GOVERNMENT OF WESTERN AUSTRALIA

ROYALTIES FOR REGIONS

PILBARA CITIES
DEVELOPING THE FUTURE

Newman Revitalisation Plan - Volume 1
Implementation Plan

LANDCORP

Shire of East Pilbara

Lynne Craigie - Shire President
Alan Cooper - CEO
Keith Weymes - Director of Planning

Project Manager - Landcorp

Susan Oosthuizen - Project Director
Ryan Victa - Project Manager

Consultant Team

Town Planning and Urban Design - HASSELL
Community and Consultation - Creating Communities
Economics - Pracsys
Traffic - Transcore
Engineering - JDSi
Landscape Architecture - UDLA
Environment/Sustainability - GHD
Peer Review - Brian Curtis Pty Ltd
Retail – Taktics 4
Property - State Property Advisory

Forewords

Colin Barnett MLA
Premier

The release of the Newman Revitalisation Plan is a momentous step for the people who live there.

It outlines a bold, robust plan to revitalise the town – a plan originally conceived by the Government and the Shire of East Pilbara to evolve Newman into a town of substance, quality and permanence.

As part of our 'Pilbara Cities' initiative to invest in our regional towns, this plan will build on Newman's strengths and establish it as a dynamic and diverse place to live – a place with services and amenities which will attract and retain a broad range of people wanting to settle permanently in the region.

Through the Royalties for Regions Pilbara Revitalisation Plan the Government has allocated $20million to fund these major improvements.

Input from the people who live and work there have heavily informed the plan because our intention is to guide development in a way that addresses critical needs and concerns well into the future.

We anticipate Newman's population will grow in the coming years and we will be prepared.

Making this vision a reality requires long-term planning, investment and co-ordination of many individuals, organisations and layers of government.

Together we have made a remarkable start and I am confident this plan leaves us well-placed to realise our vision.

Brendon Grylls MLA
Regional Development and Lands Minister

As a key service centre for some of the world's biggest iron ore projects, Newman faces an exciting future.

Through Royalties for Regions we have committed to re-invest in the town to keep pace with demand for infrastructure, residential, tourism, commercial and industrial opportunities.

Having lived for decades with basic services, the people of Newman will soon be able to enjoy a town centre full of character and a townsite geared to accommodate more residents, retailers and businesses.

I commend the local residents and workers who have shown great interest in the plans for Newman's future and taken ownership of the project to make a positive change.

Existing residents will have a wide and interesting choice of leisure activities, new people will be attracted to the area and a range of businesses will emerge to bolster the local economy.

In achieving this, we will secure the long-term economic future of Newman and the people who live there.

Lynne Craigie
Shire of East Pilbara President

Through my involvement in small business in Newman and since my election to Council in 2003, I have spoken to people of all ages and from all walks of life about the future of our town.

The resounding call has been for change – for Newman to receive a long-overdue facelift, which not only attracts people but encourages them to stay. To make Newman not just a good place but a great place to work, live and visit.

This plan is the blueprint to make that hope a reality.

We intend to rejuvenate the main street and establish a town square and plaza as focal points for people to meet and gather.

Added retail opportunities and cafes and restaurants with alfresco dining will make for a lively streetscape.

Markets and special performances and events will be held at the landscaped outdoor precinct.

Existing residential lots will be redeveloped to provide a wider choice of houses including small and large single homesites, townhouses and low-rise apartments.

A mixed business precinct will provide opportunities for larger retailers including a discount department store.

We also plan to release strategic industrial land to encourage heavy and transport based industries.

Newman is entering a new era and will be a town that all of us are proud to call home.

Allen Cooper
Chief Executive Officer
Shire of East Pilbara

Council commenced the planning for the Town Centre Revitalisation back in 2003.

However with Councils limited resources it would have taken many years to come to fruition.

The Royalties for Regions has provided the money and the stimulus to see the project bloom. Coupled with the greater Newman plan will see the town grow to be the heart of the Pilbara with a planned population of up to 15,000.

This planning provides opportunities for all of the community through improved and new facilities, businesses and accommodation.

The strong partnerships of Government and private enterprises developed through this planning process will continue throughout the implementation stages to ensure Newman reaches its full potential.

I invite everyone to become familiar with the project and watch it grow over the coming years.

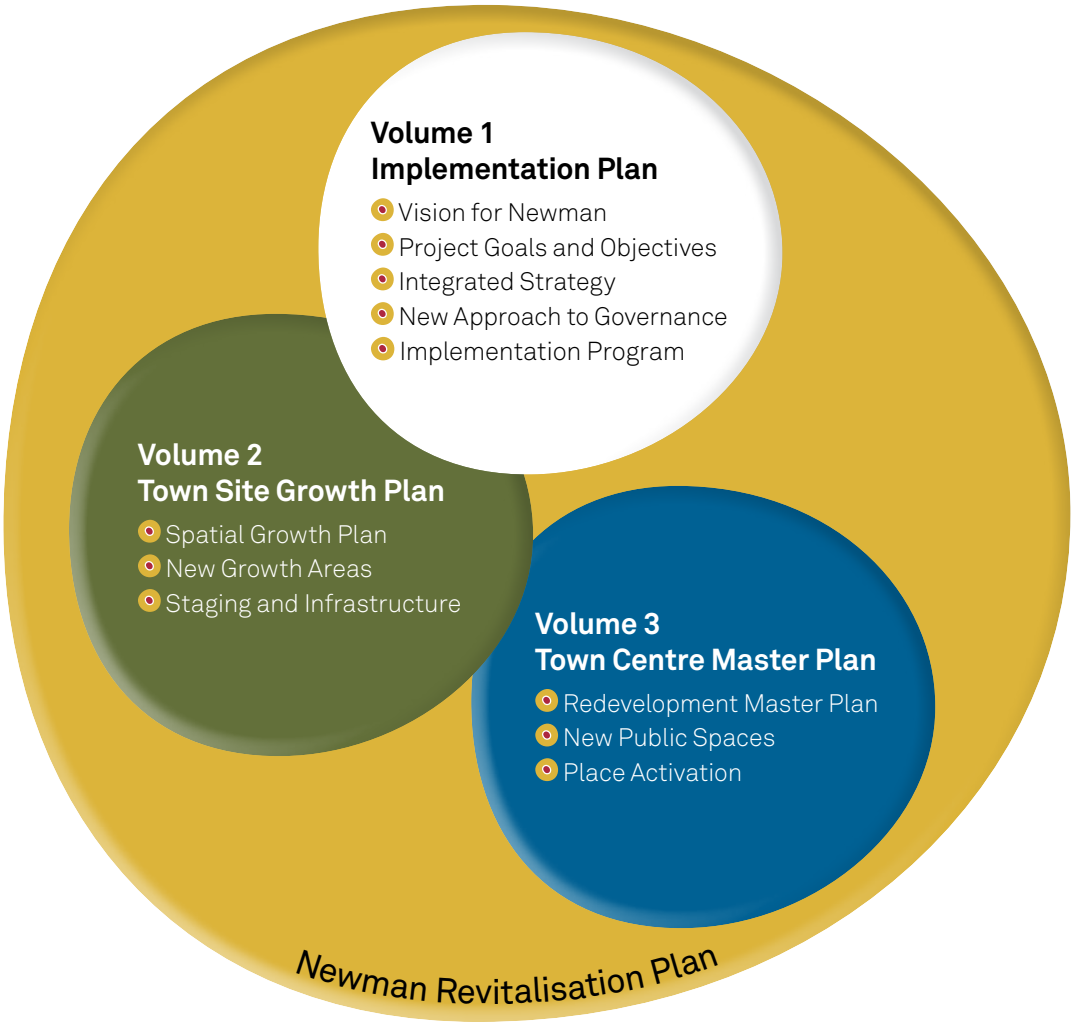
Components of the Newman Revitalisation Plan

The Newman Revitalisation Plan (NRP) has been prepared in partnership by the Western Australian State Government and the Shire of East Pilbara (SoEP). It was prepared through a consultative and multi-disciplinary approach, in response to their shared vision for Newman. As an adaptive management plan and project management tool, it will help guide the action required to deliver this vision. The NRP is made up of three volumes:

Implementation Plan (Volume 1) - provides the overarching vision and the integrated strategy to evolve Newman into a subregional service centre. This includes an implementation program that sets out the actions required to drive economic, community and infrastructure development and population growth, including a new approach to regional and local governance.

Town Site Growth Plan (Volume 2) - includes urban growth strategies and actions required to accommodate a permanent population of 15,000. This includes a land use plan that proposes new industrial, commercial and residential growth areas for Newman, and sets out the hard and soft infrastructure requirements to enable growth to occur.

Town Centre Master Plan (Volume 3) - sets out how the town centre will be modernised and transformed into a vibrant and attractive heart for Newman. This includes a redevelopment master plan, and proposals for activating new public spaces.



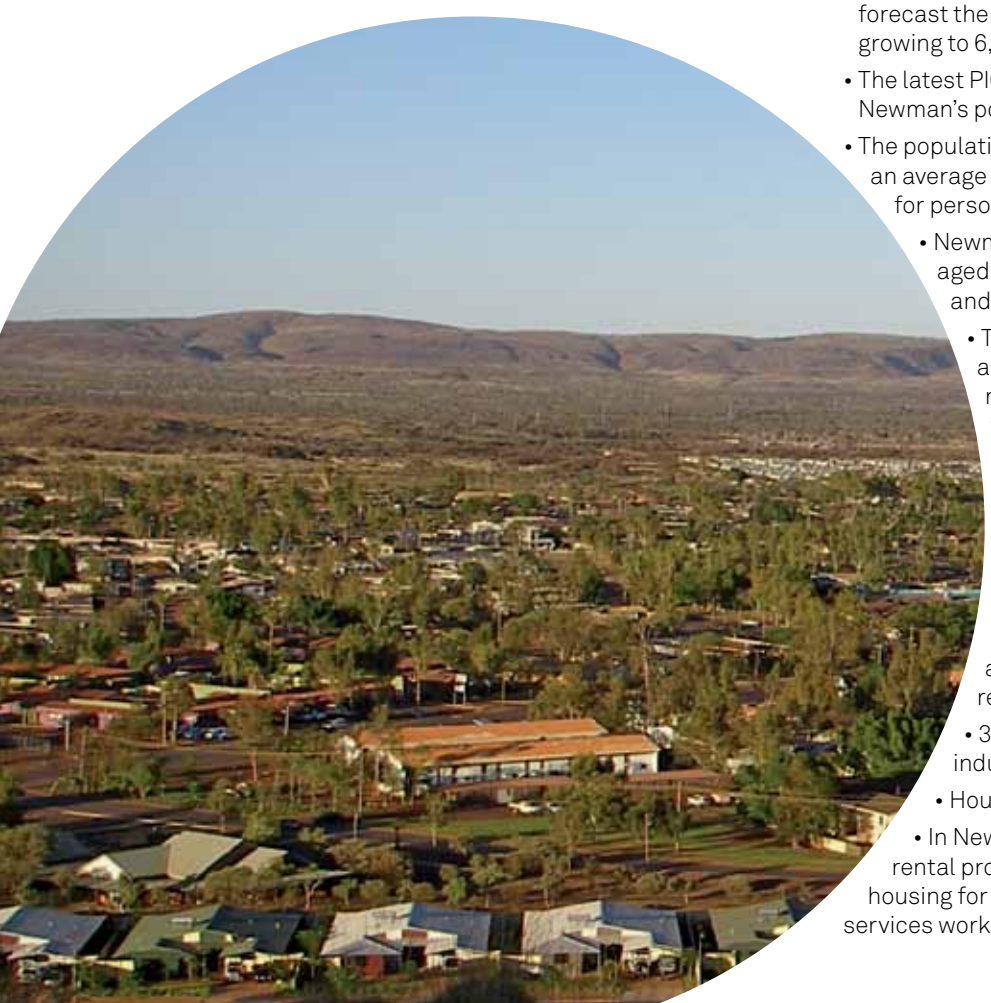
Components of the Newman Revitalisation Plan

Content

Executive Summary

Where Are we Now?

- Mining and resource extraction is the backbone of the Pilbara economy, and the scale of demand from China particularly and Asia generally is driving new projects on an unprecedented scale. The significance of the Pilbara to the national economy is unquestioned, but the indications are that unless major intervention occurs quickly this could be compromised through inaction in investing in Pilbara communities.
- Concern has been expressed in a large number of studies with input from resource industries, and all levels of government that our current practices are not sustainable because they are not leading to the development of sustainable local communities. The dominance of major industries, difficulties in attracting labour, high costs of living, inadequate infrastructure, and poor quality of amenity has led to a vicious cycle that needs to be broken.
- Current Newman – a mining town under pressure:
  - Economy tied to expanding resources sector and primary industrial activity.
  - Workforce is resource sector orientated.
  - Shortage of service workers.
  - High proportion of singles and families.
  - Lower proportion of teenagers and seniors.
  - Aging infrastructure at capacity.
  - Limited availability of developable, affordable land.
  - Inelastic land and housing supply pipeline.
  - Limited housing choice.
  - High demand and competition for limited housing supply.
  - Social polarisation as access to housing is largely restricted to those on high wages or qualify for housing subsidies.
  - Some retail opportunities although limited competition.
  - Range and quality of services do not meet community expectations.
  - Limited cultural activities.
  - Limited planning and coordination.
- Key Facts and Figures about Newman:
  - For the purposes of these documents, the existing population of Newman is estimated to be 8,000, comprising approximately 5,000 permanent residents and 3,000 "Fly-in Fly-out' (FIFO) workers living in camps within or in close proximity to the town.
  - The population grew by 20% between 2001 and 2006, averaging 140 new residents per year.
  - The Pilbara Industry's Community Council's (PICC) population projections to 2020 (adopted by the Western Australian Planning Commission) July 2008 forecast the Newman urban centre's population growing to 6,000 by 2015.
  - The latest PICC projections (April 2010) now forecast Newman's population growing to 8286 by 2015.
  - The population of Newman is relatively young with an average age of 31 years compared with 37 years for persons in Australia.
  - Newman has a lower proportion of people aged 40 plus compared to both the SoEP and Pilbara statistical division.
  - The majority of households in Newman are couples with children, further reinforcing that Newman is a population with a large number of younger children.
  - There is a significantly high proportion of males to females from ages 20 through to 60 years of age. This is indicative of the male dominated mining and construction industries which are the major attractions for working and living in the region.
  - 37% of total employment is in the mining industry.
  - Housing affordability is a significant issue.
  - In Newman there is a high proportion of rental properties probably due to the provision of housing for resource sector and government services workers by their employers.



- The housing market is dominated by separate houses which account for around 83% of the total accommodation stock.
- Currently, housing prices in Newman approximate the following:

1 bedroom, 1 bathroom units/apartments	$320,000 approximately
2 bedroom, 1 bathroom villas	From $400,000 approximately
Houses	$500,000 to $900,000 approximately

Where do we Want to be? – Newman 15,000

- Implementation of the SoEP's *Newman Tomorrow* vision.
- An expanded, more diverse economy, which offers a broader selection of job opportunities.
- A planned town that responds to the environmental conditions of the Pilbara and exhibits a strong sense of place.
- Greater housing diversity that meets the needs of a broader demographic profile.
- Infrastructure that meets the needs of the town, and allows for growth.
- More industrial, commercial and residential land supply and creation of readily developable land banks that can be quickly released to the market.
- Improved housing affordability through normalisation of the housing market, centered around a strong private sector presence.
- Demonstration projects targeted at delivery of affordable land and housing for service and residential construction workers.

- A modern vibrant and attractive town centre which offers more opportunities to shop and socialise.
- Provision of services at a standard that meets the expectations of the community.
- Excellent connectivity and transport linkages throughout the town.
- A partnership approach that facilitates the coordination and investment required to deliver the Newman Revitalisation Plan (NRP).

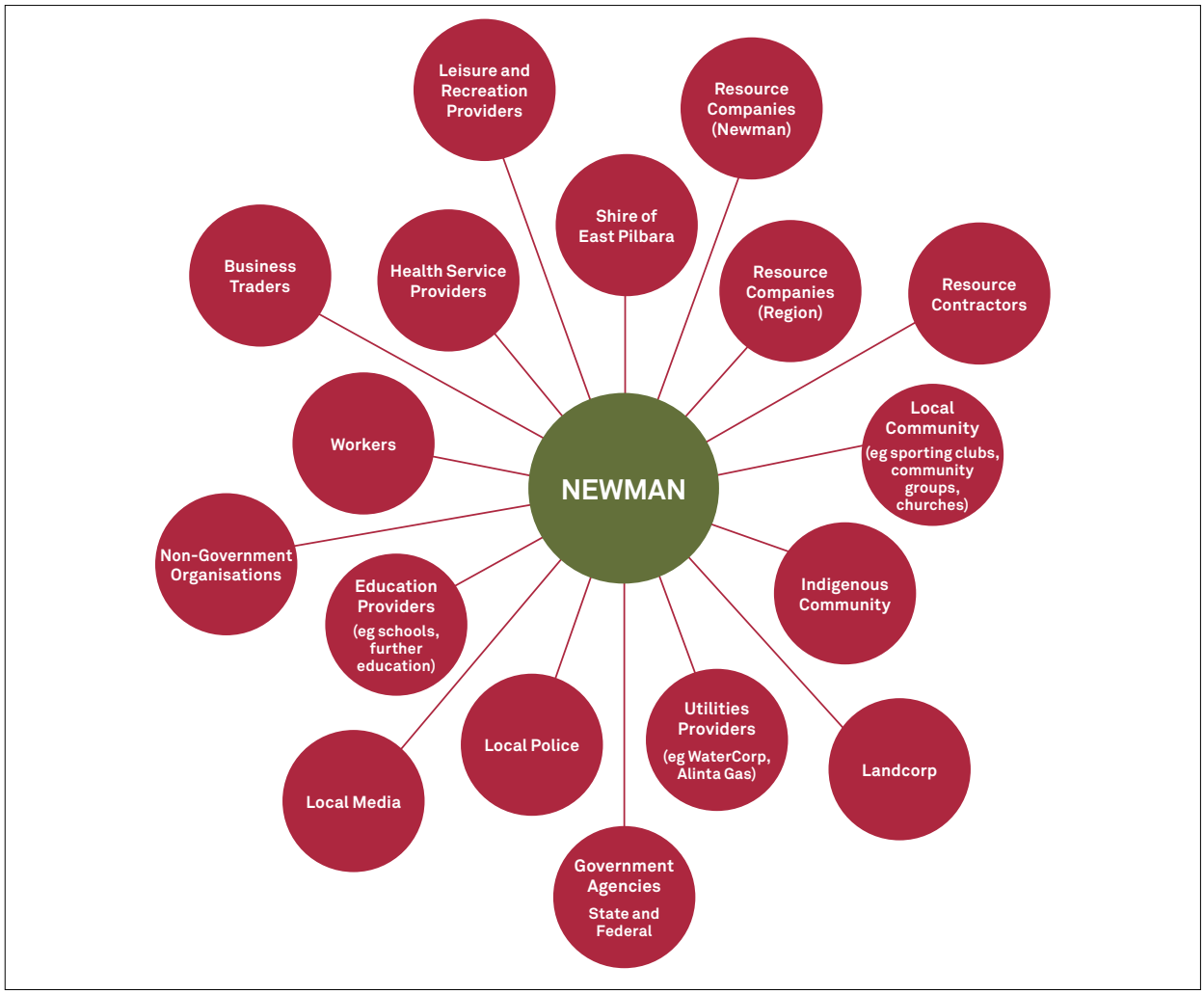
How do we Get There? – Newman Revitalisation Plan

- Our traditional interventions and delivery of soft and hard infrastructure by the State Government is conceived and delivered by a wide range of State agencies and Government Trading Enterprises (GTE's), each with a different focus, timing and lacking coherence. The call for urgent action in Pilbara towns recognises that a new governance approach is needed.
- The challenge of creating sustainable Pilbara towns and communities therefore requires a new approach that can work simultaneously at a number of levels to break the current cycle:
  - **Economic Diversification:** If the population of Pilbara cities is to increase at the anticipated scale, this will require a significant increase in jobs to support the resident community. This in turn will require the diversification of the local economy which means working closely with the resource industry to find ways of developing a more robust, flexible and adaptable local economy.
  - **Lower Cost of Living:** The high cost of living in Newman is also impacting on the ability of Newman to grow its population. Service worker accommodation at affordable prices will need to complement economic diversification initiatives. Initiatives and actions are needed to address the cost of rents and mortgages and free up the operation of the housing market. The availability of affordable housing to accommodate the required population is a key element on this.
  - **Improving the Quality of Life:** Although Newman has both the natural and economic attractions, there is a high level of dissatisfaction with the level of service provision, facilities and amenities. The urban form, quality of the built form, and range of housing does not generally make a positive contribution to the quality of life for Newman residents. There is a strong perception within the Newman community that its needs in core areas such as health, education, utilities infrastructure, and transport and community amenities must be urgently addressed, and a desire for immediate action to be taken to revitalise the town centre.

Executive Summary

Methodology

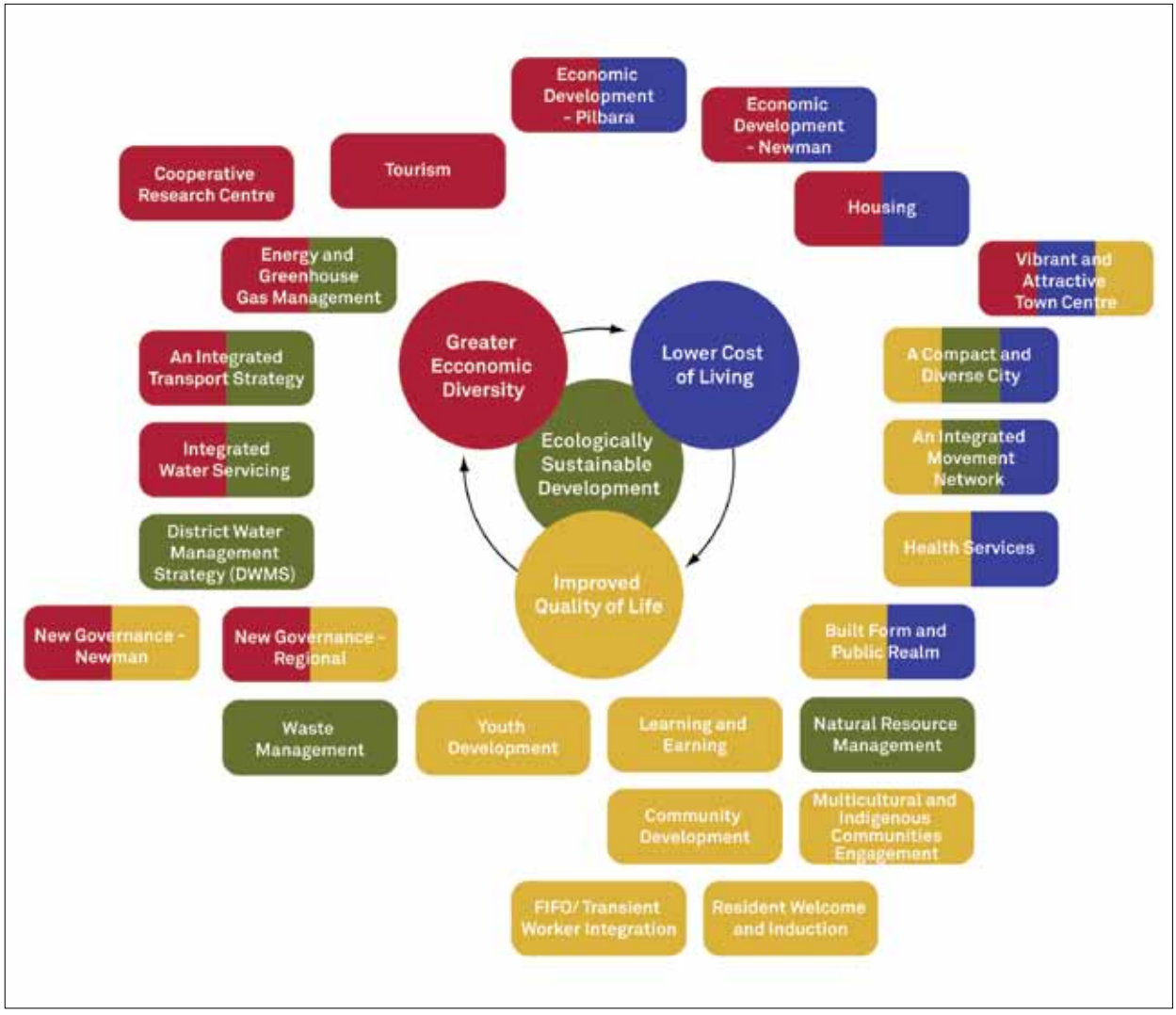
- The NRP is a plan that recognises from the outset that a coherent and integrated approach is necessary that will bring together the economic, social, environmental and built form responses that together are needed to deliver vibrant towns, with a good quality of life that is affordable for all to enjoy.
- The NRP project recognises from the outset that actions will be needed at several levels simultaneously:
  - **Region:** Some things can only be achieved by coordinated interventions at the regional level. For example, many initiatives aimed at working with the resource industry to examine working practices, or diversifying the economy can only be tackled at the regional level.
  - **Town Site:** Providing more land for release to house the resident and business community requires better planning at the town site level so that there is a clear vision on where best to meet these needs, built on a vision shared with business and the local community. This can then provide the framework needed to identify the hard and soft infrastructure needs required to support these communities.
  - **Town Centre:** At the heart of Pilbara cities are the town centres, as they provide the focal point for the community, meeting places to interact, and represent to visitors the meaning of the place.
- This analysis of Newman and the development of the NRP was undertaken using the Driving force-Pressure-State-Impact-Response (DPSIR) Framework. The DPSIR Framework is viewed as a means of providing a systems-analysis view of a socio-ecological system, in this case the human settlement of Newman.
- Based on this analysis, project objectives were developed which (if met) will transition Newman from its present state towards achievement of the aspirational goals and visions for the town. Various solutions were evaluated in terms of how effectively each different solution would meet the objectives of the Town Site Growth Plan and Town Centre Master Plan levels with the most effective being chosen.
- Extensive consultation with a range of stakeholders has been undertaken on a wide range of matters directly impinging on the revitalisation of Newman and its growth as part of the Pilbara Cities initiative.



Overview of key Stakeholders

Integrated Strategy

- The DPSIR Framework was used by the project team to assess the current situation, pressures and implications, and derive aspirational goals and project objectives. The multi-disciplinary team then used this framework to workshop what strategies and actions were required to realise the vision for the NRP. This enabled strategies to be identified, which were then developed by the project team, and then tested at a variety of design workshops with the Newman community and key stakeholders.
- The NRP is a 'project plan' for delivering Newman as a flourishing and sustainable town with a permanent population of 15,000. It is not a plan just for the local government or a singular state department. Rather, it describes an integrated approach for local, state and federal agencies, the private sector and the community to transcend conventional sectoral boundaries to think and act holistically. It is an implementation-oriented plan, which is specific in terms of responsibilities, time and costs to ensure delivery can be coordinated and monitored. The plan goes well beyond a list of projects.
- This NRP provides an overview of the strategies including the "non-spatial" strategies that together provide the roadmap to realise the project vision. A total of 24 separate strategies have been identified to realise the NRP's aspirational goals and objectives. These are illustrated in the diagram below, and described in Section 4. Each strategy has been numbered, and all the strategies in number order are described in more detail in Volume 2.
- The detailed implementation projects, actions and steps are described in more detail in Section 6. The NRP has been developed as an adaptive management plan and is to be continually reviewed in the light of progress, and updated accordingly.



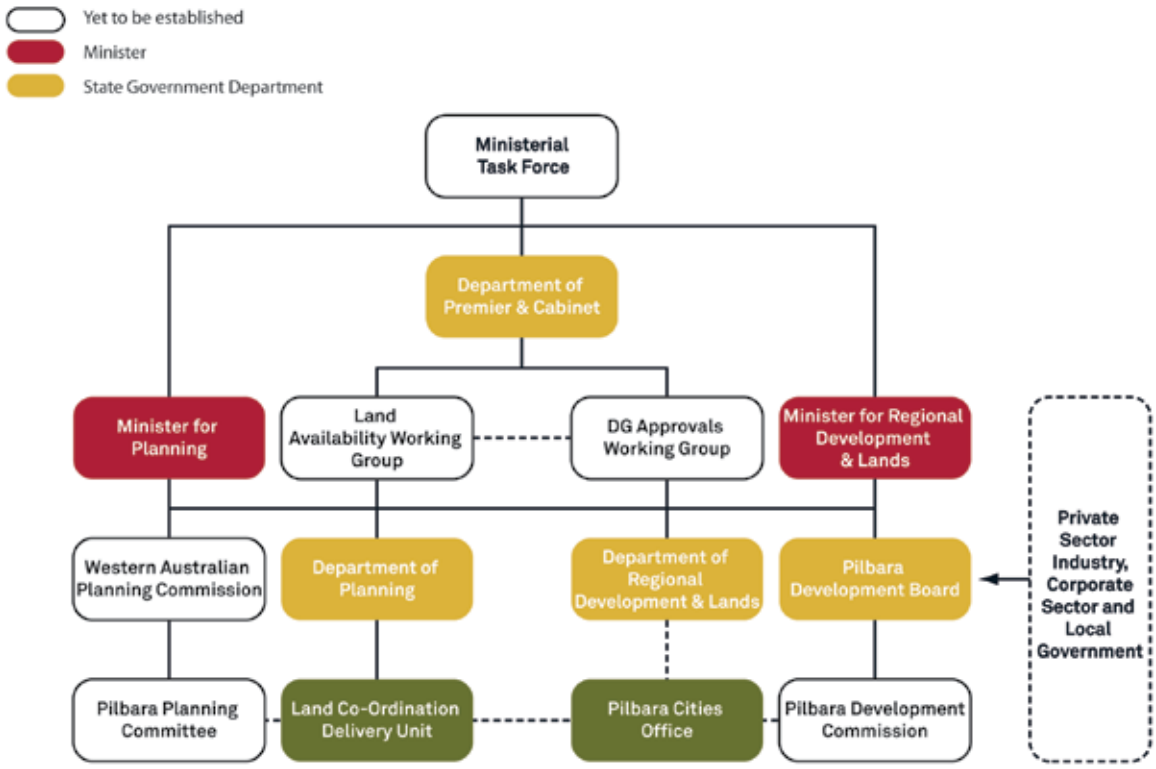
Summary of the proposed strategies

Executive Summary

A New Approach to Governance

- The business as usual (BAU) approach by all levels of government and industry will not deliver a sustainable Newman with a permanent population of 15,000. It will require a strong and direct intervention from all levels of government and industry. It will require a different approach to governance to ensure the timely implementation of infrastructure, associated amenity and creation of economic employment opportunities.
- Regional development is a high government priority, and in recognition of this the State Government has proposed establishment of the Pilbara Cities Office (PCO), illustrated below to expedite, facilitate and coordinate Government and industry activity for the development of the Pilbara. It is recommended this governance model for the Pilbara should evolve over time to the establishment of a stand-alone state department that directly reports to a Minister.
- A key challenge for any proposed governance structure will be to generate a resident regional workforce to achieve a Newman with a stable resident population of 15,000, with a resident workforce of up to 7,500. For this to occur, it requires the long term commitment and investment in the Pilbara by both the private and public sectors. Regardless of the governance model that is implemented, any future governance arrangements require the policy setting, legislative and regulatory authority with subsequent resourcing and investment decision making capability to advance the development of the Pilbara.
- A governance model for the Pilbara presupposes that the development of the region is to include a future town or cities and expanded subregional centres as a viable value proposition for the State. The proposed governance model is suggested for consideration by State Government as part of the second phase roll out of the PCO for the development of the Pilbara and is described in detail in Section 5 of this document.
- NRP is a call to action for all sectors of government, industry and the community to bring infrastructure levels up to an acceptable standard. NRP requires a majority investment from the Federal, State Government and Private Sector/Industry and a significant lower investment from the SoEP in the first instance. This NRP is a roadmap for the journey towards a sustainable and vibrant Newman of 15,000 people. It represents a new approach aimed at unifying strategies, initiatives and actions that combine, maybe for the first time, spatial planning and infrastructure with the economy and community. The intention is for the NRP to be a "living" document and for the SoEP and the State Government through the PCO, to work in partnership, to realise the joint vision for a town of 15,000 permanent residents.

Pilbara Cities Office - High Level Relationships



Making it Happen

This section summarises the short term (0-5 years) actions and projects necessary to implement the strategies set out in this NRP. More detail is presented in Section 6 of this report, which also sets out the timeframes and costs for medium and longer term actions and projects.

It should be noted that costs are in most cases estimates only and have been developed by the consultant team in consultation with various stakeholders.

They are provided in order to give guidance to the order of costs involved and further work will be required to establish sufficient accuracy for budgeting purposes.

Strategic projects at a Regional Level (Federal and State funding required)

These actions and projects are considered essential elements of the NRP which have implications beyond Newman and will require resources and funding at the state and federal level.

Strategy	Action/Activity/Project	Driver	Timeframe	Cost ($m)	Funding Source
Studies/Planning/Design					
Regional Governance	Establish Office of the Pilbara	Cabinet	Yr 2-3	DTF	DTF
	Establish Pilbara Partnerships Board as the peak body for implementation of the Pilbara cities vision	PCO	Yr 2-3	PCO	PCO
Diversifying the Economy – Shire Level	Develop and implement Pilbara Region Economic Development Strategy	PCO	Yr 2-3	2.25	PCO
Energy and Greenhouse Management Strategy	Governance and regulation of local power supply: Obtain in principle agreements for change and funding	BHPB and Horizon Power	Yr 1-2	0.2	BHPB and Horizon Power
	NWIS governance: Establish governance arrangements for the NWIS	PCO	Yr 1-2	1	R4R
	Solar flagship project: Prepare proposal for federal funding under the solar flagships program	Horizon Power	Yr 1-2	0.4	Horizon Power
	GNH industrial Site Power Supply Study: Formulate power supply strategy	BHPB / Horizon Power	Yr 1	0.1	Horizon Power
	Newman Power Generation Study: Formulate power generation strategy	Alinta Energy	Yr 1	0.1	Alinta Energy
	Gas Supply Study: Formulate Gas Supply for power generation strategy	Goldfield Gas Trans Pipeline company	Yr 1	0.1	Goldfield Gas Transmission Pipeline company
Integrated Water Management Strategy	DWMS: Prepare a District Water Management Strategy for Newman	SoEP	Yr 2-3	0.1	SoEP
			Total	4.25	
Capital Works					
Energy and Greenhouse Management Strategy	NWIS upgrade projects: Complete upgrade of NWIS	Horizon Power	Yr 2-5	600	Horizon Power

Executive Summary

Strategic projects at a Town Site/Town Centre Level (State funding required)

These actions and projects are considered essential elements of the NRP at the Newman level and will require resources and funding at the state level.

Strategy	Action/Activity/Project	Driver	Timeframe	Cost ($m)	Funding Source
Studies/Planning/Design					
A Compact and Diverse Town	Resolve Mining Act issues for future development	LandCorp/ SoEP/DMP	Yr 1-5	Ops budget	SoEP
	Native Title and Indigenous Land Use Agreement	LandCorp/ SoEP/Native Title Claimant	Yr 1-5	Ops budget	SoEP
	Resolve aboriginal heritage issues for site adjacent the public swimming pool	LandCorp/ SoEP	Yr 1-5	0.055	SoEP
Energy and Greenhouse Management Strategy	Lot scale solar PV: Solar PV feasibility and cost-benefit study	Horizon Power	Yr 1	0.15	Horizon Power
Integrated Water Management Strategy	Water: Governance and water servicing strategy	Water Corporation and BHPB	Yr 1	0.3	Water Corp / BHPB
	Drainage analysis: Development of drainage model for Newman	SoEP	Yr 1	0.25	SoEP
Town site Expansion	Telstra upgrades: Telstra planning Study	Telstra	Yr 1		Telstra
			TOTAL	0.855	
Capital Works					
Community Facilities	Town Square, Youth Centre, Martu Milli and Aboriginal Artists facilities, Multiuse community spaces/ facilities, Medical Facilities, Caravan/RV Visitor/Truck Parking, Boomerang Oval Development, Additional Caravan Park	SoEP	Yr 1-5	29	SoR, State Agencies, Private Sector
Energy and Greenhouse Management Strategy	New South Newman Zone sub station: Planning, design and construction	BHPB / Horizon Power	Yr 2	35	Horizon Power
	Built form: Climate responsive, energy / materials efficient demonstration projects	Landcorp	Yr 2-5	10	Landcorp
Integrated Water Management Strategy	New water treatment plant : planning, design and construction and upgrades	BHPB / Water Corporation	Yr 2	10	Water Corp
	Immediate sewerage needs	SoEP / Water Corporation	Yr 2-5	6.6	SoEP/Water Corporation
	Immediate water supply and service provision needs	Water Corporation	Yr 1-2	2	Water Corp
	GNH Industrial Site Water Supply: Planning, design and construction	Water Corporation	Yr 1-2	1	Water Corp
	GNH industrial site waste water: Planning, design and construction	Water Corporation	Yr 1-2	1	Water Corp
	Wastewater recycling system: Design and construction	SoEP	Yr 1-5	1	SoEP
	Upgrade waste water treatment plant: Planning, design and construction	SoEP	Yr 4-5	0.8	SoEP
Public Realm	Landscape Development of Newman Town Park, Market Place and Town Square	LandCorp/ SoEP	Yr 1-2	5.0	SoEP

Strategy	Action/Activity/Project	Driver	Timeframe	Cost ($m)	Funding Source
Studies/Planning/Design					
Town Centre Revitalisation	Town Centre stage 1-8 revitalisation: Planning, design and construction of infrastructure ie water, sewer, power, roads	Landcorp / SoEP	Yr 1	25	Landowners
Town site Expansion	Town site stage 1, 2, 3, 4, 5, 6 expansion: Planning, design and construction of infrastructure ie water, sewer, power, roads	Landcorp / SoEP	Yr 1-4	74	Landowners
			TOTAL	200.4	

Strategic projects (SoEP/State Government/Private Sector funding)

These actions and projects are considered essential elements of the NRP for the SoEP and which will require resources and funding from state or private sector sources.

Strategy	Action/Activity/Project	Driver	Timeframe	Cost ($m)	Funding Source
Studies/Planning/Design					
A Compact and Diverse Town	Prepare and adopt updated LPS, scheme amendment, policies	SoEP/ WAPC	Yr 1-4	0.21	SoEP
	Local Housing Strategy,	SoEP	Yr 1-2	0.1	SoEP
	Revise Priority 1 and Priority 3 public drinking water boundaries	SoEP/ LandCorp	Yr 1-5	0.04	SoEP
	Establish a strategy to stage future growth and implement public realm initiatives	SoEP	Yr 1-5	Ops budget	SoEP
Community Development	Develop Newman Community Pride and Engagement and Pride Strategy and other community development strategies	SoEP	Yr 1-5	0.35	SoEP / R4R / State agencies
Diversifying the Economy – Shire Level	Establish Economic Development capability in SoEP	SoEP	Yr 1	Ops budget	SoEP
	Formulate SoEP economic development strategy	SoEP	Yr 2-3	0.1	R4R
Local Governance	Establish a responsibility within SoEP to promote local economic development	SoEP	Yr 3-4	Ops budget	SoEP
Natural Resource Management Strategy	Terrestrial studies: preliminary acid sulphate soils, flora and vegetation surveys, fauna surveys	Landcorp, other landowners	Yr 2-3	0.25	Landowners
	Establish an integrated holistic NRM framework that considers current, planned and additional strategies and activities across the full range of natural resources	SoEP	Yr 4-5	0.2	SoEP
Waste Management	Prepare a Waste Management Strategy for Newman	SoEP	Yr 3-4	0.25	SoEP
			TOTAL	1.49	

Projects (Private Sector funding)

These actions and projects will require resources and funding from private sector sources.

Strategy	Action/Activity/Project	Driver	Timeframe	Cost ($m)	Funding Source
Studies/Planning/Design					
A Compact and Diverse Town	Prepare and lodge Structure Plans and DAPs	Land owners	Yr 1-5	Developer cost	Landowners

01. INTRODUCTION

1. Introduction

The Pilbara region accounts for 35% of the nation's mineral and petroleum production and 23% of its merchandise exports. The Pilbara is the economic powerhouse of Australia and is on the verge of another period of accelerated economic growth with approximately $150b planned projects in the region. The State Government believes the strategic importance of the area warrants significant investment to create vibrant regional cities that can support and deliver a skilled workforce, while offering a high standard of living to local communities.

The key aims of the State Government's Pilbara Cities Vision are to:

- Build vibrant centres that offer economic and social sustainability
- Create places to live on a permanent and intergenerational basis
- Diversify the economy
- Facilitate local job creation
- Encourage Indigenous enterprise, training and employment opportunities
- Set aside land and corridors for major industries
- Support infrastructure development
- Improve connectivity between communities, towns and cities

1.1 A Roadmap to Revitalisation

The Pilbara Cities Vision has been conceptualised in the absence of a governance model to deliver on the vision of Government. The Vision sets the strategic direction for the development of the Pilbara Region.

The Newman Revitalisation Plan (NRP) presents a 'roadmap' for the realisation of this vision for Newman.

The revitalisation process in Newman has already begun in the town centre, but there is still much to do. State Government through the Royalties for Regions programme has provided additional funding to the SoEP to facilitate more improvements on the ground. The Royalties for Regions Pilbara Revitalisation Plan and Pilbara Cities initiatives are founded on the understanding that funding alone will not be enough to develop sustainable Pilbara communities. More comprehensive plans are required for our townships, and more certainty for the resource industry, property market and the community on where we are headed. Coordinated strategies, actions as well as funding are needed to realise a shared future vision.

The SoEP has a vision for the future, expressed in *Newman Tomorrow Resourcing a Home for Future Generations* (2008) which has articulated the SoEP's desire for Newman to continue to grow sustainably and support local economic activity. This NRP embraces the principles articulated in *Newman Tomorrow* which are:

- Securing improved social outcomes for the people of Newman in every age demographic, now and into the future.
- Ensuring Newman is a place that people are proud to call home, no matter how long they reside.
- Recognising Indigenous culture and establishing a foundation for greater Indigenous participation in the local economy.
- Developing the town centre so that it reflects Newman's status as a major regional centre and provides a focal point for the community.
- Balancing the strengths of the resource sector with promoting small business, tourism and the attractions of regional lifestyles.

This NRP provides specific details on how the revitalisation of Newman should occur. It is based on a holistic approach to community and economic development and the shared vision for development of a more vibrant, inviting and liveable Pilbara town.

The strategies articulated in this plan are to be implemented through strategically targeted interventions that address current concerns and issues, while also embracing a range of opportunities.

The NRP has been prepared as part of the Newman Revitalisation Project through a State and Local Government partnership working with local communities to secure lasting improvements to Newman it takes a holistic and long term approach to simultaneously facilitating economic prosperity whilst creating vibrant, liveable and affordable sustainable towns and local communities.

1.2 Growing the Newman Population

1.2.1 Current Population Assumption

For the purposes of the NRP, the existing population of Newman is estimated to be 8000, comprising 5000 permanent residents and 3000 'Fly-in Fly-out' (FIFO) workers living in camps within or in close proximity to the town. This figure reflects the SoEP's anecdotal estimate of the current population, and took into account population projections which were current when the NRP was initiated. The estimate has been used as the baseline assumption, upon which current population requirements have been calculated.

1.2.2 The Trajectory for Growth

The population growth assumptions in the NRP are not informed by population projections, but rather set through an aspirational population growth target of 15,000 permanent residents. Current projections suggest Newman will not grow substantially beyond 8,300 people. This does not align with the significant growth aspirations of the Pilbara Cities vision, and highlights the need for a more proactive approach to accelerating permanent job and resident population growth.

The population target, which is close to the population of Karratha and Port Hedland currently, represents a key threshold in the transition from a resources town to a subregional centre. The growth trajectory this target has set has been used to help calculate what is required at key points to facilitate population growth. This approach can be used as a sliding scale, and can be adjusted depending on the level of Newman's growth.

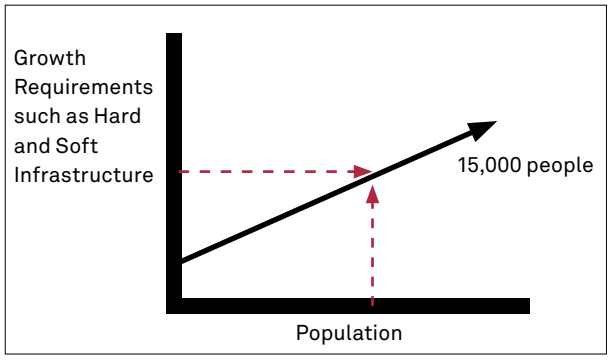


Figure 1 Population Requirements

This highlights the need for an adequate 'speedometer' to keep track of the rate of Newman's growth along this trajectory, particularly if it can be accelerated beyond current projections.

1.2.3 Population Numbers

On census night 2006, the Australian Bureau of Statistics (ABS) recorded 4,744 persons in Newman, including residents, tourists, visitors and service populations (which include FIFO). The table below includes the number of people counted in previous censuses in Newman. However 4,247 people were recorded with Newman as their place of usual residence, which accounted for 64.9% of the SoEP's population. A net undercount of 4.4% was estimated through a post-enumeration survey conducted by the ABS, which potentially lifts the population to 4,434.

Year	Population (place of enumeration)
2006	4744
2001	3535
1996	4790
1991	5627

The change in population between 1991 and 2006 highlights the historic variability in population levels, which in Newman are largely influenced by the operations of resources companies (primarily BHP Billiton) and broader economic conditions.

For planning purposes, the Western Australian Planning Commission (WAPC) supports the use of the population projections produced by the Pilbara Industry's Community Council (PICC). These projections, produced by Heuris Partners, take a bottom up approach by taking into account information from companies on planned and potential resource projects and model the resulting direct and indirect multiplier impacts on Pilbara employment and population growth out to 2020. The PICC projections released in July 2008 estimated the resident population in 2010 would be approximately 5,250, and level off 6,000 in 2015. The draft PICC projections released in April 2010 are higher, and suggest that companies operating in the Pilbara are emerging from the impacts of the Global Financial Crisis with stronger investment and production intentions than underpinned the July 2008 projections. They now estimate a current resident population of 7,791, levelling off at 8,286 in 2015. The draft PICC projections also estimate a current combined resident, FIFO and construction workforce population of 9,104. The table below includes these projections to 2020.

Year	Population Projection
2020	9266
2019	9266
2018	9266
2017	9266
2016	9266
2015	9266
2014	9266
2013	9915
2012	11378
2011	11041
2010	9104

1.2.4 Consensus Approach to Quantifying Population Growth

The difficulty in quantifying existing populations has been identified as a key issue for many Pilbara communities, including Newman. This is because permanent residents as well as FIFO and other transient worker populations place demands on local services and infrastructure. The uncertainty over the level of demand impacts on the ability to adequately supply services and other requirements such as housing, as planning and delivery lag behind actual population growth. A better understanding of population levels is essential to addressing the gap in service and infrastructure provision and enabling a shift to a more proactive approach to facilitating growth and meeting the needs of the community. This includes provision of services and infrastructure, ahead of the new population arriving.

Whilst the WAPC may accept the PICC projections for planning purposes, there is conjecture at a local level whether these figures are accurate, particularly given the transient nature of a large part of the workforce. A consensus of approach is required to monitoring current population levels, which needs to be undertaken more comprehensively and regularly enough to adequately inform planning and operational decisions. Use of a model would also be helpful in quantifying the service and other requirements as the population grows. The Department of Housing is currently preparing a model to quantify demand for housing, and there may be scope to adapt it for broader purposes. A working group, which includes representatives from state and local government and the private sector, will need to be established through the Pilbara Regional Planning Committee to determine the way forward in this important matter.

1.3 What Are The Key Challenges For Pilbara Towns?

Mining and resource extraction is the backbone of the Pilbara economy, and the scale of demand from China particularly and Asia generally is driving new projects on an unprecedented scale. The significance of the Pilbara to the national economy is unquestioned, but the indications are that unless major intervention occurs quickly this could be compromised through inaction in investing in Pilbara communities.

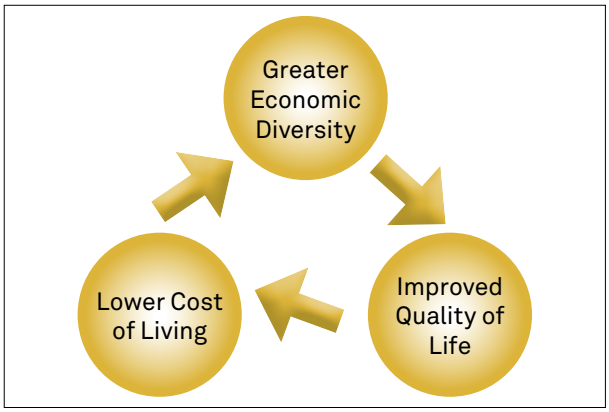
As the Pilbara Plan states:

> *"...the Pilbara is not a short term quarry. It will sustain major wealth generation for Australians for hundreds of years. The Pilbara therefore can and must host long-term, fully-sustainable and high-quality living Pilbara communities..." (Andrew Forrest 2008)*

The Pilbara contains a host of valuable and essential resources for our modern needs, but is remote from major cities, has a harsh climate, and the costs of operating businesses there and supporting local communities are significant.

Concern has been expressed in a large number of studies with input from the resource sector, and all levels of government that our current practices are not sustainable because they are not leading to the development of sustainable local communities that are great places to live. The dominance of major industries, difficulties in attracting labour, high costs of living, inadequate infrastructure, and poor quality of amenity has led to a vicious cycle that needs to be broken.

The challenge of creating sustainable Pilbara townships and communities therefore requires a new approach that can work simultaneously at a number of levels to break this cycle to create the conditions for:



If the population of Pilbara centres is to increase at the anticipated scale, this will require a significant increase in jobs to support the resident community. This in turn will require the diversification of the local economy which means working closely with the resource industry to find ways of developing a more robust, flexible and adaptable local economy.

Economic diversification will provide a broader range of local employment opportunities. The starting point for this is to investigate ways in which current activities in the resource industry supply chain could be provided for locally. This will require a coordinated response that would support service workers, provide land and accommodation for new businesses, and create the conditions that would allow the local economy to expand.

Action is needed to make more jobs available locally, lower the costs of living, and facilitate better planning in the towns to make them more attractive places to live. With these actions taken together the cycle can be broken and a sustainable future created for Pilbara communities.

Newman as a town in terms of market performance is currently not-normalised and has a sense of transience, with poor amenity and lack of choice and distorted economy. This leads to impacts such as a housing affordability crisis, the infrastructure working at capacity and an overall lack of planning and coordination. The Implementation Plan for Newman has been completed to address these key impacts with strategies and actions of how to overcome the challenges in the future.

01 Introduction

1.4 What is a Revitalisation Project?

The NRP does not take a unique approach. It is widely recognised around the world that some places require government interventions, without which they are unlikely to reach their potential. The more important these places are, the more urgent the need will be to identify exactly what is required to be most effective.

The traditional interventions and delivery of soft and hard infrastructure by the State Government is conceived and delivered by a wide range of State agencies and Government Trading Enterprises (GTE's), each with a different focus, timing and lacking coherence. The call for urgent action in Pilbara towns recognises that a new governance approach is needed.

What is innovative in regional WA is the commitment to bring together actions to facilitate economic and community development with town site development strategies based on a shared vision for how we can create livable Pilbara communities.

The NRP recognises that a coherent and integrated approach is necessary, which will integrate the economic, social, environmental and built environment responses that together are needed to deliver a vibrant town, with a good quality of life that is affordable for all to enjoy.

"A government intervention aimed at "building sustainable communities" in places that will benefit from new life, energy and direction. Revitalisation projects take a holistic approach, recognising the need to consider economic health, environmental leadership, community wellbeing, and design excellence together. The process is inclusive, based on community engagement and empowerment, and building partnerships so we can work together to target actions into places where they are most needed. They are based on the creation of a shared future vision, with strategies, plans and actions to enable individual development projects to be implemented.."(Brian Curtis, 2009)

1.5 Project Methodology

The NRP provides an overall framework for the future development of Newman. It aims to co-ordinate the work of the SoEP and State Government, and other key stakeholders in a coherent plan to improve the quality of life for all the people living in the area. Preparation of the NRP has taken into account the existing social, economic and environmental conditions, challenges and the implications these hold. The adopted methodology recognises that Newman cannot be considered in isolation and so considers economic and social development for the Pilbara region as a whole. The approach sets out a framework for how land should be used, what infrastructure and services are needed, how community wellbeing can flourish and how the environment should be protected.

The NRP is a 'project plan' for delivering the *Newman Tomorrow* vision. It is not a plan just for the SoEP or a singular state government department. Rather, it describes an integrated approach for local, state and federal agencies, the private sector and the community to transcend conventional sectoral boundaries to think and act holistically. It is an implementation-oriented plan, which is specific in terms of responsibilities, time and costs to ensure delivery can be coordinated and monitored. The NRP goes well beyond a list of projects.

The NRP calls for a whole for government response involving integrated partnerships with private sector and other key stakeholders to deliver a sustainable community – a place where people choose to settle on a permanent basis, a place to bring up families with access to education, health and diverse employment and career opportunities.

The NRP has been developed as an adaptive management plan and is to be continually reviewed in the light of progress, and updated accordingly.

1.5.1 Sustainability Framework

Sustainability is defined in Western Australia as meeting the needs of current and future generations though an integration of environmental projection, social advancement and economic prosperity.

In applying this definition to development it is useful to consider human settlements as complex, adaptive systems. Managing settlements is about managing a "place" as a socio-ecological system. The system has sub-domains that are purely social (e.g. inclusion, equity, affordability), purely environmental (e.g. unmodified natural habitat), and most importantly, the intersection between them where human activity is intimately connected to ecosystems (e.g. physical footprint of settlements, abstraction of water from the environment). This thinking has informed the methodology used in developing the NRP.

This analysis of Newman and the development of the NRP was undertaken using the Driving force - Pressure - State - Impact - Response (DPSIR) Framework. The DPSIR Framework is viewed as a means of providing a systems-analysis view of a socio-ecological system, in this case the human settlement of Newman. Social and economic development (driving forces) exerts pressure on all the domains of interest, and as a consequence, their state changes. This change has implications (impacts) for humans and ecosystems. To be effective the Response must feedback on all the other elements.

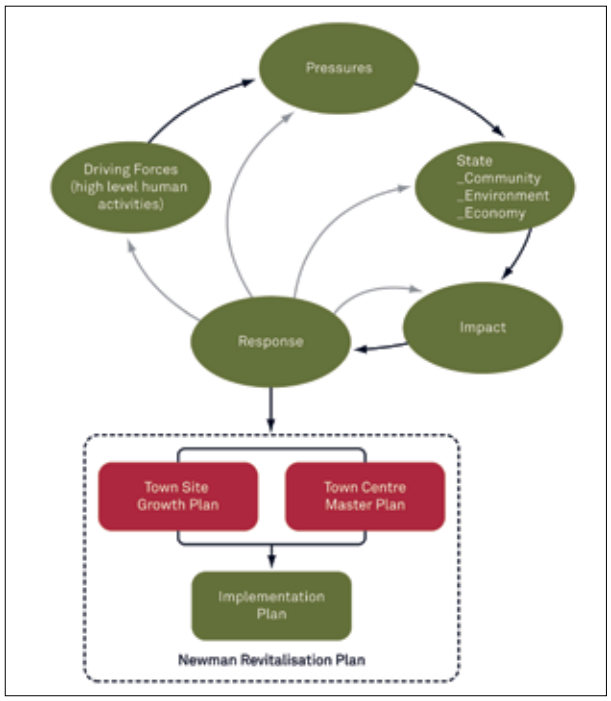


Figure 2 Sustainability Framework Approach

The following approach was taken in applying this framework to the project.

Step 1. Firstly based on the shared vision, aspirational goals were developed which describe the long term desired characteristics of a sustainable Newman.

Step 2. Each domain (ie economy etc) was then analysed using the DPSIR approach. The existing "state" or condition of each was determined with respect to the aspirational goals and population targets for Newman. The drivers and pressures giving rise to the existing conditions were identified, together with the implications (impacts) for supporting or constraining progress towards the aspirational goals.

Step 3. Based on this analysis, project objectives were developed which (if met) will transition Newman from its present state towards achievement of the aspirational goals.

Step 4. Broad strategies were then developed which when taken together will represent an intervention that will meet the project objectives and hence guide Newman forward. These strategies represent the response element of the DPSIR framework.

The objectives were also used to evaluate the various alternative solutions that were considered. This was done by evaluating how effectively each solution would meet the objectives at the Town Site Growth Plan and Town Centre Master Plan levels, and to select the chosen strategies.

Step 5. The Implementation Plan aims to articulate the steps needed to implement the chosen strategies (projects, initiatives and actions) both within and beyond the present project. This includes actions, key and contributing responsibilities and a framework to undertake monitoring and evaluation.

Domain	Aspirational Goal
Economy	A robust, diversified local economy that effectively services the needs of local and regional industry and population.
Community	Communities that are safe, healthy, and enjoyable places to live and work; offer cultural, educational, recreational opportunities; provide appropriate housing, services and amenities; foster active local citizenship.
Environment	Local, regional and global eco-systems in which landform, habitat and biodiversity are retained and that provide natural provisioning, regulating and cultural services.
Infrastructure and Resources	Economically efficient infrastructure for industry and households designed for efficient use of energy, water, materials and transport.
Built Environment	An urban form that reflects the intrinsic qualities of the site context, characteristics and relationships and complements the natural environment; with centres that are vibrant, dynamic, diverse and functional.

Accordingly the Sustainability Framework has actively guided the development of the NRP towards the effective implementation of solutions that will contribute to optimising immediate and longer term social, economic and environmental outcomes.

The project process and structure of this report are based on the methodology described above.

1.5.2 Applying Best Practice

In developing the NRP, significant research was undertaken to recognise the local contextual factors as well as identifying the experiences of towns elsewhere.

A review of best practice (Curtis, 2009) suggests that to be successful, revitalisation projects need the following characteristics.

1. Clear and shared agreements need to be in place for the management, resourcing and implementation of the project.
2. A strategy for implementation is required.
3. It is important to work closely with the private sector to establish what these market conditions might be with plans and actions that are practical and achievable.
4. Interventions need to be targeted to tackle identified deficiencies, gaps or inefficiencies in the place.
5. Physical development alone will not be enough, it will require a sustainable approach (economic health, community development and environmental health hand-in-hand) with an action plan for implementation.
6. A visioning process with cross cultural involvement is essential.
7. A community engagement and communication strategy is an essential part of any revitalisation project based on community capacity building.
8. The establishment of partnerships (across government, between the public and private sector, and with the voluntary sector) is required to deliver the desired outcomes for a particular place.
9. Plans for the town centre, town site and the role of the town within the region need to be robust and aligned.
10. The necessary skills and expertise need to be assembled, with criteria in place to evaluate plans and measure success.

The scope of the project therefore encompasses the following:

- Respond to the vision of local communities and meet state needs;
- Enhance the quality of life for existing and future residents;
- Respond to the environment and achieve a sense of place;
- Facilitate sustainable growth and development over the long term;
- Support economic activity and promote diversification;
- Deliver a vibrant and activated town centre; and
- Identify and establish a partnership approach to deliver the project.

1.5.3 A Project Operating at Three Levels

The NRP recognises from the outset that actions will be needed at several levels simultaneously.

Region: Some things can only be achieved by coordinated interventions at the regional level. For example, many initiatives aimed at working with the resource industry to examine working practices, or diversifying the economy can only be tackled at the regional level.

Town Site Wide: Providing more land for release to house the resident and business community requires better planning at the town site wide level so that there is a clear vision on where best to meet these needs, built on a vision shared with business and the local community. This can then provide the framework needed to identify the infrastructure and programs required to support these communities.

Town Centre: At the heart of Pilbara townships are the town centres, as they provide the focal point for the community, meeting places to interact, and represent to visitors the meaning of the place.

The NRP responds by addressing the needs of Newman at three levels:

- *At the regional level by developing responses that require a regional level coordinated response*
- *At the town site level through preparing town site wide development strategies*
- *At the town centre level by developing master plans*

1.5.3.1 Regional Strategies and Visioning

Our starting point at the regional level has been to build on what has already been done. There are a number of regional strategies, partnerships, and visioning studies that have clearly identified the challenges faced in the Pilbara, and pointed to some of the responses required. Most of these have involved joint working between industry and government at all levels.

At the regional level there is no doubt that the resource industry has undertaken the majority of the analysis of the state of play, the issues and challenges, and of what is needed to provide the conditions necessary to support their business. The resource industry generally wants the government to step up and tackle many of these infrastructure and social challenges, but has demonstrated a commitment to providing strong financial and other support.

There is a need for a broader dialogue between all the key players at regional level to better integrate commitments made in the economic development realm, to quality of life and affordability in the Pilbara.

Newman Tomorrow identifies a vision for the future, strategies and action that recognise the strategic role in the wider region. These documents set the scene for what needs to happen, and the NRP synthesises previous work and focuses more on "how" the vision can be realised.

1.5.3.2 Town Site Growth Plan

Whilst the Pilbara may be seen as the powerhouse of the national economy, the physical infrastructure of Newman like many Pilbara townships, is inadequate, reflecting its origin as a simple mining camp. Planning has been responsive to industry, and focused on providing basic infrastructure to support worker accommodation. The practice of the resource industry of FIFO and donga camps accommodating large numbers of workers presents a range of significant challenges for the local communities.

There has been a sense of impermanence, as companies have had to react to changing international market conditions in the resource industry. A reactive culture has emerged with limited resources available to local government to intervene in the process.

In order to help break this cycle, there is an urgent need to provide additional land for development to support growing the future resident population to 15,000 and provide for a range of land uses and activities that will be needed to improve the quality of life.

A new approach is required at the town site level that recognises the scale and nature of the challenges and responds accordingly. This task is greater than a traditional planning strategy, and requires a shared and coherent vision, a thorough understanding of the opportunities and constraints, and of the actions and inputs required to make it all come together for implementation.

There is a need for town site wide development strategies to help us understand how this growth could be accommodated, and what implementation actions and partnerships will be needed to ensure the town has a sustainable future.

The challenge is greater than simply planning for growth. There is also a need to raise the level of amenity in public places and especially the town centre to more closely reflect the significance of the town economically, and to improve the quality of life for residents and visitors to the area. Interventions will be needed to bring land to the market, liaise closely with infrastructure agencies, and work with industry and the private sector to stimulate demonstration projects that can help to transform these towns into more vibrant and attractive places.

1.5.3.3 Town Centre Master Plan

The Newman community has identified the urgent need to address the state of the town centre. Currently a "big-box" shopping centre dominates, surrounded by large expanses of bitumen. The environment is inhospitable, the public realm is poor, and the town centre is dominated by the car. The ad hoc growth of the town centre, lack of investment in the public realm and limited resources at local level has meant that expectations have been low. In these circumstances, whilst the SoEP has developed previous plans for the town centre, it has had limited resources to bring them to reality.

An attractive and vibrant town centre needs to be appealing for the pedestrian, where moving around is comfortable and convenient, there are places to visit and things to do, and most importantly, has a focal point for the local community.

01 Introduction

Town centre master plans can not be conceived in isolation, they must be part of a town site wide development strategy. They need to be integrated into the whole vision for the town, and developed with business and community input. A master plan alone will not be effective. It will require an implementation plan with actions identified that will show what infrastructure and resources will be needed, how it will come about, who will lead the development and how it will be brought to life for the community.

1.5.4 Project Management

Teams of substance with clear purpose and well-defined relationships are a prerequisite for the success of any major development or revitalisation project. A partnership between the State Government (represented by LandCorp) and SoEP was established to deliver the NRP. Pursuant to a Memorandum of Understanding with the SoEP, LandCorp's roles and responsibilities include:

- Leading strategic planning and visioning.
- Undertaking project management, due diligence and land development roles.
- Facilitating appropriate private and public sector involvement.

As project manager responsible for overall project management and procurement, LandCorp assembled a multidisciplinary team to evolve and guide delivery of the project. This team comprised consultants in the disciplines of:

- Town planning;
- Urban design;
- Civil infrastructure engineering;
- Transport engineering;
- Landscape architecture / irrigation design;
- Environmental advice;
- Property development;
- Community development/engagement;
- Economic analysis/development.

Final decisions on all aspects of this project and the NRP were made by the SoEP in association with LandCorp.

Features of the Newman Revitalisation Project decision-making process include:

- Centrality of the SoEP to the process, with LandCorp project officers reporting to the SoEP as well as the LandCorp executive;
- Operational decision-making by LandCorp following input from consultants from various disciplines; and
- Provision for external input into the project though peer review processes.

1.3.4 Consultation and Engagement Process

There has been a considerable amount of consultation with stakeholders and the Newman community over the past five years regarding the development of the town, which has informed many aspects of the current revitalisation planning. A comprehensive consultation process has also been undertaken throughout the development of the NRP with the original concept plans and newly proposed town centre and town site plans being extensively tested with stakeholders and local community members.

The objectives for the community and stakeholder engagement processes undertaken during the development of the NRP were to:

- Identify actions that will enable inclusive and effective stakeholder engagement, as well as clear communication with the project team.
- Determine stakeholder opinions and areas of interest in order to provide accurate feedback to inform the planning process.
- Discover synergies and potential for networks between participants.
- Build stakeholder ownership.
- A comprehensive list of stakeholders was developed with over 150 members from local residents, community organizations, Aboriginal groups, business and industry organizations, and government agencies (local and central). Figure 3 provides an overview of the key stakeholders.

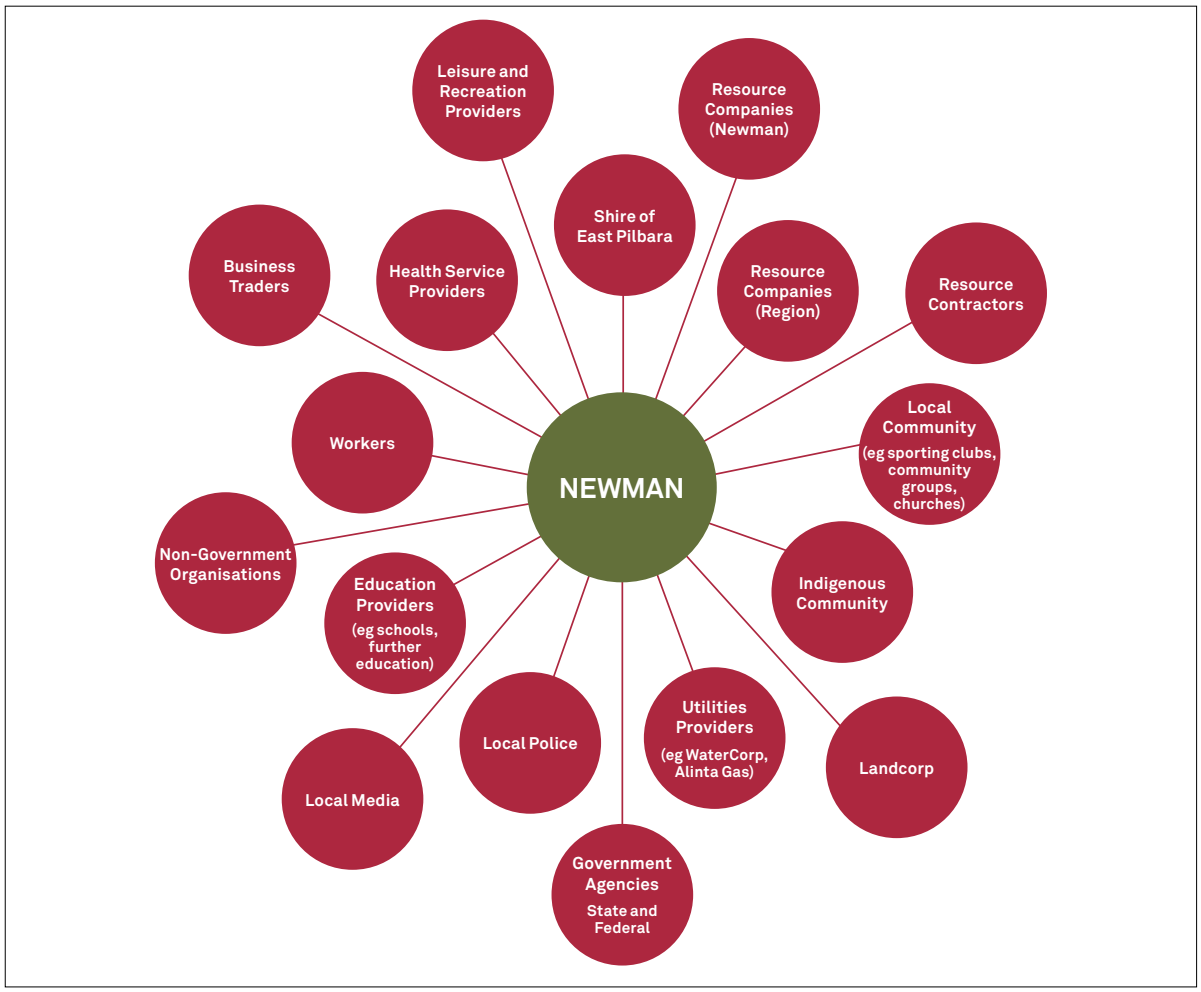


Figure 3 Overview of Key Stakeholders

Key elements of the consultation process included:-

Interactive Design Forum	Involving a range of invited stakeholders from across government, business, community and industry. This forum included the review of initial town site and town centre planning concepts, in reference to sustainability objectives
Project Design Forum	A presentation of the proposed town site and town centre designs (with associated background information on the social, economic and environmental issues), were presented by the consultant team to an expert panel
Council Briefings	Ongoing town site briefings were conducted to inform Councillors of progress being made in the development of town site growth plans and town centre plans
Youth Consultation and Visioning	Sessions held with classes from two schools to discuss the development of the town centre and what could be provided to make it a more attractive and vibrant place for young people
Community Dialogue Café	A large workshop was held with community members and stakeholders to seek input and feedback on the revised draft town site and town centre plans
Focus Group Meetings	Group meetings were held with stakeholders to discuss and inform the project planning process. The groups were Community and Social Development; Community Groups; Arts and Cultural; Affordable Housing and Living; Indigenous Community and Business and Economic Development
Director Generals and Senior Government Executives Briefing	Senior Government agency representatives attended a briefing workshop on the proposed plans for Newman. The briefing was established for the purpose of identifying implications for each agency of the proposed town growth and to seek input and commitment to taking collaborative action in addressing the current and future needs
Advertising of Draft Plans to the Community	SoEP released the draft Newman Revitalisation Project Town Site Growth and Town Centre Spatial Plans on 11 March 2010 for public comment.

01 Introduction

1.6 Structure of this Document

The Newman Town Site Growth Plan (Volume 2), the Newman Town Centre Master Plan (Volume 3) and the Implementation Plan (Volume 1) together form the NRP for the revitalisation of Newman.

Together, these plans collectively will guide the development of future housing, open spaces, commercial activities, tourist accommodation, entertainment and retail areas, as well as service infrastructure, transport, education and community facilities.

This document contains the NRP and has been structured to follow the sustainability framework methodology as follows:

0.1 Introduction

An overview of the project is presented including the process and methodology for developing the NRP, the development of the sustainability framework and project Aspirational Goals, the approach to consultation, and project management.

0.2 Context Analysis

This section reviews background documents and current planning as well as identify the existing state of Newman across each of the five sustainability areas. Gaps between the existing situation and the desired state expressed in the Aspirational Goals are identified as well as the implications these have on the future growth of Newman.

0.3 Project Goals and Objectives

Key objectives for each of the project goals are presented based on the outcomes of the context analysis. The objectives were used to frame and guide development of the integrated strategy. Additionally key principles of good town design are presented which were used to guide the preparation of the plans.

0.4 An Integrated Strategy for Newman

This section presents what needs to be done to realise the project objectives, identifying both spatial and non-spatial responses to goals for each of the five sustainability areas.

0.5 A New Approach to Governance

This section identifies governance arrangements required to support implementation including public-private partnerships.

0.6 Making it Happen - Implementing the Strategy

This section details the key implementation steps for the strategies, and identifies the actions and projects, key stakeholders, and timing for implementation of the NRP.

02. CONTEXT AND ANALYSIS

2. Context and Analysis

2.1 Policy and Strategic Context

The direction and aspirations for the future growth of Newman have been articulated in an array of strategic documents prepared over the last decade by both State and Local Government organisations, and in particular in the SoEP's vision document *Newman Tomorrow* (2008).

These documents identify a range of visions, strategies and actions which together seek to modernise and transform Newman to support long term economic activity in the region, improve the quality of life for existing residents and attract and retain new residents. These existing visions for the future of Newman have been taken at the starting point for NRP. During the project process the future vision has been further reviewed and refined, with input from the Newman community, industry and key stakeholders. Details can be found in Volumes 2 and 3.

This section reviews existing documents and current planning in order to describe the current situation, key drivers, pressures and implications facing the future growth of Newman for each of the Sustainability Framework elements of Economy; Community; Environment, Infrastructure and Resources; and Built Environment and Public Realm.

2.2 Role and Function of Newman and Adjoining Towns

Newman is the primary regional centre of the East Pilbara region providing a range of residential housing, shopping, community, recreation, education and health facilities.

The Draft Pilbara Planning and Infrastructure Framework: Regional Profile recently produced by the Department of Planning (DoP) described Newman's proposed function as follows:

> *"In addition to it's role as the mining 'hub' for the East Pilbara, Newman's future lies in its role as a subregional tourism and service centre. There are Opportunities to develop a tourism industry based on its location as a gateway to the Pilbara, the Karijini National park, the Rudall River National Park and the Canning Stock Route. There are also opportunities to develop the town as a subregional distribution centre, located at a strategic point on the Great Northern Highway, serving the needs of the Indigenous settlements in the East Pilbara."*

Newman as the archetypal company town. The town's 40 plus year existence is due to the original and ongoing investment by the mining sector that provides much of (but not exclusively) the economic and social foundations of the town. Newman's fortunes over the years have fluctuated depending on the macroeconomic environment and the state of commodity market cycles and it worth noting that its current demographic, economic and social profile is a function of those exogenous influences. The NRP proposes a town with the capacity to cater for permanent resident population of up to 15,000 which is about a 250% increase in the population of the town. It should be noted that a Newman of that size would be similar to the current size of the major Pilbara population centres of Karratha and Port Hedland.

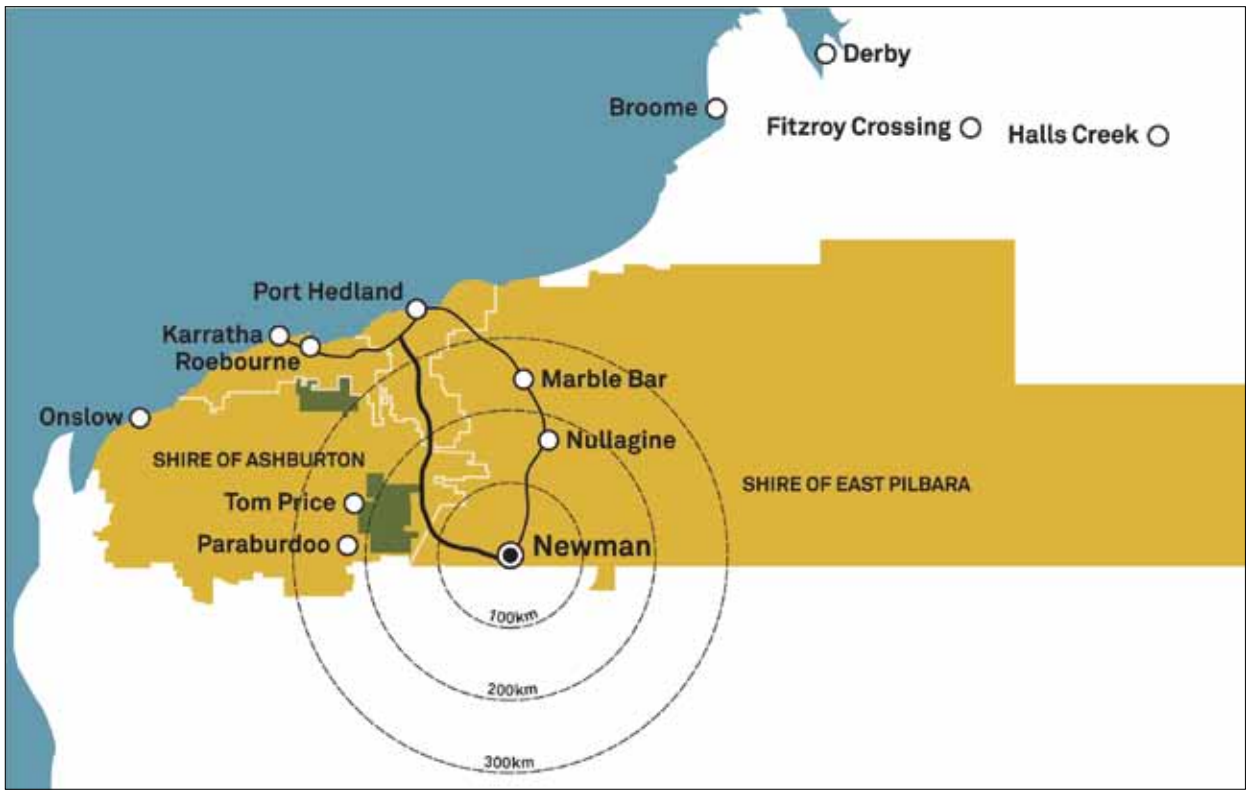


Figure 4 Location Plan

02 Context and Analysis

While it has been suggested that Newman has a role as a subregional centre, and indeed that appears to form part of its aspirational objectives, such a development trajectory will require a coordinated intervention strategy to generate the economic activity and investment to realise these ambitions. The question of what a subregional service centre actually is requires some exploration. A subregional centre suggests an administrative and commercial hub for the delivery of private and public sector services that cannot be efficiently or effectively delivered out of a major regional population centre (such as the intended Pilbara Cities) or indeed out of Perth. In this respect subregional centres service both strategic projects and the requirements of population driven service demands.

A formalised subregional centre status for Newman (that is, where Newman is recognised as such in a widely acknowledged hierarchy of centres) is only likely to occur if there is a reliable growth trajectory in the subregional population to justify such a service delivery model. Furthermore, Newman as a subregional centre for resource sector projects servicing would require a commitment by the resource companies to source an increased number of services out of Newman as opposed to elsewhere in the state. Such services might potentially include: shut down crews, heavy equipment maintenance and laundry as examples. This is only likely to occur in circumstances where it is economically and financially viable to the sector and where there is some high level inducement or obligation placed on the sector by the State Government. On a positive note, Newman appears likely to continue as a required centre to service the needs of BHP Billiton's current and emerging East Pilbara operations and that company's ongoing commitment to the town may serve to stimulate discussion on how that presence can be leveraged to the advancement of Newman over the medium to longer term. Most importantly, the NRP considers the future of Newman as a community entity in its own right and not simply as an operational base for BHP Billiton. For the town to grow and prosper requires the forging of new and extended relationships with the resources sector networks and with public sector stakeholders to ensure the longer term viability of the town.

2.3 Economy

- Like the SoEP itself – which came into being when the former shires of Marble Bar and Nullagine merged in 1972 – Newman is relatively young. Established in 1968 by the Mt Newman Mining Company as an accommodation centre for employees at the nearby iron ore mine, it remained a company-run town until 1981, when a handover of company responsibility to local government began.
- Newman is a modern mining town and the largest town in the East Pilbara Region. It serves the two mines at Mount Whaleback and Orebody 29 and acts as a service centre for a number of other minesites and mining settlements in the area such as Tom Price and Paraburdoo as well as servicing outlying indigenous communities and the local cattle stations.
- The resident population of the town of Newman is approximately 5,000. The town also supports a large number of temporary workers employed on a fly in fly out basis. This 'service population' includes FIFO, tourists, short term or seasonal workers, or daytime visitors (eg. commuters and shoppers) who do not regard themselves as usual residents of the area. The high level of service population in Newman is largely due to the FIFO workforce associated with the mining operations.
- There is a significantly high proportion of males to females from ages 20 through to 60 years of age. This is indicative of the male dominated mining and construction industries which are the major attractions for working and living in the region. The population of Newman is relatively young with an average age of 31 years compared with 37 years for persons in Australia.
- The labour force participation rate is very high at 85% compared with 65% in Australia. Similarly, unemployment in the town is very low at 1.2% compared with a national unemployment rate of 5.2% and the median weekly household income is $2,271, more the double the national median weekly household income of $1,027.
- Since responsibility for the town was handed over to the SoEP in 1981, a number of tourist facilities have been developed, which have diversified the town's economic profile and positioned it as a destination for tourists. However, the mining industry remains the primary economic driver for the town with metal ore mining and other mining support services industries accounting for over 40% of total employment in the town.
- 37% of total employment is in the mining industry.
- Housing affordability is a significant issue. Affordability is closely linked to the availability of a range of accommodation types that may appeal to different sectors of the market; typically in Pilbara communities the housing on offer is dominated by separate houses which in the Newman Urban Centre Locality account for around 83% of the total accommodation stock.
- Currently, housing prices in Newman approximate the following:

1 bedroom, 1 bathroom units/apartments	$320,000 approximately
2 bedroom, 1 bathroom villas	From $400,000 approximately
Houses	$500,000 to $900,000 approximately

- The availability of dwelling units for purchase and the attendant prices of those available for purchase, along with rental rates suggest significant barriers to market entry for prospective buyers. The median household income in Newman is approximately $131,000 per annum. Assuming this level of income, a buyer contemplating a house purchase of around $700,000 would need to limit the mortgage component to approximately 65% of the value of the property to ensure the debt servicing requirements stay below 30% of household income. It is generally regarded that debt servicing above approximately 30% of household income starts to generate unsustainable mortgage stress for households.
- Construction costs are generally considered to be equivalent to Perth plus approximately 75% depending on the type of house required. It should be noted that the cost of construction excludes the lot purchase price.
- There is currently no whole of government approach to future economic growth of Newman and the Pilbara. There is no coherent economic development strategy to influence the economic development of Newman which suggests the recognition of the significance of economic development as the primary driver that will determine Newman's future.
- Much of the planning concerning Newman's future posits an extension of the historical population growth based largely on resource sector activity as evidenced by research undertaken by PICC. The newly instituted Pilbara Regional Planning Committee is an important step in planning for the Pilbara however this appears to consider economic development as one aspect of the planning mix and potentially focuses on land and infrastructure requirements rather than addressing the economic development factors that will drive employment and population growth. The *Newman Tomorrow* vision is essentially an aspirational statement of where Newman would like to get to over the next decade and is an important prelude to the Pilbara Cities context.

2.3.1 Key Drivers and Pressures

The key driver and pressure is therefore the decision making of the resource industry as it continues to dominate the shape, rate and direction of growth in Newman.

At a strategic level decisions on major joint venture projects, the location of processing, and of infrastructure have a significant impact on the East Pilbara settlement pattern. The increasing prevalence of FIFO arrangements in mining operations for example, has also had significant implications for Pilbara communities. None of the Pilbara towns can be considered "normalised" in terms of performance and all have a sense of transience, with poor amenity, lack of choice and a distorted economy. This has lead, to impacts such as housing affordability crises, infrastructure being at or exceeding capacity and community disenfranchisement due to an overall lack of planning and coordination. FIFO practices minimise worker engagement with the local community, set up a two-tier economy, and potential instability of living arrangements for families.

Housing unaffordability in Newman is largely due to the inability of the land and housing markets to meet the demand for housing. This is compounded by significant income disparity and heightened competition for the small pool of existing housing. All these factors combine to drive up the cost of rents and mortgages to unprecented levels.

Normal housing markets are characterised by a number of participants including land and housing construction and construction materials supply companies and a pool of tradespeople to undertake the work. This includes a strong private sector presence, which driven by a commercial imperative, supplies land and housing in a competitive way to meet market demand. It also includes the community housing sector, which is able to provide affordable housing at the lower end of the market. These markets also have a relatively consistent and well understood demand profile which allows the private and public sectors to be more responsive.

The Newman market does not function in this way. This is because there are not enough active private land developers in the market and the housing construction industry lacks local capacity. As a consequence, the State Government has intervened in the market with LandCorp currently delivering the vast majority of affordable residential land. Housing supply and affordability is a current major pressure that is limiting the potential for Newman

to realise its full potential. In particular, the availability of a range of suitable, affordable land for economic development, industry, local enterprise and business has a significant impact on diversifying the economy.

Therefore, there are a range of interrelated factors which contribute to housing unaffordability in Newman, including:

- Difficulty and time taken to deconstrain land;
- Under representation of private sector land and housing construction and construction materials supply companies;
- Lack of residential construction workforce;
- High cost of house construction;
- A lack of housing diversity, which limits the number of smaller, more affordable homes;
- The extreme market conditions in Newman means that some Government affordability schemes cannot be applied;
- A concentration of properties amongst resources and government sector, which continue to soak up rental dwelling stock and their willingness to pay the higher rents means supply is reduced and prices are continually driven up; and
- Insufficient coordinated action being taken to provide affordable housing in Newman.

2.3.2 Key Implications for the Town Site Growth Plan

- The economic analysis suggests that for Newman to grow towards an aspirational population target of 15,000 permanent residents it will require a sustained coordinated intervention strategy designed to generate local employment. Strategic employment (typically export / driver project related and producer services categories) require greater investment in local capability by the private sector which in this case is typically resource related.
- Newman strategic residential employment needs to increase by approximately 350%. As this begins to occur, a greater number of households will be attracted to the area with a subsequent cascading effect in the provision of population driven services which in turn compounds the population growth.
- For this to occur, it will require the development and implementation of a multi-level regional economic development policy and governance mechanism that (amongst a broad range of other activities) can engage with the resource sector and the associated supply chains to determine a way to attract and generate employment in Newman.
- A principle implication of the high cost of operating businesses in Newman is the challenge this presents to service providers and businesses in the non-government, health, education, social services, retail, food and hospitality industries and the small business sector;
- The increasing prevalence of FIFO arrangements in mining operations has had significant implications for regional communities as these practices minimise worker engagement, economically, with the regions in which the mines are located resulting in a loss of opportunity to the regional communities. It is estimated that the per head spend of FIFO worker is approximately $70- 100 per week in the local community depending on the level of retail and commercial offering available and the proximity of the accommodation to the town. This represents a fraction of the average total spend per household. Furthermore FIFO workforce levels fluctuate dramatically depending on the stage of projects i.e. FIFO workforce levels will peak during the project construction phase;
- This will require the development and implementation of a regional economic development policy;
- The SoEP also has a key role to play in economic development, and will therefore need to develop its capability to coordinate and drive local initiatives and actions aimed at stimulating the local economy.

Housing

- The higher costs of building and construction, together with the current range of housing products and pricing options is impacting on the cost of living, the quality and sustainability of the housing. The lack of affordable housing in particular has excluded all but the highest income groups and those who benefit from subsidised housing options from living permanently in the region. As a consequence, people who would otherwise move to the area for key worker employment are discouraged, whilst others – perhaps people born in the area – are often unable to stay. There is an important relationship between employment generation at every point and the availability of suitable, developable land and the provision of a range of housing product and pricing options. Housing availability and affordability is central to stimulate the growth and retention of a residential workforce in Newman. Housing and accommodation is enabling infrastructure;

2.3.3 Key Implications for the Town Centre Master Plan

- The role of the town centre in economic revitalisation of Newman is to concentrate and activate a central place which will stimulate economic and social activity. Economic activation is about the concentration and maximisation of transactions that occur in a location. These transactions are both economic and social in nature.

- Activation is a function of both the attraction of a range of business and operations to a town centre as well as the spatial formulation of the precinct. These two factors are inextricably linked. Businesses will be attracted to the town centre if it is commercially viable to be located there, and if the place offers a suitable level of amenity (i.e. position, quality and range of space, car parking etc).
- Newman as a town with a stable resident population of 15,000 would require a resident workforce of up to 7,500. Of this workforce, almost half might be in the areas of retail and consumer services and knowledge intensive consumer services. While it is unlikely (and impractical) to suggest that such a working population might all be located within the town centre, it is reasonable to suggests that a significant percentage will, which means that the town centre must have sufficient space to cater for such a potential workforce. It should be noted that this is an aspirational target and will not be achieved overnight (and highly unlikely at all without an intervention strategy) but this is the quantum of working population that Newman with a population of 15,000 might expect.
- The Town Centre Master Plan has been guided by the following retail floor space requirements, based on the demand generated through resident population targets:

Resident Population	Current	10,000	15,000
FIFO population	1750	3,000	3,000
Total floor space	**7,300**	**16,000**	**27,000**
Supermarkets (no./m^2)	1 (2,000m^2)	1 (3,500m^2)	2 (5,500m^2)
DDS (no./m^2)	1 (1,200m^2)	1 (2,000m^2)	1 (3,000m^2)
Speciality shops (no./m^2)	40 (4,000m^2)	75 (10,000m^2)	130 (16,500m^2)
LFR (no./m^2)	0m^2	500m^2	1,500m^2
Street length (m)	120m	300m	500m
Land area (Ha)	2 Ha	4 Ha	7 Ha
Potential office space created (m^2)	4,000m^2	10,000m^2	18,000m^2
Office based employment (no.)	250	650	1,200

2.4 Community

- The Newman urban centre's current population is approximately 5,000 permanent residents
- The population grew by 20% between 2001 and 2006, averaging 140 new residents per year.
- The PICC's April 2003 population projections to 2020 (adopted by WAPC) show the Newman urban centre's population growing to 6,000 by 2015.
- Newman has a higher proportion of people aged under 20 compared to both the SoEP and Pilbara statistical division.
- Newman a lower proportion of people aged 40 plus compared to both the SoEP and Pilbara statistical division.
- The majority of households in Newman are couples with children, further reinforcing that Newman is a population with a large number of younger children.
- Community development planning needs to consider the ethnicity and cultural background of the community and take steps to seek positive community integration of people from various cultures. While data reveals a comparatively low number of Aboriginal residents within the Newman town site, it is important to recognise that there are a number of surrounding communities with high Aboriginal populations that access the services provided in Newman.
- In Newman there is a high proportion of rental properties. This is very similar to other Pilbara towns, however, very different from regional WA and the Perth metropolitan area, where the majority of properties are owner occupied. The high proportion of rental properties in Newman is probably due to the provision of housing for resource sector and government services workers by their employers.
- Due to a lack of supply of housing and the high demand, the cost of living in Newman is high.
- The SoEP's *Newman Tomorrow* has identified a range of community facilities, projects and initiatives to be implemented over the next 20 years.
- Many of Newman's facilities fall short of current community needs and are in need of refurbishment expansion or replacement. The *Newman Tomorrow* document noted that many of Newman's buildings adhere to a 'here today, gone tomorrow' aesthetic. This was attributed to the town's beginnings as a purpose-built worker's colony, and also to the legacy of boom-bust cycles. A lack of visual amenity is evident in the built environment of the town centre itself as well as the town's current lack of entry statements, public art and so on.
- Consultation undertaken by the SoEP, BHP Billiton and other stakeholders reveal that there is an urgent need to upgrade existing facilities, develop new community facilities that currently are not provided in the areas arts, culture, youth and civics.

2.4.1 Key Drivers and Pressures

The key drivers and pressures with respect to the Newman community include the following:

- The need to develop a vibrant town centre – this has been identified repeatedly throughout all the consultation and various plans. The town centre is seen as an unattractive and dysfunctional space that is uninviting to members of the community. It is really only accessed for essential services and shopping and not seen as a positive social place, unless people meet in the shopping centre.
- The most significant impediment to economic and social growth in Newman is the high cost of living, which impacts on the attraction and retention of workers and their families.
- More affordable housing, improved community facilities, enhanced community services in health and education and a higher standard of living are all crucial to attracting and retaining skilled workers and their families.
- The provision of community services is significantly impacted on by a number of factors including:-
  - High cost of living – difficulty in attracting and retaining staff, particularly Non Government Organisations without housing
  - Lack of differential resourcing within agencies that recognise the complexities of living in the Pilbara
  - High turnover of staff – impacting on continuity of services
  - Shift work and rosters that impact on civic or community engagement
  - Lower levels of volunteerism due to shift work and other factors

2.4.2 Key Implications for the Town Site Growth Plan

The Newman community assessment indicates that there is a need to address the following;

- To increase the resident population.
- To extend the length of residency by improving the quality of life to reduce turnover and transience.
- To extend the age profile.
- To provide facilities to attract seniors.
- To make better provision for children and youth.
- To reduce the cost of living, to extend the income profile.
- To address the current social divide in Newman based mostly on income disparity that exists between those employed within the resource sector and those not employed within this industry sector.
- To break down the divide between permanent residents and FIFOs to create a more harmonious community and for the community to see tangible benefits from FIFO workers being part of the town.
- To extend the range of employment opportunities available locally.
- To improve access to health and medical services including dentists, general practitioners, specialists, optometrists etc. There are large numbers of people from outlying communities that access Newman for medical services, shopping and other purposes. The lack of temporary accommodation and high costs disadvantage people who need to access these services on a regular basis. This relates also to addressing more broadly the social disadvantage of remote communities that access Newman for services.
- To extend the range of dwelling types, and tenure choices.
- To improve the quality and range of community facilities.
- To increase the number and frequency of community events.
- To respect and build on the aboriginal heritage.
- To engage the aboriginal community.
- To respect cultural heritage sites.
- To meet the need for a greater range of cultural, arts and entertainment facilities.
- To provide a more attractive town centre.

2.4.3 Key Implications for the Town Centre Master Plan

The key implications for the community of the design and appearance of the current town centre (see Volume 3 for more details) indicate that the following must be addressed:

- Lack of streetscape articulation, with no identifiable ‘town centre’ (e.g. town square) or entry to the town centre.
- Dominance of cars and car parking over pedestrians and pedestrian access ways.
- Lack of active edges to buildings, requiring all activity to happen within buildings and not on streets or in open spaces.
- Limited permeability or safe routes for pedestrians and cyclists.
- Poor traffic management due to road layout.
- “Hot” environment with no trees and limited shade.
- Unsightly and ageing built form.
- Lack of accommodation in the town centre, particularly for higher density housing, which impacts on the diversity of housing, house pricing and a lack of vibrancy in the town centre.
- Unsafe town centre design, with the current town layout not reflecting “designing out crime” principles. This is evident in poor lighting, lack of passive surveillance, poor sight lines, pedestrian unfriendly road and path designs and a lack of town centre activation through activities and events.

- Lack of integration between existing facilities in the town centre including Newman Primary School, Boomerang Oval, Newman Aquatic Centre, Newman skate park and the "Beach" indoor play centre.
- Lack of integration between the road networks of the residential areas in Newman and the town centre.
- Concern that current town centre facilities will not cope with any anticipated population growth in Newman.
- Poor signage and directions to the town centre.

Key implications related to the social development of the town centre include:

- Lack of places for socialising such as town squares, community facilities, cafes and restaurants.
- High cost of living, predominantly due to housing and accommodation pressure, combined with the cost of goods which have to be transported from larger centres.
- Lack of facilities or amenities within the town centre to cater for tourists. This includes no parking for larger vehicles and a lack of retail and hospitality services.
- Lack of retail and hospitality opportunities (e.g. cafés; restaurants, wine bars) that support socialisation, including limited opening hours.
- Lack of cultural and arts facilities.
- Limited reflection or celebration of Indigenous or Non Indigenous heritage in town centre facilities or activities.
- Lack of positive engagement of the Aboriginal community in the town centre.
- The current influx of people from outlying "dry communities" coming to the Newman town centre to access alcohol at the bottle shop, which results in inappropriate behaviour, street drinking and other negative social issues in the middle of the town centre.
- Limited integration of FIFO workers into using or living in the town centre.
- Lack of legible cycling and pedestrian routes.
- Lack of active youth spaces and activities.

2.5 Environment

- Newman is located nine kilometres north of the Tropic of Capricorn. The weather is generally warm and dry, with hot summers and warm winters.
- Clear days are the norm from July to November, and there are very few days of rain between April and November.

Figure 5 Topographical Aerial of Newman Town Site

- The impact of wind in the region is seasonally distinct. Summer and winter is dominated by winds from the east and the north with the intermediate seasons experiencing westerly winds during spring and winds coming from all quadrants in autumn. Summer and spring experience the strongest winds of the seasons with autumn being the calmest.
- The Pilbara coast has one of the highest frequencies of cyclones in Australia. Newman is also subject to occasional tropical cyclones, usually between January and April. Resulting from these dramatic climatic events, a number of rivers see major flows almost every year between December and April.
- The Newman town site is relatively flat with a gentle south eastern incline of elevation. A hill line occurs north east of the town centre, and isolated hills also occur south of the town centre.
- Currently the ovals in Newman are irrigated using treated wastewater.
- The Department of Environmental and Conservation's Threatened Ecological communities database indicates that there are no Threatened or Priority Ecological Communities within or adjacent to Newman.
- Most of the drainage lines or creeks through Newman follow natural flow paths. The majority of these remain unlined with variable degrees and conditions of native vegetation cover. These creeks are seasonal and for most of the year remain dry. The existing systems have low visual quality and bisect communities as the channels carve their way through the town. The flow of water (mainly from December to April) during these times from the town of Newman generally follows constructed drainage swales that traverse the town and head from west to east in the direction of the Fortescue River. Most of these drainage lines are constructed parallel to roads until they flow out of the town limits. Once outside Newman, these waters primarily follow the Whaleback and Homestead Creek courses and merge in the Fortescue River to the north east. Both of these creeks support riparian vegetation as does the Fortescue River into which they flow.

2.5.1 Key Drivers and Pressures

The key environmental drivers and pressures include:

- Population increase, industrial and commercial growth, and associated increases in transport, energy and water use are the key driving forces affecting the natural environment in the Pilbara generally and Newman specifically.
- These drivers exert direct pressures on the environment, which can be divided into three main types: (i) excessive use of environmental resources, (ii) changes in land use, and (iii) emissions (of chemicals, waste, radiation, noise) to air, water and soil.
- The effects of climate change are particularly relevant to the Pilbara, given the potential for sea level rise in coastal locations and increased frequency of intense cyclonic activity.

2.5.2 Key Implications for the Town Site Growth Plan

The key environmental challenges for Newman in accommodating an increased population include:

- Exposure of unknown potential or actual acid generating soils resulting from ground-disturbing activities associated with land development.
- The management, use and efficiency of water resources, in particular groundwater, to sustain future demands.
- Drainage and flooding associated with waterways and natural drainage paths that run either adjacent to, or through Newman, such as the upper Fortescue River, Whaleback and Homestead Creeks and associated tributaries.

2.5.3 Key Implications for the Town Centre Master Plan

The key environmental challenges for the Newman town centre in accommodating an increased population include:

- Exposure of unknown potential or actual acid generating soils resulting from ground-disturbing activities associated with land development.
- The management, use and efficiency of water resources, in particular groundwater, to sustain future demands.
- Drainage and flooding associated with waterways and natural drainage paths that run either adjacent to or through Newman town centre such as the upper Fortescue River, Whaleback and Homestead Creeks and associated tributaries.

2.6 Built Environment and Public Realm

- The topographical landforms and mine sites have impacted on the physical extent of Newman. Currently, Newman is bordered by the Mt Whaleback mine to the west and the Whaleback Creek which runs along the southern margin of the mine.

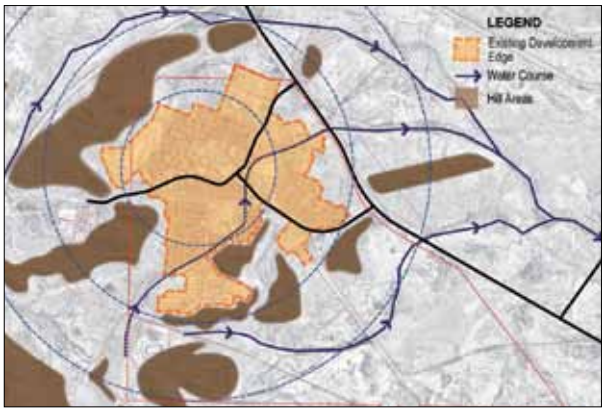


Figure 6 Topographical influence

- Growth to the south of Newman is restricted by the Orebody 29 Mine and the new light industrial area which is already situated amongst the rolling hills.

Further south of town, the Fortescue River and its floodplain meanders westwards limiting potential town growth.

- Connected to land availability is soil type. In the region there are difficulties with regard to building on hill slopes. The two dominant soil types, Sodosols and Tenosols, are relatively unstable.
- Newman has a relatively compact form, which has extended to the east and south of the town centre, due to the topography.

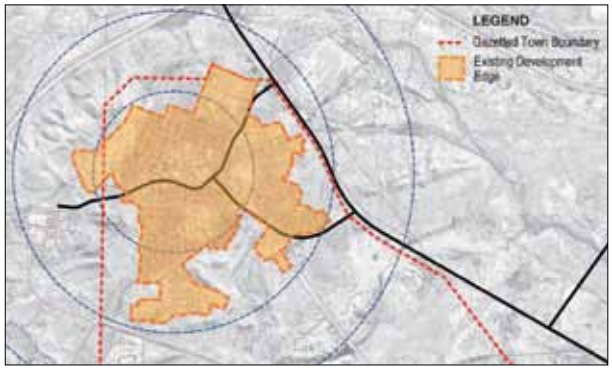


Figure 7 Existing town site boundary

- Newman Drive provides the main route through the middle of Newman town site from Great Northern Highway on the northeast side to the Mt Whaleback mine site west of the town. It also passes along the southern side of the town centre and the main access intersection for the town centre is located on Newman Drive.
- The town layout is not legible and it is difficult to orientate your location and direction due to a lack of signage and visual indicators. The main orientation elements are the 'natural' orientation markers such as the surrounding hills and drainage corridors (creek lines) which mildly assist with legibility within the town.
- Housing within Newman consists primarily of low density single detached dwellings. There is very little diversity in the original size of the dwelling lots. The existing community spaces and the enclaves themselves are disconnected from the town centre and often from pedestrian/cycle access.
- Buildings are generally set well back from the street as required by current SoEP policies, with car parking provided within close proximity to buildings, usually separating the building from the street edge.
- The absence of quality landscaping in most instances results in a wider streetscape and inhospitable business frontage.
- Whilst there are some examples of apartment and townhouse type development within the town site, such examples are very rare and often poorly designed. Buildings are generally constructed to service a short lifespan and demonstrate an absence of climate responsiveness.
- There are two key industrial areas within the Newman town site. The first is located east of the town centre in close proximity to the Whaleback mine site.

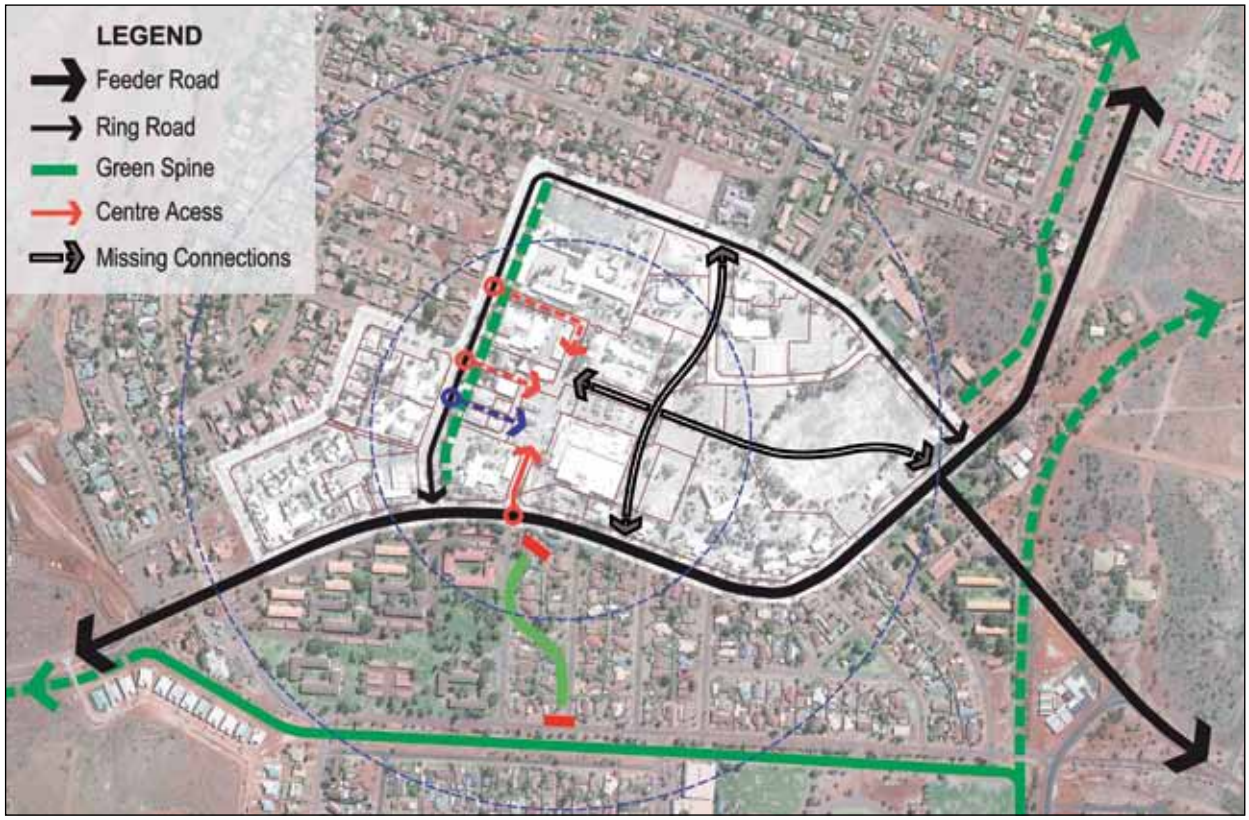


Figure 8 Linkages

This area was the first industrial estate to be established within the town site and there is not any undeveloped industrial land remaining within this estate. The second industrial estate is located south of the town centre. There is approximately 25ha of undeveloped zoned industrial land remaining in this industrial estate.

- Existing short stay accommodation, including caravan parks, is expensive, and substantially booked out by the resource industry, and associated workers. It is therefore not available to visitors to the area.
- Temporary transient workforce accommodation is generally located on the outskirts of the town site.
- The Parnpajinya Aboriginal community is situated on the northern outskirts of the town. The WAPC has produced a community layout plan for Parnpajinya. This community consists of approximately 13 dwellings, combined with a community building.
- In addition, there is several temporary accommodation developments located around Newman generally catering for the FIFO population. In general, most of these developments are self contained gated communities, which by their nature do not promote interaction with the wider community or business environment.
- Few buildings in Newman exhibit a Newman style or local identity.
- There is limited shade, with pedestrian routes often crossing car parks, and the backs of buildings.
- At present the current street access network essentially bypasses the town centre. The main road that leads to the town centre from the Great Northern Highway to the east diverts around the core of the town centre on the perimeter toward the Mt. Whaleback mine site to the west.
- Footpaths lead to specific destinations within the town, yet few go further to provide amenity or interaction along the routes.
- Barriers to access. There are a number of barriers that prevent direct vehicle and pedestrian access to the centre. These being the Seasons hotel and primary school, which prevent direct access to the centre from parts of the northern and southern extents.
- Lack of legibility for pedestrians. The centre is lacking clearly defined and accessible pathways, making it difficult for pedestrians to navigate through the centre. The built form is also not very legible, with the entry to the main shopping centre not clearly defined.
- Currently, the public realm is dominated by a retail centre and surrounding car park.
- There is limited integration between land uses reducing the potential for synergies to occur between complementary activities, and limited provision of residential type uses in the town centre with no vertical mixed use development.

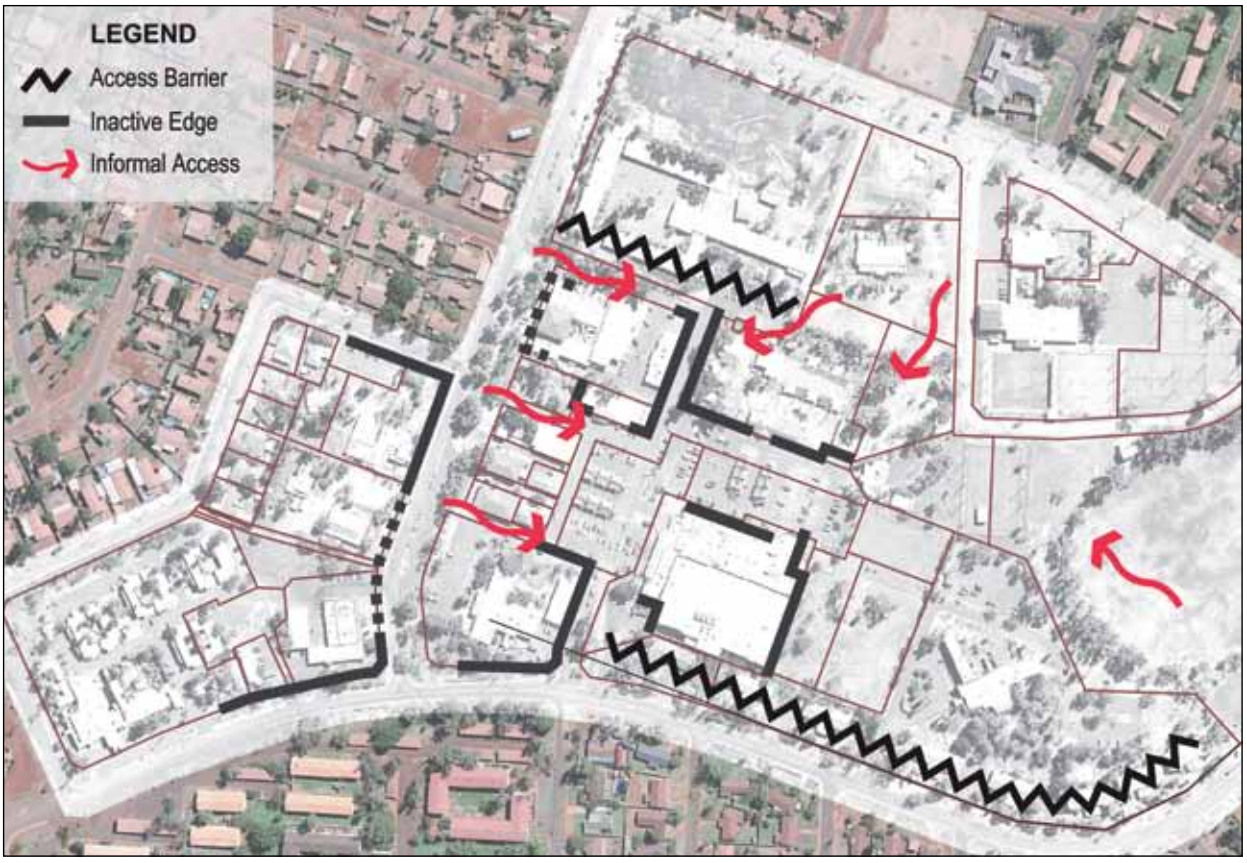


Figure 9 Barriers to access

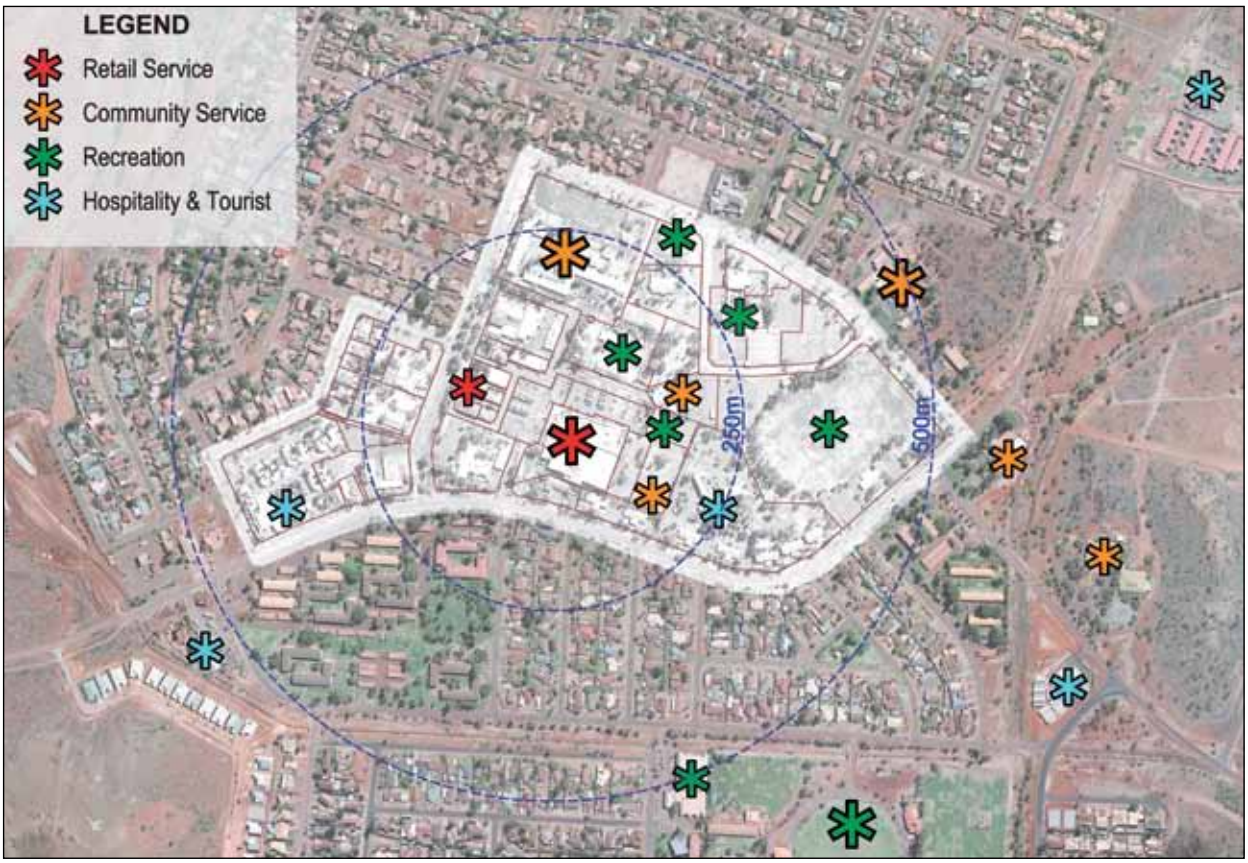


Figure 10 Significant places

- Inactive edges to the built form do not actively engage with the public realm. Meaning that there is a significant extent of blank walls without windows and entries to the street. This contributes to the public realm being inactive, uninteresting and contributes to reduced feelings of safety.
- Disused spaces. There are a number of dysfunctional spaces within the town centre that are left over spaces between the built form, which are not formalised.
- Many of Newman's town centre facilities fall short in regards to contemporary design and struggle to meet current community needs. There is a lack of spaces and activities for children and youth.
- There is a lack of places for socialising such as town squares, community facilities, cafes and restaurants.
- There is currently limited reflection or celebration of Indigenous or Non Indigenous heritage in town centre facilities or activities, including a lack of engagement of the Aboriginal community in the town centre.
- There are currently no significant events that are conducted within the town centre such as street festivals.
- SoEP's Local Planning Strategy is the key strategic land use plan for Newman while the SoEP Town Planning Scheme No. 4 is the primary statutory framework that guides land use and development within the town.
- Both documents require review as a result of the NRP and in particular, it is noted that the Local Planning Strategy is out of date and does not now provide long term strategic direction for the growth of the Newman. The result is that planning and development within Newman is occurring on an ad-hoc basis without a clear strategic planning framework.
- LandCorp is also progressing the release of some light industrial lots south of the town centre. The NRP now provides the planning certainties a town needs to move forward and encourage sustained development for future growth.
- The SoEP Local Planning Policy No.3 – Town Centre Concept Plan provides the current planning way forward for Newman's town centre.

Figure 11 Current retail focus

02 Context and Analysis

Figure 12 Shire concept plan

- The key elements of the Concept Plan are:
  - Provision of a strategy for the redevelopment through the provision of new roads, parks, retail and housing opportunities
  - Identification of possible closure of some roads and establishment of a new town park
  - Provides direction with respect to future required zonings for the town centre
- The Concept Plan provides a guide for the SoEP to exercise discretion in its decision making on planning.
- The Town Centre Concept Plan does go some way into bringing about change within the town centre, including additional retail and commercial opportunities, better access into the centre, greater amenity with a new town park and collocation building and bringing residential apartments into the centre.

In addition a key project being planned at present is the new town park adjoining the collocation centre, as illustrated in Figure 13.

Figure 13 Concept plan showing new town park *(Source: Artsource)*

2.6.1 Key Drivers and Pressures

The current prevailing development conditions in Newman, together with the existing regulatory planning framework is producing a built form outcome that falls short of best practice, and is unlikely to create the conditions that will attract substantial numbers of new residents to Newman in the future.

The key drivers and pressures include:

- The key driver relating to Newman is the proposed population increase, with the associated industrial growth, increases in transport, energy and water use exerting direct pressure on how the town site could potentially grow to accommodate up to 15,000 permanent residents.
- Affordability and diversity in housing choice is another key driver which is related to the need to cater to a target population of 15,000 people. Housing affordability and diversity in dwelling types will have a direct influence over built form outcomes for future development. Previously, single residential houses on large lots was the predominant residential type, however future residential development will include duplex development, grouped dwellings, walk up apartment buildings and 'shop top' apartments, to provide affordable accommodation for small business owners/operators.
- The high costs of land development and housing in Newman;
- The lack of a local construction industry, which contributes to high development costs;
- Pressures on affordable service worker accommodation which are impacting on the quality of life for Newman residents;
- Current planning does not reflect the NRP vision;
- SoEP Town Planning Scheme No. 4 planning controls limit density, and do not presently cater for mixed-use development or the inclusion of residential uses in centres, which is contrary to contemporary best practice;
- The continuation of the existing low density housing, and low intensity activity does not contribute to a level of vitality and vibrancy that often characterises other regional cities;
- The assembly and release of development land is not driven by the private sector as it does not have a significant presence in the town, and must therefor be largely controlled by government;
- The limited options available to home builders of affordable home designs that are sustainable in the Newman climatic conditions;
- The current poor quality of streetscaping reflects the lack of coherent planning, clear design guidelines and supporting nurseries for plant stock;
- The lack of attention and investment in Newman's public realm is aversely impacting on the attractiveness of the town for existing and new residents.

Community Facilities Assessment - Future Growth Summary

A facilities standards assessment has been undertaken in reference to the current community facilities available in Newman. This assessment and the identification of corresponding requirements for Newman were based on specific population levels, using accepted facility provision standards used by many local governments for planning community facilities. The summary of requirements is detailed below.

The figures should be used as a guide only, as specific local needs and issues (e.g. youth needs in Newman) need to be fully considered in decisions made regarding facility developments.

Current Provision	Population of 7,500	Population of 10,000	Population of 15,000
The current level of facilities provided.	**It is estimated that a town population of 7,500 will require the following additional facilities (above what is currently available)**	**It is estimated that a town population of 10,000 will require the following additional facilities (above what is currently available)**	**It is estimated that a town population of 15,000 will require the following additional facilities (above what is currently available)**
1- Halls/Local Community Centres	1 - Hall/Local community facility	1 - Halls/Local community facilities	2 - Halls/Local community facilities
2 - Local Sporting Reserve (1 – 2 senior playing fields)	2 - Local Sporting Reserves (1 – 2 senior playing fields)	3 - Local Sporting Reserve (1 – 2 senior playing fields)	5/6 - Local Sporting Reserve (1 – 2 senior playing fields)

Current Provision	Population of 7,500	Population of 10,000	Population of 15,000
The current level of facilities provided.	It is estimated that a town population of 7,500 will require the following additional facilities (above what is currently available)	It is estimated that a town population of 10,000 will require the following additional facilities (above what is currently available)	It is estimated that a town population of 15,000 will require the following additional facilities (above what is currently available)
5 - Sports Pavilion/Change rooms	0 - Sports Pavilion/Change rooms	0 - Sports Pavilion/Change rooms	2/3 - Sports Pavilion/ Change rooms
6 - Multi-marked Sports Courts (Tennis/Netball/ Basketball)	1/2 - Multi-marked Sports Courts (Tennis/Netball/ Basketball)	4 - Multi-marked Sports Courts (Tennis/ Netball/Basketball)	9 - Multi-marked Sports Courts (Tennis/Netball/ Basketball)
2 - Cricket Wickets	1/2 - Cricket Wickets	3 - Cricket Wickets	5/6 - Cricket Wickets
NA - Public Open Space No information currently available from Shire on this	35 hectares required in total (This amount includes existing public open space)	59.5 hectares required in total (This amount includes existing public open space)	85 hectares required in total (This amount includes existing public open space)
5 - Local Neighbourhood Parks	2/3 - Local/Neighbourhood parks	5 - Local/Neighbourhood parks	10 - Local/Neighbourhood parks
5 - Playgrounds (local)	2/3 - Playgrounds (local)	5 - Playgrounds (local)	10 - Playgrounds (local)
1 - Youth Services Centre (currently not operational)	0 - Youth Services Centre	0 - Youth Services Centre	1 - Youth Services Centre
1 - Aged and Disability Day Care	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.
2- Childcare Centre	0- Childcare Centre	1- Childcare Centre	1/2- Childcare Centre
1 - Infant Health Clinic	1/2 - Infant Health Clinic	2 - Infant Health Clinic	4 - Infant Health Clinic
3 - Health and Medical Centre (for private health professionals)	0 - Health and Medical Centre (for private health professionals)	0 - Health and Medical Centre (for private health professionals)	1 - Health and Medical Centre (for private health professionals)
1 - Library	0 - Library	1 - Library	2 - Libraries
2- Public Primary Schools	0- Public Primary Schools	1- Public Primary Schools	1/2- Public Primary Schools
0 - Private Primary School	0 - Private Primary School	0 - Private Primary School	1 - Private Primary School
1 - Public High School	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.
0 - Private High School	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.
0 - Out of School Care Services	1 - Out of School Care Services	1 - Out of School Care Service	2- Out of School Care Services

Current Provision	Population of 7,500	Population of 10,000	Population of 15,000
The current level of facilities provided.	It is estimated that a town population of 7,500 will require the following additional facilities (above what is currently available)	It is estimated that a town population of 10,000 will require the following additional facilities (above what is currently available)	It is estimated that a town population of 15,000 will require the following additional facilities (above what is currently available)
1 - Playgroup	0 - Playgroup	1 - Playgroup	2 - Playgroups
5- Churches	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.
5 - Employment Service/ Job Network	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.	None required unless demonstrated by local demand.

Note: These findings are based on a population driven model and should be used as a guide only, as such a model does not consider the standard of the current facilities or local contextual issues such as spatial planning restrictions, climatic conditions and local specific social issues (e.g. biased demographic mix, current provision of sporting club rooms at Capricorn Oval).

The information provided should also consider the following with regards to the level of facility provision:

- Not all community facilities are listed within the standards analysis.
- The remote location of Newman means that in some cases the level of facilities currently provided justifiably exceeds the standards specified.
- Co-location opportunities are highly supportable as a means to providing the required number of community facilities.
- Any planning for the provision of sporting facilities in Newman should consider that a number of sporting seasons overlap as a direct response to climatic conditions.
- That the prevalence of young families in Newman may necessitate increased provision of some specified facilities or services.
- Active and passive parks, civic spaces and playgrounds can be co-located as part of an overall strategy for the provision of public open space.
- Proximity to retail/commercial facilities and services is important to the planning of community based facilities.
- Where there is more than one sporting ground, clubhouse facilities should be centrally located so that they can be shared by a number of users.

2.6.2 Key Implications for the Town Site Growth Plan

2.6.2.1 Major Land Uses

The key implications relating to land use include:

A Town Site Growth Plan will allow greater economic certainty to be established. This will ultimately assist Newman become a more resilient and sustainable town into the future enabling new businesses to establish themselves and existing ones to expand.

Amendments to Town Planning Scheme No.4 and the development of a planning framework will be required to facilitate a range of residential densities and mixed-use development to achieve a level of housing diversity and density desired in a vibrant regional town.

Heavy industrial land has been identified as a significant future requirement for the region and the WAPC document Pilbara Planning and Infrastructure Framework: Regional Perspective specifically identifies the need to provide additional industrial land. Heavy industry has a number of requirements which will influence the design of the industrial area. These requirements include:

- the need to set aside a large tract of land to accommodate the requirement to provide large lots
- the need to provide a significant buffer (1km) between sensitive uses accommodated in the town site and the industrial estate
- the need to cater for access for heavy haulage vehicles, drainage infrastructure and other key infrastructure

2.6.2.2 Urban Form and Structure

The key implications relating to urban form and structure include:

- The physical growth of Newman will need to respond to the topographical landforms and the natural environment. Analysis of the landforms, water flows, infrastructure and associated buffers combine to allow an understanding of the land areas available for the future growth.
- Industrial activity will also need to be taken into account when considering land for further expansion in several directions.
- Connected to land availability is soil type. In the region there are difficulties with regard to building on hill slopes.
- There are opportunities for the retention of existing natural watercourses for primary drainage and to revitalise these channels into more purposeful and aesthetic, multifunctional amenities.
- The continuation of town site growth at the prevailing low densities is encouraging continued car dependence, inefficiencies in infrastructure provision, and is limiting the diversity of housing choice.
- Planning for new urban areas will need to respond to sustainable town planning principles that provides opportunities to incorporate principles of good neighbourhood and town structure design and to provide good connectivity, accessibility and legibility.
- Growth planning needs to respond positively to climate change.
- The growth strategy should also identify opportunities for infill or redevelopment opportunities within the existing urban area.

2.6.2.3 Housing & Density

The key implications relating to housing and density include:

- The need to create opportunities for affordability and diversity in housing choice is another key outcome to address the current drivers and pressures facing Newman.
- Housing affordability and diversity in dwelling types will have a direct influence over built form outcomes for future development. Previously, single residential houses on large lots was the predominant residential type, however future residential development will include duplex development, grouped dwellings, walk up apartment buildings and 'shop top' apartments, to provide affordable accommodation for small business owners/operators.
- To provide high quality housing and an appropriate level of amenity, new housing should be site responsive to the local climatic context incorporating climate responsive design principles such as solar orientation, breezeways and solar shading.
- To promote a sense of local identity and sense of place, new dwellings should be designed to a high quality and have a strong relationship to the street.
- There is a need to identify strategies to assist with reducing housing and construction costs as well as the provision of affordable accommodation for the non-resource sector workforce and tourists in the short term.
- The provision of transient workforce accommodation should be designed to integrate into the urban fabric and in a manner that can be re-used over time.

2.6.2.4 Public Realm

The key implications relating to public realm include:

- There is a strategic need to implement a program to deliver much needed public realm and amenity at both the town site and town centre level, including:
  - Landscaping to enhance the sense of arrival
  - Entry to town centre, including Main Street and Town Square
  - Movement network of the pedestrian/cycle systems

- The introduction of new public realm within the town centre and greater pedestrian amenity of the existing and proposed pedestrian network could be integrated throughout the town and include: green infrastructure/shade tree avenues; recreational opportunities such as playgrounds; lighting to allow for night usage; rest stops; passive surveillance from surrounding development, and interpretive elements.
- By incorporating the drainage reserves as part of the overall path and open space network it will provide the matrix of permeable and accessible linear corridors required for Newman's future town growth and long-term sustainability.
- Meeting community expectations in relation to the provision of an integrated public realm which provides an array of opportunities for all ages and groups;
- Engaging the community in the planning and activation of the public realm;
- Implementing a linked pedestrian, cycleway and public transport system throughout Newman connecting 'destination' nodes;
- Ensuring centres (neighbourhood centres and the town centre) are vibrant, attractive and appealing places with interesting, flexible spaces;
- Ameliorating heat effects by focusing on responsive design that creates shade and allows infiltration of cool summer breezes;
- Implementing adequate funding, management and maintenance of all public realm areas;
- Developing a Newman 'sense of place' and an identity which acknowledges both Newman's cultural and arts foundation.

2.6.3 Key Implications for the Town Centre Master Plan

2.6.3.1 Planning Framework

- The car parking standards contained within the Town Planning Scheme No.4 for retail and commercial uses are considered excessive for a town centre, which should promote vibrancy, activity and walkability. Currently the parking provision within the town centre is considered excessive and is constraining the future growth and development of the centre.
- Town Planning Scheme No. 4 does not currently contain any provision to undertake and adopt structure plans within the Scheme Area. An amendment to the Scheme would be required to introduce provisions that would allow the preparation and adoption of structure plans, which would take approximately 12 months to undertake. The amendment would also need to identify those areas flagged for redevelopment and introduce a Development Zone or similar over these areas.
- It is considered a Local Planning Policy or Structure Plan would be a more effective mechanism than adopting the Newman Town Centre Master Plan as a Town Centre Strategy under the Scheme. However, a Town Centre Strategy may be adopted concurrently with the Local Planning Policy, in order to provide Council with a land use strategy for the town centre which has statutory weight under the Scheme.

2.6.3.2 Connection

- Poor structure within the town centre where buildings are disconnected form the street edge and surrounded by large expanses of unshaded car parking.
- Poor pedestrian amenity, where lack of pedestrian infrastructure is compounded by large areas of hot unshaded asphalt.
- Poor sense of arrival from Kalgan/Newman Drive, which is unclear and confusing.
- Movement throughout the town centre is unintuitive and relies on knowledge rather than an intuitive understanding.
- The shopping centre and lack of connections inhibit east west passage through the town centre.

2.6.3.3 Activity

- Increased population growth will require greater retail opportunity and choices. Newman has to plan for the future of its centre and enable existing business to flourish and new businesses to establish within the town.
- A lack of precinct-based agglomeration of land uses within the town centre, which is evident in the dispersal of complementary land uses.
- Limited diversity, efficiency and vibrancy of activity within the town centre and the dominance of franchise type land uses.
- Limited integration between land uses reducing the potential for synergies to occur between complementary activities.
- Limited provision of residential type uses in the town centre with no vertical mixed use development.

2.6.3.4 Built Form

- Buildings lack design quality and a sense of permanence.
- Few buildings in the town centre exhibit a Newman style or local identity.
- Little consideration for climatic design principles resulting in excessive reliance on air conditioning.
- Large expanses of blank facades, limited relationship with the public realm, contributing to a dull, arduous and harsh town centre experience.
- Limited diversity and inappropriate residential for provisions for a town centre environment.

2.6.3.5 Public Realm

- Poor quality pedestrian environment with a lack of footpaths, street trees, and signage, and outdoor places that discourage community interaction or leisure opportunities.
- Harsh and inhospitable public realm due to expansive unshaded car parks and paved surfaces resulting in a hot and inhospitable public realm.
- Undefined and inactive street system adds to a sense of illegibility and inactivity on street networks.
- Lack of comfortable spaces such as a plazas or intimate shady public places provide limited opportunities for meeting places or for public gathering.
- The absence of soft landscape in the town centre and shade trees in streets and public places.
- Drainage lines are a key feature of the town centre and are underutilised as public places.
- There is lack of inclusive and culturally relevant public places.

2.7 Infrastructure

2.7.1.1 Sewer

- Water Corporation owns and maintains the sewerage reticulation system in Newman which discharges to the Waste Water Treatment Plant owned and maintained by the SoEP. Recycled water is piped back to the town for watering recreational areas via a 5.5km pipeline owned by BHP Billiton and operated by the SoEP.
- Newman town site residential areas are serviced by a gravity sewerage network system and a series of pump stations. Three of the pump stations are Water Corporation assets. Six other pumps stations are owned privately for domestic / commercial purposes.
- The existing industrial premises in Newman are generally not on mains sewer and are currently serviced by separate systems such as septic tanks.
- Based on informal discussions and local knowledge, pumping stations 1 and 4 are over capacity.
- The town centre is currently serviced by gravity sewer. Existing sewer assets are currently on non standard alignments within the town centre area.
- There is no current planning for the transferring or sale of assets in the town. The Water Corporation and the SoEP are continuing to operate and expand operations as required.
- The Water Corporation has advised that they will not be able to provide any advice in relation to the planning for the town site expansion. The Water Corporation has limited information on levels and capacities in Newman.
- The SoEP is currently incorporated the addition of a final clarifier into the 5 Year Plan for the waste water treatment plant.

2.7.1.2 Water Supply

- The supply of feed water and its treatment to potable quality is undertaken by BHP Billiton with Water Corporation having responsibility for its distribution throughout the town site.
- Water is sourced from a dedicated borefield with three operational bores. Water is delivered to the existing treatment plant via the “H Line” pipeline.
- The existing water treatment plant is an iron reduction and chlorine dosing plant constructed in 1981. Chlorine dosing is monitored by both BHP Billiton and Water Corporation. The existing water treatment facility functional life expectancy is unknown.
- Town water supply is via 3 mains from the tank site located west of Newman. The capacity of the treatment plant is 7ml per day and this volume of water has been fully utilised for the current town site. Water tanks have an allowance of approximately 36 hours of storage if supply is interrupted. Water distribution and reticulation mains are predominantly asbestos cement.
- The town centre is currently serviced. Existing water alignments are currently on non standard alignments.
- Water Corporation has advised that they have undertaken minimal planning of the existing reticulation network with regard to expansion. The current Water License area covers the existing town site but not all identified growth areas.
- Information based on informal discussions has indicated water supply pressures are sub standard in a number of areas such as the Light Industrial Area.
- There is no current planning for the transferring or sale of assets in Newman. The Water Corporation and BHP Billiton are continuing to operate and expand operations as required.
- The Water Corporation has advised that they will not be able to provide any advice in relation to the planning for the town site expansion until land use planning is defined. The Water Corporation has limited information on levels and capacities in Newman.

2.7.1.3 Power Supply

- Electrical infrastructure within Newman is owned and operated by BHP Billiton.
- Power is generated from an Open Cycle Gas Turbine power station, owned and operated by Alinta Energy Limited (name changed from Babcock & Brown Power in 2009), situated approximately 3km west of the town site. The facility provides power both to BHP Billiton mines and domestic supply to Newman.
- Due to the recent installation of an additional 36MVA turbine commissioned in late 2009, the power station has sufficient capacity to meet existing demand. As demand increases the generation capacity can be made available through installation of further turbines. Land area exists for future growth of the

power station, however further investigation is required into the limitation of the gas pipe infrastructure fuelling the power station.

- As with many of the utility services in Newman, much of the electrical distribution infrastructure is typically between 30 and 40 years old and nearing the end of its functional life. The existing Town Substation is at capacity and any significant increase in power demand will necessitate an additional substation. Similarly other infrastructure including transmission and distribution lines are near capacity and upgrading or replacement is necessary.
- There is no current planning for the transferring or sale of assets in Newman. BHP Billiton are continuing to operate and expand operations as required.
- BHP Billiton have modelled the future power demand based on projected industrial growth and a nominal allowance for population growth in the town site. BHP Billiton have included in their 5 year plan to forecast for a future South Newman Town Substation to be built.

2.7.1.4 Telecommunications

- Newman is primarily serviced by fibre optic cable in the Great Northern Highway road reservation and mobile service. The town site is reticulated with both fibre optic and cable. Telstra have an exchange building in Giles Avenue which services the entire Town.
- A large amount of the towns' communications assets have been inherited from the original owners BHP Billiton.
- As part of the investigation processes for the construction of the SoEP's collocation building works package and the NRP, Telstra have been made aware of the town site and town centre's future growth plans.

2.7.1.5 Drainage

- The existing town is drained through a combination of pipe network and open drains. These connect to major open drains which were originally natural creek lines that discharge into Whaleback Creek to the north and east of Great Northern Highway. Some sections of these creek lines have been retained in their original condition although the majority have been modified through realignment and widening/ deepening to suit development and increase capacity.
- While rainfall is infrequent, as it occurs typically with storm events, the rainfall intensity and runoff flow can be high.
- The town centre can be separated into four catchments. These catchments are not obvious and are divided by existing structures and minor level changes. The town centre falls east to west at an approximate grade of 1 in 100. Stormwater is directed into an existing sub standard piped drainage network and overland flood routes.
- There is no current planning for new drainage networks or upgrades except for works generated by the NRP.

2.7.1.6 Roads

- The existing Great Northern Highway is part of the Perth-Darwin National Highway route and provides the key regional access to Newman. Great Northern Highway is classified as a primary distributor in the Main Roads WA functional road hierarchy. Responsibility for Great Northern Highway rests with Main Roads WA, whereas all other roads in the Newman town site are local government responsibilities.
- There are two road links from Great Northern Highway into the Newman town site, Newman Drive and Kalgan Drive. Both are classified as local distributor roads in the Main Roads WA functional road hierarchy. Both are constructed as single carriageway, two-lane roads and have a posted speed limit of 60km/h.
- Newman Drive provides the main route through the middle of Newman town site from Great Northern Highway on the northeast side to the Mt Whaleback mine site west of the town. It also passes along the southern side of the town centre and the main access intersection for the town centre is located on Newman Drive. The appropriateness of the 60km/h speed limit on Newman Drive within the town site has previously been questioned, particularly in relation to the safety of pedestrians crossing the road to the town centre and schools.
- Kalgan Drive provides an important road link from Newman Drive (east of the town centre) to Great Northern Highway at the southeast corner of the town site. Kalgan Drive also connects to Welsh Drive, which is another 60km/h, two-lane, local distributor road. Welsh Drive provides access to the light industrial area on the southern side of the town site and, with Kalgan Drive, also provides a heavy vehicle route from the highway to the industrial area, rail hub and mine site on the western side of town.
- Almost all roads in Newman are constructed as 7 to 7.4m wide, single carriageway, kerbed and drained streets. However, the newest residential areas under construction in East Newman are designed in accordance with the principles of the WAPC's Liveable Neighbourhoods guidelines, which include a range of road widths appropriate to the various functions of different types of roads.
- Newman is currently well served by a comprehensive footpath network and wider paths strategically located beside the busier roads so that they that can be shared by pedestrians and cyclists. On quieter streets, like most of the streets in Newman, it is appropriate for cyclists to ride on the road. There are only a few minor gaps in this existing path network that should be filled. This pattern of footpath provision should be continued in all future growth areas.

- There is no current planning for new road networks or upgrades except for works generated by the NRP.
- A list of projects and initiatives in the SoEP's *Newman Tomorrow* is included in Volume 3, which includes several transport-related items.

2.7.2 Key Drivers and Pressures

- Newman currently has adequate infrastructure service provisions for power, water, wastewater, telecommunications and stormwater drainage. Although the delivery of services is more variable in comparison to Perth and other major regional areas, they have been generally tolerated as a part of life when living in Newman.
- Population increase, industrial growth and associated increases in transport, energy and water use are the key driver forces affecting the existing infrastructure capacities in Newman.
- These drivers exert direct pressures onto these utilities and ultimately produce a number of challenges which are described below.

2.7.2.1 Existing Asset Ownership

- Service providers include BHP Billiton, SoEP, Water Corporation and Telstra. Unlike other towns in the North West, Newman's service utilities are not the typical statutory providers. The ability and want for some of these providers to maintain services and improve delivery is secondary to their core business priorities and as such delivery suffers.

2.7.2.2 Existing Asset Life

- Newman's major infrastructure assets are 30 to 40 years old i.e. town substation, water treatment plant and waste water treatment plant. The functional life expectancy of these assets is unknown. Maintenance and upgrades required for predicted growth scenarios of these assets is likely to be difficult and expensive.

2.7.2.3 Existing As-Constructed and Design Capacity Records

- Infrastructure and servicing requirements for the town were generally constructed on an as needs basis and without the benefit of current town planning and service infrastructure guidelines. As a result documentation and technical information of existing infrastructure is scarce. In depth planning and analysis is required by the relevant service authorities for accurate predictions of service upgrades based on growth scenarios.

2.7.2.4 Drainage

- A lack of flood mapping information around Newman makes it difficult to assess growth expansion sites. A detailed drainage study needs to be commissioned to determine flood level limits and development site levels. The existing flood routes across private property are becoming increasingly difficult to maintain.

2.7.2.5 Water Corporation License Areas

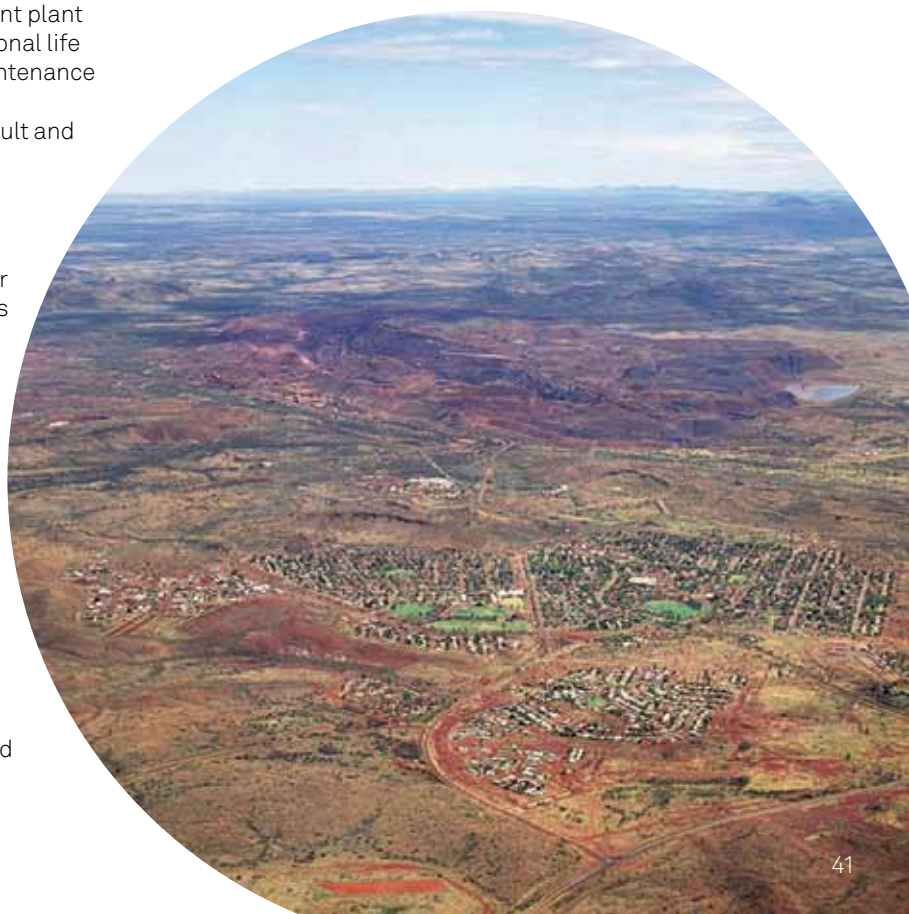
- Growth areas extend outside the current water and wastewater license boundaries and these will require an amendment. This amendment needs to be approved by the Economic Regulation Authority under section 31 of the Water Services Licensing Act 1995 (Act).

2.7.3 Key Implications for the Town Site Growth Plan

- With the implementation of the NRP there now exists a golden opportunity to rectify and improve the standard of infrastructure service provision and service delivery in Newman. A number of key implications exist for Newman and are described below.

2.7.3.1 Electrical Service Provider

- BHP Billiton is currently the service authority for electrical power within Newman.
- In general the growth of Newman to 15,000 people would require two extra turbines to meet the peak demand which occurs during December / January.
- BHP Billiton has at certain levels shown interest to relinquish the town's distribution system to a recognized provider such as Horizon Power. BHP Billiton would still own and operate mining operation distribution systems. This process should be encouraged.



2.7.3.2 Water Supply Provider

- BHP Billiton is currently owner and controller of the water source, water treatment and potable water storage assets in Newman. BHP Billiton has at certain levels shown interest to relinquish water treatment and potable water storage assets to a recognized provider such as Water Corporation. This process should be encouraged.
- The transfer of water source licenses and assets would be difficult to achieve due to the intrinsic relationship between the dewatering and recharge process and mining operations.

2.7.3.3 Drainage

- In the town site growth areas surface flood routes should be created on public land.

2.7.3.4 Proposed Highway Industrial Area

- The Proposed Highway Industrial Area is remote from the town site and extension of services will be expensive. Opportunity exists for independent water and sewer treatment facilities at a local level catering for the site or by individual owners installing their own systems.

2.7.4 Key Implications for the Town Centre Master Plan

2.7.4.1 Road network

- With the growth of Newman town site in the future it is anticipated that a significant proportion of the additional traffic to the town centre will approach via Kalgan Drive and the eastern section of Newman Drive. The new road link from the Kalgan Drive / Newman Drive intersection around Boomerang Park that is proposed by the SoEP's Town Planning Policy No.3 Concept Plan would provide a direct and convenient access route into the town centre for this additional traffic. A four-way intersection at this location would be an appropriate location for a roundabout, which would ensure adequate intersection capacity in future.
- The shopping centre car park, including the north south circulation road that acts as a continuation of Market Place, is a very poor environment for pedestrians and cyclists. Generally there are no paths within the car parks and the paths around the edges of the car parks have sections missing. A path does lead west from the main entrance of the shopping centre and crosses the north south circulation road but then terminates before reaching the pedestrian mall and specialty shops on the western side of the car park.
- Pedestrian and cyclist routes through the town centre need to be clearly defined and missing links completed.
- The town centre also lacks a main street that is immediately recognisable as the focus of retail and commercial activity. This would not need to be a very long street and should not have to carry high volumes of traffic. Providing direct access to large parking areas should not be a major function of this road. It should primarily serve pedestrian movements between the abutting retail and commercial activities and therefore should be a low speed traffic environment.
- A new link between Newman Drive and Rogers Place east of the early learning centre would be useful to help distribute traffic flows and would also improve pedestrian and cyclist access from the southeast side of the town centre. This link would follow an existing access road within the Seasons Hotel site. If this link does not proceed it would still be beneficial to create a link southward from Rogers Place to access the hotel, town park and early learning centre car park from this side. This should ideally include at least a pedestrian link between the hotel and the town centre, which is currently missing.

2.7.4.2 Parking

- The November 2009 parking surveys demonstrated that current parking supply in the town centre is higher than the normal weekly peak demand. With peak demand in the town centre core at approximately 71% on Saturday morning this suggests that parking supply ratios could be reduced by around 25% or 30% without compromising the operation of the town centre. Under this approach to parking supply it would be appropriate to make provision for suitable overflow parking facilities nearby for those rare days when peak parking demand is higher than normal.
- During the workshop sessions held in Newman for this study the need to accommodate a wide variety of vehicle sizes and types was noted. This includes vehicles towing trailers or caravans, motor homes, tourist coaches, trucks and large four-wheel drive vehicles.

2.7.4.3 Public transport

- Newman currently does not have a public transport system apart from the private buses that transport employees to and from the mine, airport, etc. If Newman town site expands significantly the outer areas will be beyond reasonable walking distance from the town centre. East Newman should probably already be considered beyond a reasonable (10 minute) walking distance from the town centre. In future it may therefore be appropriate for the SoEP to introduce a community shuttle bus service between outer areas and key locations such as the town centre, hospital, recreation centre and high school. This would be particularly important for those without access to car travel, which are mainly the very young, the elderly and those with disabilities.

2.7.4.4 Services

- As the staged revitalisation of the town centre progresses opportunities to normalise existing service provisions should be implemented.

2.7.4.5 Drainage

- Where altering overland flood paths to preferred locations is not possible (i.e. open drains and road reserves), easements should be allocated in the favour of the SoEP to ensure blockages and flood risks are minimised.

03. PROJECT GOALS AND OBJECTIVES

3. Project Goals and objectives

3.1 Future Newman – Goals and Objectives

As noted in Section 1.5.1, Aspirational Goals were developed that describe the desired characteristics of a sustainable Newman in light of the shared vision for the town. These Goals represent a higher-order aim to which the project is intended to contribute – they are statements of longer-term intent.

More specific Project Objectives have been devised to guide the development of effective strategies for the growth anticipated in the NRP, ultimately with the characteristics described in the Goals. The objectives derive from the context analysis outlined in the previous section, and aim to be a description of an overall desired achievement involving a process of change from the present to the desired.

While mainly reflecting each of the Goal domains of Economy, Community, Environment, Built Environment and Public Realm and Infrastructure, many of the objectives apply to more than one domain.

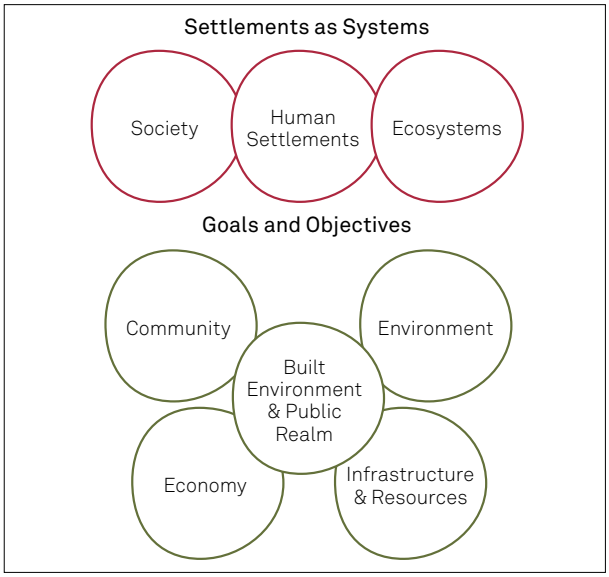


Figure 14 Goals and objectives

Each of the specific strategies set out in the following sections have been devised to respond to one or more of the above Goals and Objectives.

Aspirational Goal	Project Objectives
Economy A robust, diversified local economy that effectively services the needs of local and regional industry and population	Improved local business capability to service established industry sectors
	Optimised local employment distribution to meet the requirements of industry and population
	Increased local business, industry and employment diversity
	Enhanced local business investment and entrepreneurial activity
	Activated and accessible retail and commercial destinations
Community Communities that are safe, healthy, and enjoyable places to live and work; offer cultural, educational, recreational opportunities; provide appropriate housing, services and amenities; foster active local citizenship.	Provision of a full range of community services and facilities
	Affordable accommodation and living
	Community cohesion, vitality and involvement
	Strong cross cultural relationships
	Acknowledgement of cultural heritage through built form, public art, community art and community activities
	Good access to work, services and amenities
	Community participation in goal setting and decision-making processes
	Integration of workforce with local community
Environment Local, regional and global eco-systems in which landform, habitat and biodiversity are retained and that provide natural provisioning, regulating and cultural services.	Protection of significant natural landform
	Protection of significant native vegetation and habitat
	Prevention of pollution and erosion from stormwater
	Retention of predevelopment water balance
	Reduced net per capita carbon emissions
	Minimal waste to landfill
	Best practice recovery and reuse of materials
	High levels of air quality
	Acceptable noise levels

03 Project Goals and objectives

Aspirational Goal	Project Objectives
Infrastructure and Resources Economically efficient infrastructure for industry and households designed for efficient use of energy, water, materials and transport	Best practice per capita water consumption
	Energy efficient built form
	Energy efficient lighting, equipment and appliances
	Best practice materials efficiency
	Effective and well utilised public transport
Built Environment and Public Realm An urban form that reflects the intrinsic qualities of the site context, characteristics and relationships and complements the natural environment; with centres that are vibrant, dynamic, diverse and functional	Increased net development density
	A place based response that reflects the climate, context and site
	Management strategies for climate change and natural disasters
	An integration of uses that achieves functionality, efficiency and compatibility
	Connectivity at local, district and regional scale
	A network and hierarchy of streets and public spaces that provides permeability and legibility
	A integrated movement network that ensures the safe movement of pedestrians, cyclists and vehicles
	A diverse mix of uses, buildings and housing types
	High quality well designed buildings that reflect the site context
	A variety of well defined open spaces
	An accessible and legible town centre destination

04. AN INTEGRATED STRATEGY FOR NEWMAN

4. An Integrated Strategy for Newman

4.1 Developing the Strategies

The DPSIR Framework (described in Section 1.5.1) was used by the project team to assess the current situation, pressures and implications, and derive aspirational goals and project objectives. The multi-disciplinary team then used this framework to workshop what strategies and actions were required to realise the vision for the NRP. This enabled strategies to be identified, which were then developed by the project team, and then tested at a variety of design workshops with the Newman community and key stakeholders.

The NRP responds by setting out a sustainable growth plan to guide Newman on its journey from a town with a permanent population of some 5,000 through to one of 15,000. A range of responses are required that cross traditional disciplinary boundaries to reposition Newman, and set off in the right direction on a journey that will take many years to complete.

This Implementation Plan provides an overview of the strategies including the "non-spatial" strategies that together provide the roadmap to realise the project vision. A total of 24 separate strategies have been identified to realise the project's aspirational goals and objectives. These are described in Appendix B of Volume 2. Each strategy has been numbered, and all the strategies in number order are summarised below. The detailed implementation projects, actions and steps are described in more detail in Section 6.

The figure below summarises the key responses to the challenges identified in Section 2 at the region, town site and town centre scales. These strategies are explained in more detail in Volume 2.

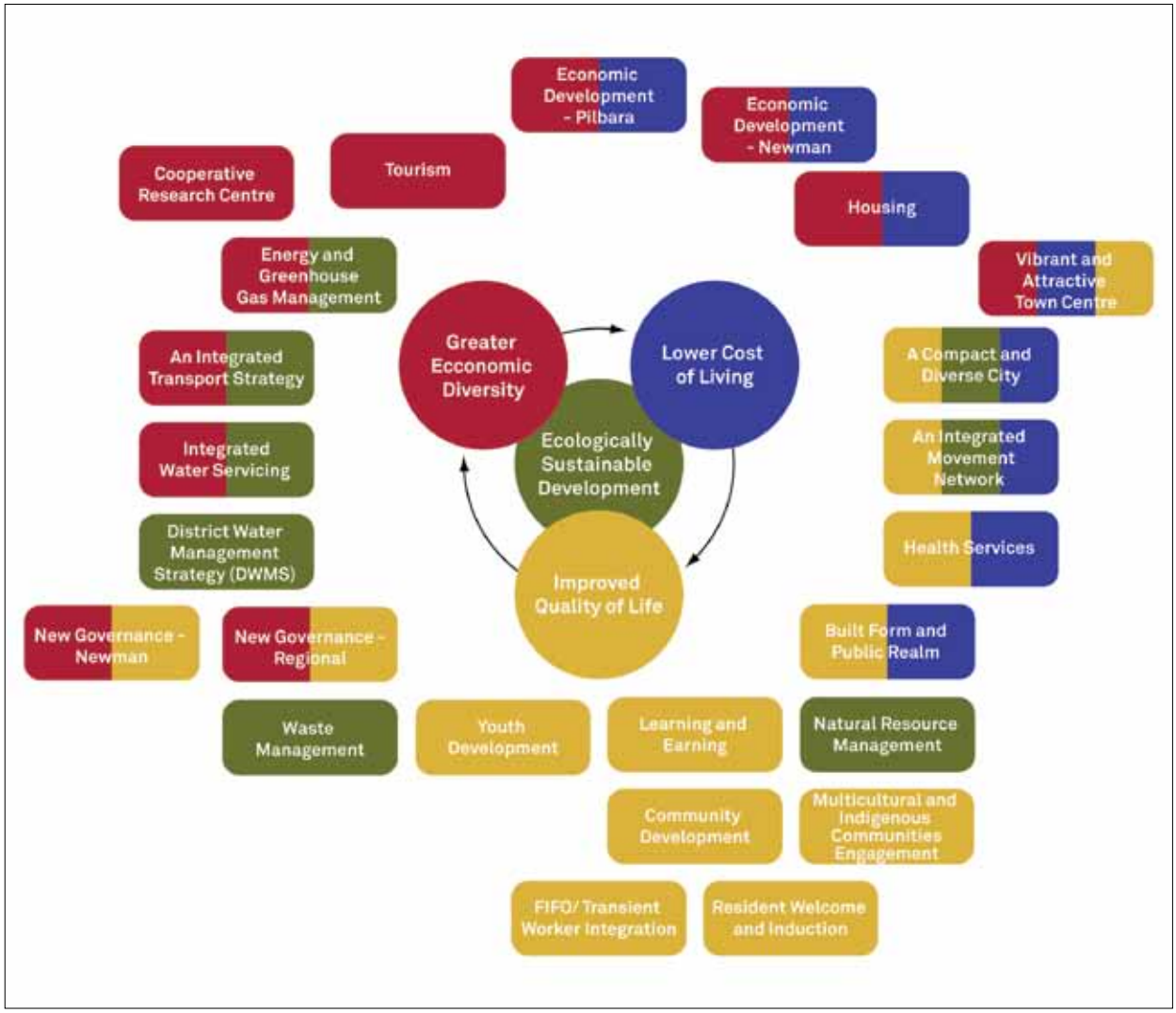


Figure 15 Summary of the proposed strategies described in this section

04 An Integrated Strategy for Newman

The figure indicates with a colour coding the key element the strategy responds to, together with those others that are also impacted by the strategy.

1. Diversifying the Economy – Regional Level

   Develop and implement an economic development strategy for the Pilbara. This strategy will focus on a range of initiatives to diversify the Pilbara economy, including supply chain completion and value chain augmentation for existing resource industries in the Pilbara; reducing cost pressures for local industry establishment, operation and expansion; improving the capability of local industry to service the resource sector, establishing a local construction industry, supporting viable new / embryonic non resource sector economic activity including tourism; and ensuring key infrastructure is capable of supporting economic development and identifying key enabling infrastructure for specific industries.

   In the medium and longer term, there is an opportunity to establishment the Pilbara as a low carbon emission energy hub based on LNG, solar and other technologies. Further economic development could involve the focussed promotion of downstream processing industries associated with LNG, minerals and energy; facilitating the establishment of industry hubs and cluster development; and new industry, non resource sector, industry opportunities

2. Diversifying the Economy – Shire Level

   Develop and implement an economic development strategy for the SoEP and Newman. An economic development unit for the SoEP is proposed, establishing local government entrepreneurial business activity to promote the expansion of local industry capability and to activate the town site/ town centre.

   A high quality city with the range and standard of living conditions, amenities and services is necessary to attract and retain a diverse, stable employment base.

3. A New Governance Structure - Regional Level

   Develop multi-level governance model with stratified approach to economic development, and partnerships for coordination and implementation.

   For Newman to graduate to regional centre of 15,000 permanent residents will require a coordinated and facilitated, cross agency and multi stakeholder intervention designed to reconfigure the local economy in such a way as to stimulate growth in local employment, which in turn will underpin the town's residential population growth over the next thirty years or so. This requires both a governance mechanism and an investment vehicle with the authority, expertise and resourcing capability to make it happen. The office of Pilbara Development and Pilbara Partnership Board (PPB) are prepared as part of this model.

4. A New Governance Structure - Local Level

   Local Government/Regional Council representation on the PPB is essential as Local Government represents the on ground interests of the Pilbara communities. Furthermore, at a localised implementation level, local government has a substantial role to play in the implementation of localised development programs and strategies that reflect the higher order, objectives and strategies of the PPB.

5. Housing Strategy

   This includes the increased provision and diversification of land lot sizes housing types to address affordability and create more vibrant and active neighbourhoods and town centre.

6. Tourism Strategy

   Develop a regional tourism strategy to identify opportunities to attract visitors, identify attractions and events, and accommodation strategies.

7. Cooperative Research Centre

   Investigate the potential to position the town as a location for a Cooperative Research Centre into Regional Cities Development. Potential areas of investigation might include, as examples, water conservation and reuse in arid climates, regional economic sustainability and food production in remote areas. This approach requires aligning the town to a university or higher education institution in order to attract Federal Government funding.

8. Newman Community Pride and Engagement and Pride Strategy

   The development of this strategy will build upon existing foundations of community connections. There is a strong connection for many people with their town in Newman. This includes a love of the outdoor lifestyle, beautiful natural environment and the small country town feel. With the population growing there is concern that elements of this "feel" might be lost in the future.

9. Education, Training and Personal Development Strategy

   This strategy will establish an integrated pathway to providing access to a wide range of educational services at all education levels.

10. Health Services Strategy

    The provision of health and emergency services is a very high priority for people in Newman and can result in people having to leave town to access a range of services. This strategy will establish an integrated pathway to providing access to a wide range of health services.

11. Children and Youth Leadership and Development Strategy

    The Youth Development Strategy will describe actions required for improved youth engagement, services and facilities in Newman.

12. FIFO/Transient Worker Integration Strategy
    This plan will provide the research, strategies and actions required to better integrate temporary/fly in – fly out workers into the Newman community in order to generate benefits for all stakeholders.

13. Indigenous Engagement Strategy
    The Nyiyaparli, are the traditional owners of the land, holding native title over the land. The Nyiyaparli now reside in Port Hedland. The Martu are the custodians of the land and are connected to the land on a regional level, with close family ties existing between Indigenous communities throughout the Pilbara.

    The Martu people are comprised of approximately a dozen language groups that extend across the Gibson and Great Sandy Deserts. The Martu homelands extend into the Western Desert. Culture is still a very important aspect for the Martu who live in and around Newman. Martu and Nyiyaparli represent one of the oldest living cultures in the world and were the last group within Australia to move from their tradition way of life. This strategy aims to integrate the Indigenous communities into Newman resulting in a more inclusive and welcoming town for all.

14. Newman is Home Strategy
    The Newman is Home Strategy will foster a greater connection with the town through the establishment of processes to welcome and induct new residents into town. The Strategy will build upon some work already being undertaken to take a cohesive approach across government agencies; community organisations; businesses, Industry and local government to attracting and retaining residents to the town.

15. Natural Resource Management Strategy
    A Natural Resource Management Strategy specific to Newman and its surrounds, addressing the sustainable management of land, flora and fauna, fresh water and coastal marine environment.

16. Waste Management Strategy
    SoEP Waste Management Strategy customised to specific conditions and requirements of the Newman town site and town centre.

17. A Compact and Diverse Town
    An urban growth strategy that provides an urban form that is climate responsive, activity centres with diversity and mixed use, and efficient by minimising the need to rely on the car, based around walkable neighbourhoods through precinct planning.

18. An Integrated Movement Network
    A Strategy to develop an integrated movement network for Newman to link to surrounding towns, accommodate freight, that is responsive to the quality of the urban environment, and incorporates a street hierarchy, parking, public transport, walking and cycling.

19. A Built Form and Public Realm Strategy
    The strategy includes the development and implementation of a Public Realm Strategy for the Growth Strategy for Newman.

20. Vibrant and Attractive Town Centre
    A city centre master plan to create a vibrant, attractive and pedestrian friendly focal point for Newman.

21. Integrated Servicing Strategy
    Formulate a water and wastewater strategy for Newman, staged from present to 15,000 population target.

22. District Water Management Strategy (DWMS)
    A District Water Management Strategy which addresses long term infrastructure needs in respect of water, wastewater and stormwater, and sets the planning framework for future development.

23. Energy and Greenhouse Gas Management Strategy
    An Energy and GHG Management Strategy which establishes an energy efficient, low carbon approach as the basis for Newman's long term energy infrastructure needs.

24. An Integrated Transport Strategy
    An Integrated Transport Strategy for Newman incorporating street hierarchy, parking, public transport, walking and cycling.

04 An Integrated Strategy for Newman

Ecologically Sustainable Development

The strategies outlined in this section incorporate a number of initiatives that when taken together represent the ecologically sustainable development of Newman.

This section draws together those initiatives with a view to highlighting the sustainability outcomes that will flow from the delivery of the NRP.

	Summary of Strategy	Project Objectives
Land and Environment	Compact and diverse settlement pattern	Increased net development density
	Reduced reliance on surface and groundwater supply	Protection of significant natural landform
	Natural Resource Management strategy	Protection of significant native vegetation and habitat
	Protection against sea level rise and storm surge	Prevention of pollution and erosion from stormwater
	Best practice water sensitive urban design	Retention of predevelopment water balance
		Management strategies for climate change and natural disasters
Energy and Greenhouse Gas Management	Energy efficient buildings	Energy efficient built form
	Solar PV for new housing	Energy efficient lighting, equipment and appliances
	Solar hot water for new housing	Reduced net per capita carbon emissions
	Combined cycle gas power station upgrade	Effective and well utilised public transport
	Fully integrated NWIS grid	
	Solar thermal power	
	Smart Grid	
	Walking and cycling network	
	Bus Service	
Water	Water efficient fitting and fixtures in buildings	Best practice per capita water consumption
	Water efficient irrigation practices	
	Recycled wastewater for non-potable supply in new development areas	
Waste	Materials efficient buildings	Best practice materials efficiency
	Waste recycling scheme	Minimal waste to landfill
	Resource recovery facility	

4.2 A Town Site Growth Plan for Newman

4.2.1 Town Site Planning Principles

The NRP Town Site Growth Plan is described in detail in Volume 2, and is summarised below.

4.2.1.1 Spatial Objectives

In order to respond to the key challenges facing Newman, a number of spatial objectives have been developed through the process for the NRP Town Site Growth Plan. The key spatial objectives that have underpinned the development of the NRP are:

- To provide sufficient land to accommodate residential, commercial, retail industrial, community and cultural land uses to support growth of the town site to 15,000 permanent residents;
- To accommodate improved medical and health facilities;
- To identify future school sites required to accommodate growth;
- To provide an integrated network of roads, cycling and pedestrian connections;
- To identify key worker and FIFO accommodation and integration of this accommodation with the local community;
- To protection of the natural landform, particularly the natural hills surrounding the town site;
- To enhance native vegetation and habitats through green corridors;
- To integrate water sensitive design principles;
- To provide a place based response to the environment and natural topographical features;
- To integrate land uses, where appropriate, to improve accessibility;
- To provide a diverse mix of land uses.

4.2.1.2 Spatial Development Principles

The spatial development principles for the NRP Town Site Growth Plan have been developed having regard to the above overarching objectives and they provide a basis for the implementation of the plan. The Town Site Growth Plan is based on the following understandings and principles:

- current planned developments at 'Grandtown' and curra Village have been acknowledged and incorporated into the Town Site Growth Plan;
- existing undeveloped zoned land will be developed as a priority prior to entertaining development outside of the existing town site boundary;
- both medium density and single density should be developed at the same time in order to achieve diversity in housing type;
- the green corridors will be established adjacent to new development sites as these are constructed;
- existing single residential dwellings adjacent to the green corridors will be developed for medium density houses (grouped dwellings, townhouses, low rise apartments);
- optimise the range of industrial opportunities by providing a range of industrial lot sizes and types (light and heavy), with the portion of proposed highway industrial closest to the highway being developed immediately and the new heavy freight diversion road being constructed at a later stage when demand dictates.

4.2.2 Town Site Growth Plan Process

The vision for a town of 15,000 has required a comprehensive review of current planning for Newman. The Town Site Growth Plan provides the necessary information and direction to allow the SoEP to prepare a new local planning strategy and planning scheme, both of which will be necessary to provide the right administrative instruments to accommodate Newman's new direction.

The town growth planning process commenced with a review of past work. This was also important from the community's perspective, as there is anecdotal evidence that the community was feeling over consulted. The approach was based on the creation of a shared future vision fostered through community engagement and empowerment and the building of partnerships with key stakeholders.

The following key steps were taken to achieve this plan:

1. Drawing from past work to develop the project Vision and Goals;
2. Aligning with a Sustainability Framework;
3. Understanding context (particularly testing the validity of the role of the Newman in relation to the region and the relationship between the broader town site and the existing town centre);
4. Undertaking analysis of the centre in relation to structure, land use, public realm etc;
5. Developing key Town planning and urban design principles to guide scenario development;
6. Developing various town site growth scenarios for consideration by stakeholders;
7. Testing town site growth scenarios with key stakeholders, including landowners to inform town growth/development plans;
8. Conducting design sessions with key stakeholders, focus groups and the broader community to inform and refine the town site growth plan; and
9. Further refining the town site growth plan to reflect consultative feedback received
10. Advertising the plan to seek broad community comment.

04 An Integrated Strategy for Newman

A variety of community engagement techniques were utilised to develop the Town Site Growth Plan. Scenario development for the spatial response to this project played a leading role in developing the Town Site Growth Plan. By exploring a range of growth pathways the process was able to test a number of opportunities in terms of Newman's capacity to accommodate significant growth in a form that was placed based and responsive to its context and climatic conditions.

A full analysis of how the overall urban area functions were carried out, coupled with an extensive opportunities and constraints analysis, a number of directions for growth began to emerge for Newman. These issues were assessed against a number of well-understood planning and urban design principles and a range of non-spatial inputs such as economic and community activation drivers, designs were developed as a method to test scenarios.

Three (3) scenarios were initially explored that had the potential to service a population of 15,000 people. Design workshops were then utilised to further refine and test the implications for the community and key stakeholders, and to explore the implementation steps and actions required. The subsequent draft Town Site Growth Plan was then made available for a period of public comment.

A similar process was adopted for the development of the Town Centre Master Plan which is set out in detail in Volume 3.

4.2.3 Key Elements of the Town Site Growth Plan

4.2.3.1 Key Structuring Elements

The process which has been used to develop the Town Site Growth Plan has responded to the place specific issues, challenges and opportunities that are currently facing Newman and which have previously been identified in Section 2 of this report. Key components of the Town Site Growth Plan have been developed in response to these issues and the following elements in particular have played a fundamental role in developing the growth strategy for Newman.

Improved Movement Network

The movement network has been structured so that there is a clear hierarchy to assist with way finding and general access throughout the town site.

Connectivity of the existing road network within the town centre will be significantly improved through the construction of a new east-west road (Iron Ore Parade). Additional links, particularly to Newman Drive, may be appropriate to feed traffic into the town centre, particularly if that is the main direction of approach from new residential areas in the town site growth plan.

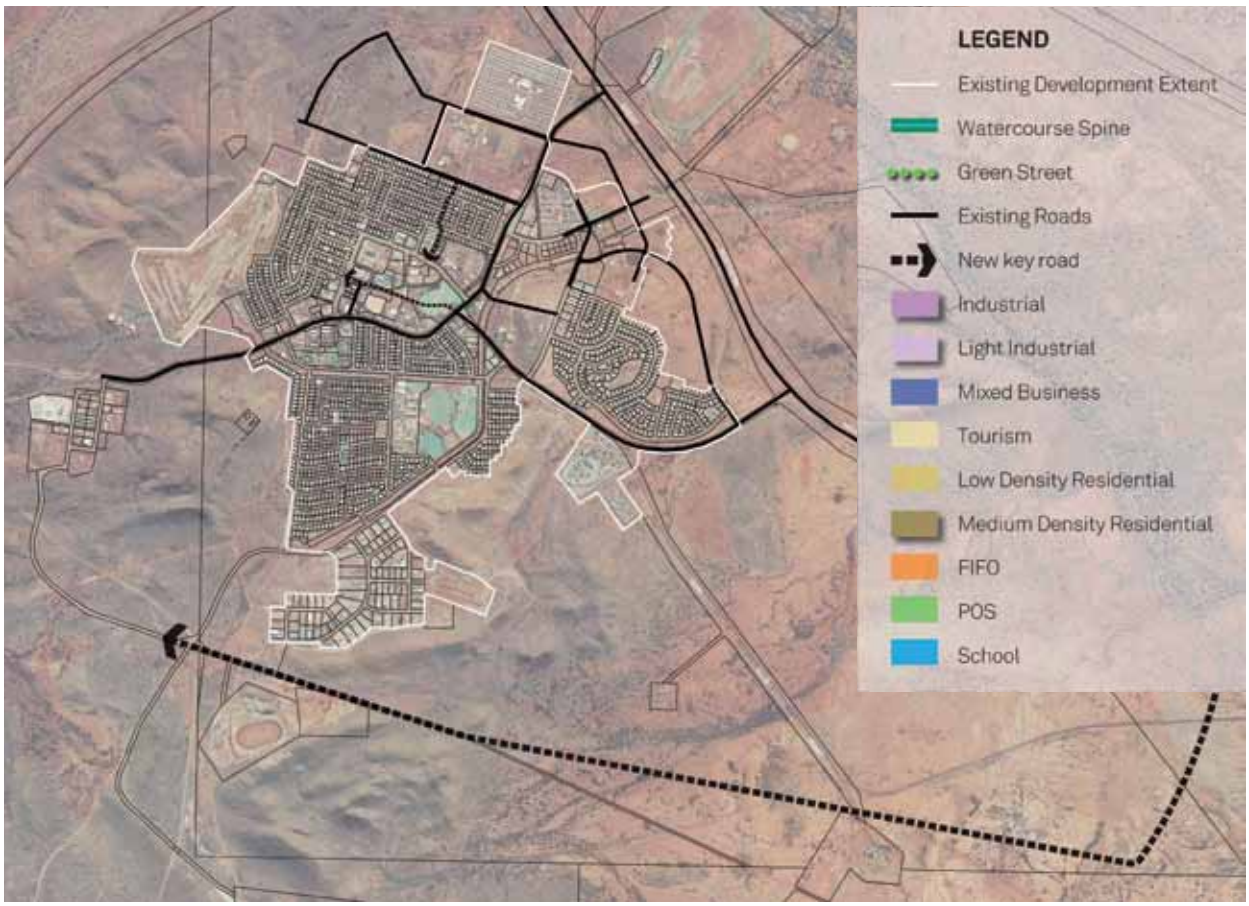


Figure 16 The road network and existing settlement pattern is a key structuring element of the plan. New linkages will improve connectivity through the town site

Green Spines

The Town Site Growth Plan seeks to enhance water courses that traverse through the town site by 'greening' the existing watercourses in order to create areas of amenity which will also assist with way finding and will provide a further structuring element to the town to build on the towns identity.

These corridors will have the potential to bring in a much needed water element and a green aspect to the town site. The green corridors will create opportunities for medium density infill development, which will benefit from the amenity provided by the green corridors.

The water courses will be planted with riparian species from the local region to illustrate their position in the urban matrix. This plant selection will also visually tie these water courses in to the natural riparian corridors that exist on the outer reaches of town along the Whaleback and Homestead Creek corridors. This deliberate design direction is with the intent of connecting the inner core of the town to the surrounding environmental and ecological context.

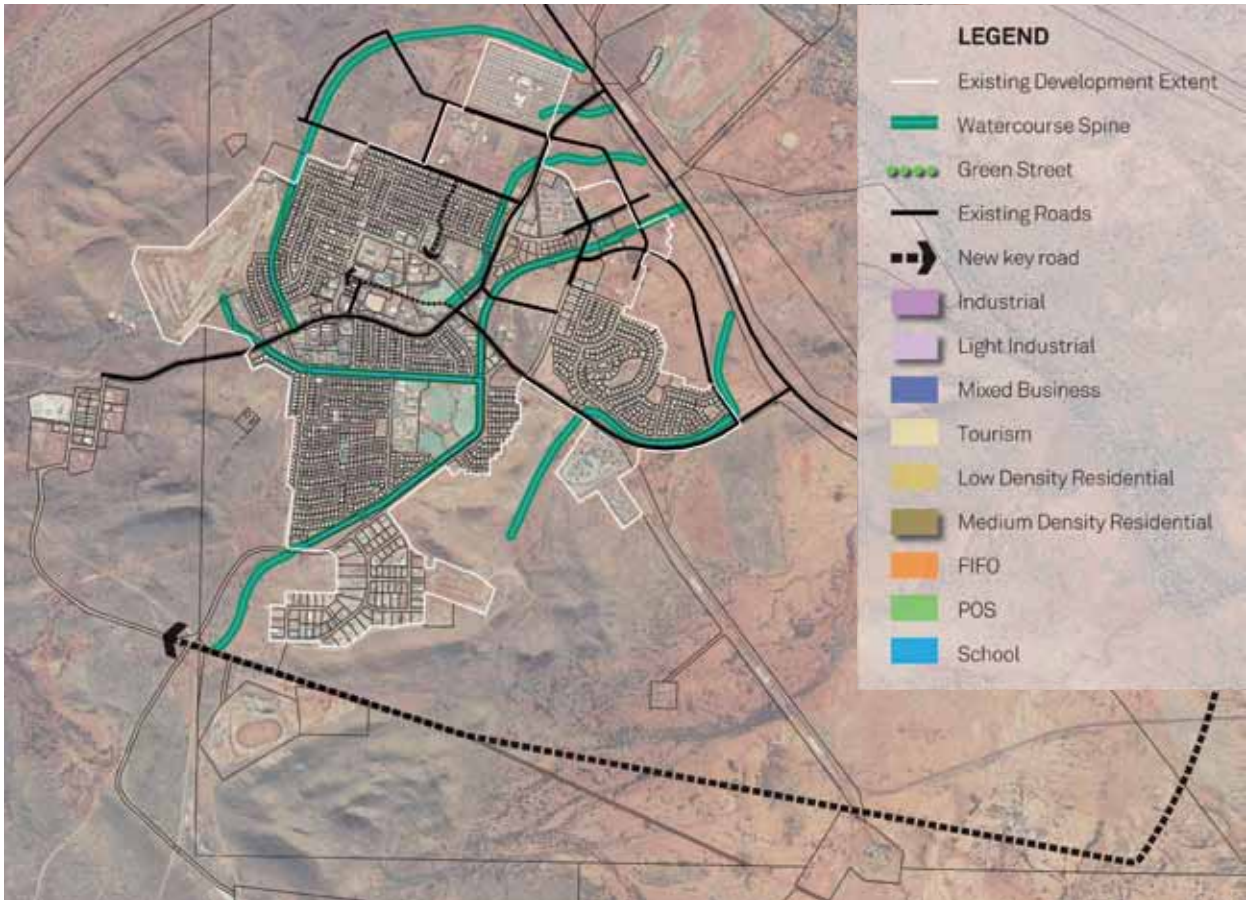
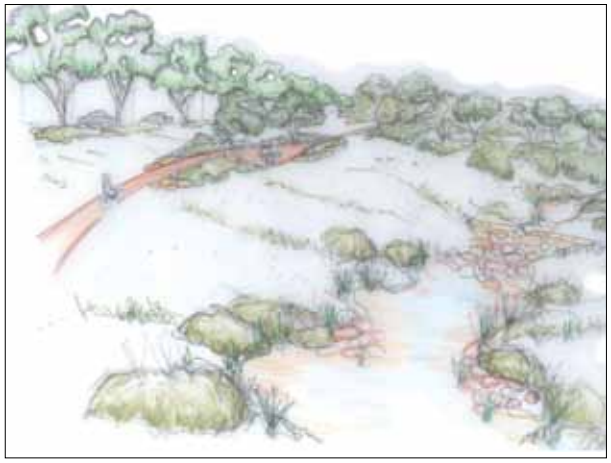


Figure 17 Drainage corridors



Existing watercourses will be vegetated to provide amenity and a sense of place through the town site

04 An Integrated Strategy for Newman

Tree Lined Pedestrian Connections

The existing pedestrian and cycle network will be extended to improve connectivity throughout the town site. Generally, streets will be well populated with trees to provide amenity and shade and will incorporate footpaths to achieve a good degree of connectivity. Boulevard planting will be a feature along key pedestrian routes and will provide much needed shade and contribute to a cooler micro climate in places.

The main design direction is the inclusion of all networks in the open space system.

This includes drainage swale corridors, actual open space, and street corridors. All three of these elements have the ability to provide pedestrian connections, shaded amenities, vegetated corridors, interpretive opportunities, and recreation (both passive and active).

The plan for Newman will create a new approach to the use of vehicular corridors by including them in the overall green network of the town. This will enhance physical and social opportunities for all residents and make Newman a more appealing location for visitors to the community.

Figure 18 Greening of key pedestrian streets is a fundamental aspect of the plan.

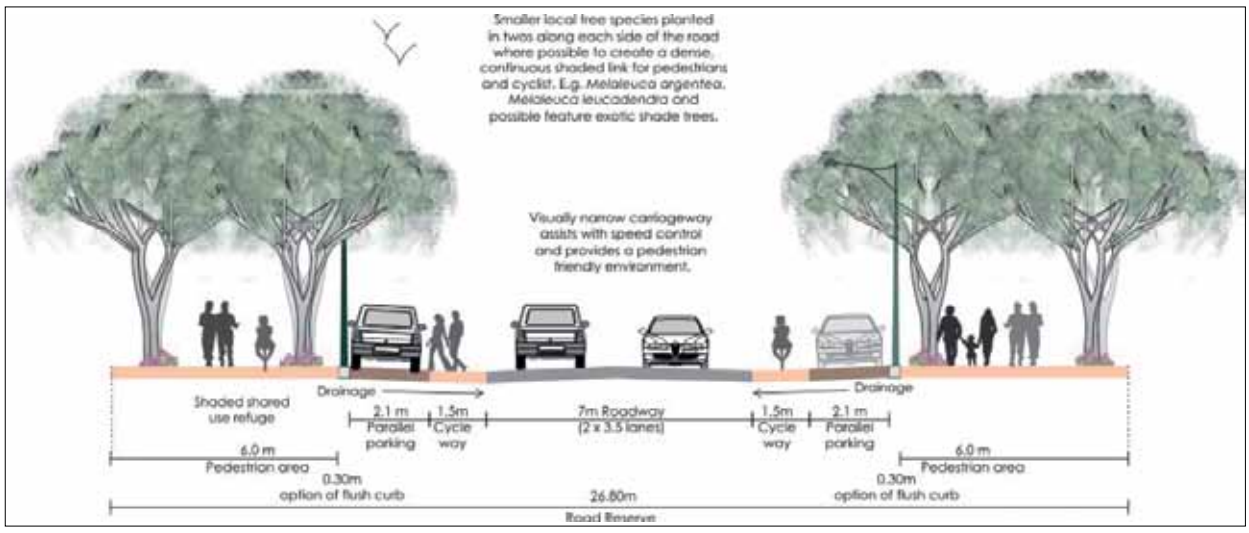


Figure 19 Cross section of Main Street

4.2.4 Compact Growth Strategy

The Town Site Growth Plan seeks to build on and improve the existing structure of the Newman town site. The growth of the town site will be compact and future peripheral growth of the town site will be limited to a radius of 2km from the town centre. The town site will have good connectivity to the town centre and as well as throughout the town site.

4.2.4.1 Lower Density Housing

Through the community consultation process, it was evident that there is a requirement to provide additional single lot low density housing in order to cater for families and those who want to retain the current lifestyle within Newman. A range of single residential lots have been allowed for, ranging from 400sqm through to 700sqm and potentially greater.

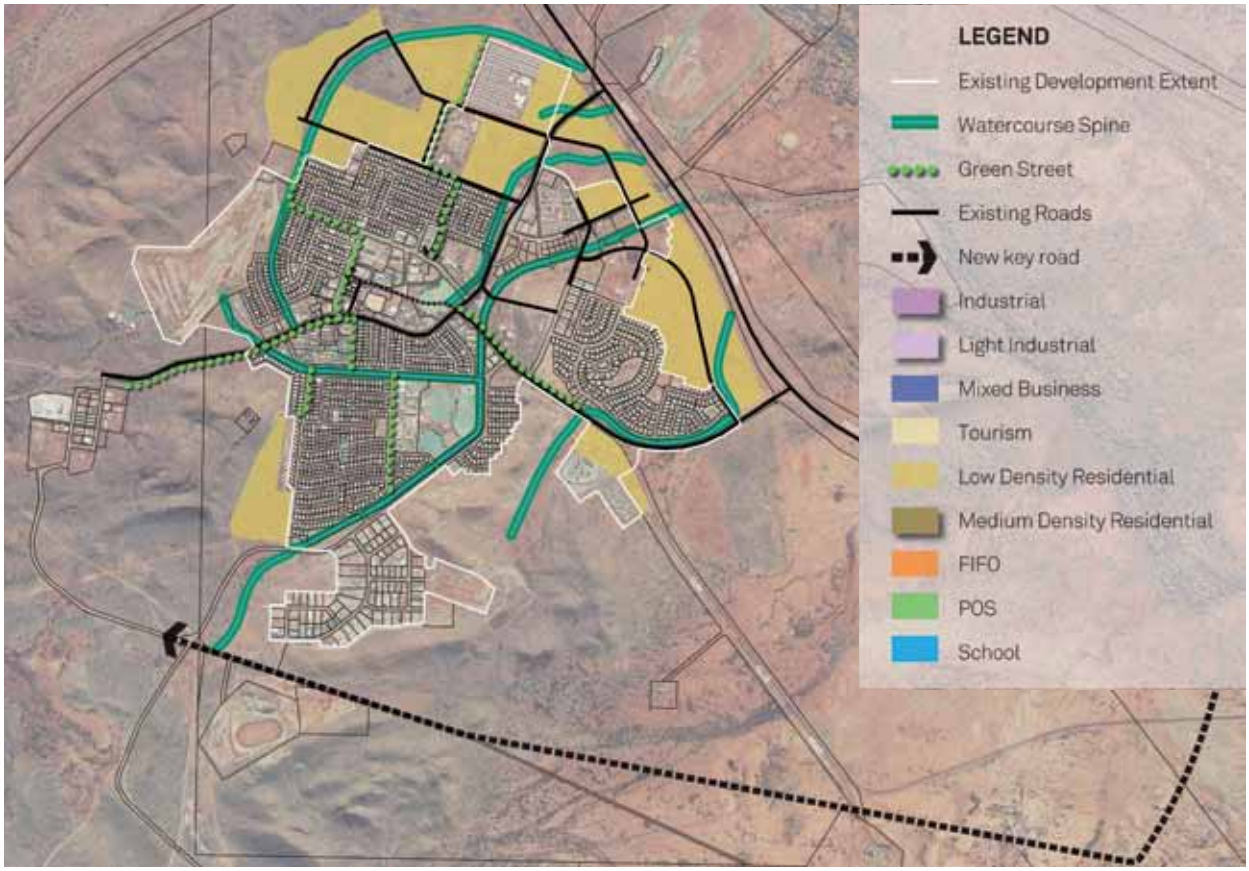


Figure 20 New low density residential opportunities

Medium density will be encouraged adjacent to higher amenity areas such as Green Spines

4.2.4.2 Medium density Residential Development

A vertical mix of uses is proposed around the periphery of the town centre, in particular in the area west of Hilditch Avenue and in areas close to high amenity such as the 'green water spines', see image above.

04 An Integrated Strategy for Newman

This will provide an intensification of uses which will assist in activation of the centre as well as achieve better integration and connectivity between the town centre and town site. Medium density residential development is a key component of the plan and is required in order to accommodate a target population of 15,000 people within a 2km growth boundary around the town site.

A range of dwelling typologies are envisaged, and may include:

- Duplex development/subdivision of existing lots (infill development)
- Two storey townhouses
- Grouped Dwellings for key worker and FIFO accommodation
- Low rise walk up apartments (3 storeys) in and around the town centre
- Courtyard
- Shop top apartments within the town centre to provide affordable accommodation for small business owners

Examples of medium density developments

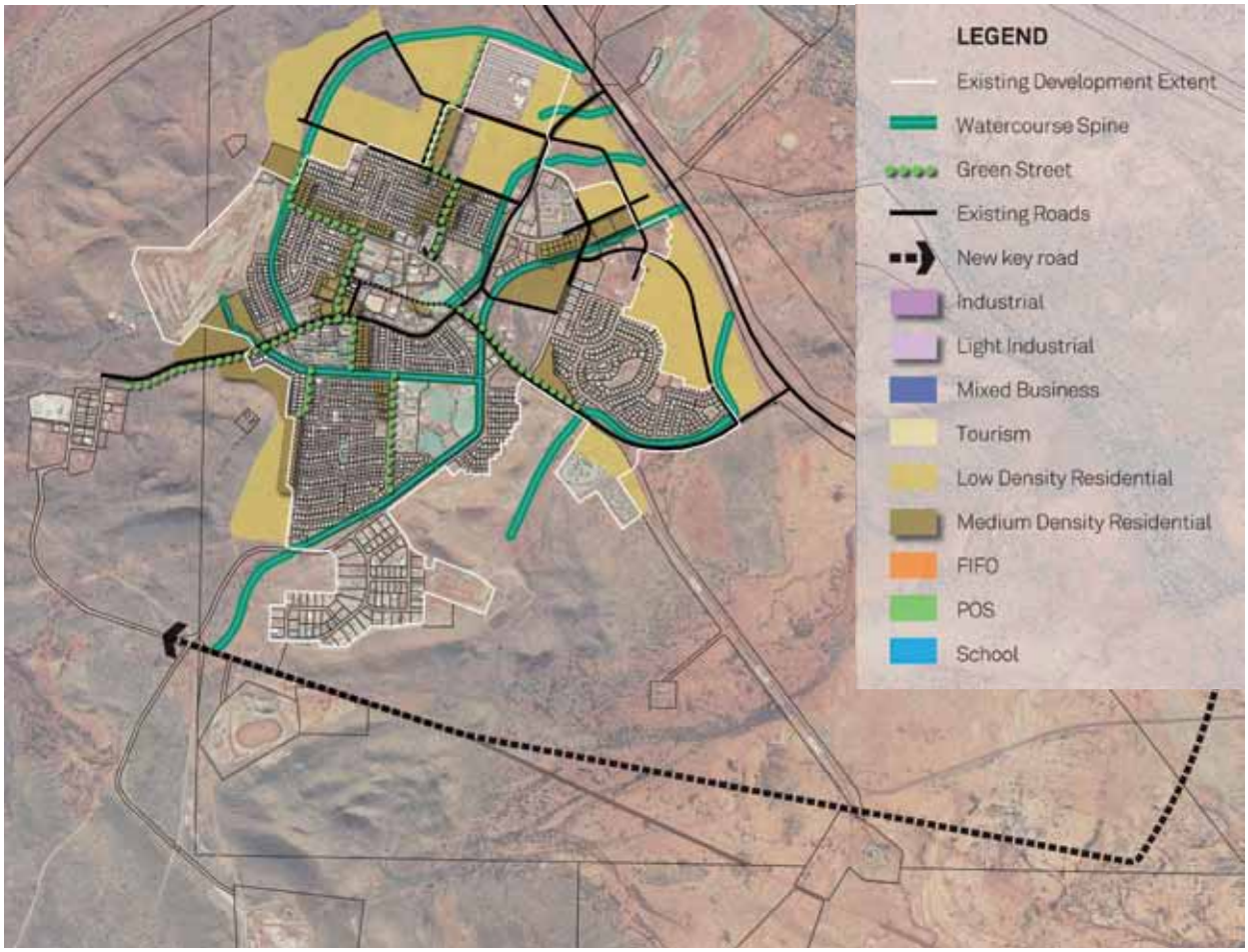


Figure 21 New medium density residential opportunities

4.2.4.3 Industrial Land

The requirement to provide industrial land is a key driver for the Pilbara region. Heavy industrial land is required to support the resource industry, as well as to provide opportunities to diversify the local economy, thereby moving towards a more resilient future for Newman.

Currently, remaining undeveloped zoned industrial land totals 25ha within the town site. This area of land is located in close proximity to residential lots and as such the Town Site Growth Plan document recommends that these lots be developed for light industrial purposes. This land should be brought to the market in the short to medium term.

In order to accommodate a future industrial hub and higher order industrial and heavy industrial uses, a new industrial estate has been identified approximately 3km east of the town centre. This future Highway Industrial Area is approximately 200ha in area and is located on the Great Northern Highway at the intersection of Marble Bar Road, in order to provide the estate with maximum exposure to passing traffic.

The estate will be provided with a new road which will bypass the town site and link in with the existing industrial areas located south and south west of the town site. This will ensure freight traffic is removed from the town site and will provide good linkages between the industrial uses.

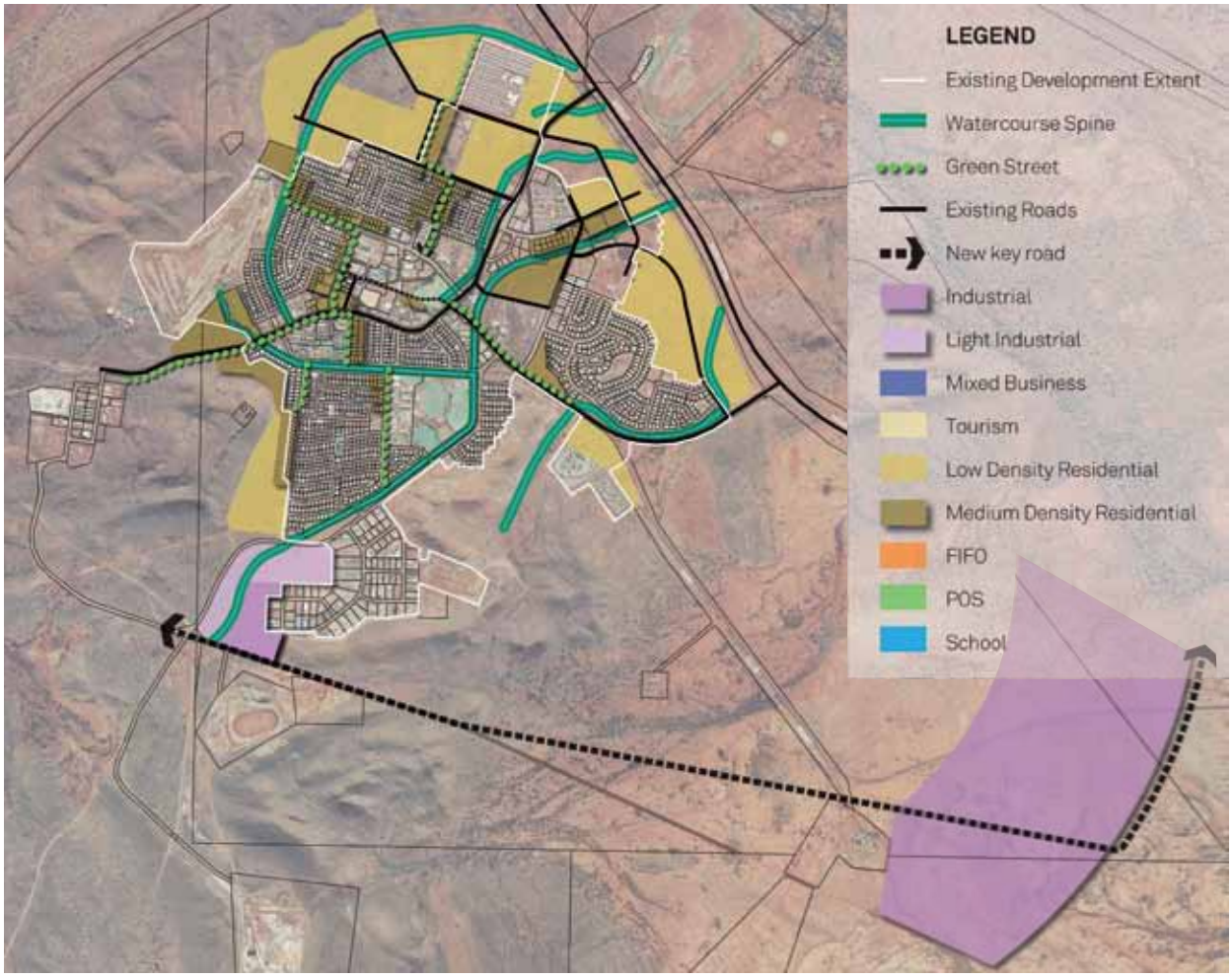


Figure 22 A new heavy industrial site (200ha) has been identified south-east of the town site and is proposed to be linked to the existing industrial areas via a new freight access road

4.2.4.4 Mixed Business

A Mixed Business precinct is proposed along Newman Drive, which will have good exposure to passing traffic. Land for a range of bulky goods, showroom and warehouse uses has been identified as a current and future requirement for Newman. Existing bulky goods land uses, such as the hardware store and electrical goods store, are located within the town centre, but in time have grown in size and now require more land to expand their operations.

It is anticipated that as the population of Newman increases, new demand for other bulky goods, showroom and warehouse space will be generated. The provision of a mixed business precinct, will also assist in providing new opportunities for small business, which will further contribute to diversification of the Newman economy.

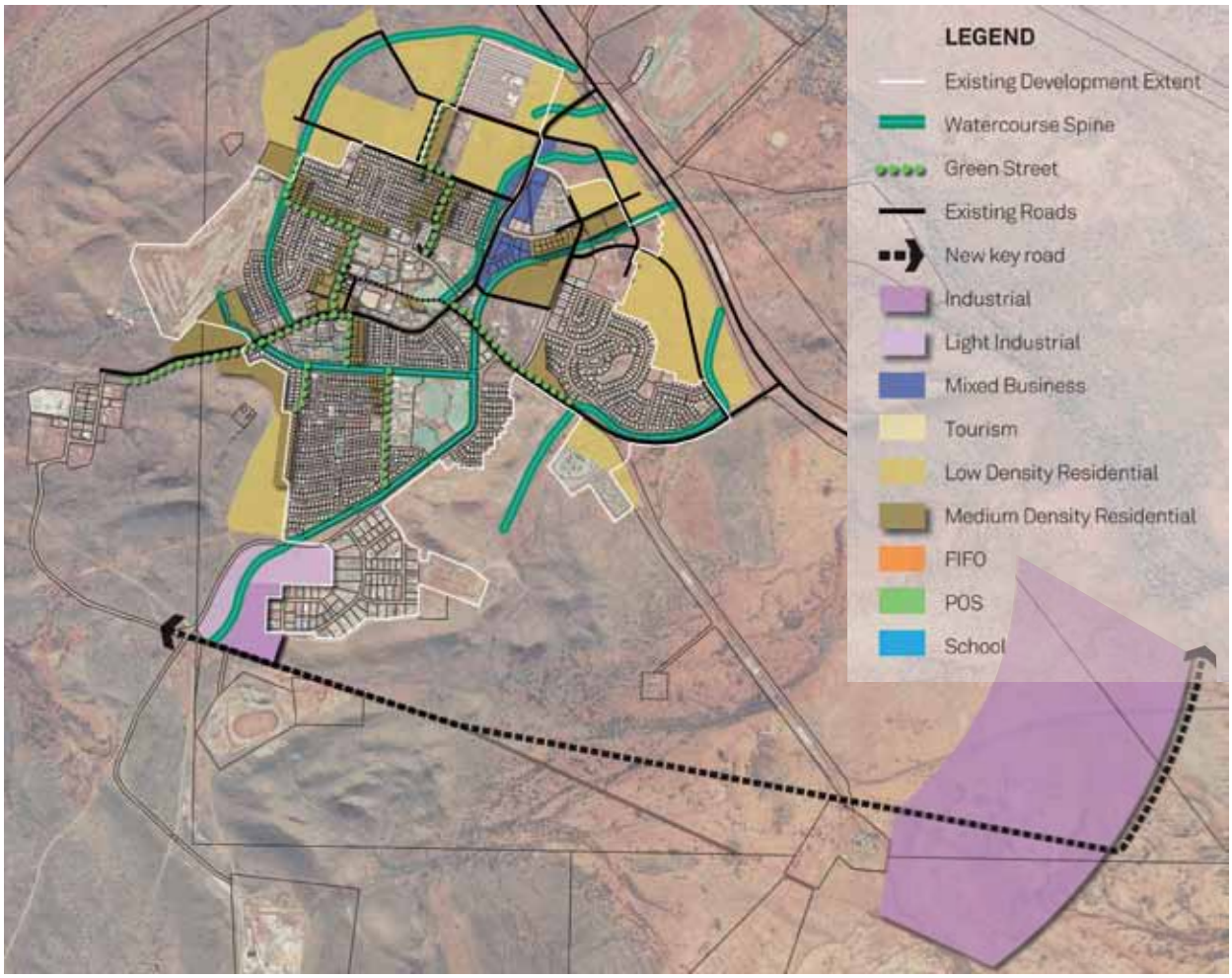


Figure 23 Identification of new mixed business opportunities

4.2.4.5 FIFO Accommodation

The plan proposes to integrate FIFO accommodation into the town site. A number of opportunities have been identified north of the town centre and one east of the town centre.

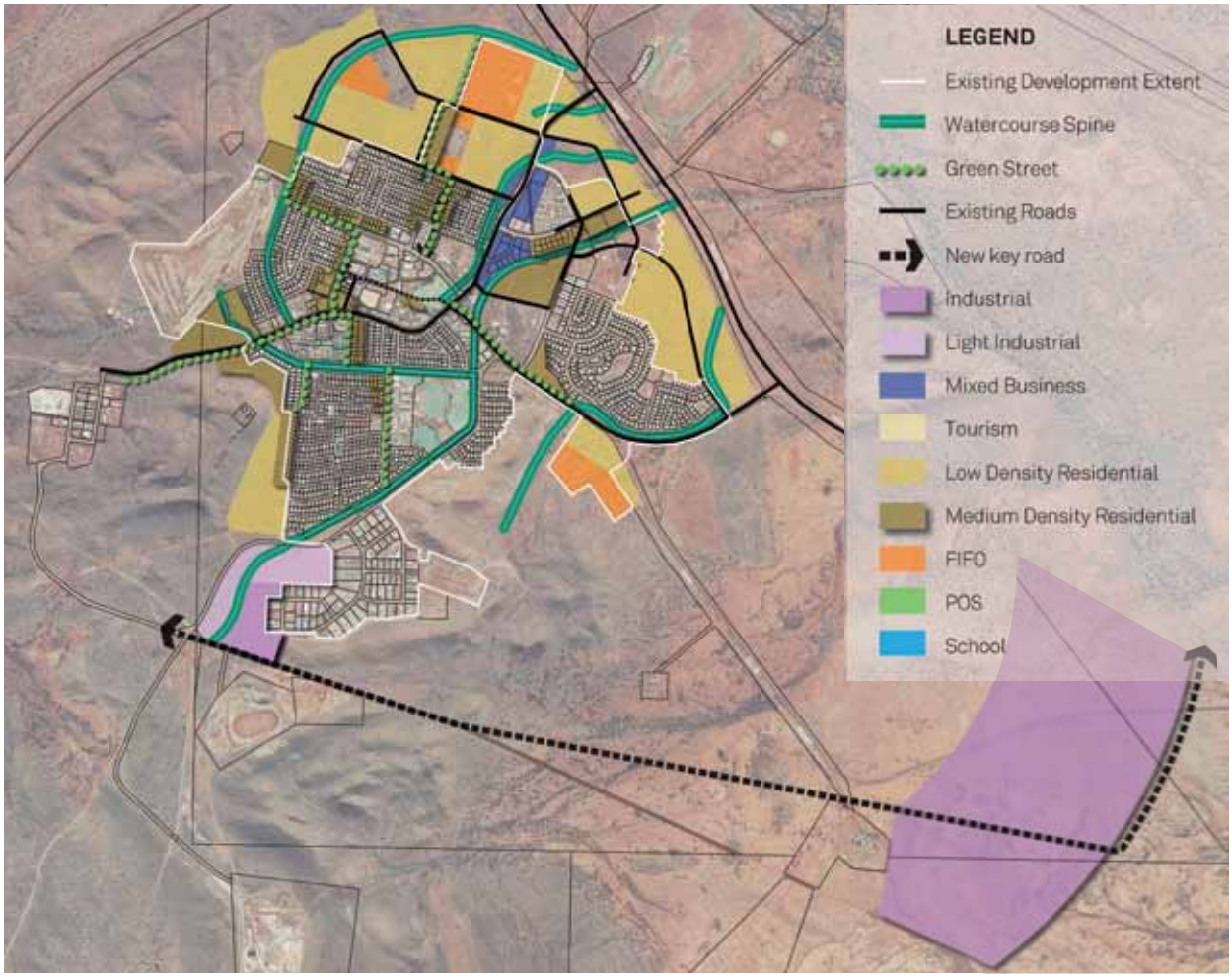


Figure 24 Identification of new FIFO accommodation

4.2.4.6 School Site and Public Open Space

Based on a target population of 15,000 people, an additional primary school site will be required. These have been identified within the plan. Additional POS opportunities have also been identified.

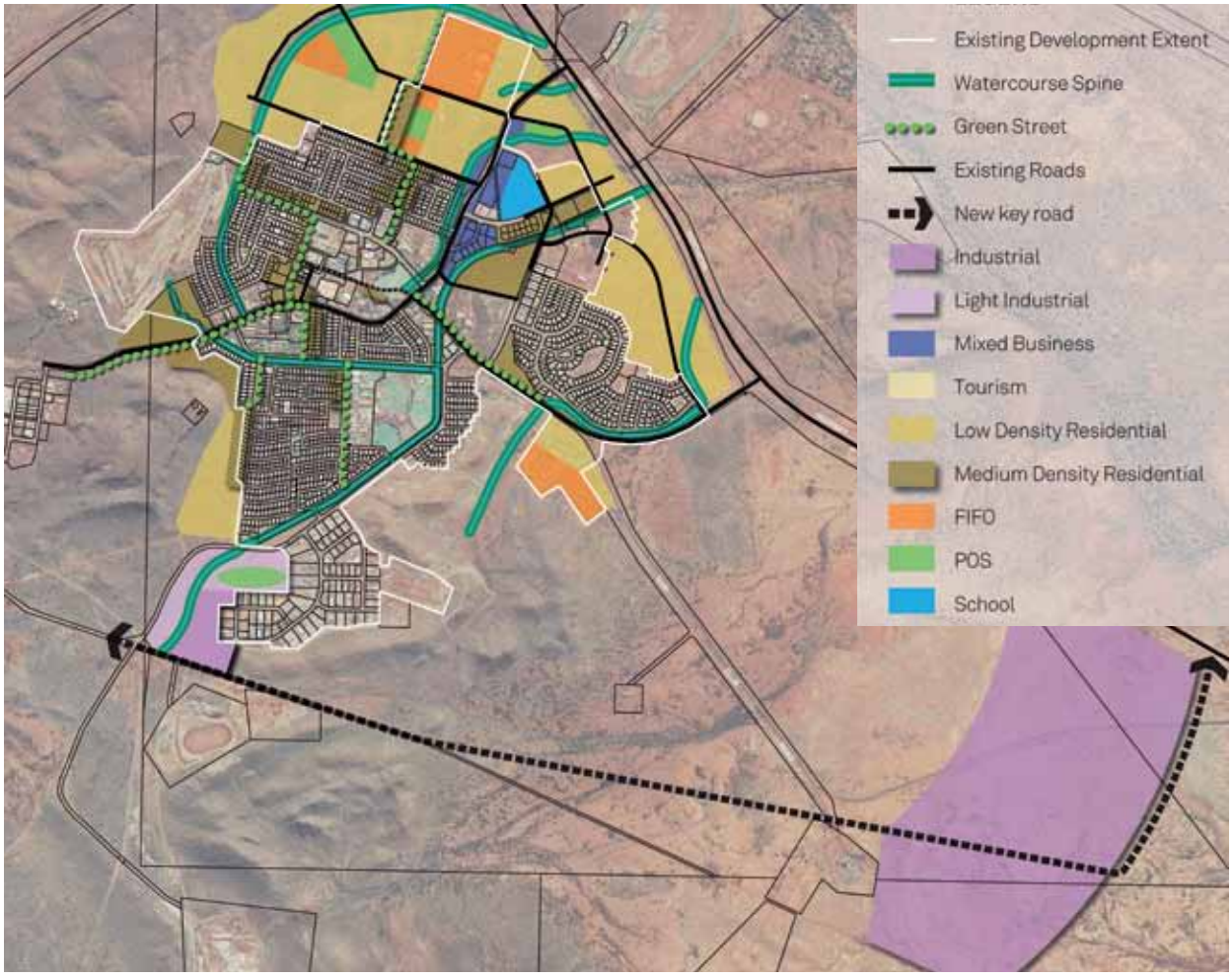


Figure 25 Potential school site

4.2.4.7 Tourism Accommodation

Currently, Newman provides limited tourism facilities to capitalise on the potential tourism market generated through the mine activities (mine tours), combined with the natural and cultural assets, including proximity to Karijini National Park and the artwork generated through the Martu people, for instance.

The resource industry has generated substantial employment for the region and as a result there is insufficient housing to accommodate workers which has resulted in increasing rent and housing costs, which also has seen the two key hotel sites being used primarily for business, with nightly rates being exorbitant for most tourists. In addition to this, there are no caravan or camping facilities in town, with past caravan sites being now used for FIFO accommodation.

There is some caravan parking facility attached to the Tourist Centre in town, however the number of embayments is obviously limited.

Due to the lack of accommodation facilities, tourists generally only stay one day within Newman, choosing to travel on to other destinations seeking overnight or longer term accommodation. An opportunity exists to provide dedicated tourist accommodation and facilities to attract tourists to Newman and encourage them to stay in town longer, thus boosting the local economy and vibrancy of the town.

Two separate tourist accommodation sites have been identified along Kalgan Drive, which will accommodate much needed affordable holiday accommodation, including a caravan park, camping sites and chalets.

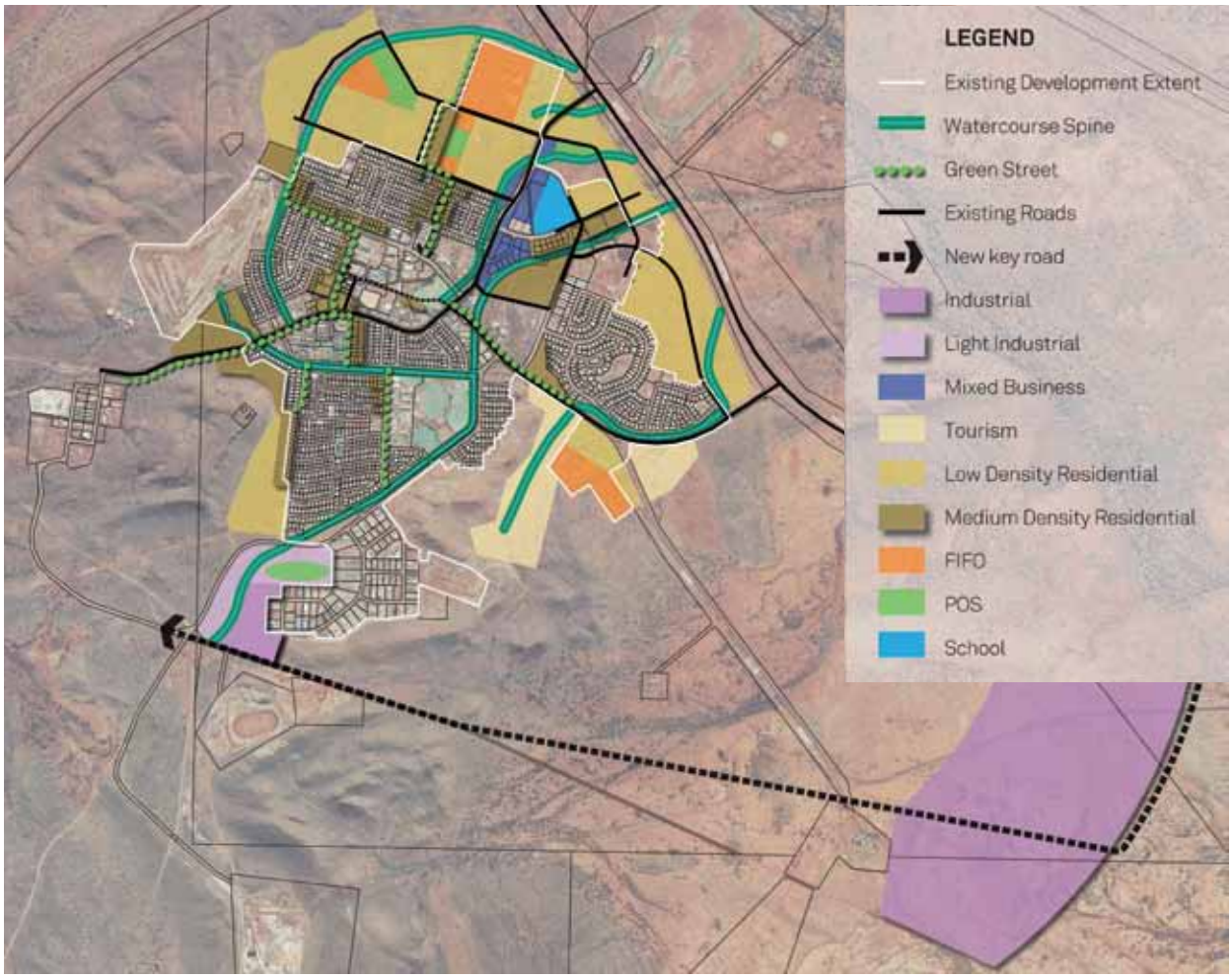


Figure 26 New tourism accommodation sites

4.2.4.8 Town Site Growth Plan – Yields

To create a town for 15,000 permanent residents, the following indicative yields have been derived from the town site plan. The projected yield based on 2.7 people per dwelling gives an additional population of 12,690.

Area Code	Area (Ha)	Dwelling Type	Projected Dwelling Yield
Group 1 Residential Committed			
East Newman LandCorp Subdivision		single res	370
E1	10	single res and med density	150
N4	8.4	single	220
Subtotal	18.4		740
Group 1 Industrial			
I1	8.6		
I2	16.3		
Subtotal	**24.9**		
Group 2 Residential New			
E4	3.8	med density	225
E5	4.3	single res	65
E6	2.4	med density	140
E7	4.5	single res	55
E8	5	single res	60
E9	1	single res	20
W1	2.2	med density	140
W3	4.3	med density	280
Subtotal	**27.5**		**985**
Group 2 Mixed Business			
B1	2.4		
B2	3.4		
B3	0.7		
B4	1.1		
B5	0.8		
Subtotal	**8.4**		
Group 3 Residential Redevelopment			
X1	4	med density	160
X2	4.8	med density	190
X3	0.8	med density	50
X4	1.1	med density	50
X5	0.5	med density	40
X6	1.7	med density	70
X7	1.2	med density	50
X9	1.1	med density	65
Subtotal	**15.2**		**675**
Group 4 Residential New			
E3	2.7	med density	220
E10	3.8	med density	230
E11	2	med density	80
X8	2.4	med density	145
W2	5.9	med density	350
W4	12.8	single res	190
Subtotal	**29.6**		**1215**
Group 5 Residential New			
N1	2.8	med density	160
N2	7.4	single res	90
N5	3.2	single res	65
N7	19.2	single res	230
Subtotal	**32.6**		**545**
Group 6 Residential New			
N3	10.4	single res	155
N6	1.6	med density	130
N8	10.4	single res	155
N9	8.2	single res	100
Subtotal	**30.6**		**540**

4.2.4.9 A Staged Approach

To facilitate residential and business growth and increase land supply the following indicative staging might apply:

- Developments currently proposed such as 'Grandtown' are in the first stage
- Then staged blocks working out from existing development edges, zoned land before areas outside of existing town boundary
- Both medium density and single density should be brought online together
- Undertake water spine/green streets landscape works as and with each of the staged blocks
- Redevelopment of existing single residential to medium density along water spines and green streets as appropriate - market forces will determine pace of redevelopment for these parcels
- Optimise the range of industrial opportunities available at any given time (light and heavy and range of lot sizes for heavy), with the portion of proposed highway industrial closest to the highway coming on stream first with the new heavy freight diversion road constructed with later portions

Figure 27 (overleaf) illustrates indicative staging of town site growth.

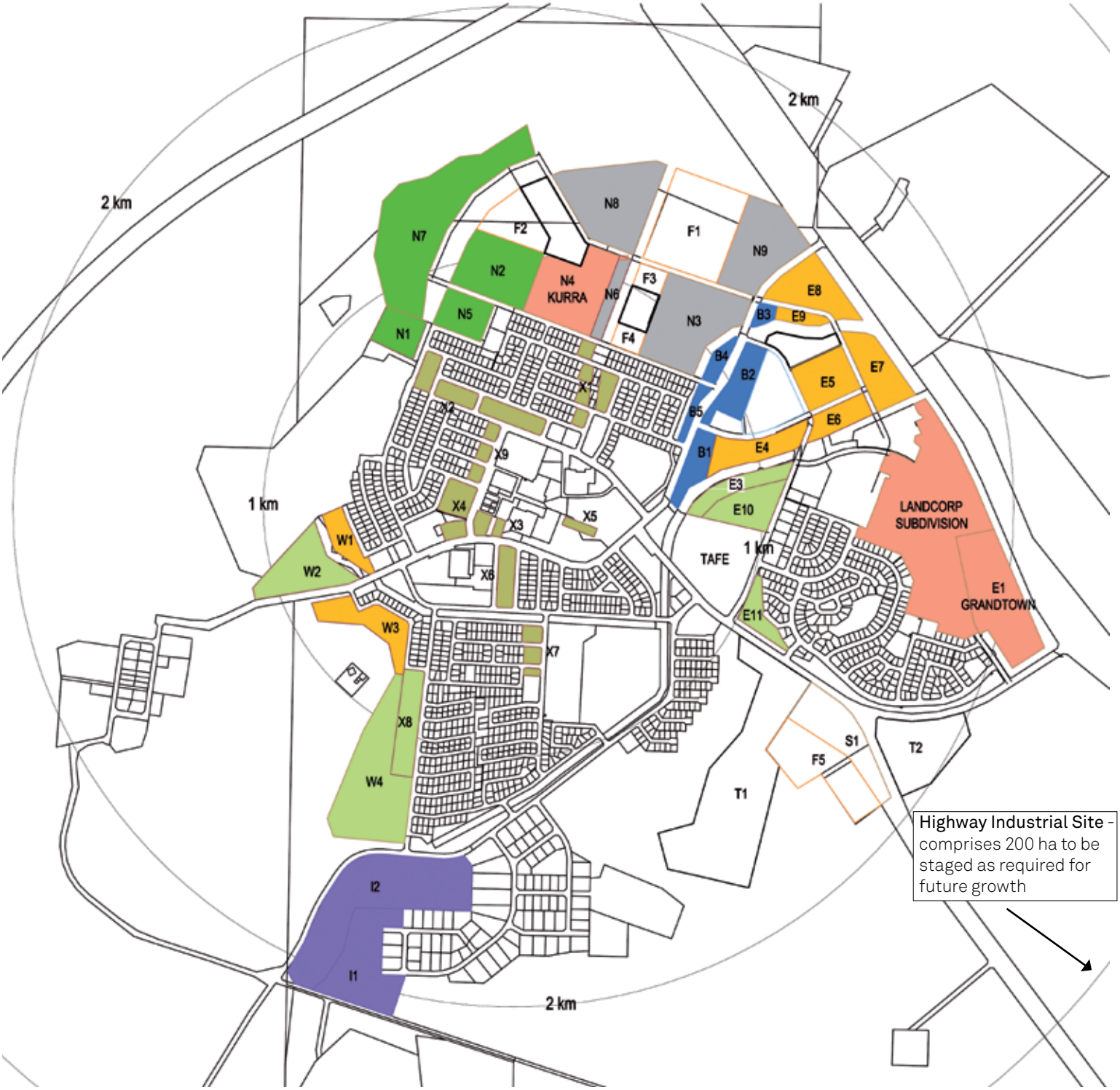


Figure 27 A staged approach to development

4.2.5 Infrastructure to Support Growth

The following section addresses the infrastructure requirements of the NRP, beginning with those associated with the Town Site Growth Plan, and then the Town Centre Master Plan.

As assessment has been undertaken of the infrastructure needed to support the growth anticipated in the Town Site Growth Plan.

Town Site Growth Plan Staging Plan

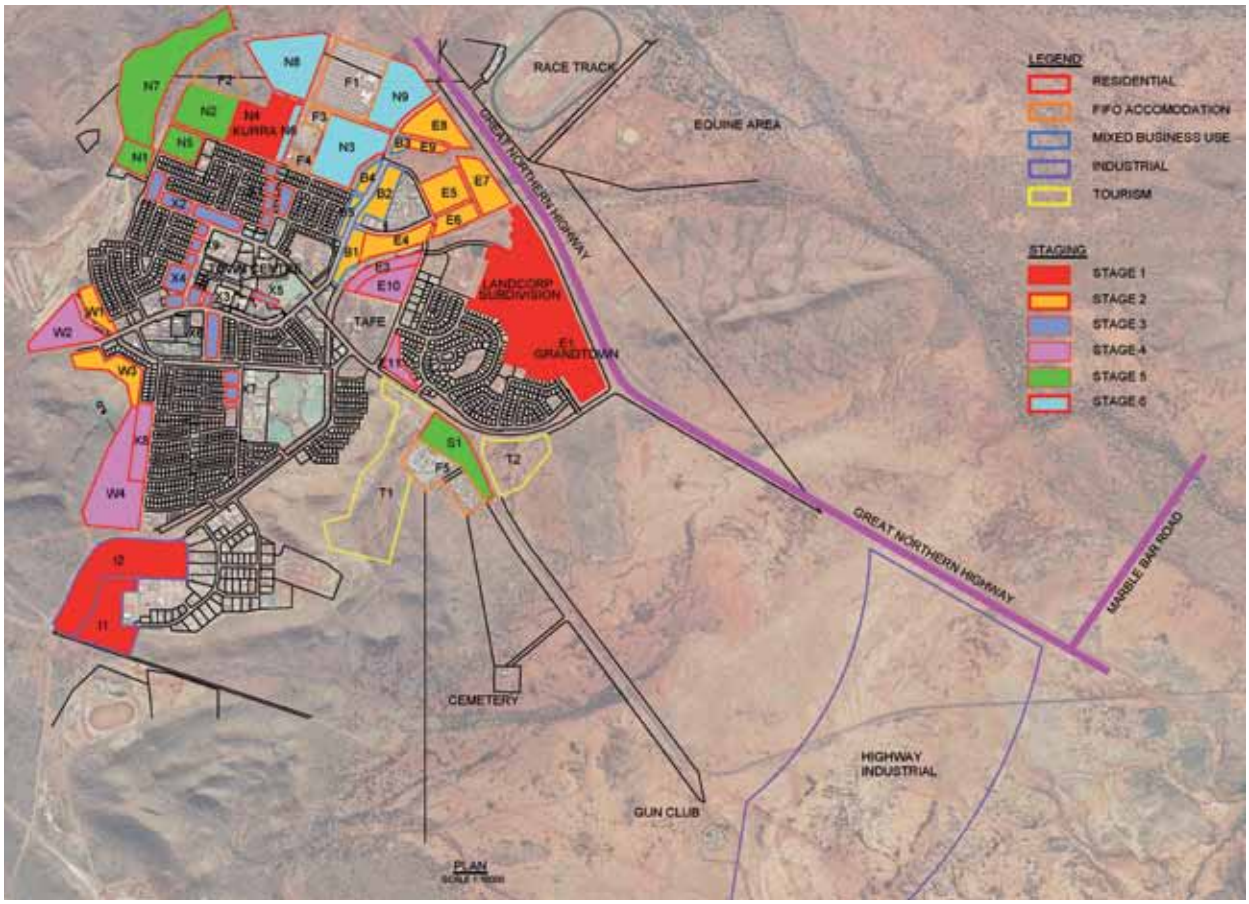


Figure 28 The above staging plan identifies the likely development stages and has been utilised for the assessment of future infrastructure needs. Details are contained in Volume 2

4.3 Creating A Vibrant Town Centre

Creating a vibrant town centre for Newman is place-making process, which promotes a variety of residential, retail commercial, civic and community amenities. Encompassing high quality architecture and landscaping and incorporating place responsive design elements will promote a balance between the needs of both pedestrians and vehicular traffic and promoting an attractive urban from that will encourage inclusiveness, participation and interaction. Moving away from a car-dominated environment and returning to walkable main street values that promote a sense of vibrancy, safety and community cohesion.

Transforming the existing street system into a series of public places that provide a variety of urban experiences in the such as civic plazas whilst encouraging more efficient use of drainage lines to create a balance between the urban and natural environmental experiences. Interesting shops, fresh food produce markets, small businesses and a wide variety of restaurants and cafes enhancing a sense of place and vibrancy.

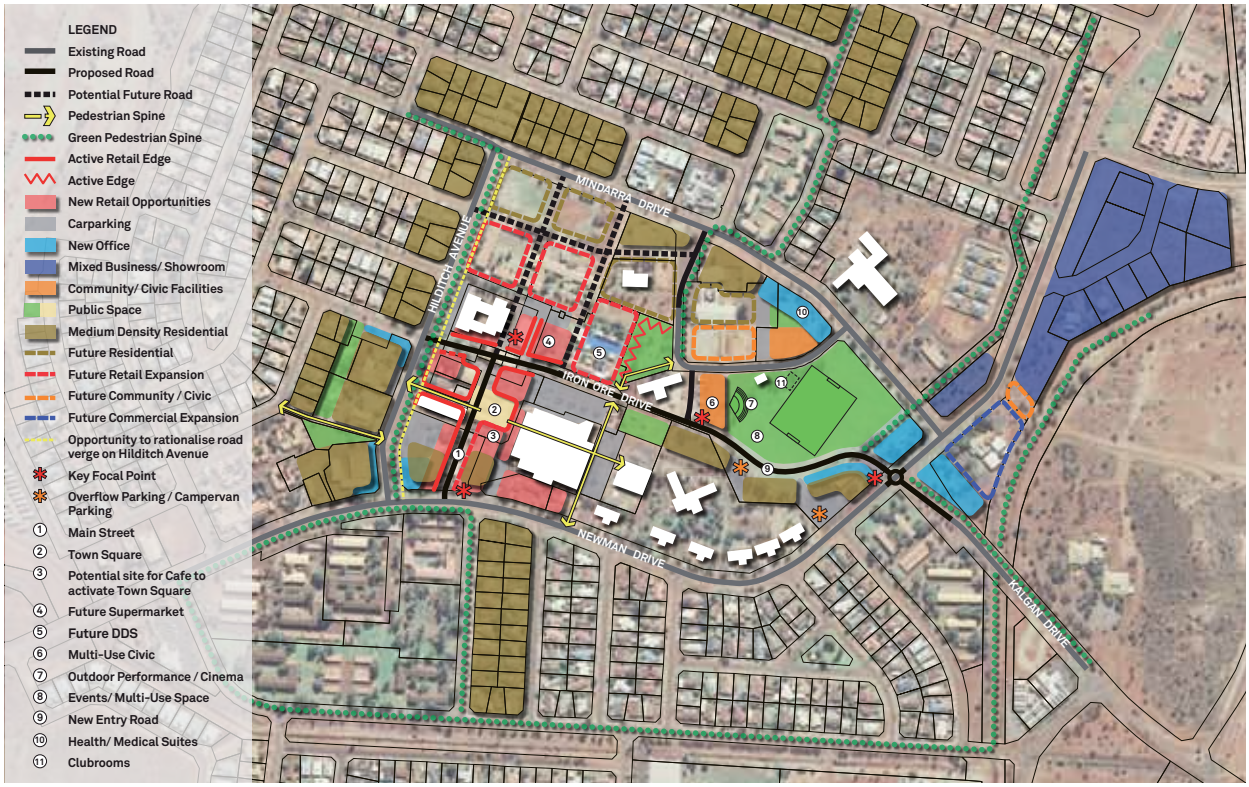


Figure 29 Town Centre Master Plan

Focusing on the upon the quality of the public realm and the inclusion of higher density residential and mixed use development, aimed towards promoting an intensive, consolidated and multi-functional urban environment. A variety of residential dwellings will offer choice and diversity on housing opportunities for a wide demographic, whilst providing the critical residential mass that will contribute to a lively public realm. The density and scale of mixed-use development will provide for after hours activity, supporting the local business economy. The intent is to provide attractive streetscapes that reinforce the functions and amenity of a street and are sensitive to the built form, urban landscape and environmental conditions of the locality to promote safety, a sense of place and to reinforce local identity.

The Town Centre Master Plan has been developed based on a number of guiding urban design and planning principles with the view to creating a vibrant town centre. The principles were drawn from an analysis of cities around the world, which were considered to demonstrate good town design and which exhibited similar locational, physical and climatic challenges to Newman. These principles are responsive to Newman's regional context and importantly, the project's Aspirational Goals and Objectives for each of the Sustainability Framework elements of Economy; Community; Environment; Built Environment and Public Realm; and Infrastructure & Resources.

4.3.1 Town Centre Planning Principles

4.3.1.1 Built Form

The nature of the construction typology and cost of construction within Newman will inform the type of built form that will occur. Traditionally a modular prefabricated and transportable building methodology has been used within Newman and this is likely to inform built form within the town centre. In terms of materials, concrete and steel are readily available materials to Newman. With respect to the construction methodology and materials available, it is likely that an industrial aesthetic unique to Newman is likely to evolve over time. Those involved with the redevelopment and revitalisation of the town centre will need to work with these materials and building forms in order to produce something unique and appropriate that contributes in a positive way to the local aesthetic and sense of place of Newman.

Additional considerations for the built form include:

- The built form within the town centre needs to be climatically responsive and appropriate and should not replicate built form in Perth, for example. The built form elements should be arranged in a way that integrates with the public realm and provides microclimatic benefits through providing shade, shelter, use of materials that don't hold and reflect excessive heat and through orientation to maximise benefits from prevailing breezes.

- Buildings need inherent flexibility in design and should be adaptable to accommodate a change in uses over time. In this regard buildings should generally have large floor plates, generous floor to floor heights and minimise the use of internal structural/supporting walls.
- The built form should also accommodate mixed use development, including a vertical mix of uses through additional building height (3-4 storeys and possibly above).

4.3.1.2 Main Street Retail

A main retail street is an essential element of the town centre in order to facilitate a shift from a car based retail centre to a more activated and pedestrian based centre. Ideally for Newman, the main street environment would comprise of a compact four way intersection that would have retail distributed along both its north-south and east-west street axis. The main street intersection would be sleeved by pedestrian based retail at each corner, with potential mixed uses above. In addition to this, a town square could also be located here to provide a communal meeting place that would provide a forecourt to and be activated by the retail uses.

4.3.1.3 Mixed Use Development

Land uses within the town centre will generally be arranged within specific precincts, at least at ground level. However, a vertical mix of uses is encouraged throughout the centre, in particular residential uses, which are currently lacking. Both free standing residential and residential above shops is encouraged in order to facilitate activation of the centre. Shop top apartments could also provide affordable accommodation for small business owners/tenants, as housing affordability and living costs are substantial obstacles for small business being able to establish in Newman.

Additionally, commercial (office) opportunities need to be encouraged in the centre, which is currently dominated by retail, community and recreational uses. With the relocation of some of these recreational and community uses, there will be more opportunity to introduce a mix of uses, more appropriate to the town centre.

4.3.1.4 Design for Climate

Key planning principles for designing for climate are:

- Providing adequate shade and shelter for pedestrians in the form of awnings/colonnades on building facades facing the public realm/key pedestrian accessways;
- Use materials that have lower heat loading and reflect less heat;
- Make use of prevalent cooling breezes through orientation of the built form and public realm;
- Use building height, combined with intimate public realm spaces and planting to create a cooler micro climate;
- Planting that provides adequate shade for pedestrians and also contributes to a cooler micro climate ; and
- The potential to bring water into the town centre along key green/waterway corridors or as an element of the town plaza.

4.3.1.5 Streetscapes

Streetscapes within the town centre will generally have the following attributes:

- Be planted with street trees providing shade;
- Have well defined paths catering for both pedestrians and cyclists;
- Will provide safe and legible environments for pedestrians and will be well surveilled and lit to encourage safe use;
- Will cater for vehicles also, providing easy and legible access to car parking areas close to key destinations;
- Will be fronted by built form that directly engages with the street through windows, shopfronts and balconies above (for residential) and also provided with awnings along key street frontages to provide shade and shelter;
- Will accommodate drainage requirements without disrupting the pedestrian experience; and
- Will provide appropriate traffic calming measures to ensure pedestrians are given priority over vehicles.

4.3.1.6 Legibility

Legibility throughout the town centre will be established through the following:

- A clear hierarchy of streets and pedestrian access ways, all providing direct access to the town centre and major nodes within the centre. This will be underpinned by a new through road (Iron Ore Parade) providing direct access to the town centre from Great Northern Highway. Additionally, new entries into the centre will be established;
- A clearly defined town centre through increased building heights at key nodes;
- Built form that accentuates key nodes within the centre, in particular, the town square and plaza, which will be key meeting places;
- Entry statements that mark the external entrances to the town centre and provide a beacon for traffic travelling past the centre; and
- Public realm areas that are clearly defined and provide a legible interpretation to the built form.

4.3.2 Key Elements of the Town Centre Master Plan

Alongside the Town Site Growth Plan and a vital component of the NRP, is ensuring the town centre functions well to accommodate the potential population increase and provides an appropriate level of retail choice and amenity for both existing and future residents. As a result a Town Centre Master Plan has been developed. (Refer to Figure 29).

The plan promotes a range of activities in the town centre that will combine to create a vibrant and enjoyable commercial heart for Newman. For a future population of up to 15,000 people the town centre will be the main focus for the retail, commercial, civic, community and cultural activities, providing a rejuvenated and walkable town centre for people to enjoy. The Town Centre Master Plan is discussed in detail in Volume 3.

4.3.2.1 An Improved Movement Network

A fundamental structural element to the plan is the strategy to provide an improved, legible movement network that presents a clear hierarchy and facilitates efficient movement throughout the centre, for all modes of transport.

This strategy will include the following key initiatives:

- Extension of Rodgers Place (Iron Ore Parade) to create a direct and legible link through the centre, which will provide connection through Kalgan Drive to the Great Northern Highway.
- Creation of a Main Street by shifting Market Place further west to provide a direct frontage to existing retail tenancies, which will also free up the opportunity for new retail tenancies to be constructed on the eastern side.
- Creation of new east-west oriented pedestrian arcades through the existing big box shopping centre, which will also provide a link through existing tenancies located west of Market Place.
- Formalised pedestrian access along the eastern face of the existing shopping complex, which will provide a direct linkage from Newman Drive to Rodgers Place (Iron Ore Parade).
- Creation of new linkages to Calcott Street from Rodgers Place (Iron Ore Parade) around the new Collocation Centre.
- On street parking, where appropriate.
- Improved entry statements to assist with legibility and way finding.
- Boulevard planting along key pedestrian spines to create shaded walkways into the town centre.

Figure 30 A new, improved road network, including green pedestrian spines, is a key structural element of the plan

4.3.2.2 A New Retail Focus Point and 'heart' for the Town Centre

Once a well structured movement network has been defined, the next strategy will be to deliver a vibrant retail focus for the centre. This strategy includes the creation of the following key structural elements to create a focussed level of activity along a Main Street environment:

- A new retail heart through the creation of small retail tenancies along Main Street (Market Place). Retail activity could include alfresco dining and cafe opportunities currently lacking in the centre. The Main Street will be pedestrian focussed.
- A town square, which will be fronted by retail tenancies and provide the key focal point for meeting people and community activity.

Figure 31 New retail activity will be focussed along Main Street and will include the creation of a Town Square

4.3.2.3 Growing the Centre

Once the core retail area has been developed, the next logical strategy will be to grow the town centre to cater for a growing resident population. This will include the following opportunities:

- New commercial/office opportunities at the intersection of Kalgan Drive and Newman Drive and also adjacent to the hospital and in the south-west corner of the centre.
- New community facilities including a new cultural centre; including youth centre and library, outdoor cinema, skate park/trail and hostel accommodation for transient visitation.
- New Mixed Business estate along Newman Drive to the east of the town centre to accommodate bulky goods and showroom development.

Figure 32 The commercial/office opportunities, open space network, community sites and Mixed Business estate

4.3.2.4 Overflow Car Parking

Redevelopment of the centre will initially see a reduction of car parking within the centre and the provision of additional retail and commercial development.

Eventually this new retail and commercial development will require the provision of overflow car parking to cope with peak periods of activity. The Town Centre Master Plan allows for this eventuality.

Figure 33 Overflow car parking has been allowed for to accommodate peak periods of retail activity

4.3.2.5 A Mixed Use Centre

In order to contribute to a vibrant town centre, it will be necessary and opportunistic to facilitate mixed use development, including residential development within the Centre in a variety of forms. The creation of a vertical mix of uses, including office and residential uses above retail will ensure the centre is activated through longer periods of the day and into the night.

Centrally located residential opportunities will increase access to services, reduce costs and provide a variety of housing forms for key workers. Residential typologies appropriate to the town centre environment may include:

- Duplex development/subdivision of existing lots (infill development).
- Two storey townhouses.
- Grouped Dwellings for key worker and FIFO accommodation.
- Low rise walk up apartments (3 storeys) in and around the town centre.
- Courtyard dwellings.
- Shop top apartments within the town centre to provide affordable accommodation for small business owners.

Figure 34 Opportunities for residential development in a variety of forms have been identified throughout the town centre

4.3.2.6 Long Term Development Opportunities

As the town centre grows the future long term redevelopment of the centre has been provided for in the Town Centre Master Plan with a robust and flexible structure that includes opportunities for a Discount Department Store, additional supermarket site and further residential and community opportunities.

Figure 35 Long term development opportunities

4.3.2.7 Town Centre Plan Precincts

The key idea behind creating precincts and nodal development within the centre is to ensure land uses are concentrated rather than dispersed and that similar uses can benefit by being located in proximity to other similar uses that generate the same activity and demand. The definition of precincts will provide an ordered approach to the future development and growth of the centre. In this regard, the following precincts can be defined for the future growth of the town centre:

Retail Precinct: a retail precinct has been identified at the core of the centre and will be defined by the existing shopping centre, combined with a new main street retail environment, town square and future retail opportunities, including pedestrian based retail and new supermarket. The retail precinct will also accommodate shop top apartments above smaller retail tenancies.

Community/Civic Precinct: the community/civic precinct will be focussed around the town park and collocation centre that are currently being constructed. A future youth centre, library, community building, amphitheatre/ outdoor cinema and skate trail will build upon the current community facilities in this location.

Health Precinct: the health precinct will be located adjacent to the existing hospital which is located just outside the town centre. The health precinct will provide consulting rooms, accommodation for visiting, consulting and locum doctors, nurses and/or medical professionals. Additionally, there will be accommodation for outpatients who have no alternative accommodation in town as well as hostel accommodation for the transient local population. These are much needed facilities for Newman.

Mixed Use Precinct: a future mixed use precinct may evolve over the existing primary school site if this is relocated in the longer term. This precinct could contain primarily retail tenancies at ground floor with residential above.

Office Precinct: additional commercial (office) opportunities are proposed at a node at the intersection of Newman Drive and the new east-west road through the centre (Iron Ore Parade).

Figure 36 Precinct plan

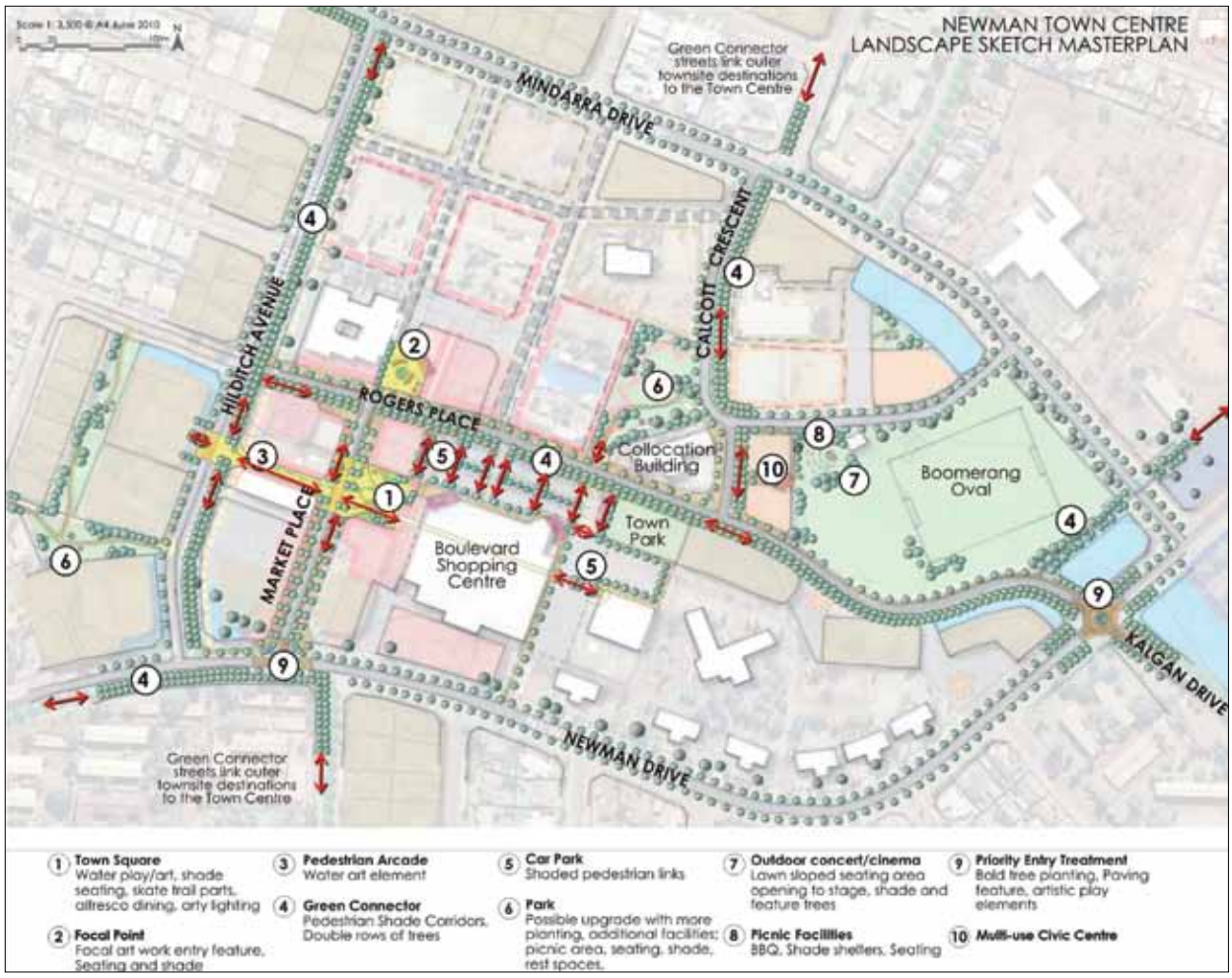
4.3.2.8 Public Realm Strategies

The following section outlines the key public realm strategies which are essential to address the key implications identified in Section 2 of this report.

The Landscape Master Plan focuses on transforming Newman's town core into a lively and vibrant community town centre through the establishment of new places, activities, facilities, and amenities.

Elements of primary concern within the Landscape Masterplan include improved pedestrian and vehicular connectivity and amenity, the creation of a dynamic Main Street (Market Place) and Town Square, upgrades to the existing facilities, and infusing the inner core with the Newman 'sense of place.'

Figure 37 Landscape and Public Realm Master Plan



4.3.3 Town Centre Master Plan Staging

This section describes a potential staged approach to redevelopment of the town centre to achieve the strategies developed in the Town Centre Master Plan.

Refer to Figure 30 (overleaf) which provides a staging plan.

Stages	Implementation Action
Stage 1	Stage 1 redevelopment has commenced through the creation of the collocation centre and Town Park. Further redevelopment possibilities envisaged for stage 1 include: • Construction of car park between the child care centre and Boulevard Shopping Centre. • Create a new link over Seasons Hotel site to establish a link between the new car park and Newman Drive • Relocate Boomerang Oval Pavillion to the north western side of the Oval and relocate sporting facilities to Capricorn Oval
Stage 2	This stage facilitates the redevelopment of the BHP Billiton Mess Hall site for a mix of retail, office and residential uses, and the realignment of Market Place to the west to create a new main street. Stage 2 includes: • Establish a temporary reserve in mixed business area to relocate the hardware store to a new site • Acquire the old hardware store site and demolish building • Amend lot boundaries to create a new entrance road to Market Place • Demolish existing buildings and encourage new buildings to be build inside the new cadastral parcels • Build entrance road off Newman Drive, town square, shape up car park on the northern side of the Boulevard Shopping Centre and improve the connection road to Hilditch Ave through the existing park • Construction of Green Spines
Stage 3	• Amend land boundaries to town pool site to create new retail lot
Stage 4	• Build new road through Boomerang Oval to Newman Drive • Relocate tennis courts to Capricorn Oval
Stage 5	• Continuation of ‘Green Spines’ • Normalisation of road widths along Hilditch Ave and Mindarra Drive
Stage 6	• Construct Mixed Business Area
Stage 7	• Create multi-use civic centre building lot • Create medical suites lot on Mindarra Drive
Stage 8	This stage is envisaged to be long term and will come on stream in the event that growth and demand within Newman requires it

Figure 38 Staging Plan

4.3.4 Infrastructure Required at Town Centre Level

A detailed assessment has been made of the infrastructure requirements of each stage of development of the Town Centre Master Plan. This can be found in Volume 2.

05. A New Approach to Governance

5. A New Approach to Governance

5.1 A Need For Change

To realise the Pilbara Cities Vision of the State Government and deliver the NRP a different approach to governance will be required to ensure the timely implementation of infrastructure, associated amenity and creation of economic employment opportunities.

The existing delivery format by the State Government agencies is a silo approach by the various State Government Departments and Government Trading Enterprises (GTE) with little integration of its plans, programs or projects. The individual departments and GTE's programs and projects, and associated capital and operational budgets do not effectively align the delivery of hard and soft infrastructure to meet the needs of local government, the community and private sector. This has impacted on liveability and amenity in Newman. The existing governance and program structures are inadequate for the purposes of advancing the NRP and the Pilbara Cities concept, and needs to be addressed to firstly meet the Government's vision and secondly, to ensure effective and efficient service delivery.

Regional development is a high government priority, and in recognition of this the State Government has proposed the establishment of an interlinked relationship between the Department of Premier and Cabinet, DoP and Department of Regional Development and Lands (DRDL).

5.2 Proposed State Government's Pilbara Cities Governance Model

The Cabinet in February 2010 approved the establishment of the Pilbara Cities Office (PCO). The PCO will facilitate and coordinate the delivery of infrastructure and services for the predicted expansion requirements, and assist in the transition of the community and economy of the Pilbara into a vibrant, sustainable region supporting diverse cultural and economic interests.

The NRP, social infrastructure projects and Infrastructure Australia bid feed into the overall Pilbara Cities vision. The PCO will be responsible to facilitate the implementation of a program to rapidly open up land and infrastructure in the Pilbara for new town developments to house the workers, families and visitors' resulting from the Pilbara's continued growth. The NRP is the 'business plan' for the PCO to manage the implementation of the growth strategy and town centre master plan.

The PCO is to be established in Karratha by the DRDL. The key roles and functions of the PCO are to:

- Engage with and support the Pilbara Development Commission to build the capacity of local communities about services, infrastructure and community well-being;
- Work with the Land Coordination and Delivery Unit to ensure the implementation of decisions of the Ministerial Taskforce on Approvals, Development and Sustainability;
- Ensure that services are delivered in a coordinated and timely fashion with appropriate community input through engagement with the Pilbara Regional Planning Committee, the Pilbara Development Commission and the Infrastructure Coordinating Committee;
- Shape and inform policy formulation about land and housing availability and supply.

The PCO will work through DRDL, the Land Availability Working Group and the Directors General Approvals Working Group to help minimise regulatory impact and streamline approvals. The PCO will also work closely with the proposed Land Coordination and Delivery Unit. The DoP is the lead agency for approvals. The Unit coordinates and develops policies for planning and housing.

5.3 Proposed Alternative Governance Model

The recognition of the need for a new governance model at regional level by the State Government is a significant step in realising the Pilbara Cities initiative. An alternative is proposed however, that builds on the current approach.

05 A New Approach to Governance

5.3.1 Proposed Model

A key challenge for any proposed governance structure will be to generate a resident Newman workforce to achieve the quantum of employment and a permanent population of 15,000. For this to occur, it requires the long term commitment and investment in the Pilbara by both the private and public sectors. Regardless of the governance model that is implemented, any future governance arrangements require the policy setting, legislative and regulatory authority with subsequent resourcing and investment decision making capability to advance the development of the Pilbara.

A governance model for the Pilbara presupposes that the development of the East Pilbara is to include an expanded Newman town site as a viable value proposition for the State. The proposed governance model is suggested for consideration by state government as part of the second phase roll for the development of the Pilbara and is articulated in Figure 39, along with a conceptual implementation structure in Figure 40.

Reporting to the Department of Premier & Cabinet is an officers group considering land availability and a Director-General's Group that is resolving the approvals question. A Land Coordination Unit and the PCO to expedite, facilitate and coordinate Government and industry activity for the development of the Pilbara is proposed. These various departments, working group, unit and office report through the Department Premier and Cabinet to a Ministerial Task Force. It is proposed that this governance model for the Pilbara evolve over time to the establishment of a stand-alone state department that directly reports to a Minister.

The governance structure proposed in Figure 39 is essentially a bilateral model that recognises and synthesises the required representation and inputs from both the government and private sectors. Government is represented on the right side of the equation in the form of an entity referred to notionally as the Office of Pilbara Development. On the left side of the equation, industry is represented by a peak entity here referred to as a Resources and Industry Mechanism.

The Pilbara Partnership Board is a conceptual mechanism that serves as the main development body for the Pilbara and is responsible for the direction and vision setting for the Pilbara as well as the focus for marshalling the required resources and setting and implementing the agreed development strategy for the Pilbara Cities.

In relation to this governance model, clarity regarding the relationship between the Pilbara Development Board and the Private Sector will need to resolved and associated funding sourced.

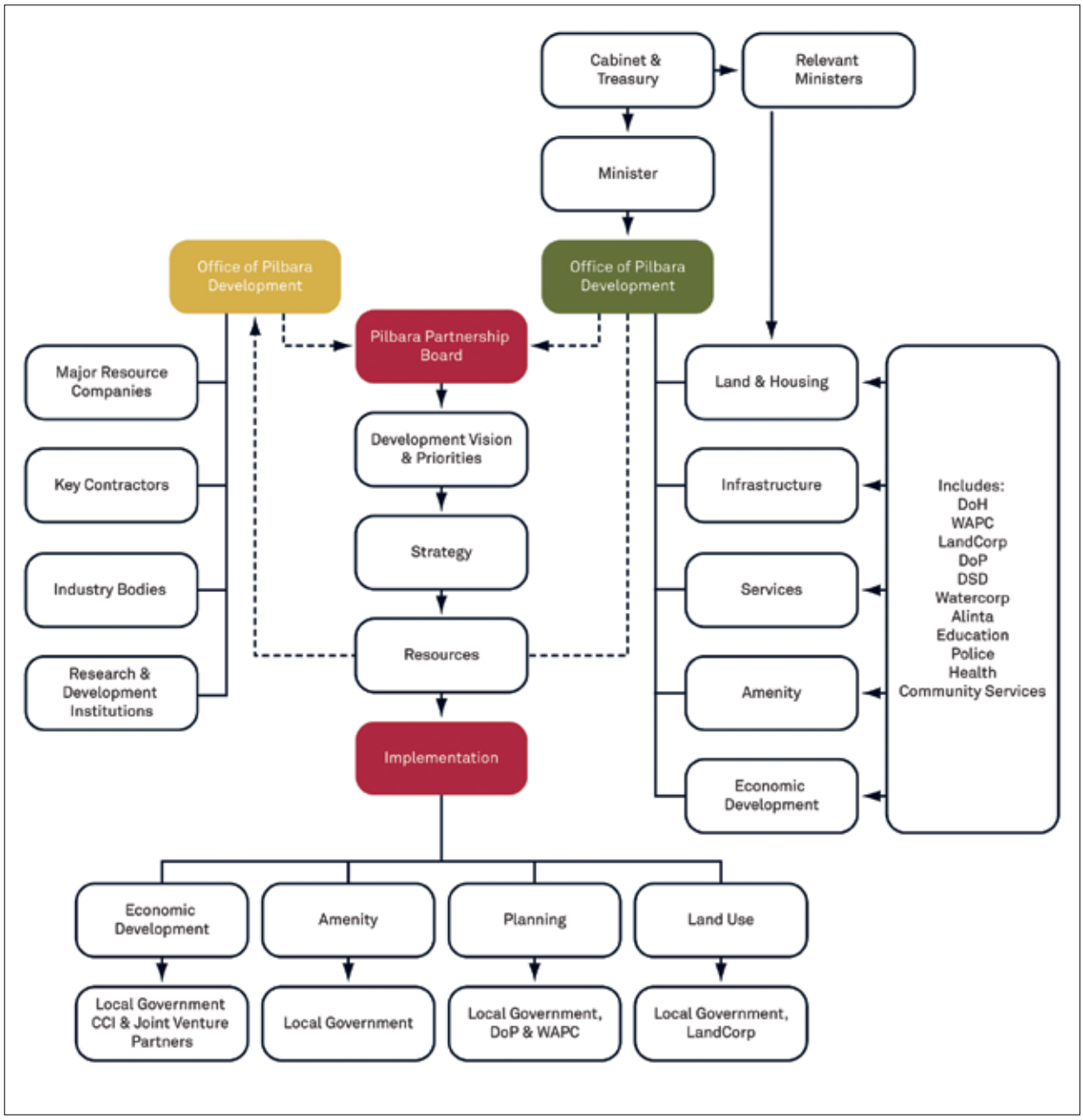


Figure 39 Suggested governance model (Source: Pracsys)

05 A New Approach to Governance

Conceptual Pilbara Development Implementation Model

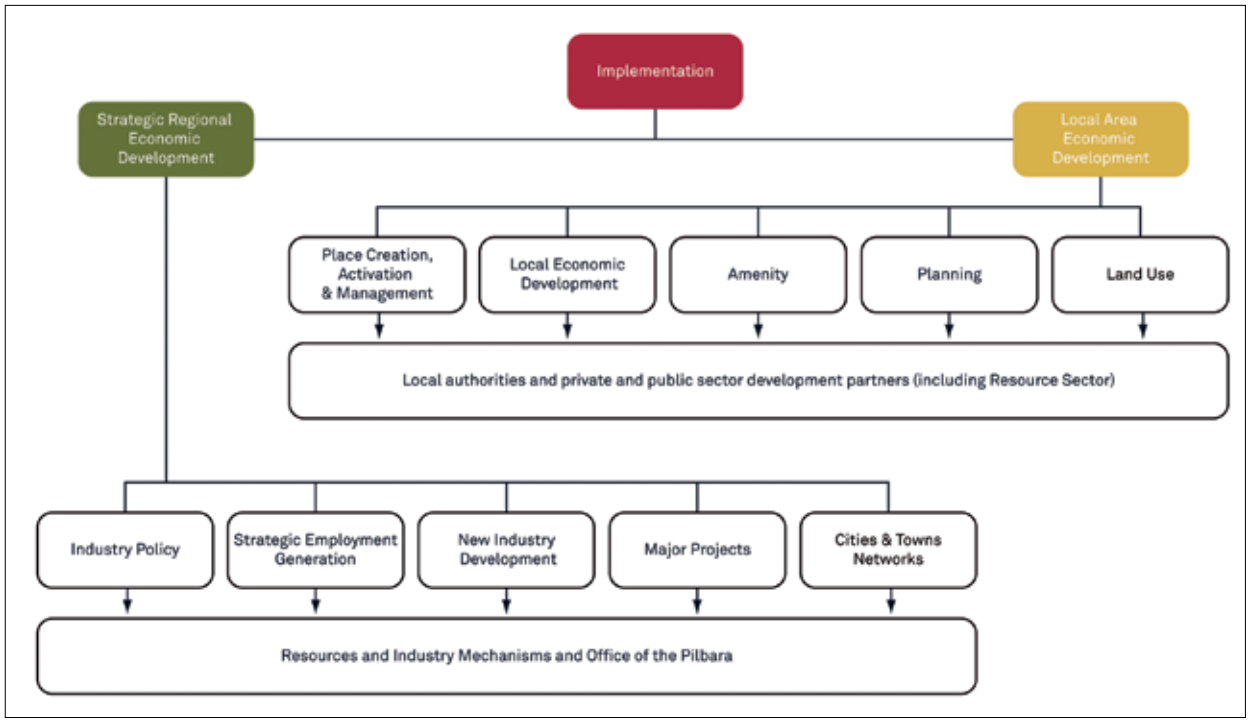


Figure 40 (Source: Pracsys)

Figure 40 highlights the implementation functions of the governance model, which occurs at two main levels. The strategic regional level is concerned with major projects and initiatives that advance the capability of the Pilbara as a whole in which the major population centres such as Karratha may have a role. Typically, the strategic level concerns itself with areas including (but not limited to):

- New industry development
- Regional economic diversification
- Strategic employment generation
- Major projects (including industry specific and civic infrastructure)
- The development of a functional, relational hierarchy of cities and towns

The resourcing, funding and implementation for these areas is drawn from the Office of the Pilbara, and the Resources and Industry Mechanism is coordinated through the Pilbara Partnership Board.

At a local level, local authorities in partnership with private and public sector stakeholders would be focused on those projects that deal primarily with local town or centre development. These would include activities such as:

- Place creation, activation and management;
- Local economic development including business incubation and local industry capability and expansion;
- Amenity planning;
- Local land use;
- Local area activities and development priorities should reflect broader regional plans and policies at the same time as allowing local areas a degree of autonomy and self determination.

5.3.2 Office of Pilbara Development

The Office of Pilbara Development (OPD) is suggested as the primary government department tasked with coordinating and focusing the resources of the State Government in the promotion of the Pilbara Cities and the broader economic and community development of the Pilbara Region. It is suggested that the OPD exist as a stand alone department, rather than as a section or directorate of an existing department, and report to Cabinet through its own Minister. While it may be argued that existing strategies, structures and agencies such as the Pilbara Development Commission, Infrastructure Coordinating Committee, Ministerial Taskforce and the recently introduced Pilbara Regional Planning Committee address to varying degrees the imperatives of Pilbara development, it is envisaged that the OPD as a separate department could subsume some of the functions of these entities under a more comprehensive Pilbara development charter.

The OPD would be an unambiguous expression of the State Government's commitment to the Pilbara and would be responsible for the coordinated implementation of strategies related to:

- Economic development
- Land and housing development
- Hard and soft infrastructure development

- Coordination of services provision
- Amenity planning and sustainable communities

The priorities for the OPD could centre around economic and industry development, and amenity planning. The OPD ideally would work closely with a variety of agencies including (but not limited to):

- Department of Housing;
- Landcorp;
- WA Planning Commission;
- Department of Planning;
- Water Corporation;
- WA Police Service;
- Department of Communities;
- Department of Health;
- Horizon Power;
- Department of Education;
- Local Authorities/Regional Council.

The OPD would not replace these agencies, but may assume some of their responsibilities for service delivery in the Pilbara to ensure coordinated and integrated service delivery (hard and soft infrastructure) in a timely manner and to unblock any associated barriers to this delivery. The exact nature of the cooperative arrangements between the OPD and these agencies requires in depth analysis beyond the scope of this report and it may be that a transitional model of government service delivery is required as a formative step towards the establishment of the OPD.

5.3.3 Resources and Industry Mechanism

The left side of the diagram refers to a resources and industry mechanism, which is a vehicle to represent, coordinate and focus the expertise, perspective and resources of industry in the service of Pilbara Cities and the development of the Pilbara Region. The resources and industry mechanism should extend beyond simply the mining and oil and gas sectors, although it is acknowledged that these sectors are the overwhelmingly dominant economic drivers of the Pilbara.

Presently, PICC is the most logical vehicle for representing industry in respect of a Pilbara development strategy and indeed one of its stated priority outcomes is: 'Development of a shared vision and strategy in relation to the sustainability of Pilbara towns', which is broadly in accord with the concept of Pilbara Cities, but does not specifically endorse the aspirational resident population targets for Newman or other Pilbara centres in the settlement hierarchy. Industry buy-in the to the Pilbara Cities concept is crucial to its success as it is industry that will drive the growth in regional strategic employment required to stimulate population growth.

The resources and industry mechanism should ideally not only be the focal point for the major resource companies in their involvement in the Pilbara Partnership Board, but it should also aim to represent the interests of non-resources sector through its links with other industry peak bodies and representative organisations. Other industries which may be represented might include aquaculture, agriculture, sustainable energy generation, education and tourism. This study does not propose an exhaustive list of prospective sectors but rather refers to them as a starting point for investigation as a vehicle to promote economic diversification over the longer term.

An important plank in the representation of industry is the linkage with research and development organisations including universities, the CSIRO, cooperative research centres and other R&D oriented organisations. Industry specific R&D ventures and areas of investigation are important as the establishment of R&D related activities in the Pilbara will assist in the extension of the regional knowledge economy, and promote the establishment of Pilbara based educational opportunities.

5.3.4 Pilbara Partnership Board

The nominally titled Pilbara Partnership Board (PPB) is a collaborative entity that combines Government and the Private sector in an organisational arrangement aimed tasked with the advancement of the Pilbara Cities and the development of the Pilbara region as a whole.

Most importantly, the PPB is the link which mobilises the human resources and investment capability of the Government and private sectors. To be effective the Board should be represented at Ministerial level on the Government side, and at CEO level on the Industry sector side, with an independent chair, typically a prominent Australian with a relevant background in regional service delivery and/or industry. Other representation should come from local government or the Pilbara Regional Council and, critically, an eminent Indigenous representative. A balanced board with an independent chair would ensure that the interests of the Pilbara remain the guiding principle rather than the perception of the Pilbara existing merely to support the interests of the resource sector.

5.3.5 Local Government

Local Government / Regional Council representation on the Pilbara Partnership Board is essential as Local Government represents the on ground interests of the Pilbara communities. Furthermore, at a localised implementation level, local government has a substantial role to play in the implementation of localised development programs and strategies that reflect the higher order, objectives and strategies of the PPB.

5.3.6 Functions of the Governance Model

The primary function of the PPB is the cooperative advancement of the Pilbara Cities Vision and the broader economic and community development of the Pilbara as a region.

05 A New Approach to Governance

The PPB would be responsible for generating and overseeing the implementation of an agreed development vision for the Pilbara and setting the development priorities for the region in the areas of economic and industry development, infrastructure provision, strategic employment generation. The PPB would both provide guidance to and reflect the development agendas of the Government and Industry as well as determining the overarching development strategy for the region.

Most importantly, the PPB is the vehicle through which resources in the form of human capital and investment can be identified and mobilised in the service of the Pilbara. Implementation of the Pilbara strategy requires a multi-level governance approach. At the strategic level, the PPB would have the capacity to negotiate with the resource sector and individual companies on areas related to regional strategic employment generation which may impact on areas of supply chain management, purchasing policies, down stream processing and housing and accommodation.

An essential aspect of the governance model is the establishment of an investment mechanism to fund the development of the Pilbara. This study does not propose a specific mechanism such as a development bank, but simply suggests that the Pilbara Partnership Board should have the capacity to mobilise private and public sector funding and investment to drive the development of the Pilbara. The cost of developing NRP and the Pilbara Cities Vision over the next two to three decades, and the aspirational population targets is likely to be in the billions of dollars when the scope of enabling civic and industry specific infrastructure alone is contemplated. Implementation of the identified strategies needs to occur at both the strategic and the local levels, but, importantly, must be internally consistent throughout the multi-level governance model. This means that actions taken at the local level must reflect the broader strategic objectives of the PPB.

5.3.7 Key Points and Guiding Principles

The establishment of any governance model is dependant on a number of formative steps, and include:

- Recognition by the State Government that existing governance and program structures are inadequate for the purposes of advancing NRP and the Pilbara Cities concept, and that a new structure is required.
- Recognition by the State Government through RDL, DoP and Department of Premier & Cabinet of the need for major policy changes and strategy initiatives and appropriate resourcing to drive Pilbara Cities through regional economic and industry development. This includes clarification of the scope of Pilbara Cities and how each settlement relates to a regional hierarchy of centres.
- Recognition of the need for a multi-level governance model for Newman and the Pilbara by the State Government including the Ministers and CEO's of a number of key department and agencies including:
  - Premier and Cabinet
  - Department of Regional Development and Lands
  - Department of Planning
  - Department of State Development
  - Department of Commerce
  - LandCorp
- State government identification of a project champion/leader to drive cross agency collaboration to advance NRP and Pilbara development.
- Broad based agreement from government that it cannot implement the Pilbara Cities concept without a collaborative partnership with the private sector (and most notably the resource sector).
- Advancement of a dialogue (to be initiated by the State Government) with the major resource companies including BHP Billiton, Rio Tinto and others at an executive level regarding the Pilbara Cities concept with a view to securing resource sector endorsement of the aspirational population and employment targets for NRP and potentially other centres in the Pilbara.

To realise the NRP vision requires integrated decision making on the economy together with the town planning process.

5.4 Transitional Governance Arrangements

The model presented here is one possible, and indeed ideal, governance option. The complexity of the challenge suggests that an optimal governance arrangement will emerge over time in an iterative process. Such a governance model cannot be implemented in its entirety overnight and will require a considerable amount of research, analysis and negotiation to occur to properly inform the process.

It is suggested that the PCO research the concept for the establishment of an OPD. The PCO would also have the responsibility for reviewing the economic and industrial environment of the Pilbara and is to oversee the development of a regional economic development scoping study that will provide effective guidance for a detailed and comprehensive Pilbara regional economic development strategy.

Figure 41 illustrates the high level relationships proposed between the relevant agencies.

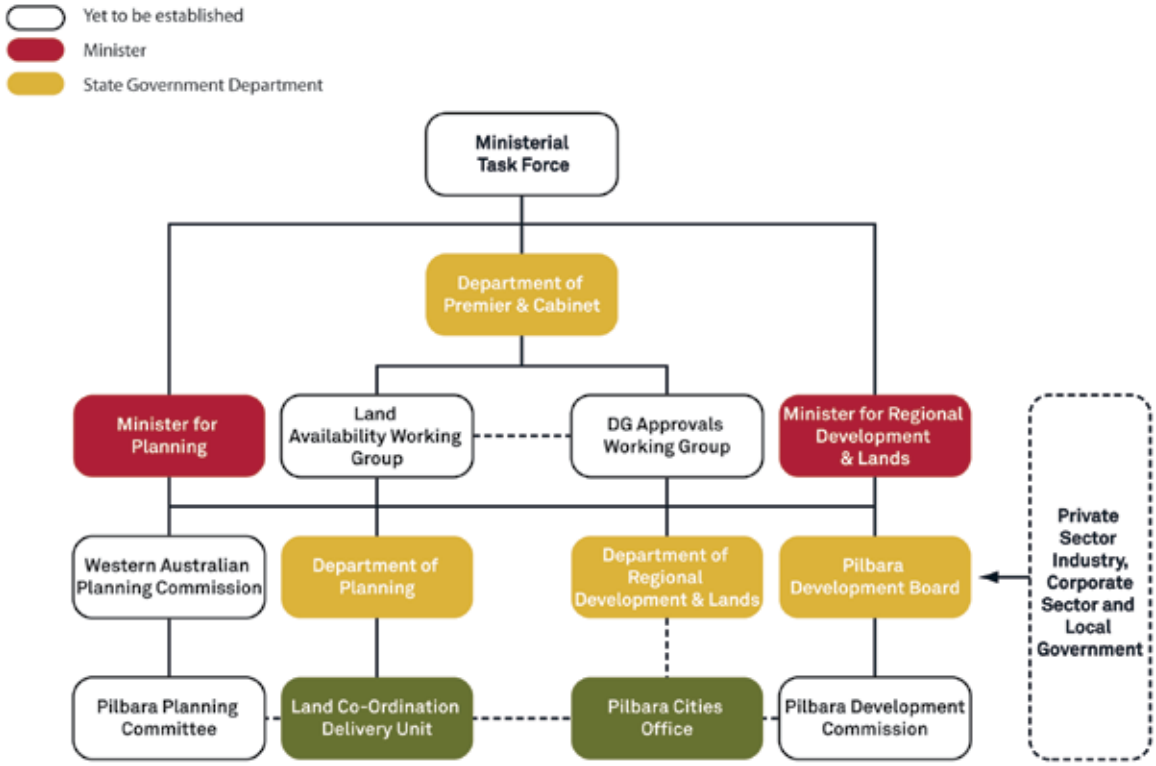


Figure 41 Pilbara cities office - High level relationships

06. MAKING IT HAPPEN - IMPLEMENTING THE STRATEGY

6 Making it Happen – Implementing the Strategy

Implementation of the strategies set out in Section 4 of this report requires a comprehensive approach to program management. A summary of the necessary projects, studies and actions for each element of the Strategy follows. These tables assume implementation will be governed through the arrangements set out in Section 5.

6.1 Economy

Aspirational Goal	A robust, diversified local economy that effectively services the needs of local and regional industry and population									
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost						
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Diversifying the Economy – Shire Level	Pilbara	Develop and implement Pilbara Region Economic Development Strategy	PCO	Yr 2-3	2.25	Yr 5-10	OPS Budget			State Govt
	Newman	Formulate SoEP economic development strategy	SoEP	Yr 2-3	0.1					R4R

6.2 Community

Aspirational Goal	Communities that are safe, healthy and enjoyable places to live and work, offer cultural, educational, recreational opportunities, provide appropriate housing and services and amenities; and foster active local citizenship									
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost						
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Community Development	Newman	Develop Newman Community Pride and Engagement and Pride Strategy: overarching framework under which other specific community development strategies will reside: Education, Training and Personal Development Strategy, Health Services, Children and Youth Leadership and Development, FIFO / Transient Worker Integration, Indigenous Engagement. Newman is Home	SoEP	Yr 1-5	0.35					SoEP

6.2 Community continued

Aspirational Goal	Communities that are safe, healthy and enjoyable places to live and work, offer cultural, educational, recreational opportunities, provide appropriate housing and services and amenities; and foster active local citizenship								
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost					
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Community Facilities	Newman	Town Square, Youth Centre, Martu Milli and Aboriginal Artists facilities, Multiuse community spaces/ facilities, Medical Facilities, Caravan/RV Visitor/Truck Parking, Boomerang Oval Development, Additional Caravan Park	SoEP/ Land Corp/ BHP/ Private Sector	Yr 1-5	29+					SoEP/ R4R/ BHP/ Private Sector
	Newman	Country Club/ Newman Club	SoEP/ Private Sector			Yr 5 - 10	6.3			SoEP/ Private Sector
	Newman	New Primary School and Education Support Centre, Newman Town Pool Relocation	DET					Yr 10+	40.7	DET

6.3 Built Environment and Public Realm

Aspirational Goal	An urban form that reflects the intrinsic qualities of the site context, characteristics and relationships and complements the natural environment; with centres that are vibrant, dynamic, diverse and functional								
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost					
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
A Compact and Diverse Town	Newman	Prepare and adopt updated LPS, scheme amendment, policies	SoEP/ WAPC	Yr 1-4	0.21					SoEP/ WAPC
	Newman	Local Housing Strategy,	SoEP	Yr 1-2	0.1					SoEP
	Newman	Prepare and lodge Structure Plans and DAPs	Land-owners	Yr 1-5	OPS Budget	Yr 6-10		Yr 10-20		Land-owners
	Newman	Native Title and Indigenous Land Use Agreement	DRDL/ SoEP	Yr 1-5	OPS Budget	Yr 6-10		Yr 10-20		DRDL/ SoEP
	Newman	Revise Priority 1 and Priority 3 public drinking water boundaries	SoEP/ LandCorp	Yr 1-5	0.04					SoEP/ LandCorp

6.3 Built Environment and Public Realm continued

Aspirational Goal	An urban form that reflects the intrinsic qualities of the site context, characteristics and relationships and complements the natural environment; with centres that are vibrant, dynamic, diverse and functional									
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost						
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Public Realm	Newman	Landscape Development of Newman Town Park, Market Place and Town Square	SoEP/ LandCorp /BHP/ Private Sector	Yr 1-2	4.8					SoEP/ R4R / BHP/ Private Sector
	Newman	Landscape Development of main intersection of Kalgan and Newman Drives, Kalgan Drive to Roger's Place and Market Place intersection	SoEP/ LandCorp			Yr 5-7	2.3			SoEP/R4R
	Newman	Landscape development of pedestrian oriented drainage corridor	SoEP			Yr 7-9		Yr 10-12		SoEP
	Newman	Landscape development of pedestrian oriented drainage corridor, green corridor	SoEP					Yr 10-12	1.8	SoEP

6.4 Infrastructure

Aspirational Goal	Economically efficient infrastructure for industry and households designed for efficient use of energy, water, materials and transport									
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost						
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Integrated Water Management Strategy	Newman	Water: Governance and water servicing strategy	Water Corporation /BHP	Yr 1	0.3					Water Corporation /BHPB
	Newman	New water treatment plant: planning, design and construction and upgrades	BHP/ Water Corporation	Yr 2	10					Water Corporation /BHPB
	Newman	Immediate water supply and service provision needs	Water Corporation	Yr 1-2	2	Yr 8 -10	3	Yr 16 - 20	2	Water Corporation
	Newman	GNH Industrial Area Water Supply: Planning, design & construction	Water Corporation	Yr 1-2	1					Water Corporation

6.4 Infrastructure continued

Aspirational Goal	Economically efficient infrastructure for industry and households designed for efficient use of energy, water, materials and transport									
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost						
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Integrated Water Management Strategy	Newman	Immediate sewerage needs	Water Corporation	Yr 2-5	6.6					Water Corporation
	Newman	Upgrade waste water treatment plant: Planning, design and construction	SoEP	Yr 4-5	0.8			Yr 10 - 13	2.5	SoEP
	Newman	GNH industrial site waste water: Planning, design and construction	Water Corporation	Yr 1 - 2	1					Water Corporation
	Newman	Wastewater recycling system: Design and construction	SoEP	Yr 1-5	1					SoEP
	Newman	DWMS: Prepare a District Water Management Strategy for Newman	DoW	Yr 2-3	0.1					DoW
	Newman	Drainage analysis: Development of drainage model for Newman	SoEP	Yr 1	0.25					SoEP
Energy and Greenhouse Management Strategy	Pilbara	Governance and regulation of local power supply: Obtain in principle agreements for change and funding	BHPB and Horizon Power	Yr 1-2	0.2					BHPB and Horizon Power
	Pilbara	NWIS governance: Establish governance arrangements for the NWIS	State govt	Yr 1-2	1.0					PCO
	Pilbara	NWIS upgrade projects: Complete upgrade of NWIS	Horizon Power	Yr 2-5	600	Yr 5-10				Horizon Power
	Pilbara	Solar flagship project: Prepare proposal for federal funding under the solar flagships program	Horizon Power	Yr 1-2	0.4					Horizon Power

6.4 Infrastructure continued

Aspirational Goal	Economically efficient infrastructure for industry and households designed for efficient use of energy, water, materials and transport									
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost						
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Energy and Greenhouse Management Strategy continued	Newman	New South Newman Zone sub station: Planning, design and construction	BHP/Horizon Power	Yr 2	35					BHP/Horizon Power
	Newman	GNH industrial Site Power Supply Study: Formulate power supply strategy	BHP/Horizon Power	Yr 1	0.1					BHP/Horizon Power
	Newman	Newman Power Generation Study: Formulate power generation strategy	Alinta Energy	Yr 1	0.1					Alinta Energy
	Newman	Gas Supply Study: Formulate Gas Supply for power generation strategy	Goldfield Gas Transmission Pipeline company	Yr 1	0.1					Goldfield Gas Transmission Pipeline company
	Newman	Lot scale solar PV: Solar PV feasibility and cost-benefit study	BHP/Horizon Power	Yr 1	0.15					BHPB/ Horizon Power
	Newman	Smart Grid: NWIS Smart Grid scoping study	Horizon Power			Yr 6	0.5			Horizon Power
	Newman	Natural Gas reticulation: Feasibility study of natural gas reticulation network in Newman	Alinta Energy			Yr 6-10	0.25			Alinta Energy
	Newman	Built form: Climate responsive, energy/ materials efficient demonstration projects	Landcorp	Yr 2-5	10					Landcorp

6.4 Infrastructure continued

Aspirational Goal	Economically efficient infrastructure for industry and households designed for efficient use of energy, water, materials and transport								
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost					
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Town site Expansion	Newman	Town site stage 1, 2, 3, 4, 5, 6 expansion: Planning, design and construction of infrastructure ie water, sewer, power, roads	Landcorp / SoEP	Yr 1-4	74	Yr 4-10	174	Yr 11+	371	Landcorp / SoEP
	Newman	Telstra upgrades: Telstra planning Study	Telstra	Yr 1	0.1					Telstra
Town Centre Revitalisation	Newman	Town Centre stage 1-8 revitalisation: Planning, design and construction of infrastructure ie water, sewer, power, roads	Landcorp / SoEP	Yr 1	25					Landcorp / SoEP

6.5 Environment

Aspirational Goal	Local, regional and global eco-systems in which landform, habitat and biodiversity are retained and that provide natural provisioning, regulating and cultural services.								
Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost					
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Natural Resource Management Strategy	Newman	Terrestrial studies: preliminary acid sulfate soils, flora and vegetation surveys, fauna surveys	Landcorp, other land-owners	Yr 2-3	0.25					Landcorp, other land-owners
	SoEP	Establish an integrated holistic NRM framework that considers current, planned and additional strategies and activities across the full range of natural resources	SoEP	Yr 4-5	0.2					SoEP
Waste Management Strategy	Newman	Prepare a Waste Management Strategy for Newman	SoEP	Yr 3-4	0.25					SoEP

6.6 Governance

Strategy	Scale	Action/Activity /Project	Driver	Timeframe for Delivery / Estimated Cost						
				Short (0-5yr)	Cost ($m)	Medium (5-10 yr)	Cost ($m)	Long (10-20 yr)	Cost ($m)	Source
Regional Governance	Pilbara	Establish Office of the Pilbara	PCO	Yr 2-3	OPS Budget					PCO
	Pilbara	Establish Pilbara Partnerships Board as the peak body for implementation of the Pilbara cities vision	PCO	Yr 2-3	OPS Budget					PCO
Local Governance	SoEP	Establish a responsibility within SoEP to promote local economic development	SoEP	Yr 3-4	0.25					SoEP

6.7 Monitoring, Review and Adaptive Management

Subsequent to the finalisation of the NRP, all participants will need an adaptive management system to assist with the implementation and monitoring and review of progress.

The monitoring and review process will guide and give direction to implementation by the SoEP and other participants, including:

- The requirements that an adaptive management system will need to fulfil;
- The principles that will inform its development and application;
- A model that describes what areas of performance will be managed;
- The process by which the system will work, including linkages between human resource and organisational functions;
- The process by which delegation of responsibilities for different roles in the process will be undertaken; and
- An action plan for the development and implementation of the system.

6.7.1 Adaptive Management System for SoEP

The SoEP requires an adaptive management system that will be constituted as the primary mechanism to project manage, monitor, review and update the SoEP's elements of the program. This will have to be fulfilled by ensuring that it achieves the following outcomes:

Facilitate increased accountability

The adaptive management system should provide a mechanism for ensuring increased accountability between:

- The community and the SoEP,
- The political and administrative components of the SoEP,
- Each directorate and the office of the CEO.

Facilitate learning and improvement

While ensuring that accountability is maximised, the adaptive management system must also provide a mechanism for learning and improvement. It should allow for the SoEP to know which approaches are having the desired impact, and enable the SoEP to improve delivery. It should form the basis for monitoring, evaluation and improving the NRP.

Provide early warning signals

The adaptive management system should provide managers, the CEO, and Council with diagnostic signals of the potential risks that are likely to affect the realisation of the NRP. It is important that the system ensures decision-makers are informed of risks in a timely manner, so that they can facilitate intervention, where it is necessary and possible to do so.

Facilitate decision-making

The adaptive management system should provide appropriate management information that will allow efficient, effective and informed decision-making, particularly in so far as indicating where the allocation of limited resources should be prioritised.

The functions listed above are not exhaustive, but summarise the intended benefits of the adaptive management system to be developed and implemented. These intended functions should be used to periodically evaluate the adaptive management system.

6.7.2 Principles Governing Adaptive Management

The following principles are proposed to inform and guide the development and implementation of the SoEP adaptive management system:

Simplicity

The system must be a simple user-friendly system that enables the SoEP to operate it within its existing capacity of its financial, human resources and information management system.

Incremental implementation

It is important that while a holistic adaptive management system is being developed, the SoEP should adopt a phased approach to implementation, dependent on the existing capacity and resources within the SoEp.

It is also important to note that adaptive management is a new approach to local government functioning and therefore requires adequate time to be given to the organization's process of change. The adaptive management system will not be perfect from the start. It should be constantly improved based on its workability.

Transparency and accountability

Members of the organisation whose performance will be monitored and measured must ensure that the process of managing performance is inclusive open and transparent. This can only be achieved by taking effective participation in the design and implementation of the system within the SoEP.

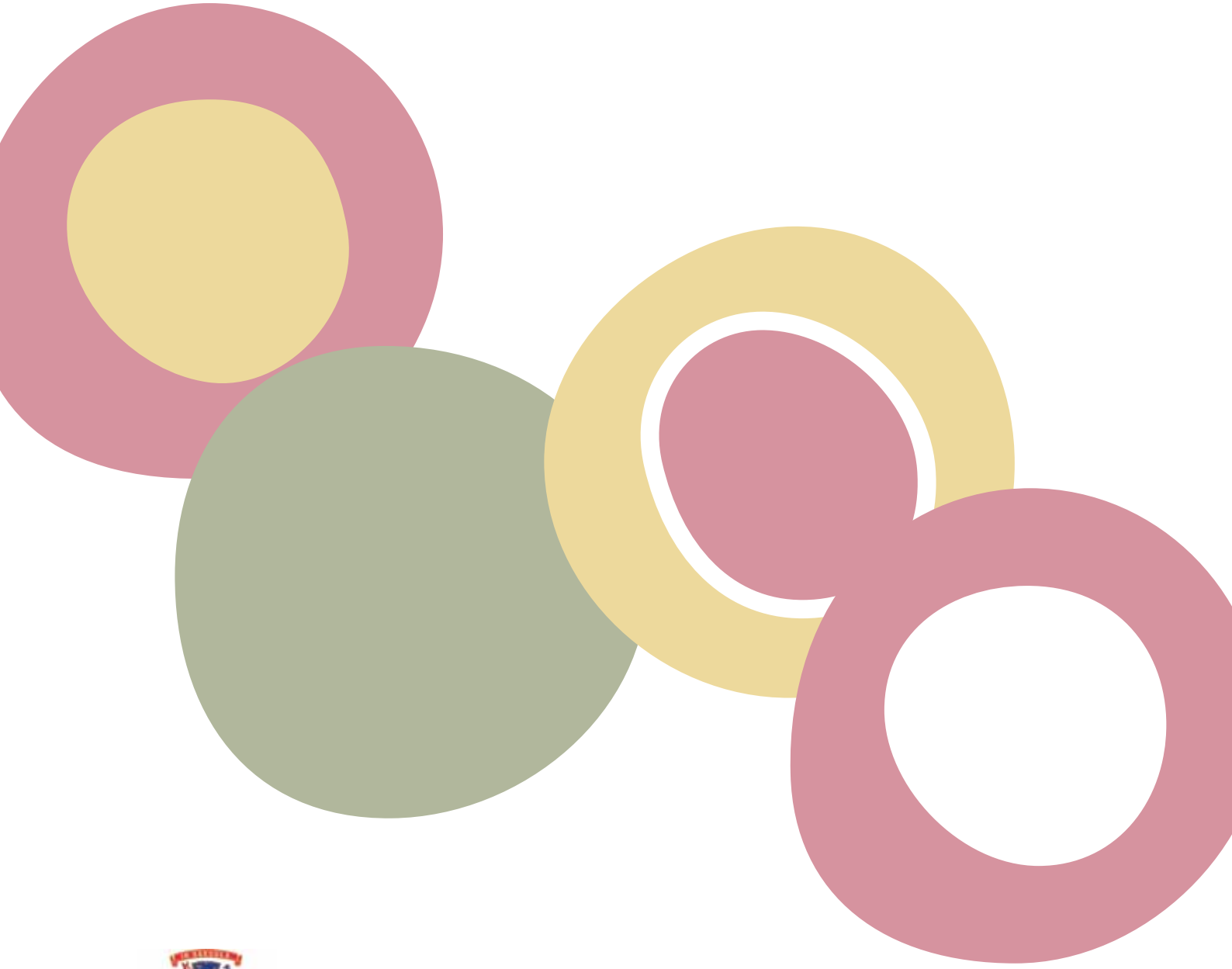
Again, the process must involve and empower stakeholders so that they are able to understand how directorates are run, how resources are spent, and who is in charge of particular services. Similarly, all information on the performance of departments should be available for other managers, employees, the public and specific interest groups.

Integration

The adaptive management system should be integrated into other management processes in the SoEP, such that it becomes a tool for more efficient and effective management rather than an additional reporting burden. It should be seen as a central tool to the ongoing management functions.

Objectivity

Both the processes of managing performance and the information on which it relies need to be objective and credible. Sources of data for measuring indicators should be scrutinized to enhance their credibility and therefore objective decision-making.



For further details and information contact:

Shire of East Pilbara
Main Administration Office, Kalgan drive,
Newman, WA, 6753 PMB 22, Australia

Contact Shire Reception on:

Phone (08) 9175 8000
Fax (08) 9175 2668
Email ces@eastpilbara.wa.gov.au

www.eastpilbara.wa.gov.au