

Northern and Western Geelong Growth Areas Consolidated Activity Centre Assessment

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for City of Greater Geelong

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The views expressed in this report are those of the author and are not necessarily endorsed by the City of Greater Geelong.

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SUMMARY

1. This report provides a summary of work undertaken to plan the provision of activity centres in the Northern and Western Geelong Growth Areas. It also brings together the work on the individual growth areas by looking at how the proposed activity centre network in each growth area will interact with the other and with the existing network. The work has been undertaken for the City of Greater Geelong by Tim Nott in association with Harvest Digital Planning. The report will be used as a key input to the future framework planning exercise for each growth area.
2. The policy context for the work on activity centres is provided by several documents including the *Context Report* prepared by Council which sets out the background, purpose and preliminary assumptions to guide growth area planning; the *Scope of Works*, prepared by Council, providing guidance for a series of technical reports being undertaken on specific issues for the growth areas, including the issue of activity centre planning; and the *draft Retail Strategy*, prepared by SGS Economics and Planning for Council, providing a retail and activity centre development framework for the whole Greater Geelong municipality.
3. These documents highlight the need for the activity centre network in the growth areas to deliver vibrant and accessible centres that are an extension of the existing retail hierarchy providing neighbourhood and, where warranted, sub-regional retail services.
4. Technical reports have been prepared for private sector consortia in both the Northern and Western Geelong Growth Areas according to the Scope of Works issued by Council. These provide estimates of growth area populations, retail spending and retail floorspace demand as well as options for the scale and location of activity centres within the growth areas.
5. The report on the Northern Geelong Growth Area, prepared by Essential Economics (2017) identifies a three or four centre network to service around 43,000 people within the growth area. In each case, one of the centres would be a sub-regional centre serving the growth area and the communities beyond. Total floorspace in the four-centre scenario is estimated to be 76,000 sqm of retailing and 51,000 sqm of non-retail space. Total floorspace in the three-centre scenario, with a slightly larger sub-regional centre, is estimated at 74,000 sqm of retailing and 53,000 sqm of non-retail space.
6. The report on the Western Geelong Growth Area, prepared by Urban Enterprise (2017) identifies a six-centre network to service a growth area population of 64,000 people. In each case, one of the centres would be a sub-regional centre serving the growth area and the communities beyond. Total retail floorspace is estimated at 110,000 to 112,000 sqm and non-retail floorspace at 62,000 to 64,000 sqm. A sub-regional centre of 45,000 to 50,000 sqm of retail floorspace is proposed.
7. Whilst some consideration within the technical reports has been given to the impact of the proposed centres on the existing network, a fuller appreciation has not been possible until both reports have been finalised. This present report identifies how the proposed growth area centres will interact with each other and with the existing network. Council has been

concerned that the Corio Sub-Regional Shopping Centre, in particular, may be adversely affected by the competitive impacts of two new sub-regional centres.

8. An estimate of average retail floorspace per person supported at each level of the retail hierarchy has been prepared. This is used in conjunction with a forecast of the catchment population for each proposed centre to identify a benchmark floorspace that can be supported by each proposed centre at full development. Every population cell in the growth areas and surrounding districts has been allocated to the catchment of a single centre at each level in the retail hierarchy on the basis of the least travel time from the centre of that cell. (As a caveat, the reader should note that the catchment analysis is limited to some extent by the size and scale of the population cells used and by the detail available for the future road network.)
9. This analysis has shown that the sub-regional centres in both the Northern and Western Geelong Growth Areas will serve beyond the growth area boundaries including parts of urban Geelong as well as rural districts to the north and west. The population in the catchment of the Northern sub-regional centre varies between 67,000 and 76,000 depending on its location and that of the Western centre. The population in the Western sub-regional centre varies between 65,000 and 96,000. These populations are easily sufficient to support substantial sub-regional retail facilities.
10. For each combination of locations – 12 in total - the population in the catchment of the Corio sub-regional centre has also been modelled. The resulting estimated retail demand has been used to model the impact on the demand for retail floorspace at the Corio centre. At best, where the centre in the Western Geelong Growth Area is on the Hamilton Highway, the catchment of Corio will support around 5% less sub-regional retail floorspace at full development compared with the present situation. At worst, where the centre in the Western Geelong Growth Area is on the Midland Highway, the support for sub-regional retailing in the remaining Corio catchment could fall by 44%, challenging the provision of any sub-regional centre at Corio.
11. The impacts of the growth area sub-regional centres on other large centres in the Geelong network appear to be minimal.
12. A similar exercise has been undertaken for neighbourhood level retailing, with four potential combinations of neighbourhood centres in the growth areas modelled to determine the catchment for each. For the most part, the catchments are sufficient to support a viable neighbourhood centre with a full-line supermarket. However, some combinations of growth area networks result in two centres having smaller than viable catchments. These are resolved by having a three-centre network in the Northern Geelong Growth Area and a north-south road link in the Western Growth Area that runs to the west of the Batesford Quarry.
13. The options do result in two centres having larger than normal population catchments – up to 18,000 people at full development. This means that the residents at the edge of the catchment are likely to be beyond a reasonable walk to the centre. This may be resolved by adjusting the location of the respective centre and its neighbours slightly, or by making

allowance for smaller local centres that could provide a limited grocery service for those areas with limited access.

14. The new neighbourhood centre network proposals will affect the size of the catchment of some existing neighbourhood centres such as Bell Post Hill, Lara Town Centre and Shannon Avenue North. Nevertheless, Bell Post Hill will retain sufficient population at full development to maintain its present size, losing only small amounts of territory at the margins of its existing catchment. Lara Town Centre and Shannon Avenue North will be more significantly affected by new neighbourhood centres that are already approved – Lara West and Fyansford.
15. Whilst Lara West may benefit from the new growth area population, the centre at Fyansford seems likely to lose part of its catchment. The population in the Fyansford catchment will allow for a centre that has only 5,400 sqm of retail floorspace at full development (and a total floorspace of around 7,000 sqm taking into account non-retail provision) compared with the existing intention for a centre with a total floorspace of 11,800 sqm. The Retail Strategy also notes that the demand at this centre will only support 5,200 sqm. The intentions for the centre at Fyansford should be scaled back in order to cater for its catchment population.

Conclusions

16. In extending the activity centre network into the Northern and Western Geelong Growth Areas, the following option appears to generate the most viable network with the least impact on the Corio sub-regional centre:
 - A three-centre network in the Northern Geelong Growth Area, with the sub-regional centre at NC2 (see Figures 1 and 2 below)
 - A six-centre network in the Western Geelong Growth Area, with the sub-regional centre at WC1 and a main north-south road that runs to the west of Batesford Quarry (See Figures 1 and 2 below)
17. Nevertheless, improvements to this option could be made to enable better accessibility to grocery services by either adjusting the location of some centres slightly or by allowing for the development of suitably positioned local centres.
18. The timing and scale of the proposed sub-regional centres should proceed in a step-wise manner as demand builds up. This will allow affected existing centres, particularly the Corio sub-regional centre, to adjust to new circumstances.
19. The proposed adjustments to the Planning Scheme outlined in the Retail Strategy incorporate indicative floorspace additions that show demand for a further 8,100 sqm of floorspace at Corio. This has not taken into account the impact of the new centres in the growth areas. Either this figure should be adjusted or the proposed changes should be reworded to acknowledge the likely decline in the Corio catchment over time.

20. The proposed Fyansford neighbourhood centre is also likely to support much less floorspace than currently planned for. This is acknowledged in the proposed changes to the Planning Scheme.

Figure 1: Logical Sub-regional centre network option

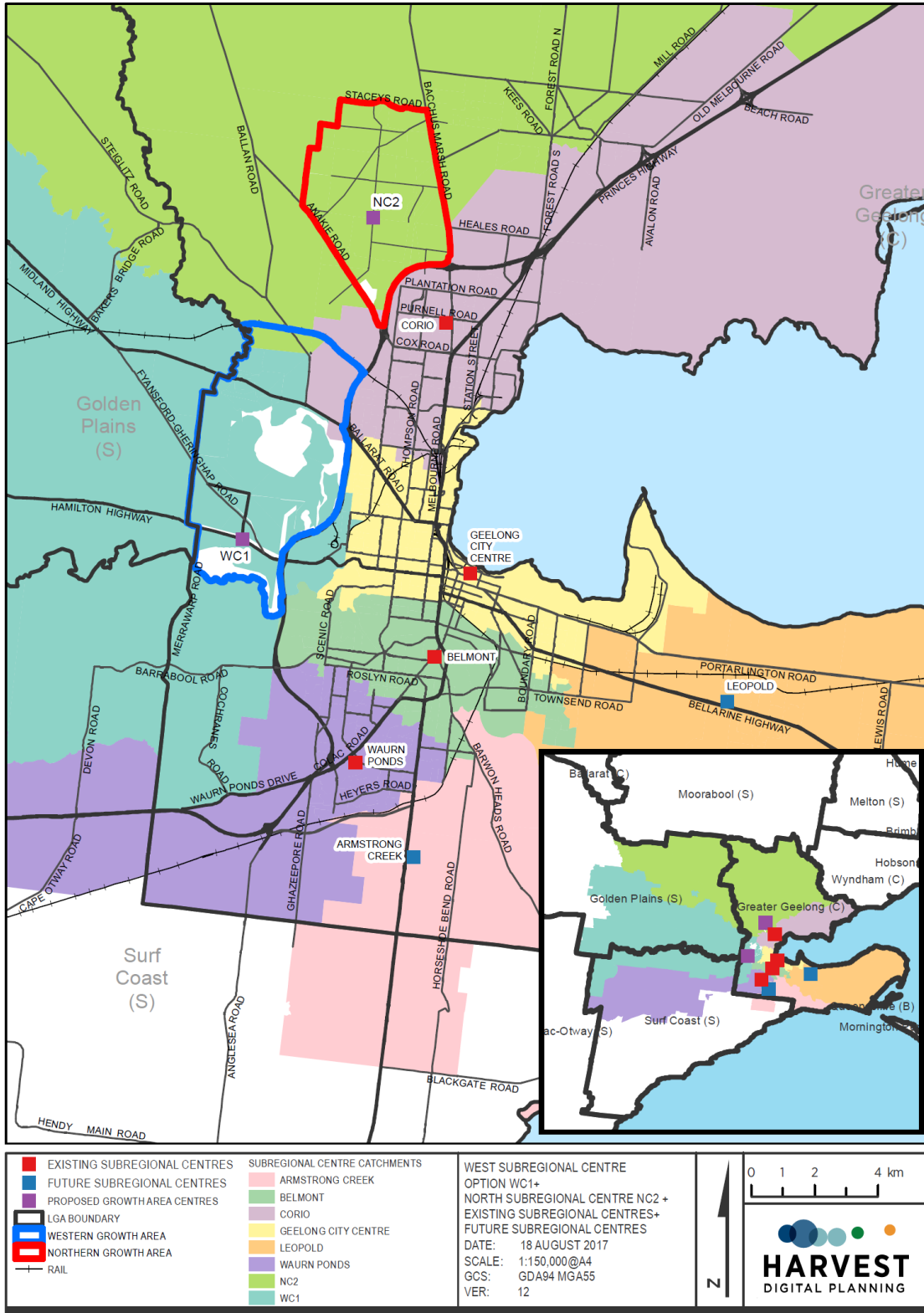
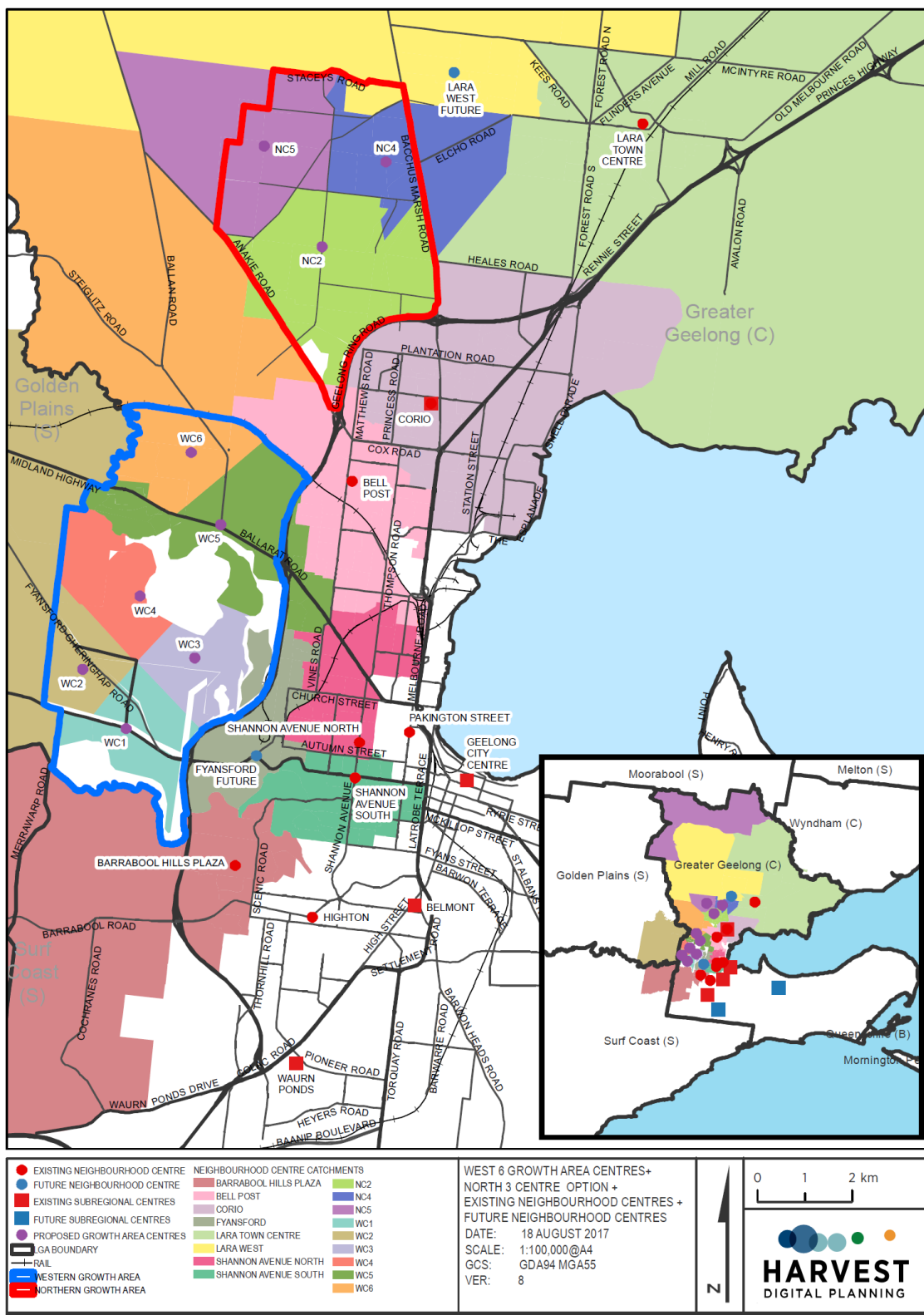


Figure 2: Logical Neighbourhood Centre Network option



1 INTRODUCTION

1.1 Context

The G21 Regional Growth Plan for the wider Geelong region identified two further areas for investigation for their capacity to accommodate the long-term population growth of the region. These further investigation areas are now known as the Northern and Western Geelong Growth areas (NWGGA). The City of Greater Geelong (Council) has resolved to prepare an Integrated Infrastructure Delivery Plan and Framework Plan for each of the growth areas.

A series of technical reports have been or are being prepared on a range of issues to inform the Integrated Infrastructure Delivery Plan and Framework Plans. These are being resourced largely by consortia of private land-owners with an interest in each growth area but are being prepared to a scope of works developed by Council (City of Greater Geelong, August 2016).

The size and location of activity centres has been one of the key topic areas for the Framework Plans. A set of reports for each of the growth areas has been prepared which canvas options for the size and location of activity centres within the growth areas. These reports have addressed the scope of works prepared by Council. The key reports are:

- Essential Economics, June 2017, *Northern Geelong Growth Area, Activity Centre Assessment*, prepared for Lovely Banks Development Group
- Urban Enterprise, June 2017, *Western Geelong Growth Area, Retail and Activity Centre Technical Report*, for Ramsey Property Group and Batesford South Group

As well as responding to the scope of works, the two sets of reports have also recognised the emerging Retail Strategy being prepared for Council (SGS Economics and Planning, 2017), which establishes the retail centre hierarchy in Greater Geelong and sets the overall expectations about the function of activity centres in the City.

1.2 This Report

The report for each of the growth areas has been cognisant of the activity centre planning in the other growth area but any interaction between the two has not yet been taken into account. This report provides an assessment of how the options for the proposed activity centre network in each of the growth areas will affect one another and the existing activity centre network.

The report will be used as a key input to the future framework planning exercise for each growth area.

The report has been prepared by economic geographer Tim Nott who has provided advice to Council on activity centre planning throughout phase 1 of the growth area planning process.

This report provides:

1. Summary of the context and principles that Council has prepared to guide the development of activity centres
2. Summary of the options for the location and size of activity centres prepared by the Northern and Western Growth Area consortia (including the nominated options for the sub-regional centres but not options for neighbourhood centres that have not yet been detailed)

3. Development of catchment boundaries for existing and proposed centres at the sub-regional level and at the neighbourhood level
4. Calculation of the ultimate population in each catchment extrapolated from population forecasts provided in existing growth area plans, or by .id consulting, or, for development cells within the growth area, by the two consortia
5. Estimate of the likely retail floorspace supported by this population at each centre proposed within the growth areas
6. Estimate of the likely impacts of the growth area centres on the Corio sub-regional centre
7. Identification of how these impacts could be ameliorated and any lessons for the draft Retail Strategy
8. Conclusions

A non-technical summary of the findings of this report is provided in a separate document.

Please note: The outputs of this report are based on the population and retail demand likely to be found in each growth area at **full development**. Full development is unlikely to be realised for some decades. The reader should bear in mind that any extension of the activity centre network into the growth areas will be staged over many years and managed through the framework planning process.

2 CONTEXT

2.1 Context Report

The Context Report (City of Greater Geelong, April 2016) for the NWGGA project sets out:

- the background to the project including the strategic justification
- the program for preparing the Framework Plans and the Integrated Infrastructure Delivery Plans and the agreements with the land-holders
- the vision and principles driving the project outcomes
- key assumptions concerning, amongst other things, the area of developable land and preliminary housing and population estimates
- discussion of technical reports, including the key parameters of the report on Activity Centres and Employment in each growth area

The vision for the project is taken from the G21 Vision in the Geelong Region Plan:

The Geelong region is Australia’s most desirable destination for living, working and investing; it is renowned for its vibrant cohesive community, exceptional physical environment and vigorous economy. (G21, 2006)

The project will also ...”*be steered by the desire to deliver a:*

“...liveable, vibrant and cohesive community...”

There are eight high-level principles driving the project:

P1	Create diverse and vibrant new urban communities
P2	Integrate transport and land use planning
P3	Plan for local employment
P4	Create Growth Areas with high amenity and character
P5	Protect biodiversity, waterways and cultural heritage values
P6	Create integrated open space networks
P7	Plan for environmental sustainability
P8	Stage development to ensure the efficient and orderly provision of infrastructure and services

The report identifies that planning for local employment will focus mainly on “*retail activity centres, social and community hubs, education centres and so forth*” (p17) with the aim of achieving a benchmark of one job per household. The report also identified that “... consideration will need to be given to the potential impact of new employment land on existing centres.

In the Northern Geelong Growth Area, the developable land was estimated to have a population capacity at full development in the range 44,800 to 50,400. The Western Geelong Growth Area was estimated to have a population capacity at full development in the range 50,400 to 61,600. (These population estimates have since been varied slightly as further work on development constraints has been undertaken.)

The Context Report indicates that the technical reports should:

- identify whether the growth areas have the capacity to deliver one job per household

- have regard to the adopted and forthcoming Retail Strategy for the City, especially the provisions about the retail hierarchy
- consider the impact of any new centres on the existing activity centre network

These factors are spelt out in more detail in the scope of works for the technical report on Activity Centres and Employment.

2.2 Scope of Works

The Scopes of Works report (City of Greater Geelong, August 2016) sets out the expectations of the technical reports being prepared by consultants for the two land consortia in each of the growth areas.

The report provided a series of maps of existing conditions in each of the growth areas, identifying constraints and providing guidance for the assessment of developable land. To guide the technical report on activity centre planning, the Scope of Works describes:

- the overall purpose of the work on activity centres
- some of the challenges in completing the work
- the required project outputs
- a suggested methodology, including hold points requiring sign-off by Council

The overall purpose of the work on activity centres is to develop advice for the Growth Area Planning Framework that identifies:

- *“An indicative location for activity centres at full development of the growth area that maximises accessibility;*
- *The catchment served by each centre and how these integrate with catchments of existing centres, minimising the impact on the existing network whilst providing growth area residents and an accessible and competitive service; and*
- *The level of service anticipated at each centre indicated by retail and non-retail floorspace and the presence and size of key activities (such as supermarkets, health centres etc.)” (P44)*

The Scope of Works provides several principles in working towards these outputs including:

- A strong preference to minimise any impact on the existing or already planned network of centres, while providing for an excellent service for growth area residents
- Use of exclusive catchments for neighbourhood centres and sub-regional centres so that the location and size of the centres can be optimised to provide maximum accessibility and where, as a starting point neighbourhood centres have a residential catchment large enough to support a full-line supermarket (8,000 to 12,000 people) and sub-regional centres have a catchment population of 50,000+
- The location analysis “...should start with the catchments of existing centres in order that the additional centres are fully integrated and form an organic extension of the existing network.” (P45)

The Scope of Works identifies that the location and size of centres will be further refined during the framework planning phase of the project as developable land and road networks are finalised.

The review of employment land required by the Context Report is to be considered in a separate piece of work currently being completed for Council.

The team completing the technical report was asked to review and be consistent with the Retail Strategy, currently being updated.

2.3 Draft Retail Strategy 2017

The draft City of Greater Geelong Retail Strategy (SGS Economics and Planning, 2017) was released for public consultation in March 2017. The draft Strategy has the following objectives:

- *To provide convenient access to goods and services, minimising the need for, and length of, car trips*
- *To encourage a competitive supply of goods and services, keeping prices down*
- *To encourage walkable access to suppliers of day to day essentials*
- *To create vibrant and inviting town and neighbourhood centres*
- *To maintain an appropriate mix of sub-regional centres that offer a wide range of retail goods and services*
- *To improve and strengthen Central Geelong, acting as a flagship for the commercial and cultural life of Greater Geelong, and*
- *To distribute restricted retail activity within a hierarchy with retailers located in centres in a selected number of specialised regional restricted retail nodes, referred to as Homemaker centres (P17)*

The draft Strategy reaffirms the retail hierarchy established in the adopted Retail Strategy 2006, comprising the following classifications and their expected retail activity:

Regional centre	Department store(s), discount department stores, supermarkets, mini majors and many specialty stores
Sub-regional centre	Discount department store(s), supermarkets, mini majors and specialty stores
Specialised centre	Major strip shopping centre with supermarkets and many specialty stores (applied to Pakington Street only)
Town centre	Centre of separate towns in the municipality
Neighbourhood centre	Supermarket(s) and specialty stores
Local centre	Small group of local shops
Homemaker centre	Restricted retail stores

The Scope of Works for the growth area technical reports identifies that sub-regional and neighbourhood centres in this hierarchy should be planned for as part of the Framework Planning process.

The draft Strategy has not explicitly considered the potential expansion of the retail network in Greater Geelong beyond the centres which are already approved as part of structure plans in Armstrong Creek, Fyansford and Lara West. Nevertheless, the principles outlined above provide clear expectations that any new centres will fit within the retail hierarchy and will be located to minimise car travel and support communities. The proposed changes to the planning scheme to introduce the draft Strategy (Appendix 2) entertain the possibility of new centres:

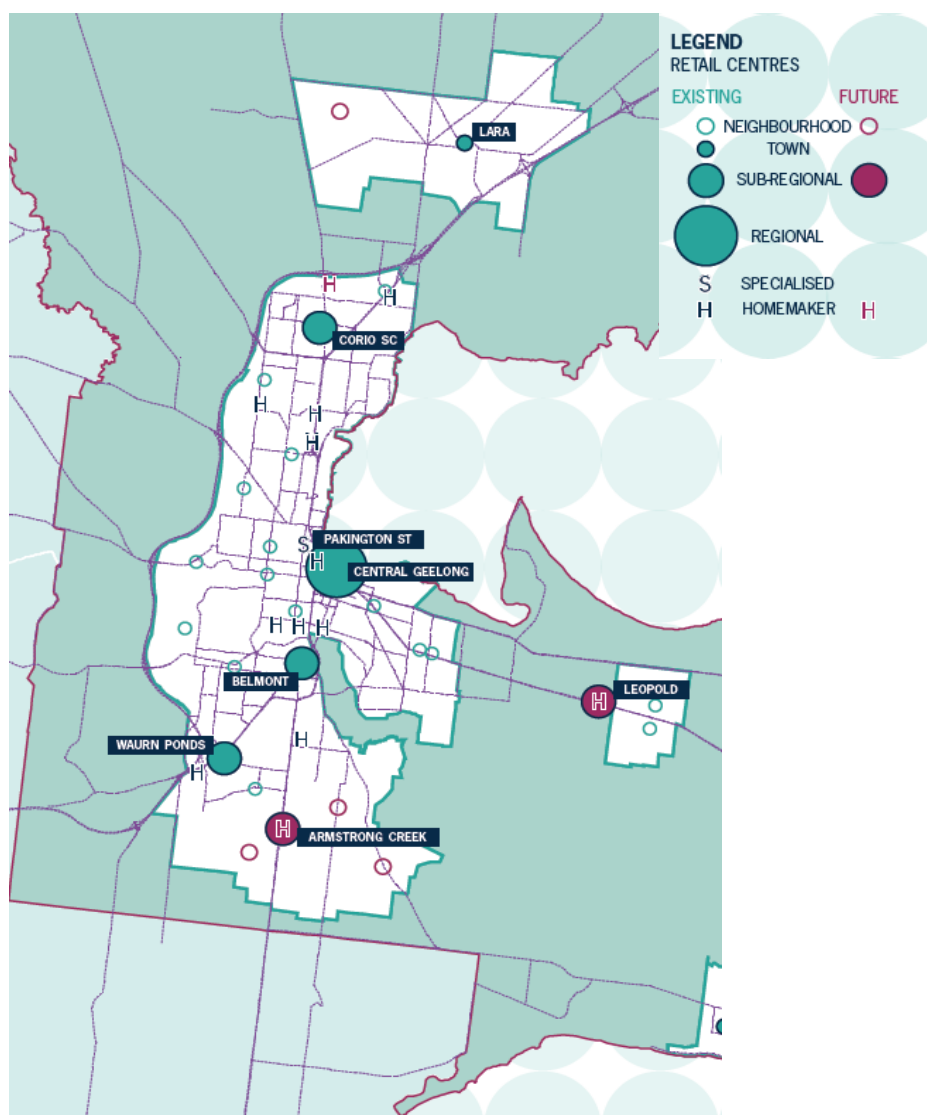
“...only where (a) supply in the existing network of centres is constrained, (b) they are justified by demand growth, and (c) where they generate a net community benefit” (SGS Economics and Planning, 2017, proposed changes to Clause 21.19-2)

However, a proposed provision in the same clause nominates supportable floorspace demand for each centre in the hierarchy (existing and already planned). The list of centres excludes those that might be proposed for the Northern and Western Growth Areas and which will, inevitably, have an impact on the supportable floorspace in centres surrounding the growth areas.

2.4 The Existing Network of Centres

The existing network of retail centres is identified in the draft Retail Strategy and is reproduced below.

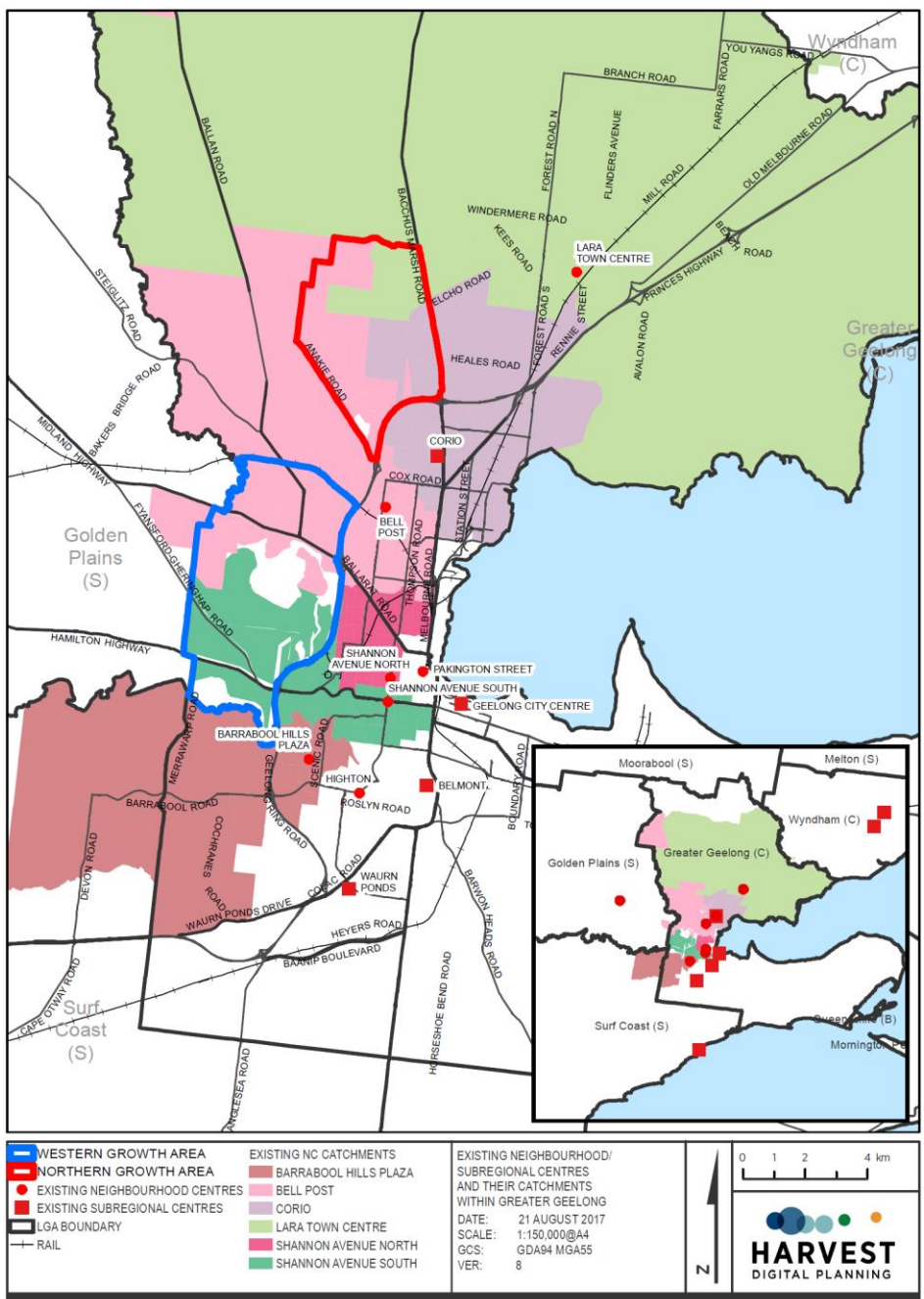
Figure 1: Existing Activity Centre Network, Geelong



Source: SGS Economics and Planning, 2017

For the purposes of planning the extension of the network into the growth areas, some centres are more consequential than others. For example, the neighbourhood centres in the growth areas are being planned to accommodate full line supermarkets, in keeping with current planning and commercial practice in order to deliver an attractive and sustainable level of service. The growth area centres will therefore compete most closely with the nearest existing centres that have full-line or near full-line supermarkets (and not so much with centres that have small supermarkets providing only local retail services, nor with stand-alone discount supermarkets with a limited range of goods that have a more sub-regional catchment). A map of the existing competing neighbourhood centres and their catchments is shown below.

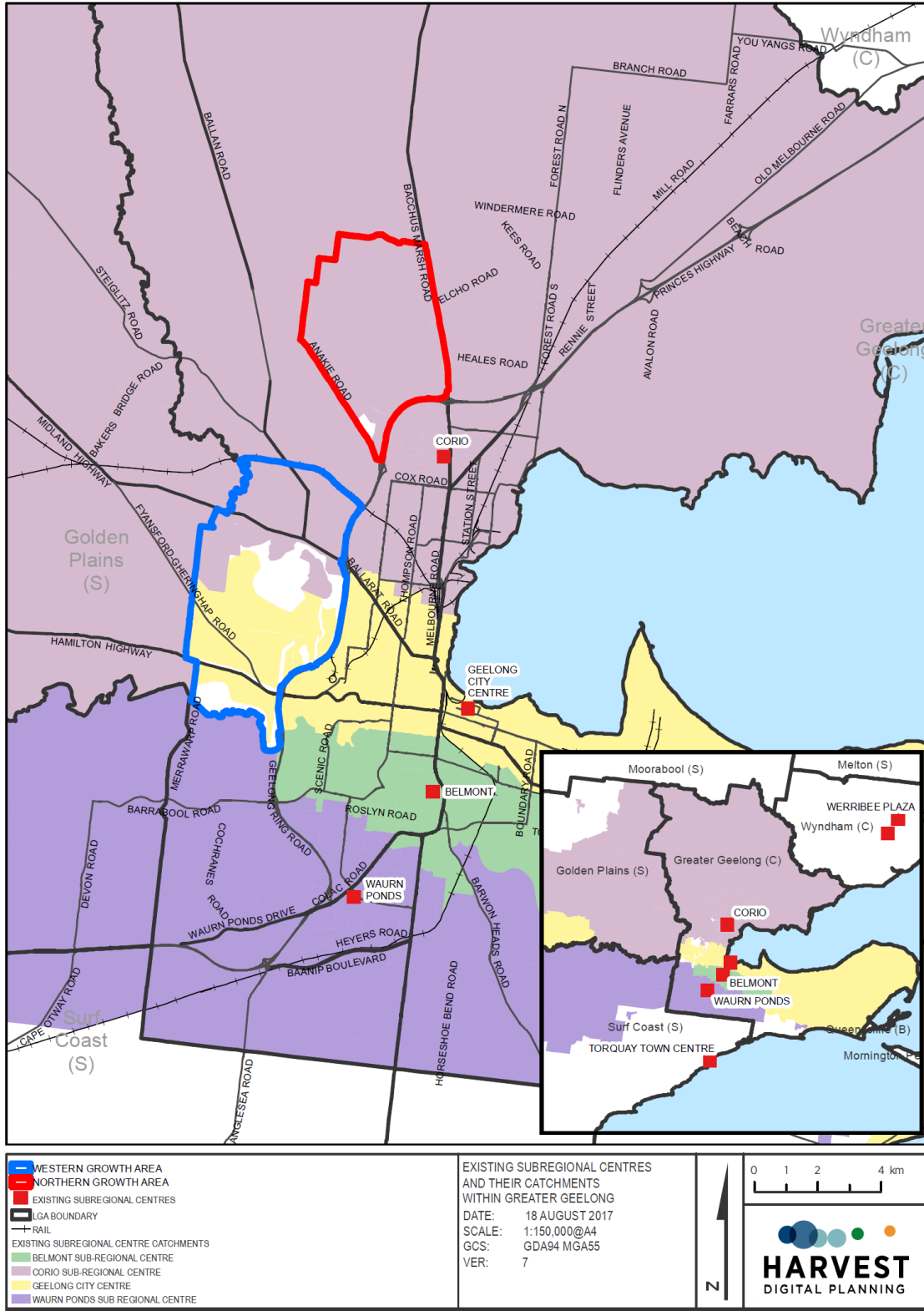
Figure 2: Catchment of existing substantial neighbourhood centres closest to the Growth Areas



Note: Centres larger than neighbourhood centres also play a neighbourhood role and are shown here

Similarly, the following map shows the nearby sub-regional (or larger) centres that will compete with any sub-regional centres in the growth areas.

Figure 3: Catchments of existing sub-regional (or larger) centres serving the Growth Areas



Technical Note

For these maps, the neighbourhood and sub-regional catchments have been constructed by allocating Statistical Area 1s to their closest centre judged by estimated travel time from the midpoint of the SA1 to the centre. This differs from the method used in the Retail Strategy which identifies a “primary trade area” where the centre is the dominant provider and a contested area where two or more centres compete more or less evenly for resident spending. In this report, the closest travel-time method of developing catchments is appropriate since the analysis is ultimately attempting to provide guidance on the optimal location and size of new centres to minimise resident travel time and maximise accessibility. This requires that all residents are considered.

3 ACTIVITY CENTRE NETWORK OPTIONS

3.1 Technical Reports

Technical reports have been prepared by Essential Economics (2017) and Urban Enterprise (2017) for the Northern and Western Geelong Growth Areas respectively. These have evolved through several iterations following comments by the Council team. The present versions of the key reports identify:

- The existing growth area, constraints to development and estimates of developable land
- Housing and population estimates and consequent retail spending estimates and demand for retail floorspace
- The activity centre context, including the surrounding network of centres
- Principles for planning the extended network of centres
- Options for the location of centres at sub-regional and neighbourhood levels in the hierarchy
- Potential size of each proposed centre with reference to the size of the catchment
- Location options for Homemaker centres and other commercial areas

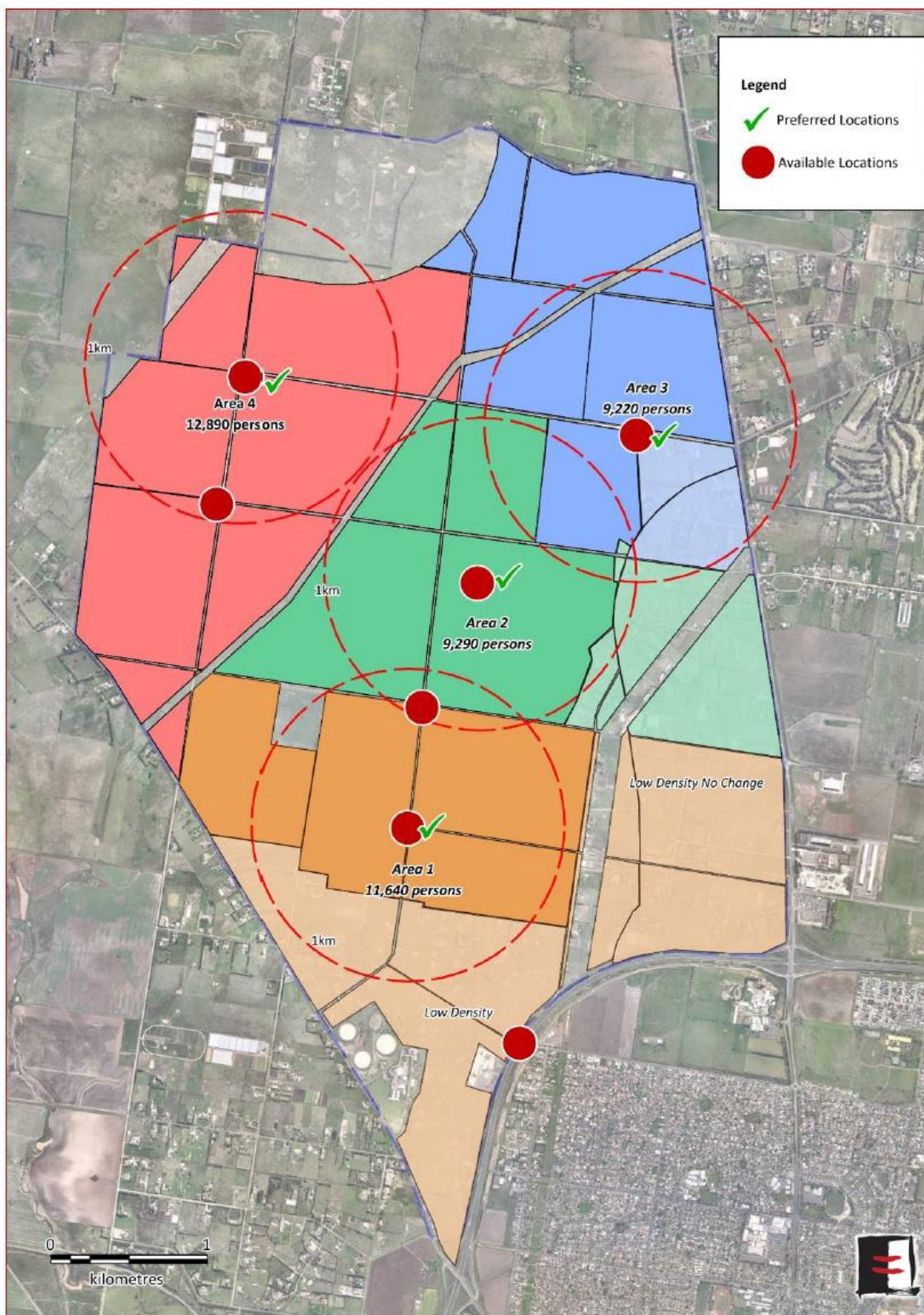
As outlined in Section 1, the two reports have not fully considered the likely interaction between the two growth areas and their collective impact on the existing network.

3.2 Northern Geelong Growth Area

Essential Economics has identified two scenarios for the location of centres in the Northern Geelong Growth Area. These are shown in the maps on the following pages.

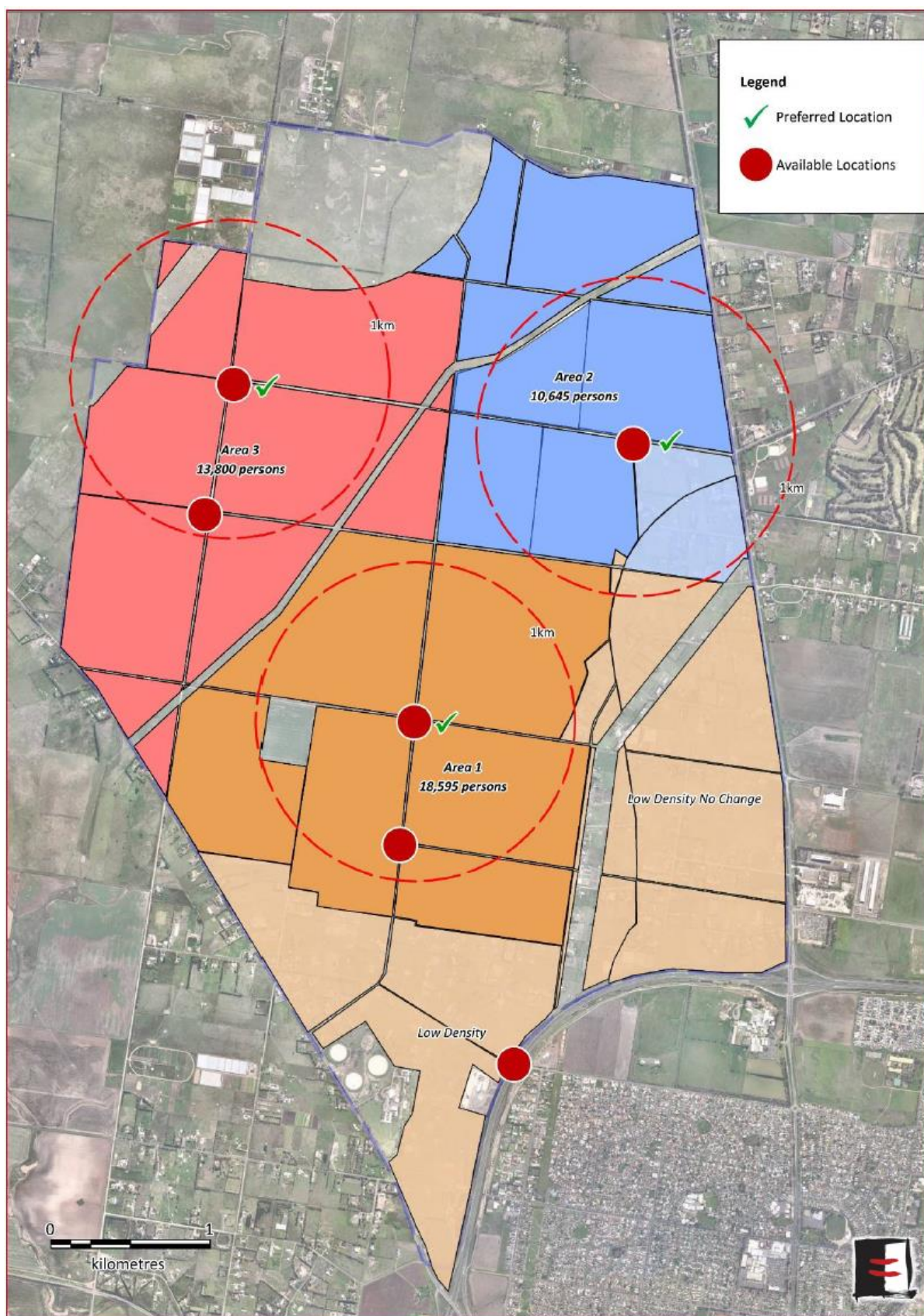
The maps show, in broad terms, the catchment for each new neighbourhood centre and the population for each based on a total population capacity in the growth area of 43,040 persons at full development.

Figure 4: Northern Geelong Growth Area - Four Centre Option



Source: Essential Economics, 2017

Figure 5: Northern Geelong Growth Area - Three Centre Option



Source: Essential Economics, 2017

Given the scale of the population growth, a sub-regional centre is likely to be required to service the Northern Geelong Growth Area and the rapidly growing nearby area of Lara. For the four-centre scenario, Area 2 is nominated as the sub-regional centre. For the three-centre scenario, Area 1 is nominated as the sub-regional centre.

The following table provides an indication of the floorspace that Essential Economics believes will be supported at the centres in these two scenarios. The table also provides an allowance for a non-retail business area.

Table 1: Indicative floorspace forecast for Northern Growth Area

Level in the hierarchy	Four Centre Scenario		Three Centre Scenario	
	Retail sqm	Non Retail sqm	Retail sqm	Non Retail sqm
Sub-Regional	25,000	10,000	30,000	15,000
Neighbourhood (2 or 3 centres)	21,000	9,000	14,000	6,000
Homemaker	25,000	5,000	25,000	5,000
Local	5,000	2,000	5,000	2,000
Mixed Business Area	n.a	25,000	n.a	25,000
Total	76,000	51,000	74,000	53,000

Source: Essential Economics

Note: The *Scope of Works* advised consultants to allow for 7,000 sqm of retail space per 10,000 people in a neighbourhood centre and 50,000 sqm per 50,000 people in a sub-regional centre. That standard has been adopted here. In hindsight, these figures may be a little on the high side, allowing for continued real growth in retail spending per person in physical stores which seems less likely to eventuate than previously.

Essential Economics suggests that a sub-regional centre in the growth area would effectively share a catchment with the existing Corio Sub-Regional Centre, producing the following table to indicate that there would be little change for Corio comparing the current situation to full development.

Table 2: Northern Geelong - Current and future population per sub-regional centre

	Current population	Long term forecast population
Northern Growth Area	900	43,040
Lara (incl Lara West)	17,880	32,000
Bell Park-Corio (ex NGGA)	37,700	41,500
Total population	56,480	116,540
Sub-regional centres	1	2
Average population per Sub-Regional Centre	56,480	58,270

Source: Essential Economics, 2017

Whilst residents of the area would undoubtedly use each of the two centres at some time, it is generally the case that shoppers will most often visit the closest centre that satisfies their needs. The notion of the retail hierarchy, and its benefits for urban sustainability, relies on this. Planning the location of centres at each level in the hierarchy should:

- minimise the necessary travel by residents
- maximise the viability of the commercial activities, both at the centre being planned and at the surrounding centres

This means optimising the catchment sizes to ensure that, as far as possible:

- catchments of centres at the same level in the hierarchy have broadly similar numbers of people in order to ensure an equitable distribution of services
- existing centres can continue to operate at their original level in the retail hierarchy, that is, without significant loss of services

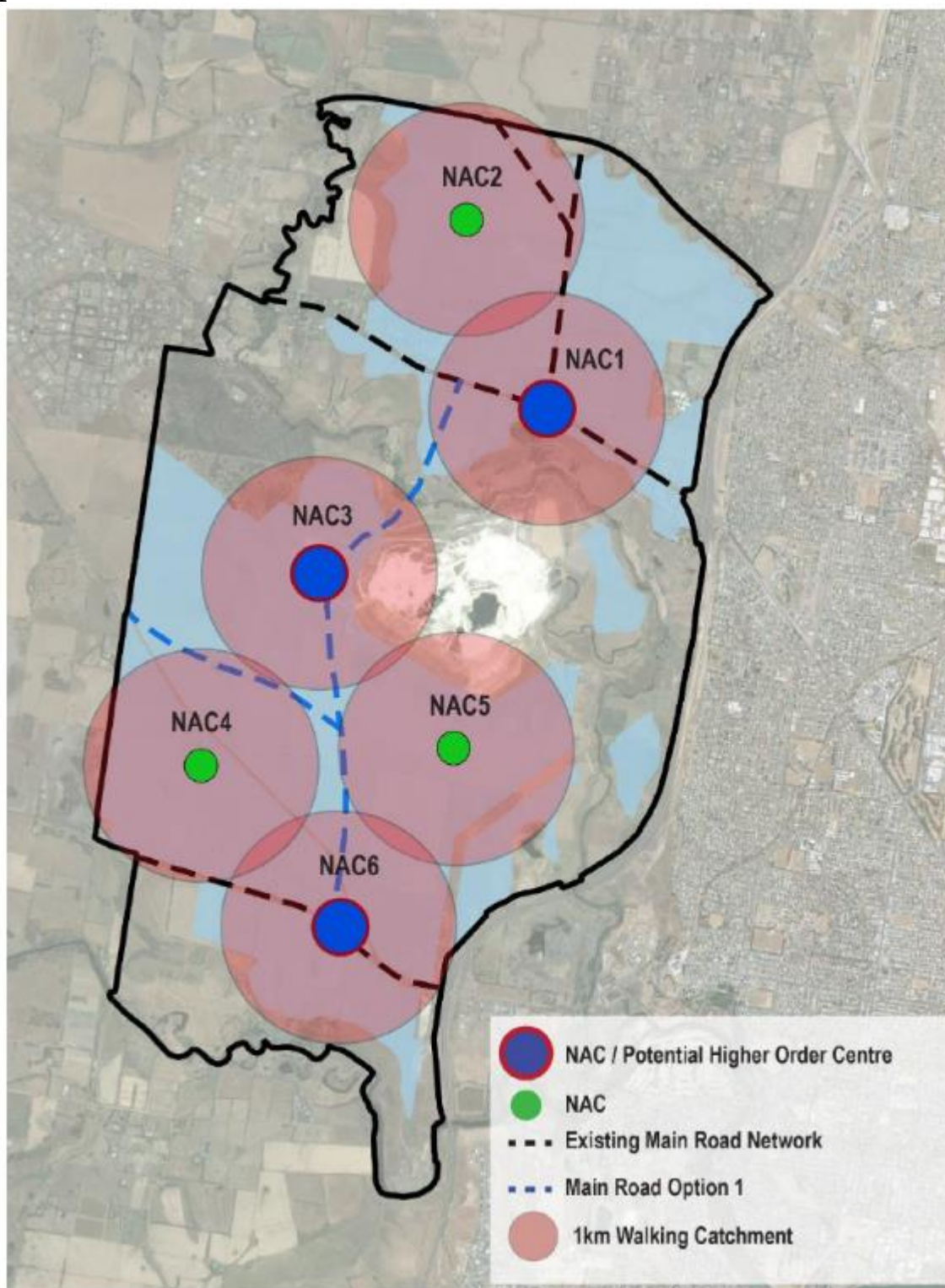
The method of constructing catchments using the least travel method produces somewhat different catchment figures for the Corio centre than those provided by Essential Economics, particularly when taking into account the effect of new sub-regional centres in both the Northern and Western Geelong Growth Areas. These are shown in subsequent sections of this report.

3.3 Western Geelong Growth Area

Urban Enterprise (2017) has identified two sets of preliminary options for the layout of activity centres in the Western Geelong Growth Area. These options are based on two different scenarios for the alignment of the main north-south road within the growth area. In option 1, the main road skirts around the western side of the Batesford quarry; in option 2, the main road is to the east of the quarry. The preliminary options are based on a population catchment of 64,173 at full development.

The maps below show the indicative location of the activity centres in each option. Each map also shows which of the centres could potentially be of sub-regional status. Only one sub-regional centre is being proposed in each case.

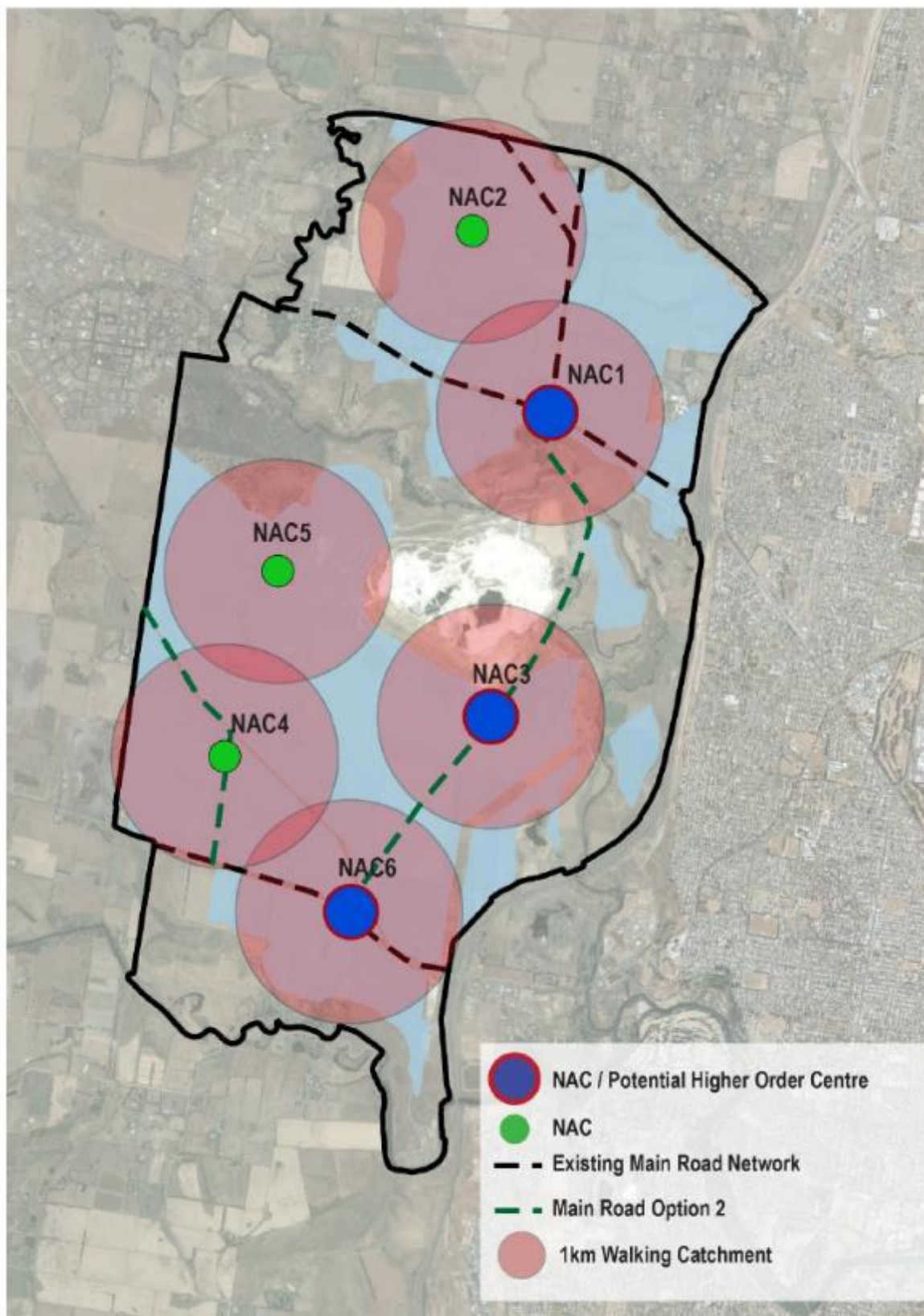
Figure 6: Potential activity centre locations, Western Geelong Growth Area - Road Option 1



Source: Urban Enterprise, 2017

Note: A further option for locating a centre at the intersection of the Midland Highway and the main North-South Road is also mentioned in the Urban Enterprise report but this would require moving the nearby neighbourhood centre (NAC1 and NAC2 in this map) which has not been undertaken. This option is noted but not further analysed here.

Figure 7: Potential activity centre locations, Western Geelong Growth Area - Road Option 2



Source: Urban Enterprise, 2017

Urban Enterprise has identified two options for delivering the activity centre network at these locations.

- **Option 1:** One sub-regional centre and five neighbourhood centres sized to match the size of the neighbourhood catchment
- **Option 2:** One sub-regional centre, one large neighbourhood centre situated on a main road and four neighbourhood centres sized to match the size of the neighbourhood catchment

The overall floorspace of the centres is shown in the table below.

Table 3: Options for activity centre network, Western Geelong Growth Area

	Number of centres	Retail floorspace (sqm)	Restricted retail space (sqm)	Non-retail space (sqm)	Total space (sqm)
Option 1					
Sub-Regional Centre	1	50,000	25,000	50,000	125,000
Neighbourhood Centre	5	7,000-7,500 x 5		3,000- 3,500 x5	10,000 -11,000 x 5
Total	6	85,000-87,500	25,000	65,000-68,000	175,000 - 180,000
Option 2					
Sub-Regional Centre	1	45,000	20,000	43,000	108,000
Large Neighbourhood Centre	1	12,000	5,000	7,000	24,000
Neighbourhood Centre	4	7,000 - 7,500 x4		3,000- 3,500 x5	10,000 -11,000 x 5
Total	6	85,000-87,000	25,000	62,000 - 64,000	172,000 - 176,000

Source: Urban Enterprise, 2017

Note: The *Scope of Works* advised consultants to allow for 7,000 sqm of retail space per 10,000 people in a neighbourhood centre and 50,000 sqm per 50,000 people in a sub-regional centre. That standard has been adopted here. In hindsight, these figures may be a little on the high side, allowing for continued real growth in retail spending per person in physical stores which seems less likely to eventuate than previously.

Whilst the catchment areas of existing centres (as identified in the draft Retail Strategy) have been considered in assessing locations for the sub-regional centre, no impact assessment has been undertaken.

4 OVERVIEW RETAIL ASSESSMENT

In order to provide an indication of how retail demand will be satisfied by different types of centres in both growth areas, this section develops an estimate of retail floorspace per person that will be directed to the various levels of the retail hierarchy. This is used to determine, in broad terms, the level of retail floorspace that is likely to be supported by each centre under the various network options put forward by Essential Economics and Urban Enterprise. This can also be used to anticipate the impact on the vulnerable centres in the existing network.

4.1 Retail Floorspace Per Person

An estimate of retail floorspace per person at full development of the growth areas is provided in the table below. The spending per person in Greater Geelong in 2016 has been taken from Essential Economics (2017). No real growth in retail floorspace per person over the period to full development has been assumed. The view taken here is that whilst retail spending may continue to grow in real terms at around 1% per year as it has done over the last 30 years on average, any future rises are likely to be balanced by growth in online spending. This provides an appropriately conservative estimate of spending and floorspace to prevent overdevelopment and higher than necessary impacts on existing activity centres.

Table 4: Estimate of retail floorspace per person at full development (\$2016)

Retail type	Spending per person @ full development	Retail turnover density (\$/sqm)	Floorspace per person (sqm)
Food, groceries, liquor	\$5,730	\$8,700	0.66
Other non food	\$4,500	\$5,500	0.82
Food catering	\$970	\$5,000	0.19
Services	\$420	\$3,800	0.11
Bulky goods	\$1,410	\$3,200	0.44
Total	\$13,030		2.22

Source: Tim Nott

Note: The retail turnover density has been estimated from a variety of industry sources. The figures here are slightly lower than those estimated in the draft Retail Strategy for the existing situation and represent a low estimate still consistent with profitability.

The following tables provide an estimate of how this retail floorspace can be allocated between the various levels in the retail hierarchy. This has been constructed using experience of contemporary centre and growth area development and the ability of these shares to deliver key retail forms at appropriate benchmark populations, which is shown more clearly in Table 6.

Table 5: Notional share of retail floorspace per person supported at each level of the hierarchy

	Regional	Sub-regional	Neighbourhood	Bulky goods precincts	Other
Share					
Food, groceries, liquor	10%	24%	61%	0%	5%
Other non food	35%	35%	10%	10%	10%
Food catering	30%	35%	30%	0%	5%
Services	20%	30%	45%	0%	5%
Bulky goods	20%	15%	2%	55%	8%
Total	23%	28%	27%	15%	7%
Floorspace per person (sqm)					
Food, groceries, liquor	0.07	0.16	0.40	0.00	0.03
Other non food	0.29	0.29	0.08	0.08	0.08
Food catering	0.06	0.07	0.06	0.00	0.01
Services	0.02	0.03	0.05	0.00	0.01
Bulky goods	0.09	0.07	0.01	0.24	0.04
Total	0.52	0.61	0.60	0.32	0.17

Table 6: Indicative floorspace supported at each level of the hierarchy in Greater Geelong at various population thresholds

Population	Regional	Sub-regional	Neighbourhood	Bulky goods precincts
5,000	2,600	3,100	3,000	1,600
8,000	4,200	4,900	4,800	2,600
10,000	5,200	6,100	6,000	3,200
15,000	7,800	9,200	9,000	4,900
20,000	10,400	12,200	12,000	6,500
30,000	15,600	18,300	18,000	9,700
40,000	20,800	24,500	24,000	13,000
50,000	26,000	30,600	30,000	16,200
100,000	52,100	61,200	60,000	32,400
150,000	78,100	91,700	90,000	48,600
200,000	104,100	122,300	120,100	64,800
250,000	130,200	152,900	150,100	81,000

Source: Tim Nott

The highlighted areas in Table 6 identify benchmark thresholds for the provision of the characteristic retail forms associated with each level of the hierarchy:

- With a population of 150,000, the regional level floorspace becomes large enough to support a department store as well as a wide range of mini-majors, discount department stores, supermarkets and specialty stores.
- With a population of 30,000, the sub-regional floorspace becomes large enough to host a small sub-regional centre with a discount department store and one or two supermarkets as well as specialty stores. With a population of 50,000, the sub-regional floorspace is large enough for a double-discount department store centre.
- With a population of 8,000, a neighbourhood centre with a full-line supermarket (3,000+ sqm) becomes viable. With 15,000 people, a centre with two full line supermarkets is possible.
- With 40,000 people, a reasonable home-maker centre (or a major hardware store) becomes possible.

In any particular circumstance these shares would vary depending on the existing network and policy priorities and the retail spending patterns of communities within Greater Geelong. Nevertheless, this calculation provides a starting point for allocating space within the growth areas.

4.2 Catchment Analysis

The catchment for each centre has been determined using the travel-time method outlined in section 2.4. The population in the various cells comprising each catchment has been estimated using:

- the forecasts for the growth areas at full development from the work of Essential Economics and Urban Enterprise
- the forecasts of population in 2036 prepared for Council by forecast .id, allocated to SA1s according to the predicted development activity or in proportion to the existing population

This method assumes that, either full development will occur by 2036, or that, if the growth areas continue to develop beyond 2036, that the remaining parts of Geelong and surrounds will have the same population as forecast for 2036. This is clearly an approximation only, meant to show what will happen if the population growth that is currently anticipated actually occurs in the foreseeable future.

Mapping of the centre catchments must take into account the various options for centre locations. For the Sub-Regional centre assessment, there are 12 possible options – 3 Western Area locations x 2 road network options x 2 Northern Area locations. For the Neighbourhood Centre assessment there are four possible options – 1 set of western area locations x 2 road network options x 2 Northern Area locations.

The reader should note that the catchment analysis is limited by the size and scale of the population cells used and by the detail available for the future road network.

The cells (SA1s) are quite large in some rural areas and this gives rise to a rather coarse-grained catchment analysis. This is particularly notable in the neighbourhood catchment analysis where the population results should be treated with caution. The results for the Sub-Regional catchment analysis are more robust because of the generally larger catchments.

The analysis has relied on a preliminary view of the road network in the growth areas. In some cases this is not yet finalised and as a result some manual allocation of population cells has been undertaken.

The names of the centres in the growth areas have been changed from those given by the Essential Economics and Urban Enterprise reports in order to improve consistency and to clarify their position. Each potential centre location has been given a unique identifier that does not vary whether it is to be a neighbourhood centre or a sub-regional centre.

4.3 Sub-Regional Centre Analysis

Maps of the 12 possible sub-regional centre catchment arrangements are provided in Appendix 1. The estimated population of the catchments of the Northern and Western Geelong Growth Area Sub-Regional Centres is provided in the table below. The catchment population of the Corio Sub-Regional Centre is also provided for comparison.

Table 7: Indicative catchment populations, sub-regional centres at full development

Network option	Corio sub-regional centre	Northern sub-regional Centre	Western sub-regional centre
WC1, road option 1, NC2	53,687	67,648	74,278
WC1, road option 1, NC3	51,050	70,285	74,278
WC4, road option 1, NC2	42,537	67,429	84,814
WC4, road option 1, NC3	39,447	70,285	85,049
WC5, road option 1, NC2	35,437	67,194	96,310
WC5, road option 1, NC3	32,346	69,606	96,989
WC1, road option 2, NC2	53,687	76,714	65,212
WC1, road option 2, NC3	55,317	70,285	70,011
WC3, road option 2, NC2	42,552	68,784	84,283
WC3, road option 2, NC3	39,896	70,285	85,438
WC5, road option 2, NC2	35,437	67,194	96,310
WC5, road option 2, NC3	32,346	69,606	96,989

Source: Harvest Digital Planning; Tim Nott

The key points from this table are:

- The growth area centres have substantial catchments that will enable viable sub-regional centres in any of the network configurations assessed here.
- The location of the Western sub-regional centre will have the greatest impact on the Corio catchment, with the impact being higher the further north the Western centre is located. The location of the Western centre in the north of the growth area (at WC5 (Midland Highway)) results in around 15,000 to 16,000 fewer people in the Corio catchment compared with a location in the south of the growth area (at WC1 (Hamilton Highway)). The impact of the two locations in the Northern Geelong Growth Area on the Corio catchment is

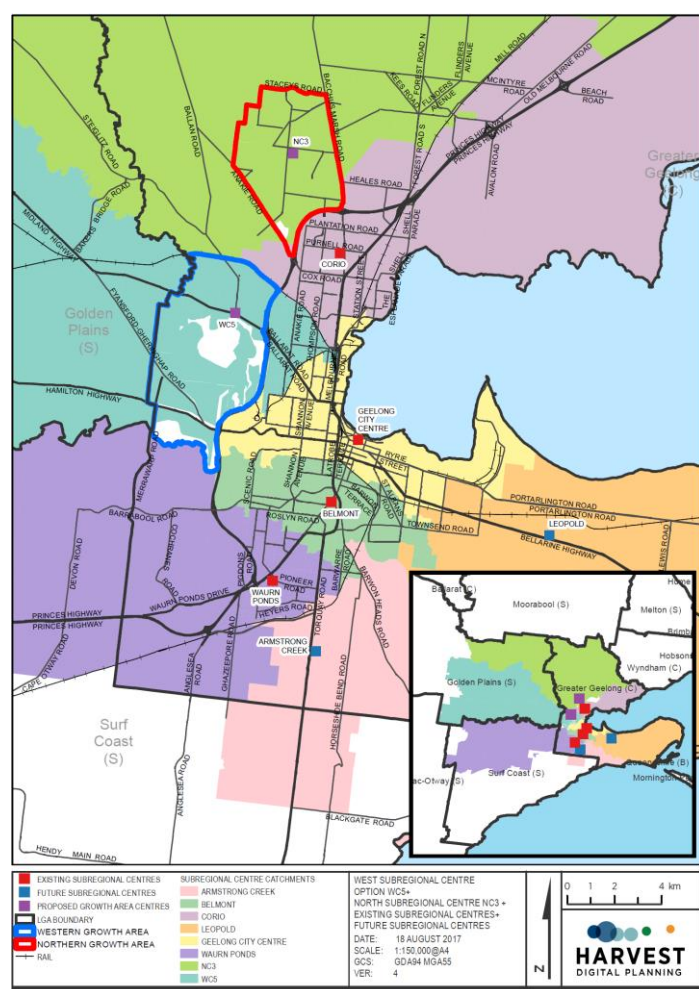
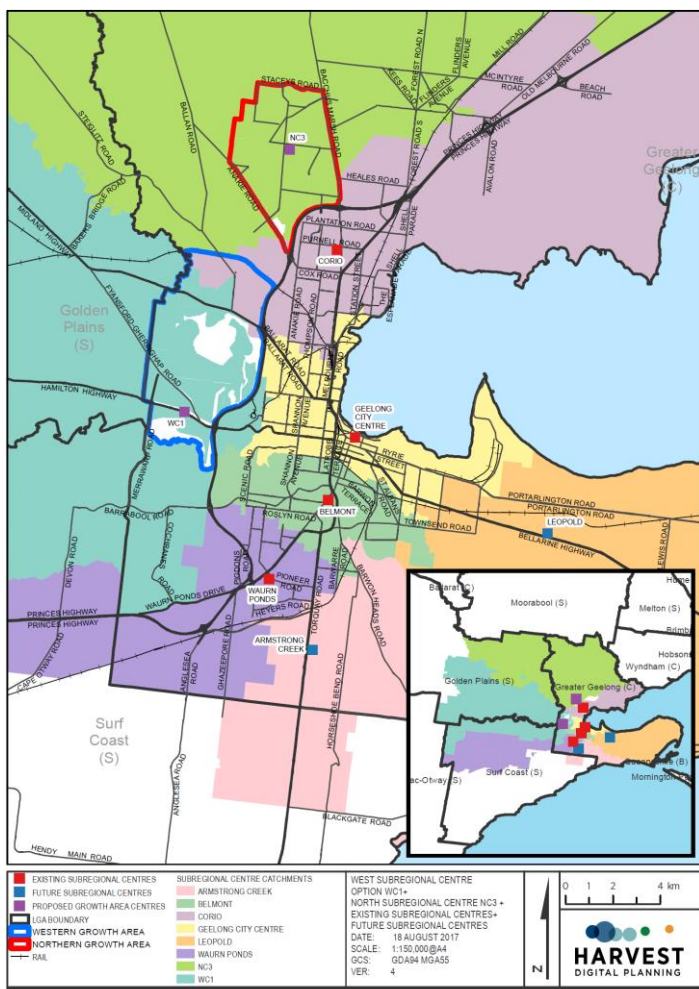
much less pronounced, with a difference of only 3,000 -4,000 people, other things being equal.

- Whether the main north-south road in the Western Geelong Growth Area runs to the west or the east of the Batesford Quarry makes a small difference to the catchment of Corio and a significant difference to catchment of the Western sub-regional centre in some cases. The difference is most pronounced for the catchment of WC1.
- The most even population split between the three catchments is for WC1 (the most southerly Western centre), road option 2 (the easterly option) and NC3 (the most northerly Northern centre).
- The option that results in the lowest population in the Corio catchment is for WC5 (the most northerly Western centre), either road option, and NC3 (the most northerly Northern centre).

These two latter options are illustrated below.

Figure 8: Sub-regional centre catchments - best case for Corio

Figure 9: Sub-regional centre catchments - worst case for Corio



The maps above and those in the appendix also indicate that there will be some impact on the catchments of other centres beside Corio. These are:

Geelong CBD

The sub-regional catchment of the Geelong City Centre will be limited to the west by the Western Geelong Growth Area centre. However, the City Centre also has a catchment for regional retailing that covers the entire area shown in the map. The regional-level retail spending of the growing populations to the west will more than outweigh the sub-regional spending of the existing population that will be lost. As an indication, the regional level retailing supported by the population in the Western sub-regional catchment would be 39,000 to 50,000 sqm which would almost all be expected to locate in the Geelong City Centre.

Waurm Ponds Sub-Regional Centre

The more southerly options for the Western sub-regional centre will also impact on the catchment of the Waurm Ponds Centre. However, whilst these may look significant on the maps, most of the contested area is rural with a relatively small population. The Waurm Ponds centre will be more substantially affected by the forthcoming centre at Armstrong Creek to the south.

4.4 Neighbourhood Centre Analysis

The maps describing the possible neighbourhood centre catchments are provided in Appendix 2. The catchment population estimates for the centres in the two growth areas at full development are shown in the table below. **The reader should treat these with caution** because of the coarse-grain nature of the cells used to create the population figures and because the road network used to estimate travel times to the nearest centre is not fully fleshed out yet.

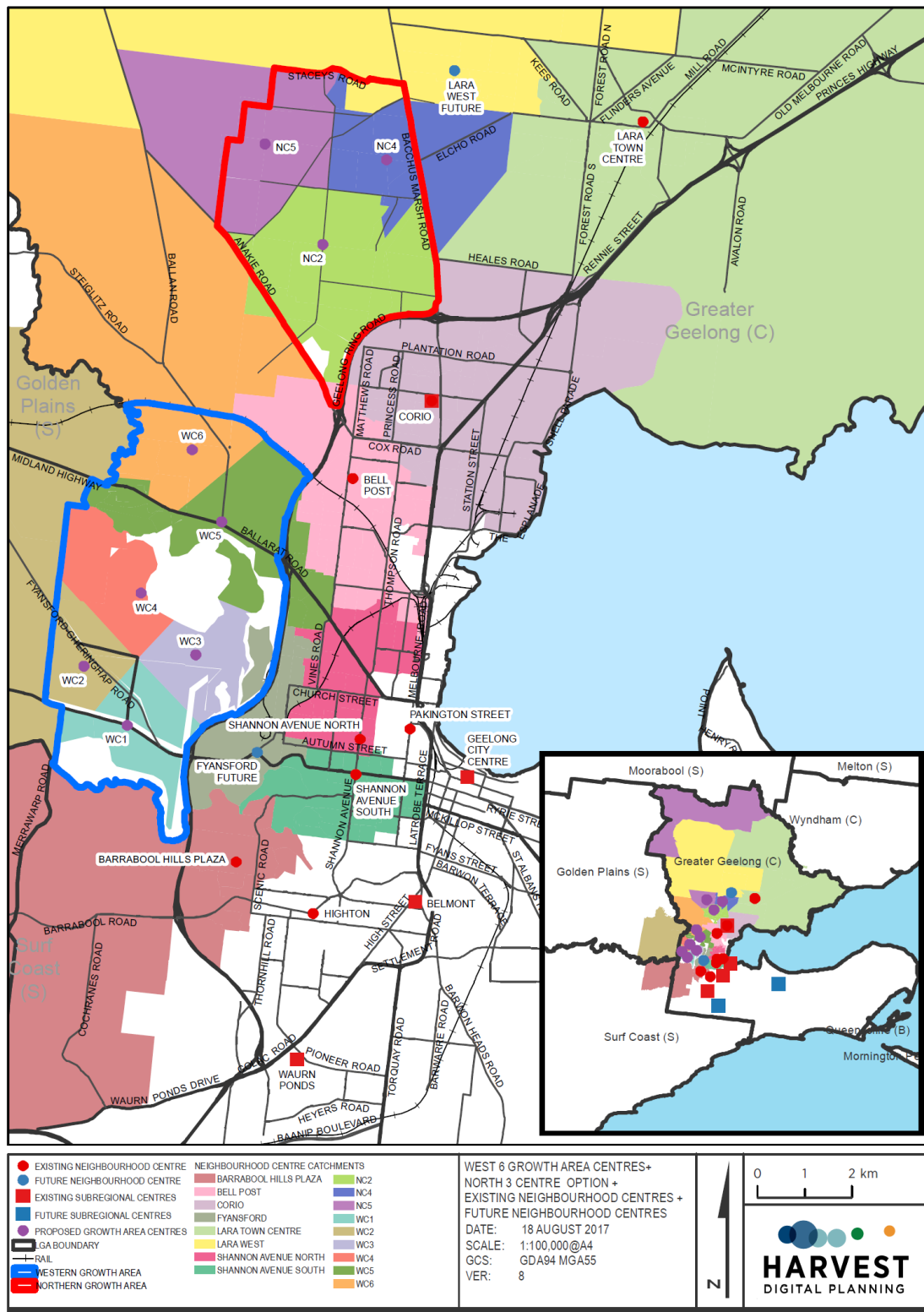
Table 8: Broad population estimates for Neighbourhood catchments at full development, Northern and Western Geelong Growth Areas

	West Road Option 1, 3 northern centres	West Road Option 1, 4 northern centres	West Road Option 2, 3 northern centres	West Road Option 2, 4 northern centres
NC1		11,882		8,763
NC2	18,847		16,245	
NC3		11,952		11,873
NC4	9,015	4,987	8,761	4,669
NC5	13,548	13,249	13,548	13,249
WC1	10,518	10,518	10,518	10,518
WC2	10,609	10,609	10,609	10,609
WC3	9,554	9,554	12,018	12,018
WC4	9,645	9,645	9,645	9,645
WC5	19,412	19,412	18,134	18,134
WC6	8,549	8,249	7,063	7,063

Source: Harvest Digital Planning; Tim Nott

The option in the first column of the table above is provided here to illustrate the neighbourhood catchments.

Figure 10: Neighbourhood catchments, Western Growth Area Road Option 1, Northern Growth Area - three centre option



Note: The Corio centre has a neighbourhood catchment as shown here; but it also has a much larger sub-regional catchment as shown in Figure 3.

The population figures presented here are somewhat different from those in the reports of Essential Economics and Urban Enterprise. In part, this is because of the coarse-grain nature of the data presented here. It is also because this assessment looks at the whole network; it anticipates how the growth area centres will interact with each other, how they will draw on the surrounding population; and how in some cases, the existing or already planned centres outside the growth areas will serve growth area residents.

The key points from the data are:

- Under the Western Road Option 1 and with three rather than four centres in the Northern Geelong Growth Area, all centres have a catchment population – 8,000+ - that will allow a full-line supermarket to be viable in every centre. However, under this scenario, two centres are projected to have catchment populations of over 18,000 people at full development, making them suitable to be large neighbourhood centres; or for the catchments to be split, with the provision of a further neighbourhood centre; or for the development of smaller, local centres that can provide accessible groceries.
- The four-centre option in the Northern Geelong Growth Area results in one centre – NC4 – with a very small catchment population of less than 5,000 people, which would not be large enough to support a full-line supermarket.
- Road option 2 in the Western Geelong Growth Area results in one centre – WC6 - falling below the threshold of viability for a full-line supermarket. This may be resolved by adjusting the position of WC5 and WC6 slightly in order to create more even catchment populations, or by accepting that WC6 will be a small neighbourhood centre with a small-medium sized supermarket.

The new neighbourhood centre network proposals will affect the size of the catchment of some existing neighbourhood centres such as Bell Post Hill, Lara Town Centre and Shannon Avenue North. Nevertheless, Bell Post Hill will retain sufficient population at full development to maintain its present size, losing only small amounts of territory at the margins of its existing catchment. Lara Town Centre and Shannon Avenue North will be more significantly affected by new neighbourhood centres that are already approved – Lara West and Fyansford.

Whilst Lara West may benefit from the new growth area population, the centre at Fyansford seems likely to lose part of its catchment. The population in the Fyansford catchment will allow for a centre that has only 5,400 sqm of retail floorspace at full development (and a total floorspace of around 7,000 sqm taking into account non-retail provision) compared with the existing intention for a centre with a total floorspace of 11,800 sqm. The Retail Strategy also notes that the demand at this centre will only support 5,200 sqm. The intentions for the centre at Fyansford should be scaled back to cater for its catchment population.

In conclusion, it appears that, of the present options for the neighbourhood centre network, the one that envisages road option 1 (a westerly north-south main road in the Western Growth Area) and a three-centre network in the Northern Geelong Growth Area will result in the most viable arrangement of centres. There may be potential to adjust the location of some of these centres slightly in order to deliver improved access and equity, including NC2/NC4 and WC5/WC6. Alternatively, the introduction of further neighbourhood and/or local centres to improve access to grocery shopping could be considered should the actual population outcome allow.

5 IMPACT OF NEW CENTRES ON CORIO SUB-REGIONAL CENTRE

It is possible to estimate the impact of the new growth area sub-regional centres will have on the Corio shopping centre by:

- Using the estimates of the average retail floorspace supported by each person in Geelong at each level of the retail hierarchy (see section 4.1)
- Adjusting the estimates to match the spending power of the Corio catchment
- Calculating the floorspace supported by the estimated catchment population of Corio under each configuration of growth area centres
- Comparing the estimated floorspace supported once the growth areas are fully developed with the current floorspace

The Corio-Norlane area will be the core catchment for the Corio sub-regional centre once the Northern and Western Geelong Growth Area sub-regional centres are constructed. Currently, this area has an average household income that is only 66% of that in Geelong as a whole (ABS, 2017); it is the poorest and most disadvantaged area of the city. Taking into account people's propensity to consume retail goods and services, and the existing floorspace at Corio compared with the anticipated average floorspace the population here is likely to support only 84% of the average retail floorspace per person for Geelong as a whole.

The table below shows how much retail floorspace will be supported at the Corio sub-regional centre by the anticipated population under each retail network scenario.

Table 9: Impact of the growth area options on the Corio sub-regional centre

Network Option	Population	Sub-regional retail floorspace supported	Floorspace change from present	Proportional loss of floorspace
WC1, road option 1, NC2	53,687	27,581	-2,359	-8%
WC1, road option 1, NC3	51,050	26,226	-3,714	-12%
WC4, road option 1, NC2	42,537	21,853	-8,087	-27%
WC4, road option 1, NC3	39,447	20,265	-9,675	-32%
WC5, road option 1, NC2	35,437	18,205	-11,735	-39%
WC5, road option 1, NC3	32,346	16,617	-13,323	-44%
WC1, road option 2, NC2	53,687	27,581	-2,359	-8%
WC1, road option 2, NC3	55,317	28,418	-1,522	-5%
WC3, road option 2, NC2	42,552	21,860	-8,080	-27%
WC3, road option 3, NC3	39,896	20,496	-9,444	-32%
WC5, road option 2, NC2	35,437	18,205	-11,735	-39%
WC5, road option 2, NC3	32,346	16,617	-13,323	-44%

Source: Harvest Digital Planning; Tim Nott

Notes: Sub-regional floorspace supported by each person in the Corio catchment is estimated to be 84% of the average for Geelong as a whole because of the much lower household income. The current retail floorspace at Corio is assumed to be 29,940 sqm as per the Retail Strategy.

The impact on Corio is least where the Western sub-regional centre is at WC1 (Hamilton Highway), resulting in a loss of support for between 5% and 12% of the current retail floorspace. Where the Western sub-regional centre is in the north at WC5 (Midland Highway), the impact on Corio is highest, resulting in a loss of support for between 39% and 44% of the existing retail floorspace at the centre. This level of impact would challenge the viability of the current configuration of retail space at Corio. It would push Corio to the limits of its viability as a sub-regional centre.

An eastern road option in the Western Geelong Growth Area appears to be slightly better for Corio. However, since the full road network in the area has not yet been fleshed out, it is impossible to say with certainty the precise extent of the catchment in each case.

Other factors may also serve to alter the outcome:

- Efforts to improve average incomes in the Corio-Norlane area relative to Geelong as a whole may be successful; certainly, policies to reduce intergenerational poverty would be expected to improve the fortunes of particular areas such as Corio-Norlane
- The operators of Corio could invest to better match the needs of their trade area residents, building loyalty and capturing higher levels of resident spending.

It is important to note that until the new sub-regional retail services are provided, Corio would be the closest equivalent centre for most of the residents of the Northern and Western Geelong Growth Areas and could expect to experience continuing growth in demand over at least a decade. With care, the surplus generated through this time period could be used to reinvest in the Corio centre to prepare it for a more constrained future.

6 AMELIORATING IMPACTS

6.1 Impacts on Corio Sub-Regional Centre

Potential impact

The impacts on the Corio Sub-Regional Centre of the extension of the activity centre network in the growth areas will be significant. At best, the catchment of the centre will support around 5% less sub-regional retail floorspace at full development compared with the present situation. At worst, the support for sub-regional retailing could fall by 44%, challenging the provision of any sub-regional centre at Corio. Clearly, the provision of a sub-regional centre in the Western Growth Area at WC1 on the Hamilton Highway will be much better for Corio than one at WC5 on the Midland Highway.

Catchment population trend

The catchment population of the Corio centre will continue growing until the new sub-regional centres come on stream, which is likely to be later in the development of the two growth areas. In the meantime, Corio could use the increased demand and turnover to adjust its offering to better meet the needs of its future catchment.

Adjustments to the Greater Geelong Planning Scheme

The proposed adjustments to the Planning Scheme to incorporate the new Retail Strategy suggest that Corio could increase its retail floorspace by 8,100 sqm over the period to 2031 to accommodate demand. In the light of the extension of the activity centre network into the growth areas, this expansion is likely to be unfounded or unrealistic. The centre will experience some increase in demand but only until the new growth area sub-regional centres are constructed. Any intermediate growth at Corio would risk being made redundant in the longer term. It could be possible to entertain short-term expansions at Corio, with low-cost buildings that could be redeveloped later. A better solution, though, would be to use growth in turnover to create a more attractive centre that will be capable of competing well into the future.

Timing and Scale of New Centres

The timing and scale of the provision of new centres will affect Corio and the other larger centres in the existing retail network of Geelong. Whilst the ultimate population is likely to support substantial sub-regional centres in the growth areas (double DDS centres or the equivalent) it would be prudent to proceed in a stepwise manner, matching retail provision to actual demand, with a review at each step. The first step would be development of a neighbourhood centre (up to say, 12,000 sqm), followed by a single DDS centre (up to 20,000 to 25,000 sqm with an additional homemaker precinct of, say 15,000 sqm), with subsequent expansion to 35,000 sqm and a larger bulky goods precinct. It may be that the ultimate population will support more sub-regional floorspace. However, an even more substantial centre could begin to challenge the role of the CBD. A decision would need to be made at the time taking into account the health of the CBD and prevailing expectations about retail provision.

This stepwise approach allows for the centre evolution to match actual population growth and enables changes if retail forms change. Notwithstanding this gradual evolution, it should be clear from the outset which location will be the sub-regional centre.

6.2 Impacts on Neighbourhood Centres

It appears as though the impacts of the expanded growth area centre network on existing neighbourhood centres will be slight. The population in the catchment of the yet to be constructed neighbourhood centre at Fyansford will be less than anticipated, allowing for a centre that has only 5,400 sqm of retail floorspace at full development (and a total floorspace of around 7,000 sqm taking into account non-retail provision) compared with the existing intention for a centre with a total floorspace of 11,800 sqm. The Retail Strategy also notes that the demand at this centre will only support 5,200 sqm. The intentions for the centre at Fyansford should be scaled back to cater for its catchment population.

7 CONCLUSIONS

Of all the assorted options for extension of the activity centre network into the Northern and Western Geelong Growth Areas, the following option appears to generate the most viable network with the least impact on the Corio sub-regional centre, bearing in mind the caveats about the coarse-grained nature of the population cells and the incomplete road network used in the analysis:

- A three-centre network in the Northern Growth Area, with the sub-regional centre at NC2
- A six-centre network in the Western Growth Area, with the sub-regional centre at WC1 and a main north-south road that runs to the west of Batesford Quarry (see maps in the Summary at the beginning of this report)

Nevertheless, improvements to this option could be made to enable better accessibility to grocery services by either adjusting the location of some centres slightly or by allowing for the development of suitably positioned local centres.

The timing and scale of the proposed sub-regional centres should proceed in a step-wise manner as demand builds up. This will allow affected existing centres, particularly the Corio sub-regional centre, to adjust to new circumstances. Retail demand and turnover at Corio will increase prior to the development of the new growth area centres. This could be used to reposition the centre to better meet the challenges of the future.

The proposed adjustments to the Planning Scheme incorporate indicative floorspace additions that show demand for a further 8,100 sqm of floorspace at Corio. This has not taken into account the impact of the new centres in the growth areas. Either this figure should be adjusted or the proposed changes should be reworded to acknowledge the likely decline in the Corio catchment over time. The proposed Fyansford neighbourhood centre is also likely to support much less floorspace than currently planned for. This is acknowledged in the proposed changes to the Planning Scheme.

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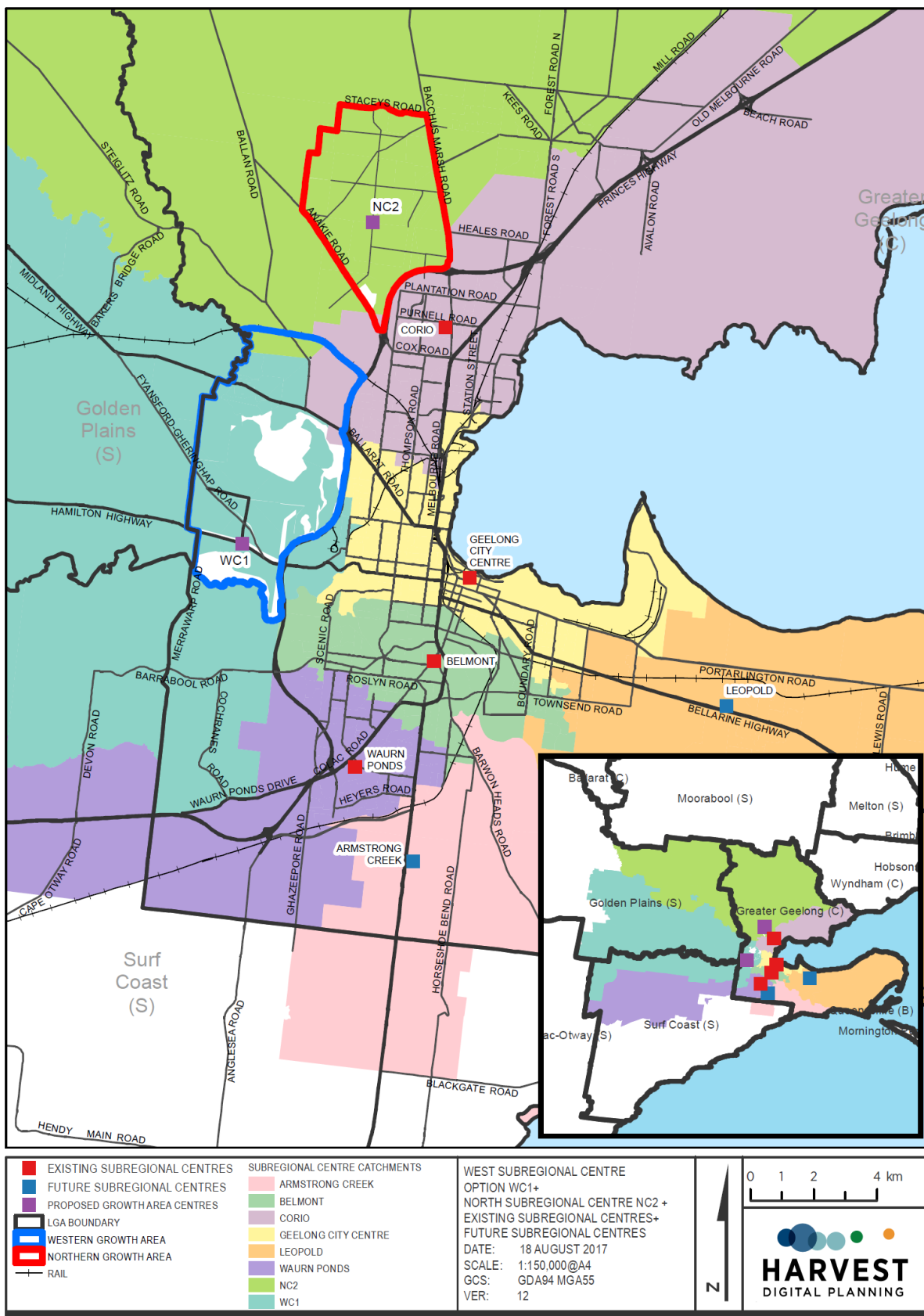
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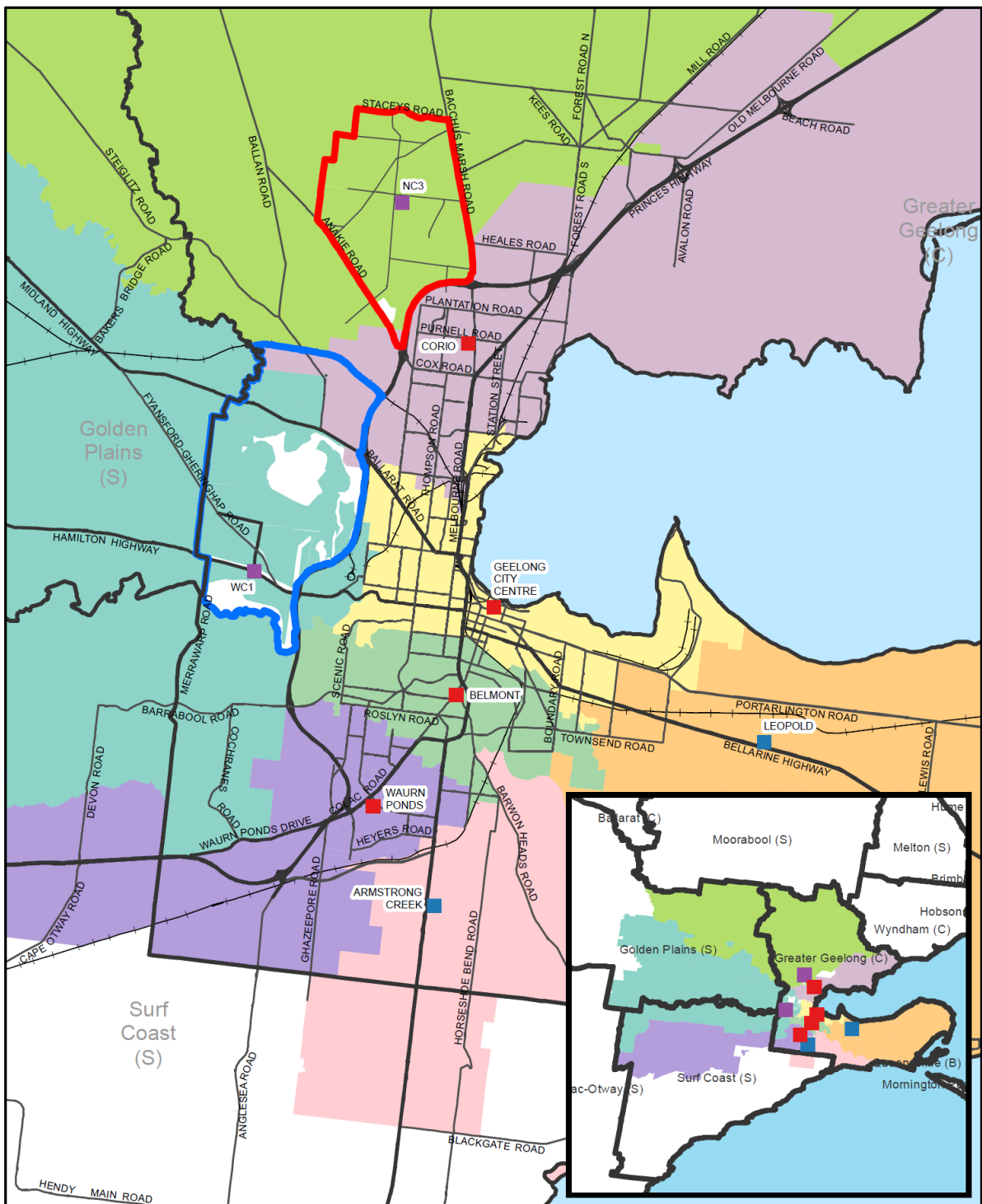
APPENDIX 1: PROPOSED SUB-REGIONAL CENTRE CATCHMENT MAPS

Map No.	Number of centres in the Northern Growth Area	Orientation of the main north-south road in the Western Growth Area	Location of the Sub-regional centre in the Western Growth Area
1a	Three	West	Hamilton Highway
1b	Four	West	Hamilton Highway
1c	Three	West	Quarry
1d	Four	West	Quarry
1e	Three	West	Midland Highway
1f	Four	West	Midland Highway
2a	Three	East	Hamilton Highway
2b	Four	East	Hamilton Highway
2c	Three	East	Quarry
2d	Four	East	Quarry
2e	Three	East	Midland Highway
2f	Four	East	Midland Highway

SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 1A

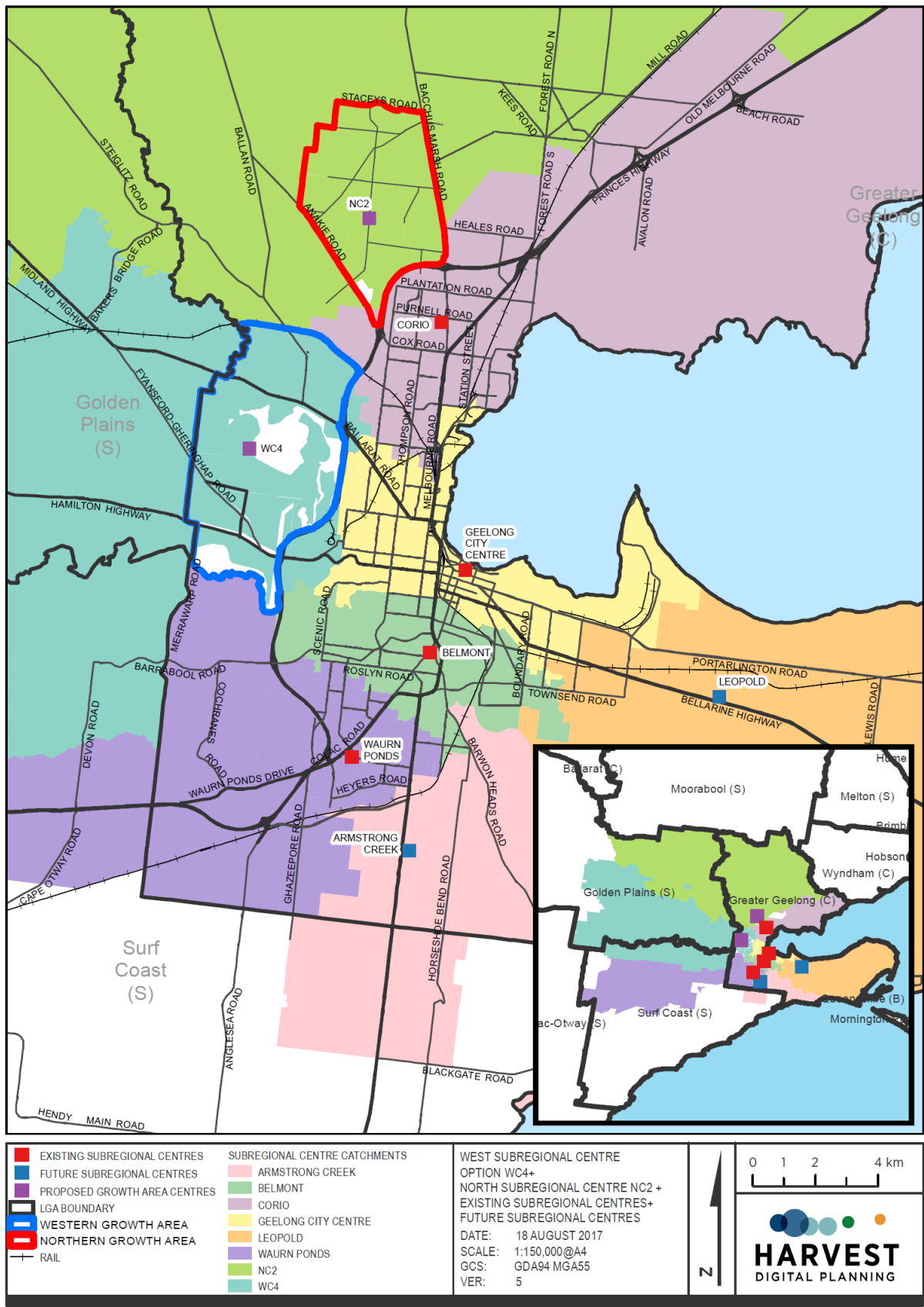


SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 1B

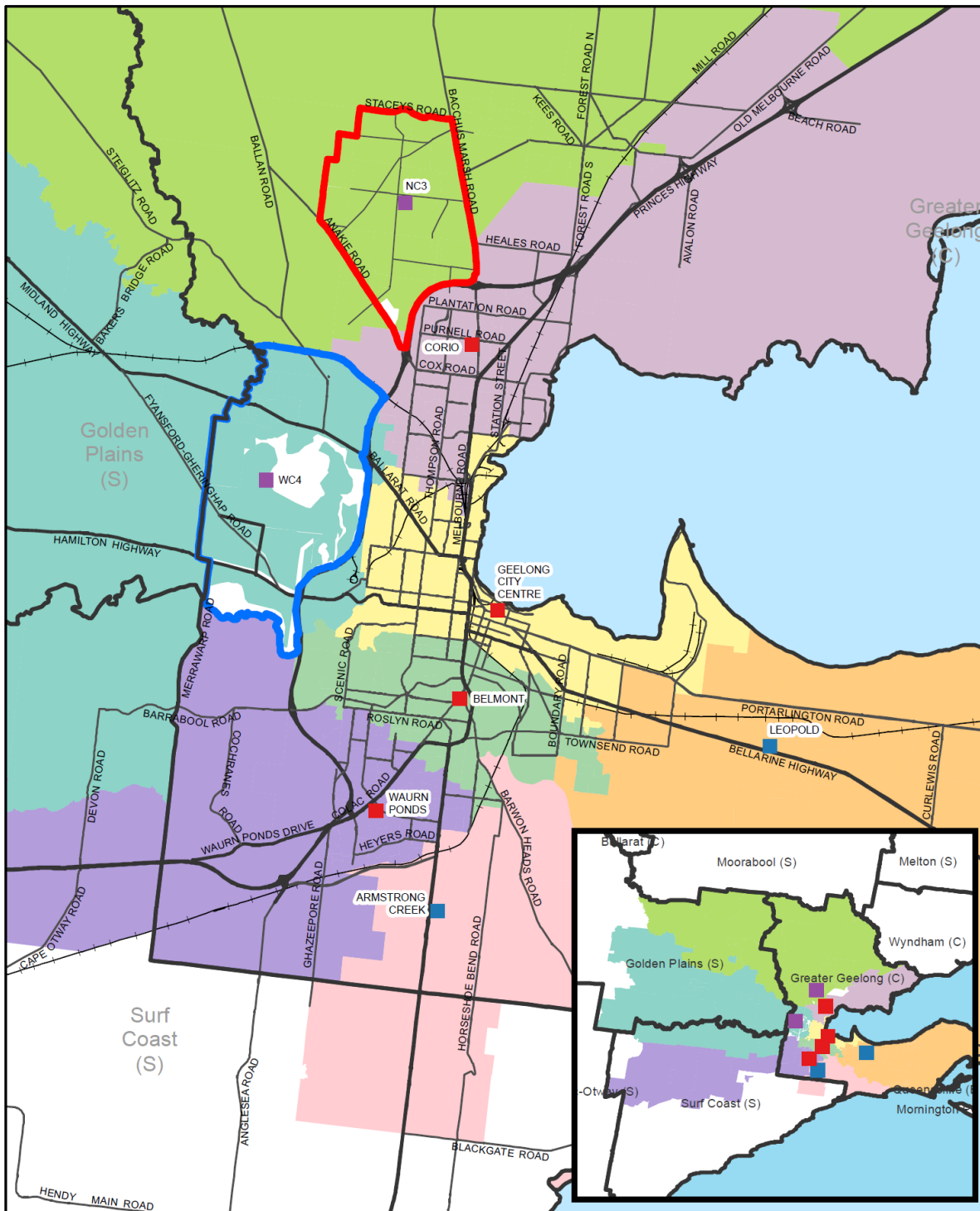


<ul style="list-style-type: none"> ■ EXISTING SUBREGIONAL CENTRES ■ FUTURE SUBREGIONAL CENTRES ■ PROPOSED GROWTH AREA CENTRES LGA BOUNDARY — WESTERN GROWTH AREA — NORTHERN GROWTH AREA RAIL 	<ul style="list-style-type: none"> ■ SUBREGIONAL CENTRE CATCHMENTS ■ ARMSTRONG CREEK ■ BELMONT ■ CORIO ■ GEELONG CITY CENTRE ■ LEOPOLD ■ WAURN PONDS ■ NC3 ■ WC1 	<p>WEST SUBREGIONAL CENTRE OPTION WC1+</p> <p>NORTH SUBREGIONAL CENTRE NC3 + EXISTING SUBREGIONAL CENTRES+ FUTURE SUBREGIONAL CENTRES</p> <p>DATE: 18 AUGUST 2017 SCALE: 1:150,000@A4 GCS: GDA94 MGA55 VER: 8</p>	<div style="text-align: right;"> <p>0 1 2 4 km</p> </div> <div style="text-align: right;"> <p>N</p> </div> <div style="text-align: right;"> <p>HARVEST DIGITAL PLANNING</p> </div>
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SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 1C

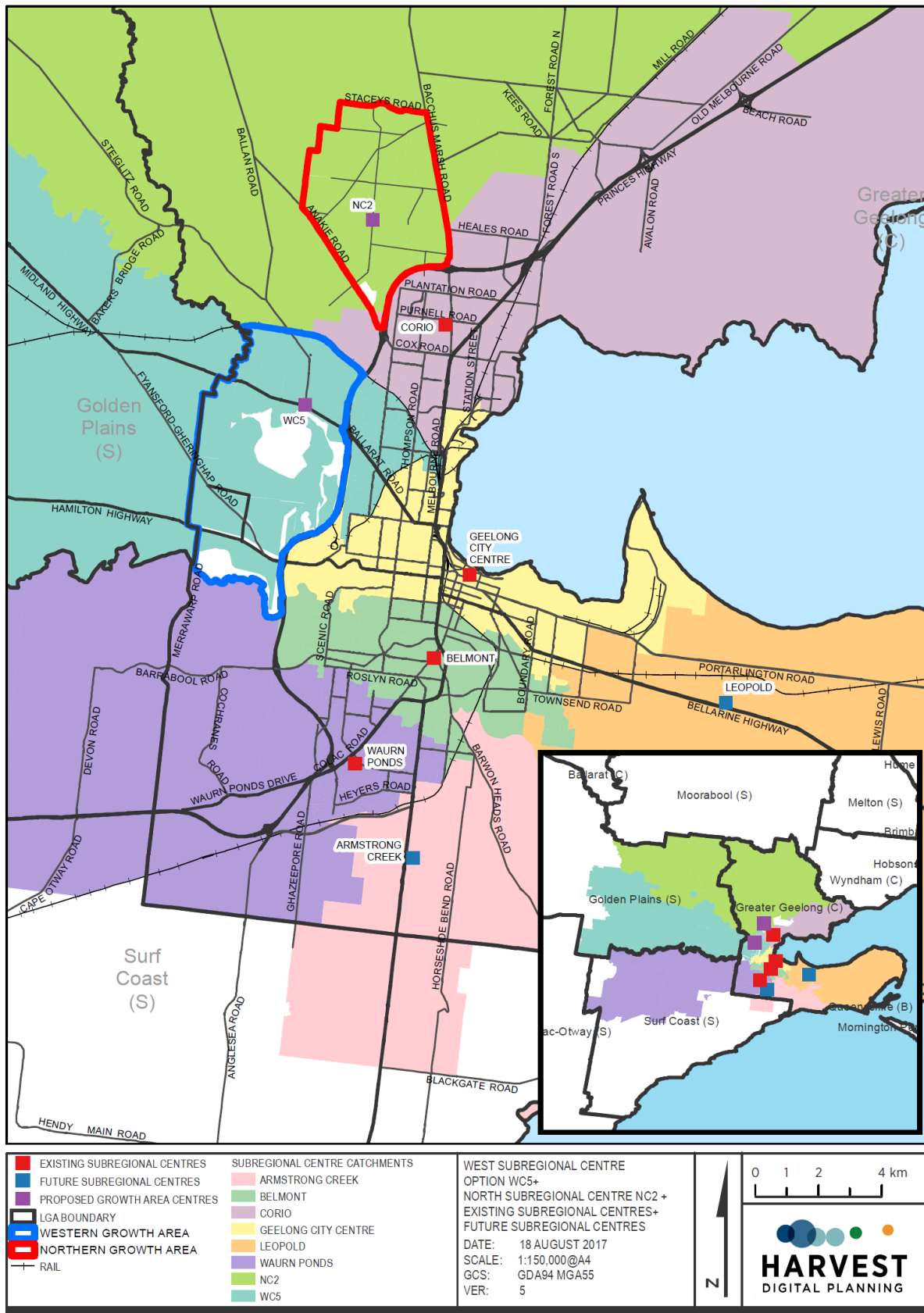


SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 1D

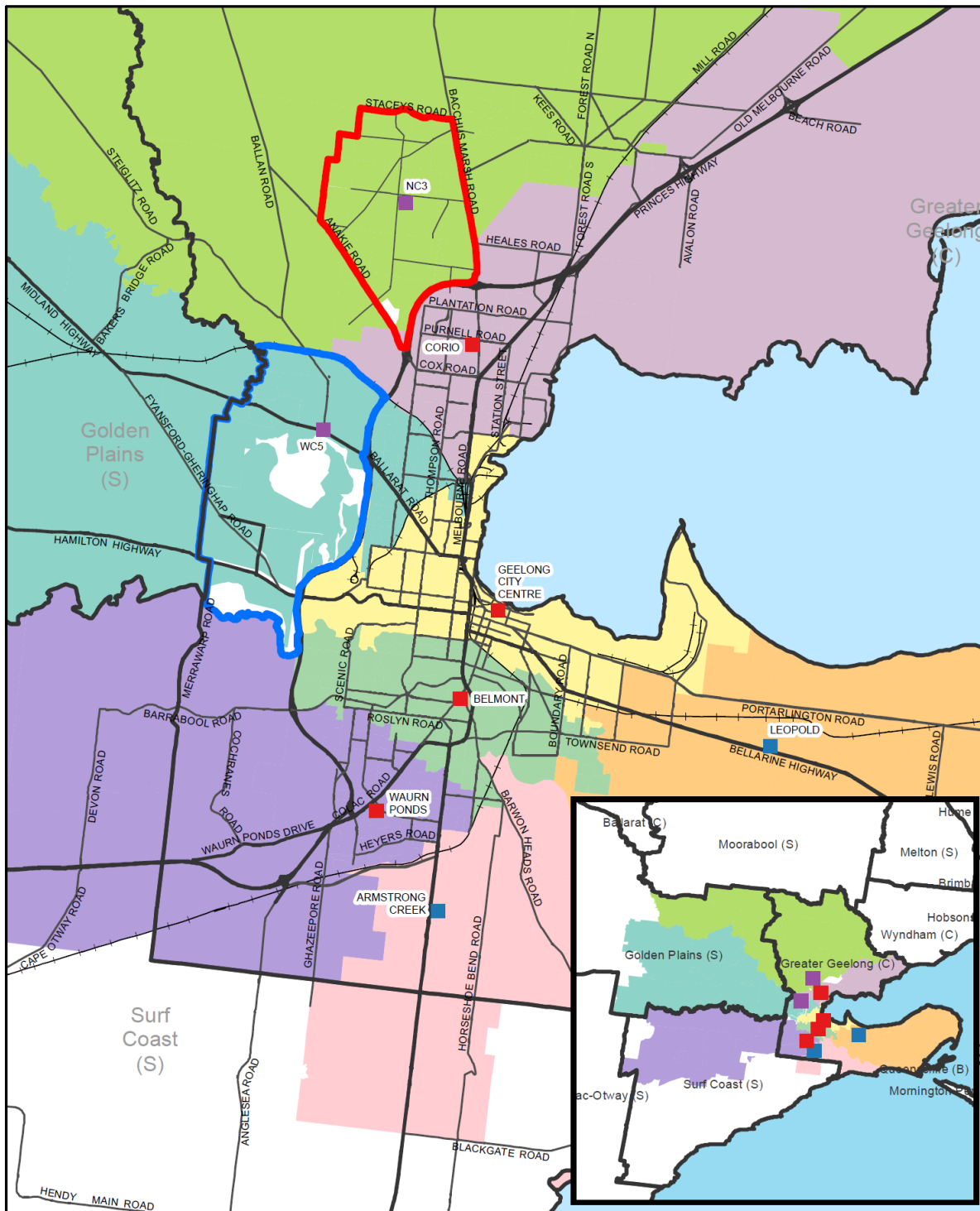


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SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 1E

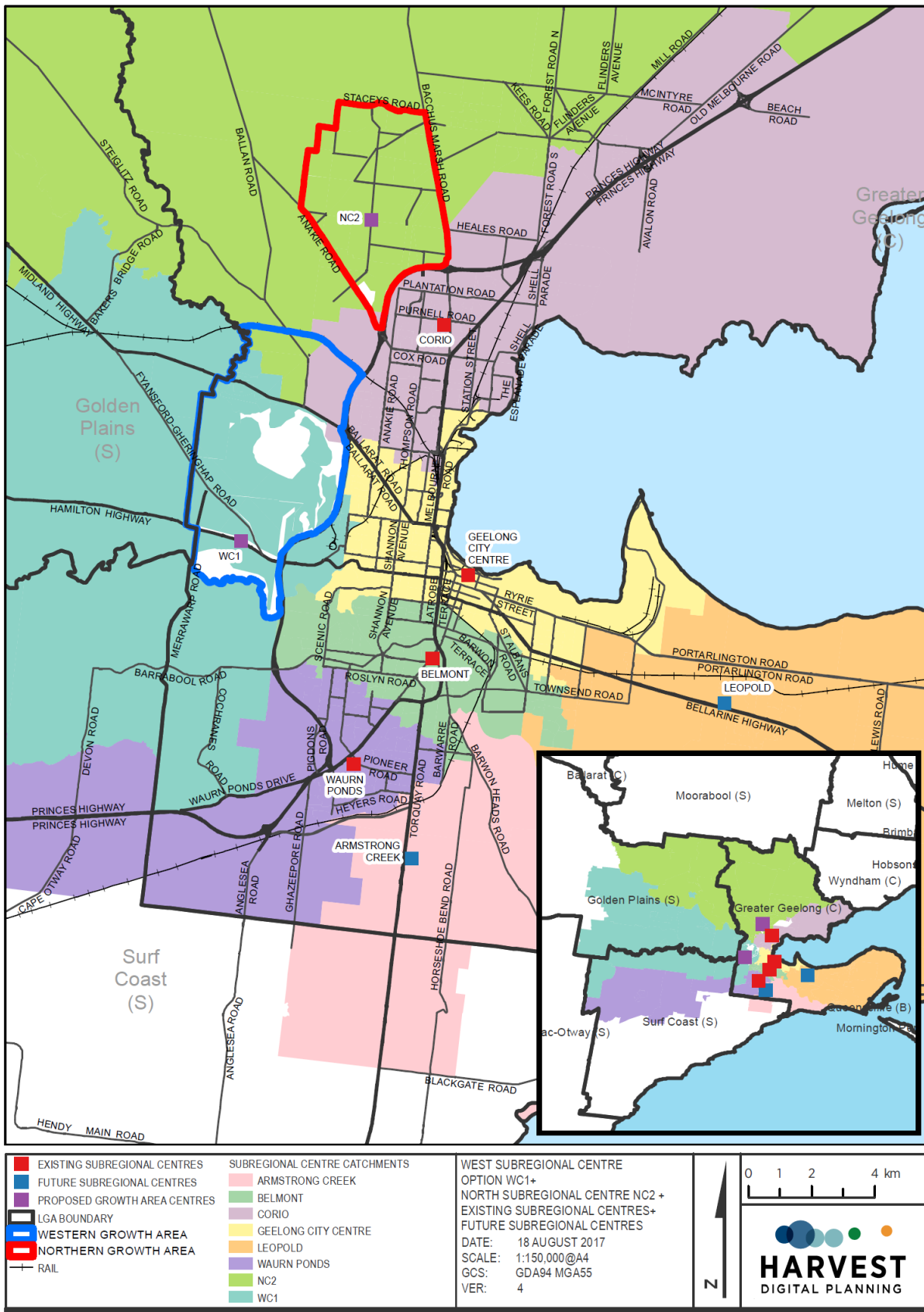


SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 1F

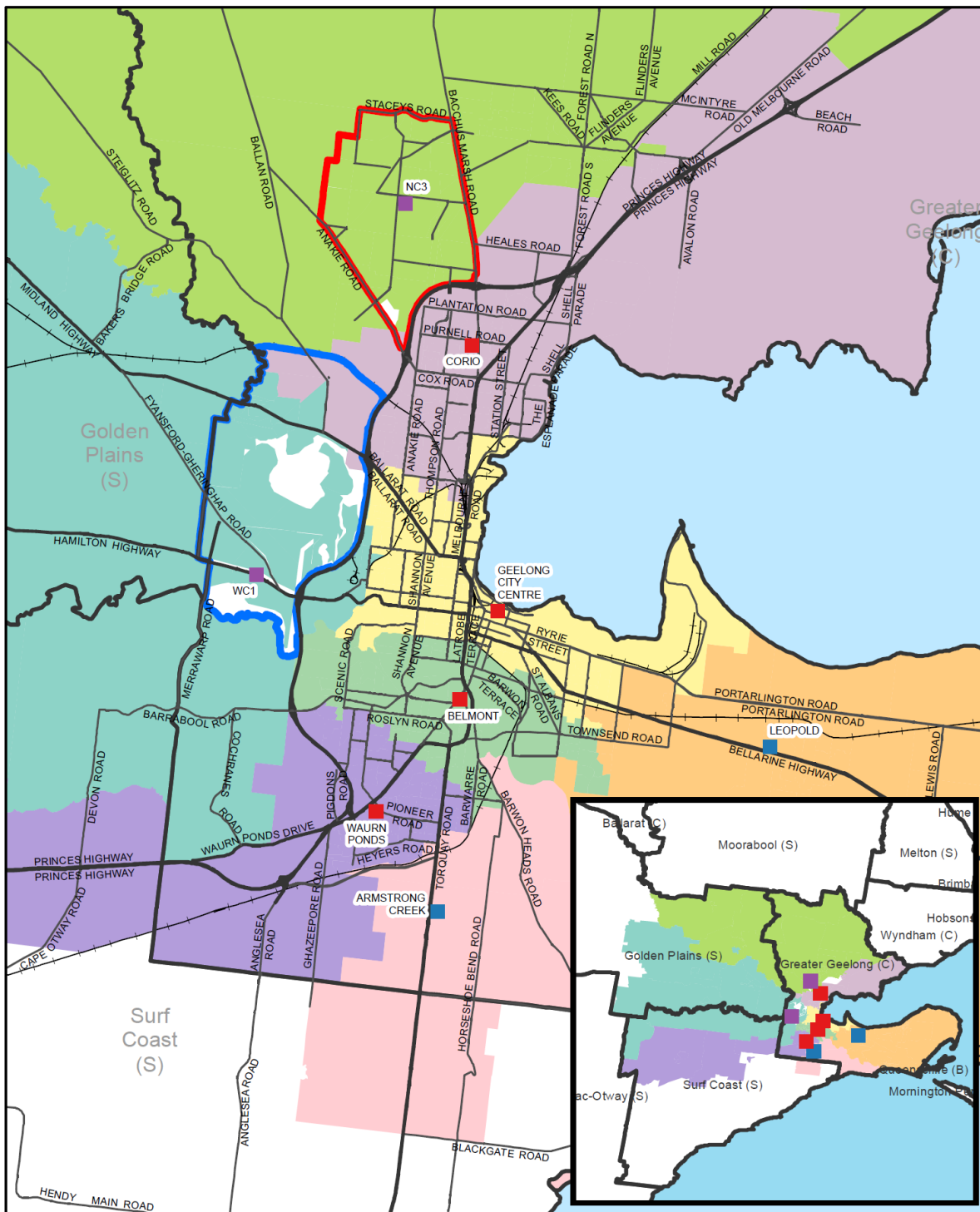


<ul style="list-style-type: none"> EXISTING SUBREGIONAL CENTRES FUTURE SUBREGIONAL CENTRES PROPOSED GROWTH AREA CENTRES LGA BOUNDARY WESTERN GROWTH AREA NORTHERN GROWTH AREA RAIL 	<p>SUBREGIONAL CENTRE CATCHMENTS</p> <ul style="list-style-type: none"> ARMSTRONG CREEK BELMONT CORIO GEELONG CITY CENTRE LEOPOLD WAURN PONDS NC3 WC5 	<p>WEST SUBREGIONAL CENTRE OPTION WC5+ NORTH SUBREGIONAL CENTRE NC3 + EXISTING SUBREGIONAL CENTRES+ FUTURE SUBREGIONAL CENTRES</p> <p>DATE: 18 AUGUST 2017 SCALE: 1:150,000@A4 GCS: GDA94 MGA55 VER: 6</p>	<p>0 1 2 4 km</p> <p>HARVEST DIGITAL PLANNING</p>
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SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 2A

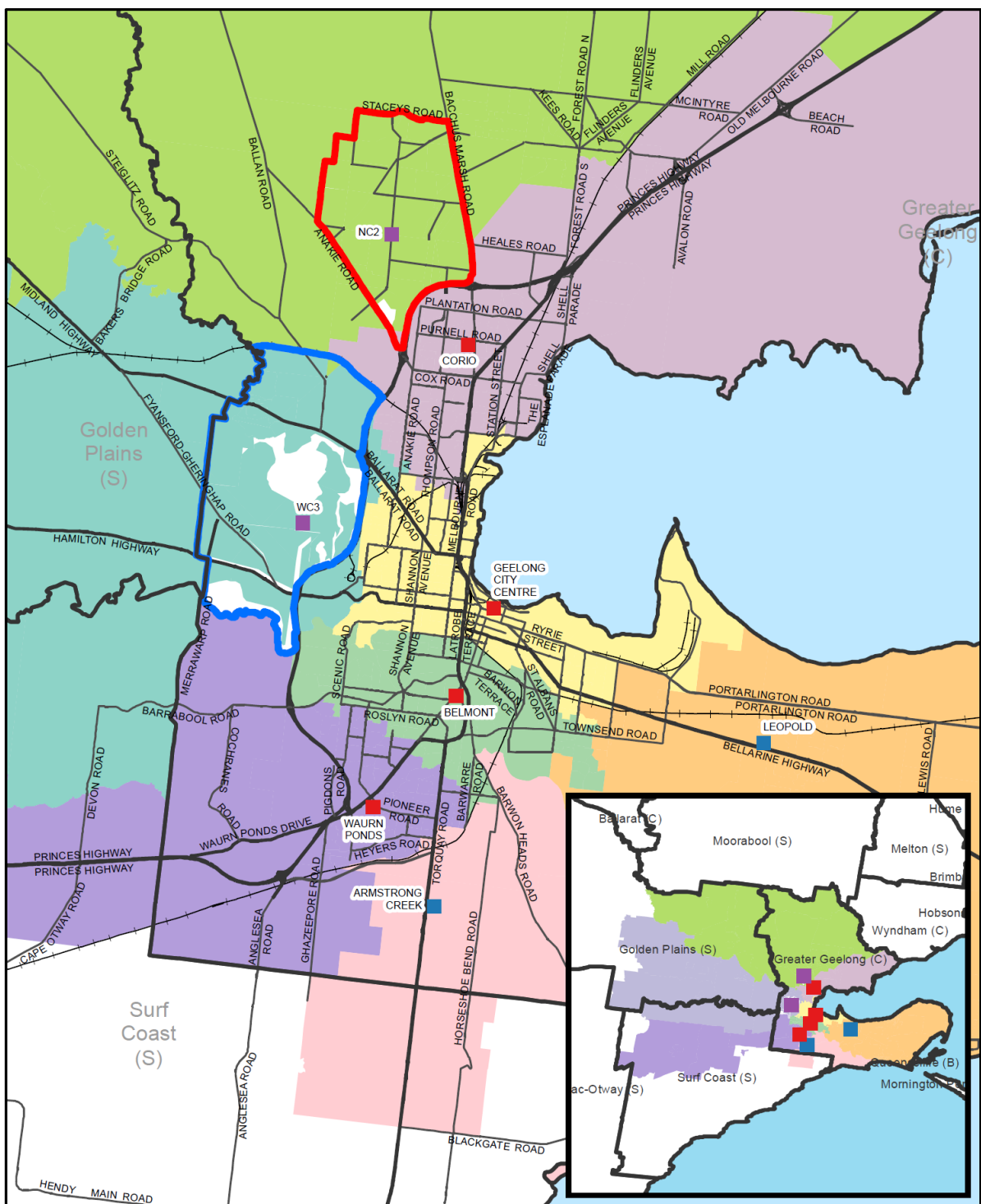


SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 2B



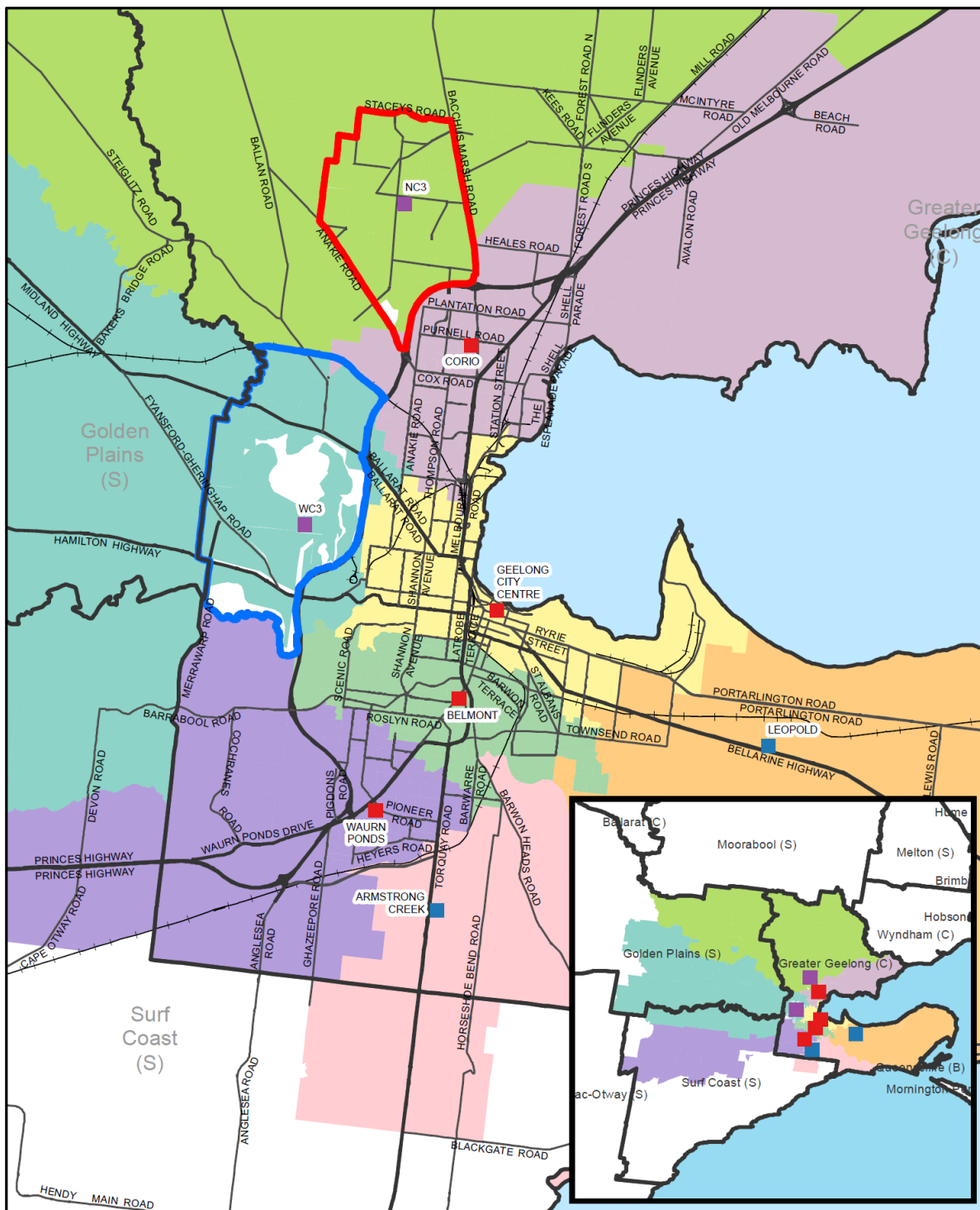
<ul style="list-style-type: none"> ■ EXISTING SUBREGIONAL CENTRES ■ FUTURE SUBREGIONAL CENTRES ■ PROPOSED GROWTH AREA CENTRES LGA BOUNDARY WESTERN GROWTH AREA NORTHERN GROWTH AREA + RAIL 	<ul style="list-style-type: none"> ■ SUBREGIONAL CENTRE CATCHMENTS ■ ARMSTRONG CREEK ■ BELMONT ■ CORIO ■ GEELONG CITY CENTRE ■ LEOPOLD ■ WAURN PONDS ■ NC3 ■ WC1 	<p>WEST SUBREGIONAL CENTRE OPTION WC1+</p> <p>NORTH SUBREGIONAL CENTRE NC3 +</p> <p>EXISTING SUBREGIONAL CENTRES+ FUTURE SUBREGIONAL CENTRES</p> <p>DATE: 18 AUGUST 2017 SCALE: 1:150,000@A4 GCS: GDA94 MGA55 VER: 4</p>	<p>0 1 2 4 km</p> <p>HARVEST DIGITAL PLANNING</p>
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SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 2C



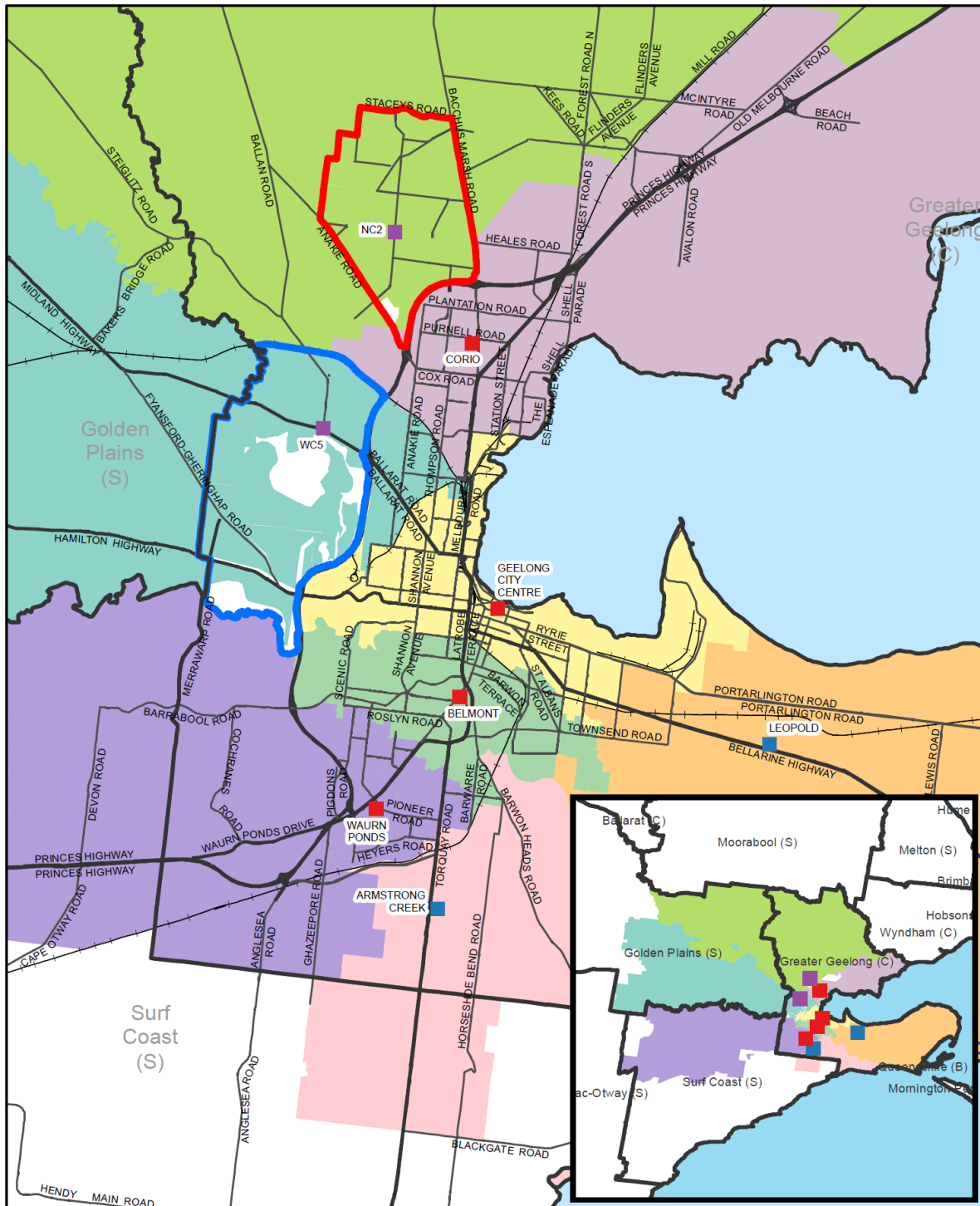
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SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 2D



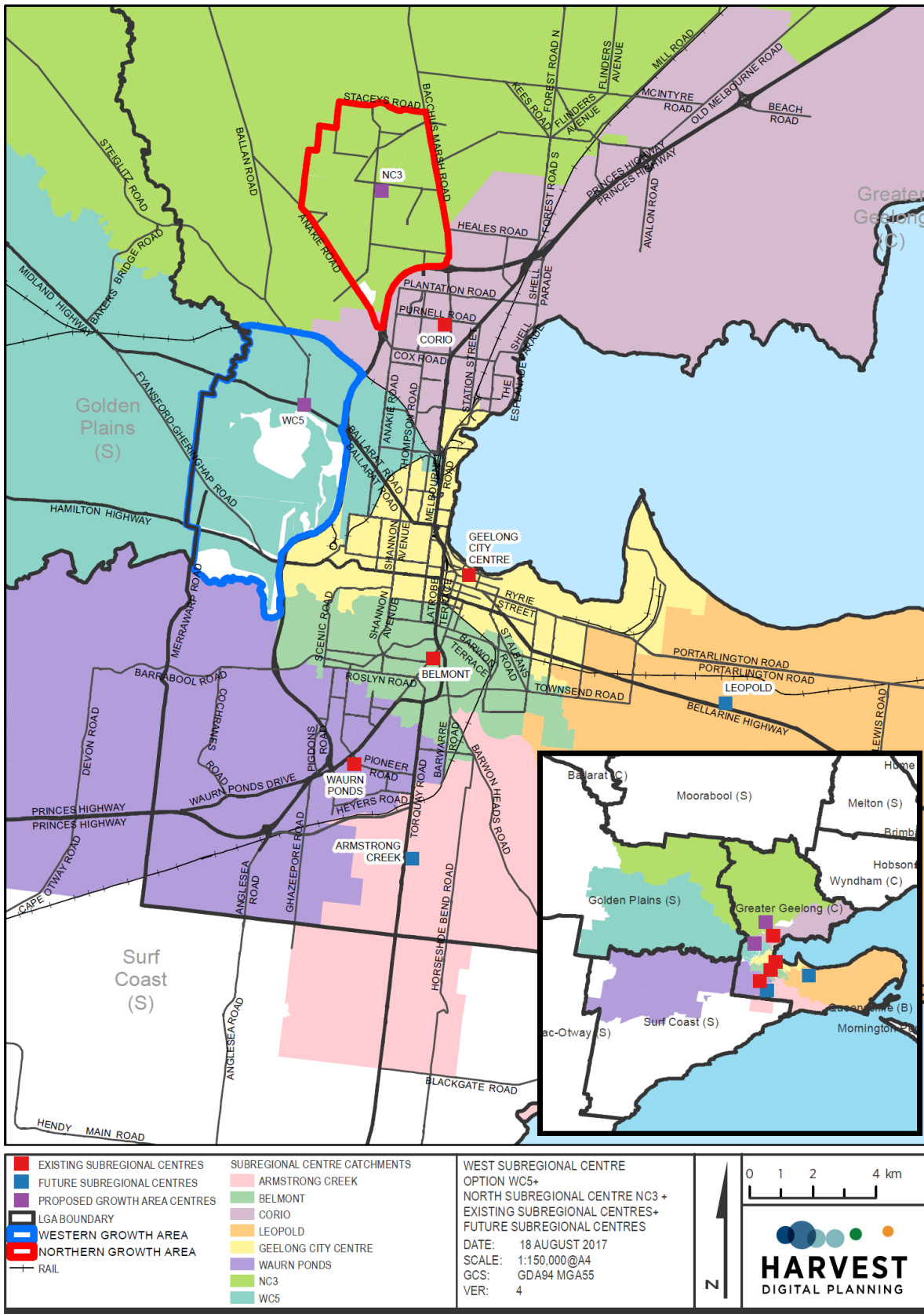
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SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 2E



<ul style="list-style-type: none"> ■ EXISTING SUBREGIONAL CENTRES ■ FUTURE SUBREGIONAL CENTRES ■ PROPOSED GROWTH AREA ■ LGA BOUNDARY ■ WESTERN GROWTH AREA ■ NORTHERN GROWTH AREA + RAIL 	<ul style="list-style-type: none"> ■ SUBREGIONAL CENTRE CATCHMENTS ■ ARMSTRONG CREEK ■ BELMONT ■ CORIO ■ GEELONG CITY CENTRE ■ LEOPOLD ■ WAURN PONDS ■ NC2 ■ WC5 	<p>WEST SUBREGIONAL CENTRE OPTION WC5+</p> <p>NORTH SUBREGIONAL CENTRE NC2 +</p> <p>EXISTING SUBREGIONAL CENTRES+ FUTURE SUBREGIONAL CENTRES</p> <p>DATE: 18 AUGUST 2017 SCALE: 1:150,000@A4 GCS: GDA94 MGA55 VER: 4</p>	<div style="text-align: right;"> <p>0 1 2 4 km</p> </div> <div style="text-align: center;"> <p>N</p> </div> <div style="text-align: center;"> <p>HARVEST DIGITAL PLANNING</p> </div>
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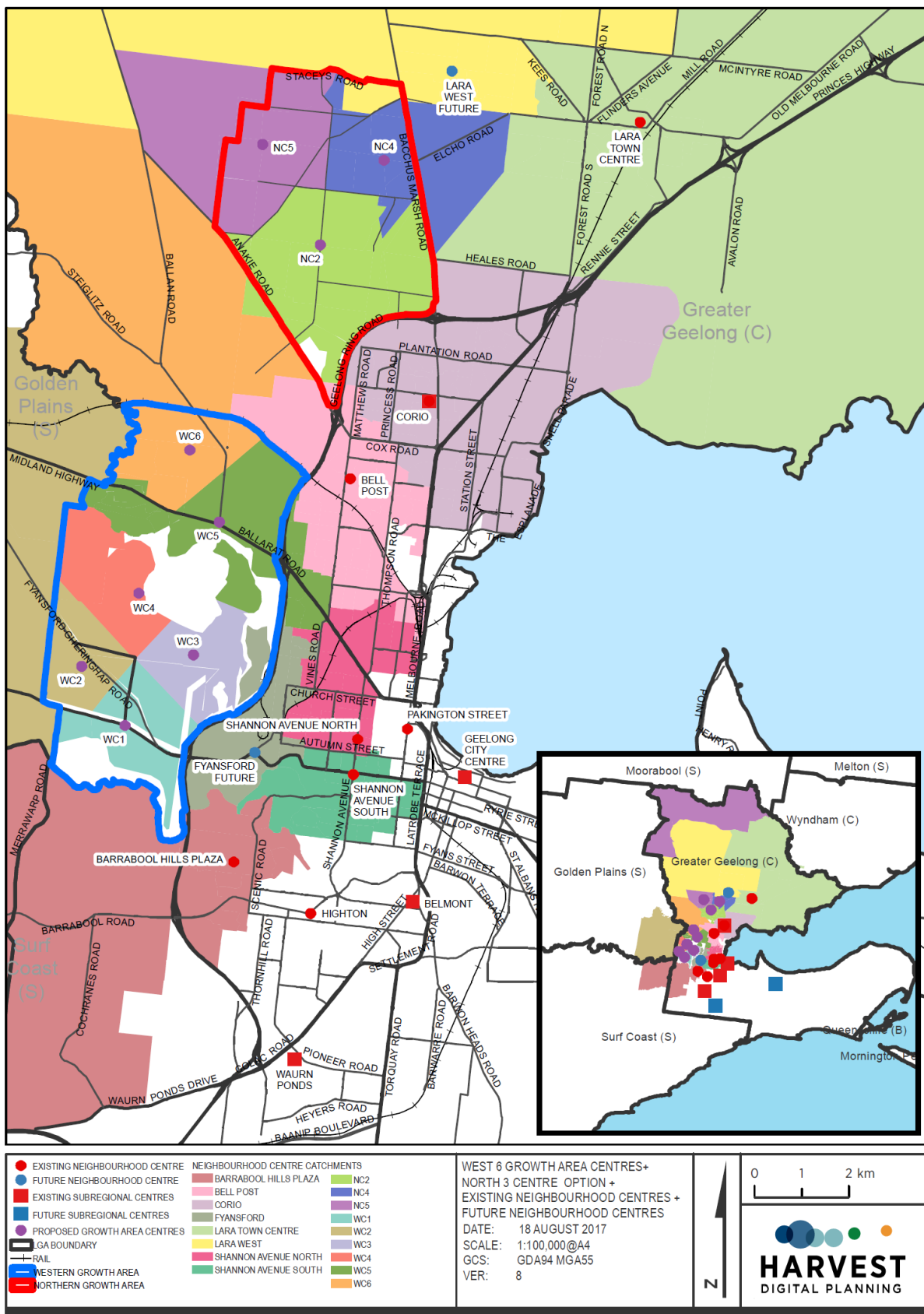
SUBREGIONAL CENTRE CATCHMENT: WEST ROAD OPTION 2F



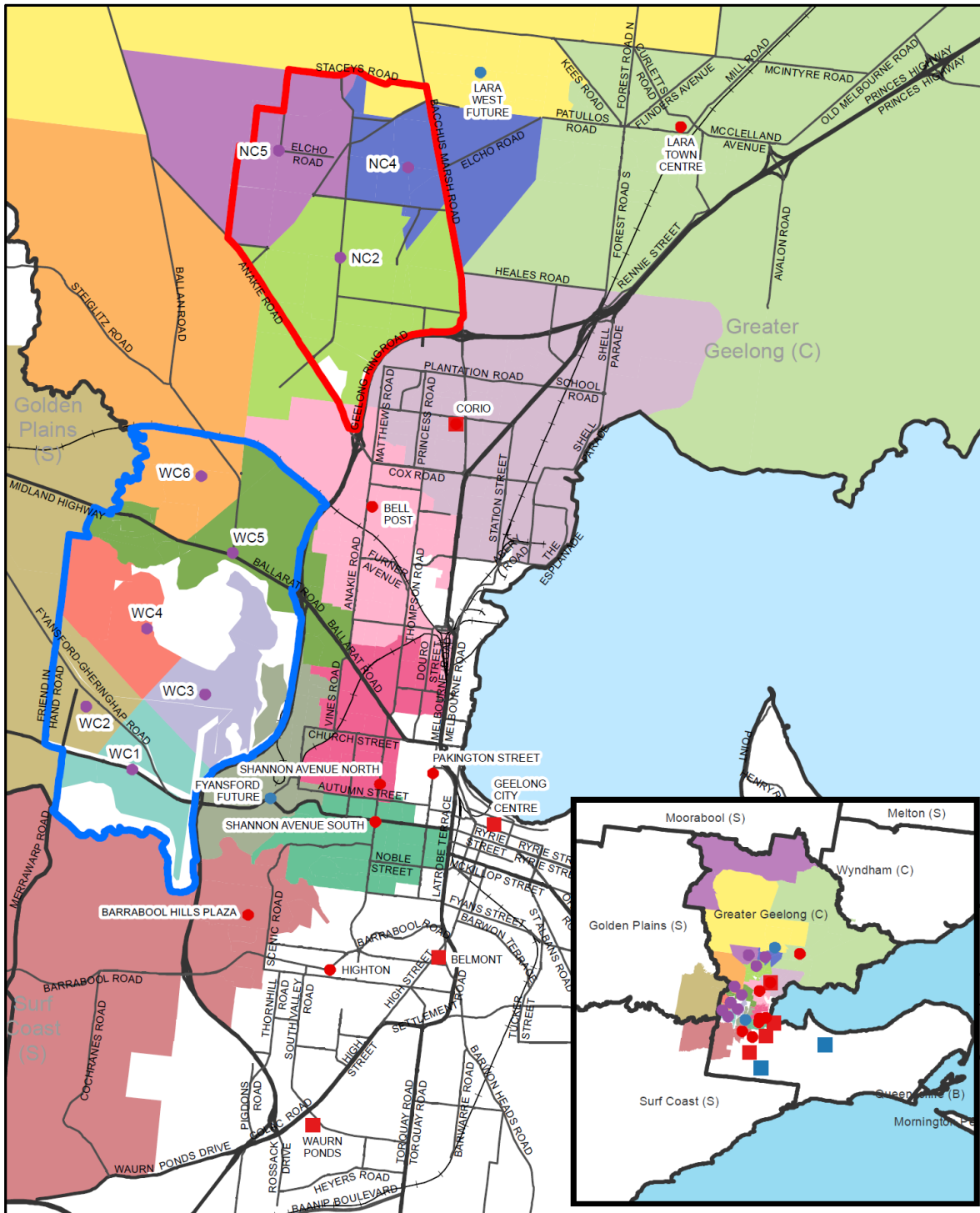
APPENDIX 2: PROPOSED NEIGHBOURHOOD CENTRE CATCHMENT MAPS

Map no.	Number of centres in the Northern Growth Area	Orientation of the main north-south road in the Western Growth Area
1A	Three	West
1B	Four	West
2A	Three	East
2B	Four	East

NEIGHBOURHOOD CENTRE CATCHMENT: WEST ROAD OPTION 1A

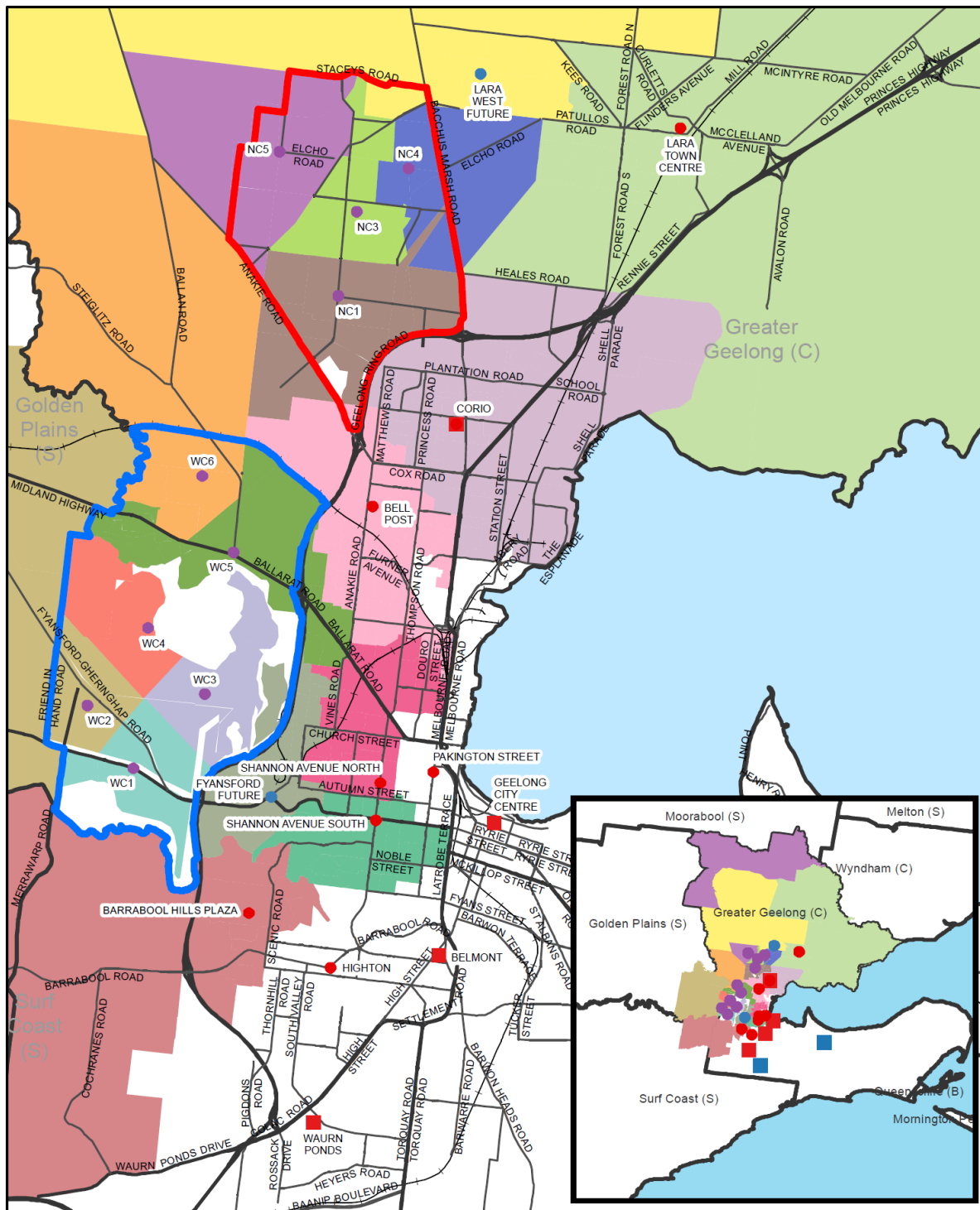


NEIGHBOURHOOD CENTRE CATCHMENT: WEST ROAD OPTION 2A



<ul style="list-style-type: none"> ● EXISTING NEIGHBOURHOOD CENTRE ● FUTURE NEIGHBOURHOOD CENTRE ■ EXISTING SUBREGIONAL CENTRES ■ FUTURE SUBREGIONAL CENTRES ● PROPOSED GROWTH AREA CENTRES — GA BOUNDARY — RAIL ■ WESTERN GROWTH AREA ■ NORTHERN GROWTH AREA 	<p>NEIGHBOURHOOD CENTRE CATCHMENTS</p> <ul style="list-style-type: none"> ■ BARRABOOL HILLS PLAZA ■ BELL POST ■ CORIO ■ FYANSFORD ■ LARA TOWN CENTRE ■ LARA WEST ■ SHANNON AVENUE NORTH ■ SHANNON AVENUE SOUTH 	<ul style="list-style-type: none"> ■ NC2 ■ NC4 ■ NC5 ■ WC1 ■ WC2 ■ WC3 ■ WC4 ■ WC5 ■ WC6 	<p>WEST 6 GROWTH AREA CENTRES+ NORTH 3 CENTRE OPTION + EXISTING NEIGHBOURHOOD CENTRES + FUTURE NEIGHBOURHOOD CENTRES</p> <p>DATE: 21 AUGUST 2017 SCALE: 1:100,000@A4 GCS: GDA94 MGA55 VER: 7</p>	<p>0 1 2 km</p> <p>HARVEST DIGITAL PLANNING</p>
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NEIGHBOURHOOD CENTRE CATCHMENT: WEST ROAD OPTION 2B



<ul style="list-style-type: none"> ● EXISTING NEIGHBOURHOOD CENTRE ● FUTURE NEIGHBOURHOOD CENTRE ● EXISTING SUBREGIONAL CENTRES ● FUTURE SUBREGIONAL CENTRES ● PROPOSED GROWTH AREA CENTRES — LGA BOUNDARY — RAIL — WESTERN GROWTH AREA — NORTHERN GROWTH AREA 	<p>NEIGHBOURHOOD CENTRE CATCHMENTS</p> <ul style="list-style-type: none"> ■ BARRABOOL HILLS PLAZA ■ BELL POST ■ CORIO ■ FYANSFORD ■ LARA TOWN CENTRE ■ LARA WEST ■ SHANNON AVENUE NORTH ■ SHANNON AVENUE SOUTH ■ NC1 ■ NC3 ■ NC4 ■ NC5 ■ WC1 ■ WC2 ■ WC3 ■ WC4 ■ WC5 ■ WC6 	<p>WEST 6 GROWTH AREA CENTRES+ NORTH 4 CENTRE OPTION + EXISTING NEIGHBOURHOOD CENTRES + FUTURE NEIGHBOURHOOD CENTRES</p> <p>DATE: 18 AUGUST 2017 SCALE: 1:100,000@A4 GCS: GDA94 MGA55 VER: 4</p>	<p>0 1 2 km</p> <p>HARVEST DIGITAL PLANNING</p>
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