: A city where it is a pleasure to walk and linger

**RECOMMENDATIONS**

- Improve pedestrian safety and comfort by preserving clear walk zones in bustling centres and planted buffers on busy roads.
- Encourage surveillance and activation, particularly around GCRT stations.
- Commence a city wide greener street programme aiming to deliver 10,000 trees in ten years.
- Develop new models for the delivery of public space and facilitate the delivery of new compact spaces in association with the renewal of major publicly owned sites.
- Foster a rich and engaging urban environment reinforcing existing and emerging quarters and a coordinated approach to public art, lighting and finishes.

6. Streets and places for people and a greener Gold Coast

**GOAL**: Walking and cycling are safe and convenient

**RECOMMENDATIONS**

- Increase footpath widths to match patronage requirements for GCRT and to support increasing street life and walking.
- Enhance pedestrian priority at busy intersections with changes to signaling arrangements and kerb alignments.
- Review speed limits in the urban core and opportunities for medians on busy routes to support safer and more convenient pedestrian crossing.

8. Create genuine communities

**GOAL**: Create socially sustainable communities within the corridor, and challenge the trend of ‘families on the fringe’

**RECOMMENDATIONS**

- Develop a community development strategy to facilitate community capacity building and help the re-emerging community strengthen local connections and identity.
- Develop a community engagement strategy to inform the community during the process of establishment and change.
- Develop an overarching place making strategy, which recognises and supports local identity and incorporates a range of actions including public space development and provision of public art.
- Establish a policy platform to encourage diverse and affordable housing, with delivery supported by a housing diversity guide.
- Explore incentives to encourage provision of adaptable and accessible housing.
- Implement the CAMS study and universal design frameworks to ensure universal access to the public realm, including public buildings, open space and transport connections.

9. A resilient and sustainable city

**GOAL**: A sustainable and resilient city capable of addressing the complex environmental challenges of the future

**RECOMMENDATIONS**

- Initiate water sensitive urban design (WSUD) measures within streetscapes and public spaces to enhance waterway quality and overall environmental health.
- Explore opportunities for the establishment of energy rating targets, and minimum sustainability requirements for new buildings and building retro-fits.
- Investigate opportunities for renewable energy including wind, solar and tidal power generation.
- Pursue a coordinated tree planting strategy in both public and private spaces to help offset the city wide carbon footprint.
- Foster sustainable travel behaviour with the potential introduction of ‘green travel plans’ as part of the development assessment process.