



KEY ISSUES REPORT

Mildura East Growth Area Strategic Framework

INTRODUCTION

Mildura Rural City Council appointed Hansen Partnership to prepare the *Mildura East Growth Area Strategic Framework Plan*. The aims of this project, as outlined in the project brief are as follows:

1. To develop a framework which respond to the following principles:
 - Principle 1: Create diverse and vibrant new urban communities
 - Principle 2: Integrate transport and land use planning
 - Principle 3: Plan for local employment creation
 - Principle 4: Create Growth Corridors with high amenity and character
 - Principle 5: Protect biodiversity, waterways and cultural heritage values
 - Principle 6: Create integrated open space networks
 - Principle 7: Plan for environmental sustainability
 - Principle 8: Stage development to ensure the efficient and orderly provision of infrastructure and services

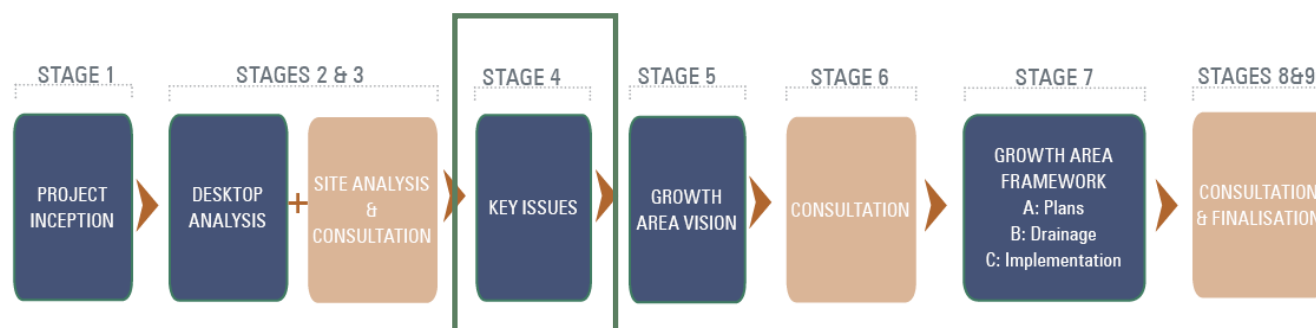


Figure 1: Project process

The project seeks to establish a clear and well-considered framework to guide the staging of rezoning, decisions on planning permit application and investment priorities in this important area, which exerts an influence on, and is influenced by, a number of settlements due to its location (see Figure 2 below where the study area is identified with a yellow / orange hatch).

This project will have a number of stages as outlined in the diagram below. One of the key outputs of this project is a Key Issues Report (this document) which is intended to provide a brief summary of the range of issues which have emerged during background analysis and as a result of feedback through consultation sessions.

Understanding these key issues will not only inform the subsequent drafting of the Vision & Key Directions in the next stage, but also inform an understanding of the steps needed and other work required to deliver any identified vision. These 'implementation' considerations are crucial and will be addressed in Stage 7.



Figure 2: Mildura 'main urban area' (source: MHSS)

KEY ISSUES

LANDOWNER EXPECTATIONS

The Mildura East Growth Area is a very challenging area from a planning perspective. While it is zoned for farming use, its sits in a constrained environment, enclosed by the settlements of Mildura (to the north and west), Nichols Point (to the north-east), Kings Billabong (to the east) and Irymple (to the south). This, in combination with the size of the subdivision pattern, (4ha being very small from a farming perspective) and a long history of lot excisions has led to extensive residential development within the area. While many residents live in the area for lifestyle reasons, there are significant numbers of landowners who are looking to sell their land, to downsize or to fund their retirement. Still other have accepted that their agricultural enterprises are growing too challenging in the area and are looking to relocate elsewhere. There are therefore significant expectations when it comes to landowners and the development of their land for urban purposes, specifically for residential use. Without a clear direction, pressure for development will continue in the area and is likely to lead to ad-hoc and poor planning outcomes. This project is intended to mitigate those outcomes, but does mean there will be some landowners who find that the timeframes for the development of their land is not in keeping with their ambitions, or that their land does not form part of the proposed growth in this area as articulated by any plan for the area. It will be important that the outcomes are clearly communicated and that landowners are able to understand the rationale behind any decisions which may not align with their expectations. This will mean the implication of growth rates, for example, will need to be articulated clearly.

INTEGRATION AND COORDINATION OF LAND USES

One of the other key issues that framework will need to address also relates to the issues identified above - namely the proliferation of existing development and the small size of lots. These two factors, combined with a highly dispersed pattern of land ownership (i.e. most lots are individually owned) means that the coordination of any future development will be challenging and the framework will need to be carefully considered in how it integrates existing residential development with any new growth areas. While the process of preparing a Development Plan for areas as they are rezoned will support more detailed and place specific design outcomes, the framework must provide the key direction for how this occurs.

Importantly, the framework, through its Development Strategy component will need to address the issue of interim uses in areas identified as being subject to future urban development. The MHSS addressed this to a degree through the setting of parameters, but further guidelines is likely to be required as the future of the area becomes clearer. Failure to appropriately manage land in the intervening years can contribute to amenity issues including increased dust from poorly managed land and impacts on the visual amenity of the area, as well as impacting on optimal outcomes for these areas as they develop.

The area also includes some key features which will need to be integrated into planning, including a rail freight line which cuts diagonally through the area. While freight services are infrequent, the line nonetheless serves as a key barrier within the broader area and the framework will need to explore potential ways of integrating this feature. In addition, there is also, in close proximity to existing residential uses, a concrete batching plant. Recent permit approvals and associated investment suggest that this use is likely to remain in the study area in the short to medium term. Good planning practice suggests that further residential development should be avoided in the identified buffer area, although further investigation may be required in this area given that the number of existing residences in this buffer mean actions taken by the plant may already be mitigating many of the anticipated off site amenity impacts.



CHARACTER AND COMMUNITY

In looking to the future of this area, one of the issues which was identified, even through the MHSS, is that the location of the growth area essentially 'in-between' a number of settlements means that great care must be taken to avoid development in this area resulting in settlements with their own unique identities, such as Irymple and Nichols Point being absorbed in Mildura itself. In particular Nichols Point has a distinctly different character, resulting primarily from the settlement's larger lots sizes and greater canopy cover, which must be recognised by the framework. The issue of preserving and maintaining a clear sense of Irymple as a separate settlement is more challenging as a result of the issues outlined in the section below. In addition, despite policy aspiration, a sense of clear distinction has not been achieved along the Fifteenth Street corridor, and the sleeves of residential development along key road corridors connecting to Mildura to the north-west also impacts on any sense of separation. However, recent commercial development and ongoing work, as identified through the recently adopted Structure Plan to develop a community 'heart', are both contributing to a greater 'local' focus for the settlement.

AGRICULTURAL INFRASTRUCTURE AND INVESTMENT

The Mildura East subject site area is very large and includes a significant number of property owners and stakeholders. As a result, there is the potential for development in the area to roll out in a manner that is not conducive to achieving the best outcomes in terms of delivery and ongoing management of infrastructure. As a result of the area being part of the Mildura Older Irrigation Area, there is still significant agricultural infrastructure both drainage and irrigation present in the area. Consideration will need to be given to where and how development occurs so that farmers can have access to required existing irrigation infrastructure, while ensuring that future developments have access to the right urban infrastructure. While some potential exists for landowners in the area to access 'horticultural' rather than 'agricultural' water, this needs to be balanced with the need for ongoing stability and functionality of the operations of Lower Murray Water. For any areas proposed to transition to urban development the staging and program for rolling back agricultural infrastructure will need to be considered alongside the rollout of urban infrastructure given there is limited capacity to transition the existing infrastructure to suit more urban uses.

THE MILDURA / IRYMPLE INTERFACE AREA

Significant feedback has been provided to Council, not just through this project, about the appropriate future development of the Mildura-Irymple Interface area. The current planning framework for this area has a number of 'potential' options identified which has contributed to some sense of uncertainty. The area is very challenging as it requires the balancing of two important planning considerations – the locating of housing in areas with good access to services and facilities, and the retention and protection of a sense of place and separation between settlements.

The reality is that allowing residential development to 'fill the gap' between Mildura and Irymple on the basis of access to services and facilities, is to abandon the concept of Irymple as a separate settlement and to accept its absorption into Mildura, as another 'suburb', such as Mildura South. There is nothing to suggest that this is a future that would be supported by either the community or by Council, indeed the opposite could be said, and therefore a more nuanced consideration of this area is required. The interface area can, in fact, be considered in three distinct sections. First, and perhaps most important is the corridor along Fifteenth Street, where most people 'read' the separation between the two settlements. There is clearly some community concern about recent planning approvals in this area and their erosion of this sense of separation, and there have been no works within the 'public realm' to meaningfully signify any transition between settlements. This is likely to be partly a result of the corridors designation as a major highway, and as such, not subject to council control in terms of works within the road reserve.



Beyond the road corridor, to the south land sites outside the area subject to this study and is generally anticipated to remain as farming land, not being subject to the constraints which apply to land north of the corridor. This area to the north of the corridor is a crowded place (see Figure 3) with significant existing and approved development within the corridor but little sense of clear future direction. Notably, interface management in this area is going to be a significant challenge in the face of practice which seeks explicitly to avoid situations where residential development has an immediate abuttal to industrial land uses.

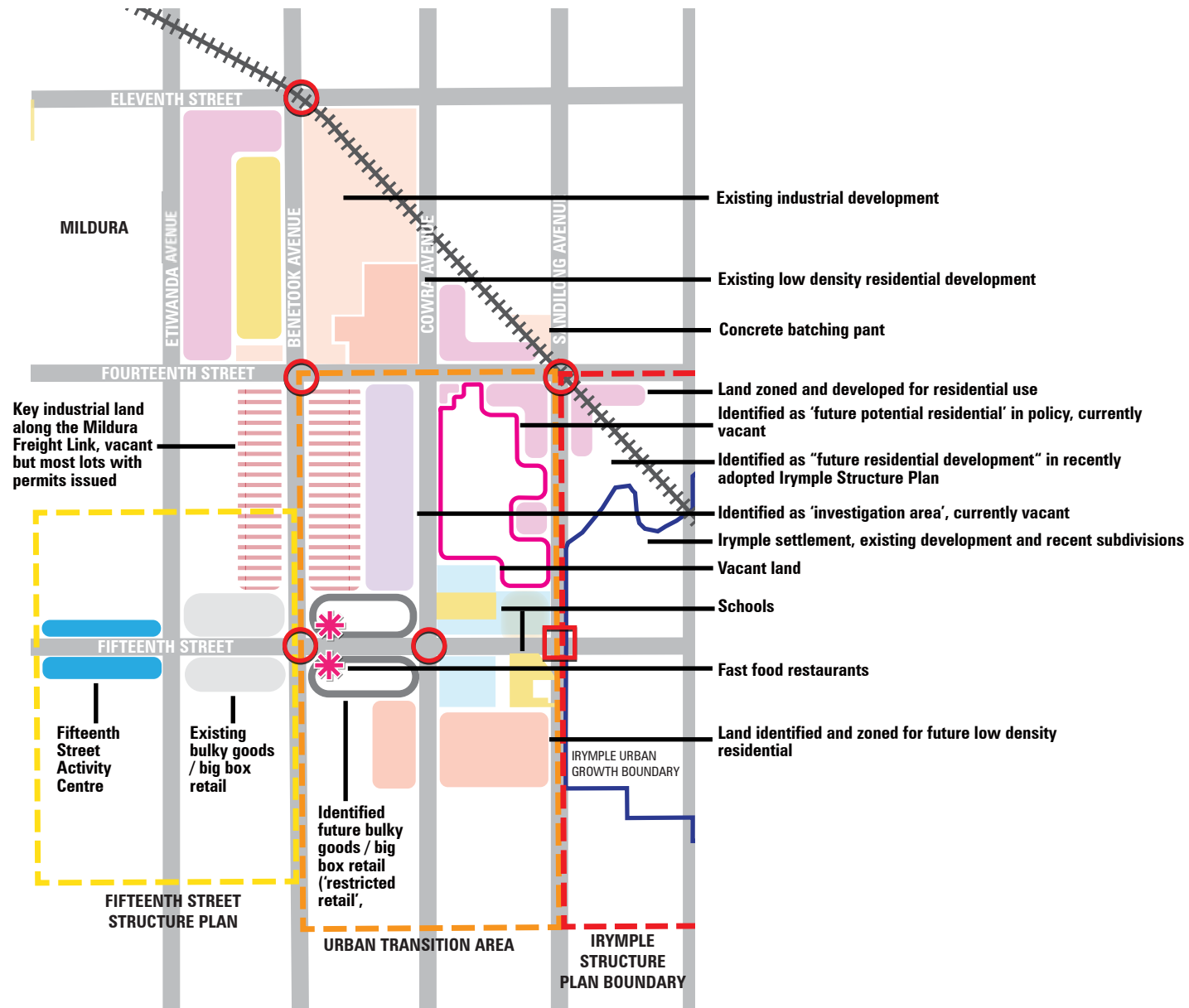


Figure 3: Mildura-Irnyple Interface Area

COORDINATION OF DRAINAGE INFRASTRUCTURE

The existing topography within the study area varies between areas of steep fall to long reaches of flat fall and trapped low points. The undulating contours result in rainfall runoff draining in multiple directions and becoming trapped in various low points, providing a unique challenge for designing future stormwater infrastructure. Gravity drainage will not be viable in areas without large amounts of fill material. Pumping or alternative stormwater interventions may be required. The large flood event of 2011 provided valuable insights into where these areas of pooled water might be – and siting smaller drainage basins in these areas is likely to make a contribution to an effective broader system.

The study area is split across four catchments. The southern catchment drains to existing infrastructure such as the Irymple town retarding basins and the northern to the Etiwanda Wetland, both featuring their own constraints. The Irymple basins outlets are pumps with limited capacity, which will have to be carefully considered when determining the volume of runoff that is to drain to the basins and may need to be upgraded over time as development expands. Similarly, the frequency of inundation and the ability to treat water to best practice will limit the limit runoff volumes draining to the Etiwanda Wetland without any future augmentations, in the form of retention basins. As part of the Nichols Point Development Plan, an additional small wetland is proposed to the north of the settlement, but the catchment that drains to this area is relatively contained. In addition there are a couple of segments of the study area to the east which sit outside all these catchments, and part of the west which drain into the existing Mildura South system

INTEGRATION OF WATER SENSITIVE URBAN DESIGN OUTCOMES

Building upon BPEMG, the Victorian Environment Protection Authority's Urban Stormwater Management Guidance (EPA, 2021) sets out urban stormwater flow volume performance objectives. These include requirements for harvesting / evapotranspiration and infiltration / filtering objectives. But these key outcomes have been developed for statewide application and some further consideration is required when contextualising them to the study area (and indeed to Mildura more broadly). It is recognised that groundwater tables and salinity levels in the area are elevated and that there are active drainage measures in place to divert irrigation leachate away from groundwater to mitigate salinity risks. Furthermore, Flow volumes into Lake Ranfurly and Lake Hawthorn have decreased significantly due to reduced rainfall through the millennium drought (BMT WBM, 2008) as well as through reduced discharges from irrigation drainage (Kate Lumb Consulting Pty Ltd, 2015). Future discussions of these requirements must consider the local context and ensure that they are achieving what they are set out to do (i.e. protect downstream ecosystems). In addition, local rainfall patterns make many of the more 'traditional' approaches to WSUD unfeasible in this area, and the framework will need to look in more detail about what locally specific opportunities could be pursued in the area.

POPULATION CHANGE AND THE IMPACTS OF COVID-19

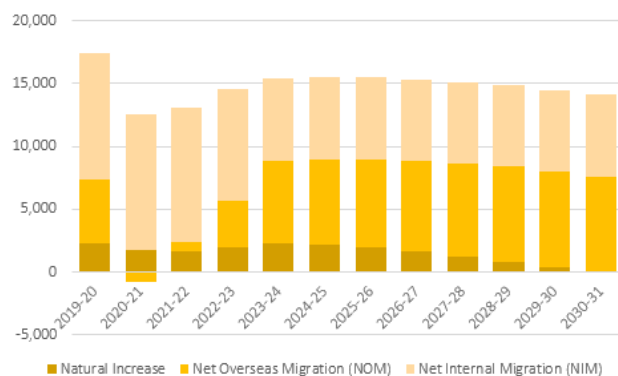
One of the crucial issues the framework needs to consider is the demand for housing – more broadly, and then in the study area specifically. While broad population projections are discussed further below, understanding the likely impact of COVID-19 on these past trends must also be acknowledged and considered. The Federal Government's Centre for Population Research released a population statement with updated projections in December 2020. It does not include LGA level forecasts however it includes a forecast statement that with the collapse in net overseas migration as a result of COVID-19, regional or non-metropolitan Victoria would have 20,600 people less in 2030-31 than had been forecast without COVID-19. The lag impact for regional Victoria in the short term is shown in the figure below, though this also shows an up-tick in growth in 2019-20.

Regional Victoria benefited from the net impact of changes in net internal migration patterns during Melbourne and Victoria's extended lockdown, though apparently more from less people leaving regional Victoria for Melbourne rather than a significant increase in people moving to regional Victoria. According to the Centre for Population Research in their 'Migration between cities and regions – A quick guide to Covid Impacts': 'The largest fall in people moving to Melbourne came from regional Victoria, which had a 13 per cent drop in departures in the six months to September 2020. This drop in departures drove the record largest six monthly net gain of people regional Victoria has experienced (8,600 people).'

Overall, due to the impacts of COVID-19, Australia's population is expected to be 4 per cent smaller in 2030-31 than what was projected before the pandemic, and more skewed towards an older population.



COMPONENTS OF POPULATION GROWTH IN REGIONAL VICTORIA POST COVID



Source: Centre for Population Research, Population Statement: Capital city and Rest-of-State Population Projections, 2019-20 to 2030-31, Commonwealth of Australia 2020, SGS calculations

Further analysis of relative population change between 2019 and 2020 was undertaken to assess the impacts of COVID-19 at a local level. Table 3 compares population change for Irymple SA2 (containing the East Mildura study area), Mildura Town and Mildura LGA, using ABS ERP data and VIF 19 data. This shows the up-tick in growth in the Irymple SA2 in 2019-20 (based on ERP). This up-tick was not present generally across either Mildura Town or the LGA as a whole.

	ABS Estimated Resident Population	VIF 19
Irymple SA2	2.10%	(N/A)
Mildura Town	0.20%	0.72%
Mildura LGA	0.28%	0.64%

Source: ABS and Victoria in Future (VIF) 2019

The extent to which Irymple itself received a specific COVID related development surge, given this didn't appear elsewhere in Mildura, is difficult to discern. It could be that the surge was more to do with internal migration and change and this being an 'up and coming area' (according to real estate agents). There is little from this comparative data, nor the broader consideration of population futures prepared by the Centre for Population, to suggest that Mildura overall is likely to benefit on an ongoing basis from the COVID impacts on regional population change. More likely is that there may be a short term lag on overall growth after which trends will return to something resembling pre-COVID conditions. Irymple and the study area itself may benefit from their intrinsic characteristics implying a shift in the location of growth within Mildura.

DWELLING SCENARIOS

The dwelling scenarios, which will underpin any identification of shorter term rezoning of land, all pivot from the projections prepared for Development Contribution Plans (DCPs) in recent years. These DCPs included detailed analysis of growth anticipated and are subject to independent review as they provide the evidence base for the financial contributions Council seeks from developers. As such, they are necessarily robust. The base case for new dwellings required in the area (outline in more detail in the Background Analysis reports) reflects the DCP projection, but 'upside' and 'optimistic' scenarios are also shown in the table below. The upside scenario has 50 percent more dwellings than the base case while the optimistic scenario has almost twice the dwellings of the base case, over the 25 year 2021-46 period. Under planning policy, generally only a 15 years supply of zoned land is suggested.

There are 276 dwellings per year projected for Mildura Town in the 2016-36 period in VIF19 (5510 overall). The study area would be contributing roughly 3.2% (base), 4.8% (upside) and 5.8% (optimistic) of the total Mildura Town growth on average on an annual basis in that 20-year period.

DWELLING FORECASTS BY BASE, UPSIDE AND OPTIMISTIC GROWTH SCENARIOS IN STUDY AREA

	2016	2021	2026	2031	2036	2041	2046	Change 2021 – 2036	Change 2021 – 2046
Base case	585	610	661	711	756	793	829	146	219
AAGR		0.85%	1.60%	1.48%	1.25%	0.96%	0.87%	1.44%	1.27%
Upside	585	623	698	774	842	898	951	219	328
AAGR		1.26%	2.32%	2.08%	1.70%	1.28%	1.15%	2.03%	1.71%
Optimistic	585	631	725	818	901	970	1035	270	403
AAGR		1.54%	2.79%	2.45%	1.97%	1.47%	1.31%	2.40%	2.00%

Source: SGS Economics and Planning 2021

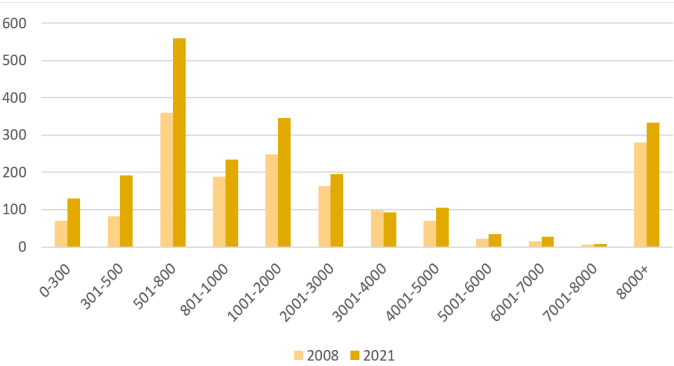
In the view of the teams economists, the base case scenario is still the most plausible, even considering the impacts of COVID on demand. A sustained surge of growth favouring the broader Irymple area would flow into the study area, in which case the ‘upside’ scenario might be in reach. The optimistic scenario is unlikely. To adopt either the upside or optimistic scenario for planning purposes would require some thought be given to implications for growth fronts and rates elsewhere in Mildura i.e. is this shifting growth internally or is it in addition to growth elsewhere.

DIVERSITY AND DENSITY

The growth identified in the previous discussion, will include housing for a variety of different households such as lone person, couple, and family with children. It is expected that there will be a range of detached dwelling types and lot sizes. Catering to downsizing and/or ageing households may be a focus, requiring more compact and lower maintenance forms of housing than has traditionally been provided. Intuitively these changes ‘make sense’ with fewer 8000+sqm lots, as large lots get subdivided to create new house blocks. Some of the increase in other larger lots, particularly say above 4000sqm, like those left which are 8000+sqm, will be ‘residual’ lots following subdivision of their ‘parent’ larger lots.

The number and share of lots ‘created’ in each of the lot size categories between 2008 and 2021 is shown in the table below. While almost 70% are below 1000 sqm there is a reasonable spread above that, indicating a solid preference for a range of larger lot sizes (notwithstanding that some of these – particularly the larger lots - will be ‘residual’ lots as mentioned above).

DISTRIBUTION OF LOTS BY SIZE (SQM) 2008 AND 2021



Source: SGS Economics & Planning 2021

The table below shows a potential distribution of demand and ‘land take’ for each of the scenarios based on the observed share of new lots by size and the effective net densities calculated from the 2008-21 change. It suggests that the land take for the base case could be in the order of 27.8 ha (net) for lots up to 8000sqm, at the range of net densities shown, or 21.9 ha (net) if the average net density was 10 lots/ha. For the lots under 1000 sqm the land take is 8.3 ha for the base case.

CHANGE IN LOTS 2008 TO 2021 IRYMPLE DCP AREA

Lot size	2008	2021	Ch 2008-21	Share (excl 8000+)
0-300	70	130	60	10.0%
301-500	82	191	109	18.2%
501-800	359	560	201	33.5%
801-1000	189	234	45	7.5%
1001-2000	248	345	97	16.2%
2001-3000	164	196	32	5.3%
3001-4000	98	92	-6	-1.0%
4001-5000	69	105	36	6.0%
5001-6000	22	34	12	2.0%
6001-7000	15	27	12	2.0%
7001-8000	6	8	2	0.3%
8000+	281	334	53	100.0%
Total excl 8000+	1322	1922	600	

Source: SGS Economics & Planning 2021

ACCOMMODATING LOCAL EMPLOYMENT NEEDS

The table below shows the 'base case' requirement for employment floorspace, again based on the DCP projections. Very modest net additional floorspace for local shops is projected in the study area for the base case (only 34sqm over 20 years). This reflects the fact that the concentration of shops are in the existing town centres outside the study area, and the proximity of the study area to both the CBD (north section) and Fifteenth Street Activity Centre (south sections). However, local shops combined with more general 'retail' floorspace (5270 sqm) suggests the need for an additional supermarket and associated shops. This may or may not be provided in the actual study area, and may be expansion of other existing facilities. This would depend on future retail planning. It may also be in the form of some smaller 'dispersed' floorspace such as cafes co-located with community hubs or local parks, given that type of uses is included in 'retail' demand.

Additional industrial floorspace is suggested, though as mentioned above as proposed in the base case sequencing this is concentrated near the border of the Mildura South area to the south-west of the study area.

These estimates, particularly for local shops and retailing (which are dependent on the local population), would be adjusted upwards for the upside and optimistic scenarios if chosen for planning purposes.

OT DISTRIBUTION AND LAND TAKE BY STUDY AREA SCENARIO

Lot Size (sqm)	Effective net density (lots/ha)	Share for Planning	Base case (dwellings)	Land take (ha)	Upside scenario (dwellings)	Land take (ha)	Optimistic scenario (dwellings)	Land take (ha)
Up to 1000	18.4	70%	153	8.3	229	12.4	282	15.3
1000-3000	5.3	20%	44	8.3	66	12.4	81	15.3
3000-8000	2	10%	22	11.2	33	16.8	40	20.3
Total	7.8	100%	219	27.8	328	41.6	403	50.9
Total land take at 10/ha				21.9		32.8		40.3

Source: SGS Economics & Planning 2021

SEQUENCING OF DEVELOPMENT AND BALANCING OF GROWTH

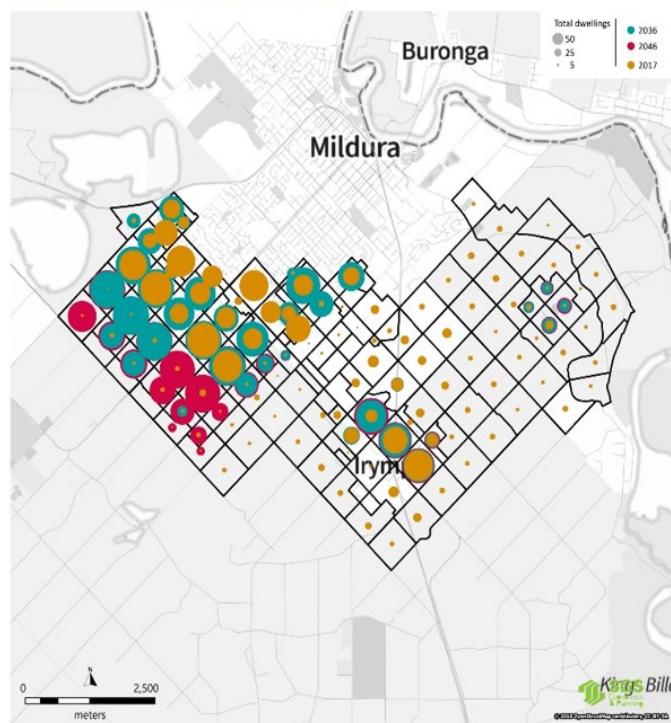
As part of the development of the Development Contribution Plans, work is undertaken to clearly document the sequencing of development broken down into small areas referred to as 'DCP charge areas'. While this sequencing does not form part of the actual Development Contribution Plan, it is an important input as it essentially shows the assumptions that Council has about where infrastructure will be required to be delivered and when. This helps Council in understanding where they will need to invest the funds they have collected from developers, alongside their own money to make sure the required infrastructure is developed to support growth.

While the assumed sequencing shown here for the base case can be factored into the structure planning for East Mildura, it is likely to need to be adjusted depending on assumptions regarding the density of development and infrastructure considerations. Alternatively, adjustments to the sequencing, including perhaps reflecting the upside and optimistic scenarios, may need to be identified to meet adjusted and updated planning and infrastructure delivery objectives.

Importantly however, sequencing of development in the broader Mildura Town (the 'main urban area') will be affected by the proposed Mildura East Growth Area. Additional development in the study area may shift concentrations of growth away from other growth areas. This process needs to be very carefully managed to ensure that identification of new areas for growth does not undermine Councils investment in infrastructure in other area. The current assumption shown in the figure below will need to be tested and may potentially need to be adjusted as the Development Strategy (implementation) of the framework plan is progressed.



RESIDENTIAL DEMAND FORECAST, 2018 - 2046



Source: SGS Economics & Planning 2021

ELEVENTH STREET CONGESTION AND TRAFFIC MANAGEMENT

While it is fair to say that traffic is not a major issues in the area, as it is for some other places, nonetheless ensuring appropriate traffic management outcomes are integrated into the framework plan will be required. Best Practice these days seeks to recognise that roads perform a range of different functions, with some road focussed on facilitating vehicle movement, but others performing a range of functions with a much greater emphasis on pedestrian amenity etc (for example) a road within a town centre). This is reflected in the adoption by the Department of Transport of the 'Movement and Place' framework. While the plan will certainly look to that framework, it is unlikely given the characteristics of the study area, to have direct or widespread application. There are a number of areas which will be explored further in relation to traffic management though, including:

- Congestion of Eleventh Street and opportunities to reduce or divert this traffic.
- Management of rail line crossing points if development intensifies in these areas.
- Any key parameters for localised access and road arrangement or connections between different 'development cells' or precincts which may be identified.
- Key intersections such as Benetook Avenue / Eleventh Street and Cowra Avenue / Fifth Street will also be investigated.

INFRASTRUCTURE FUNDING AND DELIVERY

As outlined above in relation to the sequencing of growth, the delivery of infrastructure is generally undertaken as partnership between Councils and developers. This generally taken the form of developers providing 'local' infrastructure, but also making a financial contribution to Council so the council can take on the delivery of bigger infrastructure projects which have a benefit across a much wider area – essentially coordinating the delivery of this infrastructure as well as making their own financial contribution. Given there are public funds involved in the delivery of this infrastructure, it is important that it provide in a way which delivers 'net community benefit'. This means the investment in infrastructure should benefit the whole community rather than just a single landowner or developer. In addition, the framework plan will need to think about what other infrastructure may be required in these areas (for example, might electric vehicle charging station be required) and how those may need to be integrated or funded. The rate of development in Mildura, which means that funds for infrastructure flow more slowly from development contributions, can create 'funding holes' for council. It will be important for the framework to therefore identify other funding streams that might be available for works in the area, considering things like active transport / health and wellbeing / climate resilience and adaptation etc, all of which may offer opportunities for Council to source funding to deliver components of any vision for the area.

EMISSIONS REDUCTION (GAS, TRANSPORT, ENERGY EFFICIENCY)

Mildura rural Council is one of many Councils across the State, and indeed globally, who have declared a climate emergency. This declaration recognises that scientific evidence clearly requires that we change the way we do things, including planning, to contribute to steep cuts in greenhouse gas emissions, and transition to zero emissions by 2050, if not sooner. This transition is in line with the State government target of net zero emission by 2050 embedded in Victoria's Climate Change Act 2017. While much of the 'planning' steps required to deliver net zero communities will happen at the smaller scale (for example through the Development Plans, nonetheless the framework has the potential to identify some key steps and set in place requirement for the Development Plans which will support these outcomes. Importantly, it can also suggest outcomes such as avoiding connections to gas for new communities and look to integrate existing work such as the Sustainable Subdivisions Framework, currently being trialled by Mildura Council, alongside many others.

CLIMATE CHANGE AND URBAN HEAT

One of the critical issues that must be addressed through this framework plan is how to ensure that development in this area remain 'liveable' in the coming decades. Mildura is already subject to reasonably extreme weather, being one of the hottest places in Victoria. Under climate change scenarios the region is likely to experience twice as many days above 40 degrees. This is very significant and will have major impact on the health and wellbeing of the community unless adaptation measures are factored into not only new development, but also existing development. The 'tools' for responding to heat, and in particular, to counter the 'urban heat island effect', where this heat is exacerbated by urban development are well known. These include, significantly increasing the amount of vegetation, and in particular canopy vegetation (i.e. trees which cast shade), incorporating water into the landscape and choosing material which have a high 'solar reflectance index' – meaning they reflect rather than absorb heat (i.e. lighter colours rather than darker colours). Using permeable materials which allow water to seep into the soil rather than running off is also important. All these measures will need to be explored through the framework plan, and appropriate measures identified either through the framework plan or as items to be addressed by the next level down of planning. Importantly, consideration will also need to be given to how subdivision and the housing itself is delivered to ensure that new residents (particularly older residents) are not exposed unnecessarily to higher temperature, or face unsustainable financial costs to run mechanical cooling systems. This might mean consideration of localised energy systems or neighbourhood battery storage to provide cheap and secure power to new residents.

SCHOOLS AND OPEN SPACES

With new residents in any area, there is generally a need for new services and facilities to go along with this growth. Within this area, capacity issues at both public primary schools (Nichols Point and Irymple) in the area have been identified. Delivery of new schools is based on catchment numbers of students and catchment areas are adjusted periodically. It is understood that the Department of Education has acknowledged the need for an additional school in the 'stage two' development of Mildura South. While it is unlikely a new school would be developed in the area, this must be confirmed once the rate of development and the areas where growth is expected have been finalised. These future growth expectations will need to be communicated to the department to inform their future planning. A need for other services such as maternal child health services etc were also identified. While the preference is for these services to be co-located with primary schools, where there are existing constraints to that occurring, it may be necessary to identify preferred locations for any additional services. Similarly, there may be a need for other community facilities, which often assist in providing a 'focal' point for new neighbourhoods, and can be co-located with other facilities such as local parks and playgrounds to support sustainable urban development. Anecdotal evidence also suggested that local 'active recreation' facilities were also at capacity and therefore that any new development may need to also consider new facilities such as ovals. This type of infrastructure is best identified as part of a broader recreation or open space strategy which considers all the facilities available across a much broader area, but there may be benefit in identifying a preferred location should a new facility be required, as well as looking at the links for new and existing communities to those existing facilities.



NEW ACTIVITY CENTRES

Often in planning growth areas, there is an 'activity centre' identified which is the preferred location of various non-residential uses, including shops, cafes, community uses etc. Locating all these together lets people access these facilities and services in a sustainable manner, combining trips and support community development through bringing everyone together and encouraging informal social interaction. However, the suitability of establishing an activity centre is dependent on the need for a sufficient quantum of retail floorspace to justify this, and the figures generated as part of the background work suggest that a new activity centre within this area would not be viable. The framework will therefore need to look at how to deliver safe and attractive connections for new development areas to existing services and facilities, ideally promoting active transport choices. It will also need to consider how those informal social interactions which are generated by an activity centre might be provided as the area develops so that neighbourhood connectivity is fostered.

PEDESTRIAN, CYCLE AND PUBLIC TRANSPORT INFRASTRUCTURE

Safe and attractive pedestrian linkages through the area were one of the key issues identified through consultation, in particular in accessing schools. There is very little existing infrastructure in the area, despite it 'connecting' a number of different settlements. While Koorlong Avenue, Eleventh Street and Fourteenth Street have been identified as priority on-road cycle routes, how this plays out and connects to other infrastructure, and the form this 'on-road' path takes will be important to consider. Connections along Fifth Avenue, linking the CBD to Kings Billabong via Nichols Point have also been flagged by the community as an important consideration through previous projects and will need to inform consideration. It will be important as well, given the 'rural' feel of the area has been identified as an important part of the areas character, to consider 'how' these connections can be provided in a way which respects that character. Looking at integrated outcomes that think about climate resilience, biodiversity, integrated water management and visual amenity alongside the functional requirements to support active transport will also support better outcomes for the area. Understanding where future growth will occur may also provide an impetus for improved public transport within this area, providing greater connections for existing communities as well as embedding sustainable transport use in new communities. Understanding likely bus routes is important in ensuring that directions around key road configurations support the particular needs of bus operators.

REINTRODUCING BIODIVERSITY

The area has very little remaining of its existing biodiversity values, being a highly modified landscape as a result of its agricultural history. As the area changes and develops over time, there is the potential for the vision for the area to also consider opportunities for the area to actually restore some of the lost biodiversity values. The use of indigenous plant species is not only beneficial in that they are adapted to the context and climate, but also provide a strong link to a sense of place which has been missing in some of the areas recent development areas. Considering opportunities to reintroduce biodiversity can also reflect local Aboriginal values and enhanced opportunities for greater awareness of culture, as well as provide increased opportunities for tourism. Tourism opportunities may also be supported by considering links through the area to the Murray River corridor, and / or the creation of habitat corridors.

