Item by Item Response by Ai Group to the Draft Newcastle Metropolitan Plan 2036

Page	Reference	
1	Foreword	Other significant game-changers include: 1. Procurement spending from the Australian Government Defence White Paper with the emphasis on supply by Australian SME manufacturers supported by Primes to a maximum of $195bn over 10 years with a possible $750bn in the following 25 years. This is the biggest Defence spend since World War II; 2. The present and especially the future value of the Defence industry contractors at Williamtown and Carrington is very significant to the local economy; 3. Hunter SME technology and manufacturing companies are becoming increasingly involved with global supply chains and Defence opportunities. This will also provide access to more export markets; 4. Local manufacturing and technology companies are quite innovative. There are noticeable increases in the development of new products and services, global supply chain connections are active, industry is engaging with university researchers and students and there is a vibrant and growing engineering-tech start-up community which is connected to established local industry.
6	Growing from a mining and steel city, last paragraph	TAFE NSW has been a significant provider of technical and other skills for 150 years and continues to do so. In recognition of its footprint in Hunter manufacturing and engineering over that period, in 2017 the NSW Government announced that TAFE NSW Newcastle Campus will be the Skills Point for Innovative Manufacturing, Robotics and Science ie: it will be the centre for curriculum development for the whole of NSW.
6	Transitioning to a service, creative and knowledge city, first paragraph	It suggests that all of the future wealth from the engineering-tech ("industrial") sector will come from start-ups and that the "industrial" operations have died. This is simply not true. We do not have the investment capability in this country to fund another Tesla, Google or Amazon. According to the ABS, existing Hunter manufacturing (engineering tech) companies employed 20,800 employees in May 2017, down from around 28,000 at the height of the mining boom in 2012. The industry ranks 6th as an employer ahead of mining which is 9th. The statistics for the September 2017 quarter can be expected to show an improvement as a result of a current upturn in recruitment by companies across the region. The manufacturing share of Gross Regional Product is $2.8 billion.

		The recovery in the local economy is being fully felt by manufacturing and employers are already struggling to find skilled employees in sufficient numbers. With the return of spending by the coal industry in machinery and equipment, the early stages of Defence spending and diversification of the industry, the outlook is indeed bright for employment numbers to head back to the high 20 thousands putting us back at the 4th or 5th largest employer with very highly skilled labour. By comparison, total engineering-tech start-up employment would be less than 100 currently and not making profits. Most start-ups do not make a profit in their first 10 years. Importantly, the technology take-up by our established manufacturers continues and this makes our local industry nimble, capable and able to design and deliver bespoke engineering and technology solutions.
7	Infographic	To the middle group please add "Advanced Manufacturing"
	An emerging metropolitan city with global appeal – second paragraph	Please add *our world class education and research establishments*. The RDA Hunter's ME Program has involved 46 regional high schools in STEM activities. The resulting uptake in the 6 STEM subjects in the HSC is very impressive in the face of national or declining figures – that is very special. What it has done is to be able to identify our STEM talent pipeline for the next decade - a fantastic regional asset which has global value. (For more commentary see Strategy 1.5 below and the attached spreadsheet on the ME Program). Few regions are so well equipped in a world where research indicates that 75% of the fastest growing occupations will require STEM abilities and knowledge. Also the University of Newcastle is ranked #10 in the world by ARWU for research in Automation and Control (robotics is in this space) behind Stanford University and ahead of Caltech in the USA. That is another major asset which has yet to be exploited for attracting global tech companies to this region.
	An emerging metropolitan city with global appeal – fourth paragraph	Please replace "industrial" with "engineering and technology" as the industrial era is gradually being replaced by the digital era or Advanced Manufacturing (see reference below p86 Definitions).
13	3. Trading Hubs – second paragraph	Please note that in addition to Beresfield, Thornton which adjoins it, Rutherford and Cardiff are significant industrial estates which produce tradeable products and services in quantity. Similarly for references on pages 16 and 31 and for including Rutherford on page 72.
	3. Trading Hubs – third paragraph	While it is important to move goods around, it is people who do the trading. The High Speed Rail connection should be included here or at some other relevant spot. The time distance from Sydney is a major obstacle to people doing business face to face in the Hunter.
15	Outcomes and Strategies	We suggest add "4.5 Extend global connections to similar regions leveraging our education, research, technology and lifestyle assets" for reasons listed in previous paragraphs. Ai Group along with the University of Newcastle, TAFE NSW and Engineers Australia Newcastle Division is

		collaborating to promote the Hunter as an International Centre of Engineering Excellence to sell our technical capability assets to the world.
16	Catalyst areas for Newcastle – para 4	Suggest replace Defence with "engineering and technology". Defence is the accelerator because it applies engineering technology to its operational capability. E&T is also present in many other applications – mining, infrastructure, specialised vehicles, equipment, power generation and distribution etc
22	Outcome 1 – Paragraph1	Suggest change to - "Greater Newcastle's economy has successfully transitioned to a service-based economy, *at the same time retaining and expanding its capabilities in engineering and technology and also* developing strengths in health, education defence……
	Outcome 1 – Paragraph 5	Modify … "science, technology, engineering and maths will service these *and other* activities."
	Outcome 1 – Paragraph 6	Recommend add to the end… "and encouraging overseas companies to set up and collaborate."
	Outcome 1 – Paragraph 7	TAFE NSW needs to be included here as it is a world class provider of technical skills
23	Diagram of Economic Strengths and reference Strategy 1.6	Recommend adding – "**Business and Research Parks** – networking, collaboration, innovation, international" These are features of major transformed technology centres in the USA and UK. I refer to the Westmoreland County Business and Research Park in Pittsburgh and Silverstone Business Park in the UK. A high-end Australian example (but not so 'tech' oriented) is North West business park in Sydney. Current development plans by Newcastle Airport Corporation for a Technology Park at Newcastle Airport precinct, are receptive to this kind of development. What these Parks do is bring together large and small companies - established and start-ups, onto the one site, provide meeting facilities and co-working spaces, maker spaces, occupational health providers, gyms, coffee shops, food shops and hotels. They also attract high-tech employees who value lifestyle as well as salaries. Uni, TAFE NSW and a technology high school campus could also be located there to grow new talent. Residential estates are often adjoining these Parks to reduce travel commute to work, training etc and to facilitate cadetships and apprenticeships. Contrast future and existing "industrial estate" developments in the Hunter – mostly grungy, dusty, nowhere to eat, meet or recreate/exercise; no co-working spaces for start-ups, no public transport - car licence is almost essential for young people; bicycle access is difficult; no internet café, no cross fertilisation of old and new companies, no collaboration. Developers do not seem to understand these needs and are reluctant to change their practices. A Planning Instrument which encourages local councils to look closely at the good design of industrial/technical workplaces will greatly facilitate the creation of better amenities for knowledge companies and make it more

		attractive for owners, employees and researchers to work there. They would be the "ideas factories" of the region.
24	Strategy 1.1	Ai Group has observed that the region lacks middle size convention facilities near Newcastle and also at a reasonable price. International cities all have convention spaces in which they hold events which attract international visitors. Also under Actions – Maitland which has a wonderful heritage (and declining) CBD should also be marked for revitalisation. It could be a very attractive place for young business people if it is appropriately themed.
27	Strategy 1.2	Recommend inclusion of a Light Rail Line to the Airport with eventual extension to Port Stephens. It could also take in Heatherbrae and Tomago. Port Stephens Road is very inadequate as the only access road to the airport. Quick and available public transport from the airport is a "given" in any sophisticated city. Recommend that surveying of the route commence in 2018 and lands be set aside for future development (with dates)
29	Strategy 1.4	Recommend inclusion of a strategy for development of world class mental health facilities. There is much evidence of mental issues in the population, which according to press reports, mostly go untreated. Treatment facilities are very poor and inadequate. HMRI could become a leader in mental health with the right coalitions. We can do better and a modern inclusive city would take care of its most vulnerable.
30	Strategy 1.5 Expand Education and Innovation Clusters	The contents of this page are reasonably comprehensive and endorsed. In paragraph 3, Ai Group would like to see reference to TAFE NSW as the leading provider of training for not only our skilled technicians and trades people, but also for vital business, administration and support services personnel. This is very significant because trades-trained people actually make sure the reliability of machines, networks and controlling computer systems, while skilled administrative and support services people ensure effective supporting infrastructure and administration services. This category also provides the service support to all kinds of equipment and installations (including Defence aircraft) and the communications to and from them by digital technology (the Internet of Things). In Newcastle, TAFE NSW and UoN work closely together and they continue to develop complementary courses to ensure open career paths for technicians to engineers and technician skills for graduate engineers. This rarely happens in Australia and is another developing regional asset.

		Government and private high schools are also major contributors to the engineering and technology capabilities of the region by providing the foundation skills and experience for our future tradespersons, technicians and engineers. RDA Hunter over a period of 8 or so years has successfully initiated and developed the ME Program (Manufacturing Education) with funding from the Federal Government. It was set up to ensure that the region had the necessary skilled people to support the JSF and other high-tech defence initiatives. There are 46 high schools participating in the program and as a result the Hunter's uptake in enrolments in STEM subjects in the HSC is: • Engineering studies – 2.5 times better in 2010 and 2.25 times better in 2016; • Software 1.8 times improvement in the Hunter, while NSW has remained stable; • Extension 1 Maths was 2.4% lower than NSW in 2010 and is now 1.4% higher; • Chemistry was 3.7% lower in 2010 and is now on par; • Physics was slightly higher in 2010 and remains static while NSW has declined. (For actual figures please see the attached spreadsheet) Subsequently enrolments in engineering at UoN and electrotechnology at TAFE NSW have seen significant increases. The ME Program results coupled with TAFE NSW and UoN Engineering enrolments, provides the region with a 10 year view of the STEM skill pipeline. This is another significant regional asset. It helps the region to show the scope of its technical capabilities now and into the future. However, on the negative side, the access of high school students to VET pathways by studying their VET subjects at a TAFE NSW campus is currently limited by a NSW Department of Education Policy which puts the budget allocation for teaching salaries at risk if students take time out of that school. High School teachers most commonly do not have the necessary training to deliver VET subjects. In an age where we need more technically enthused and trained young people, this policy is seen as an artificially imposed and regressive barrier. For industry it unnecessarily limits the talent pool for skilled employment. It should be simple for Government to establish a separate fund which reimburses schools to avoid any negative effects of as many of their students as want to commence their technical studies at TAFE NSW.

		Accordingly, Ai Group recommends that *Action be included at Minister to Minister level to institute the necessary internal funds transfers to support the release of high school students to undertake VET subjects at TAFE NSW.* In terms of Innovation spaces, the UoN has its Innovation Hubs project taking shape and there are other Innovation and Co-Working Spaces such as Eighteen04 and DASH. These are important initiatives to support start-up companies, however in the engineering tech area we currently lack a "maker space" where students, researchers and inventors can come to a common meeting place and access various machines and processes to make prototypes of their inventions. This would be a wonderful asset in furthering our strengths in advanced manufacturing. Accordingly, Ai Group recommends that under Action then following be included *"University of Newcastle, TAFE NSW and the Department of Industry explore the creation of a 'maker space' to assist students, researchers, inventors, start-ups and established manufacturers to develop and prototype new products and methods. This facility will enhance the further development of a community of 'makers' and develop new skills in Advanced Manufacturing. It will become a focal point for engineering knowledge and practice in the Region."*
31	Strategy 1.6	Para 1. Recommend change the introduction to "*The skills and knowledge of Newcastle's engineering and technology industries*, along with its lifestyle appeal….." Para 6. This paragraph should be omitted and a paragraph consistent with views expressed for page 23 substituting (see next comment re page 32).
31	Actions – first column	Include under first two paragraphs: • "encourage developers to develop multi-use Business and Research Parks to accommodate advanced manufacturing and technology companies and services which build community, enrich the business life and lifestyles of the tenants", and • Situate business land development near urban centres and provide both public transport and cycleway access to reduce reliance on motor vehicles.
32	Actions – Second column referring to the Department of Planning and Environment	a) Ai Group has concerns about this part of the Draft Plan. We would like to know which former manufacturing land is being referred to in the "city core". It is important that land around heavy industries such as the Onesteel plant at Mayfield are not encroached by residential development. In such cases, new residents often become hostile to the manufacturing facility and petition for its closure with subsequent loss of jobs and

		opportunities for suppliers. In the case of the former steel mill site, Ai Group is concerned that sufficient land is reserved for a future container port. b) Encourage the relocation of heavy industries. The impression is that heavy industry is regarded as a pariah and that it should be moved further away from urban areas. It is hard to see how Kooragang Island could be any further away. Onesteel, Orica, Molycop etc are significant employers and contractors of local suppliers. Heavy industry involves large installations which are virtually impossible to move, they can really only be demolished and new plants established somewhere else – usually overseas with loss of local employment. More detail would assist a better response from Ai Group to this item.
32	Diagram	Add "Networking and Collaboration"
74	Former Gasworks Precinct	Ai Group recommends that this site be considered for development as a technology park to encourage innovative companies, start-ups, inventors and students to come together. It could be an extension of Tighes Hill campus of TAFE NSW which is nearby, have a maker space, co-working space, labs, lecture halls, etc. It could be collaboratively managed with an emphasis on combining the resources of TAFE NSW, the University of Newcastle and technology companies. It could also be a site for a technology high school to assist in the career pathways in engineering and technology. It would be a major technology focal point for Newcastle and the Greater Hunter Region. Its effectiveness would be enhanced by the creation of a railway station on the Maitland rail line as that site is some distance from a station.
84	Throsby Precinct	The first paragraph is of concern. The plan should not encourage "nimbys" especially with the advancing gentrification of Carrington and Wickham. Ai Group considers that the current ship building precinct at Carrington, currently being refurbished by Thales with assistance from the NSW Government, should be able to operate without unnecessary planning restrictions. Thales is making a major investment which will result in the creation of around 300 skilled jobs.
86	Tomago Industrial Precinct	This estate is decidedly dusty, lacking people amenities and very difficult to get to by public transport. It is not particularly attractive to intending employees and tenants. Ai Group recommends the Department of Planning consult with Port Stephens Council to develop plans for the beautification of the Estate to include softer streetscape, community meeting spaces, shops, co-working spaces, cycle paths and better access to Hexham rail station (as an interchange). It should also plan for a station at Tomago in a centrally accessible location for any light rail line from Newcastle to Heatherbrae and Newcastle Airport/Port Stephens. With the right facilities and connections, Tomago could become a strategic advanced manufacturing centre.

88	Aerospace and Defence Precinct Williamtown	Add "Build Light Rail Line to Airport and Port Stephens"
96	Add "Advanced Manufacturing"	*"Advanced Manufacturing is a family of activities that:* *(a) depend on the use and coordination of information, automation, computation, software, sensing, and networking, and/or* *(b) make use of cutting edge materials and emerging capabilities enabled by the physical and biological sciences, for example nanotechnology, chemistry, and biology.* *This involves both new ways to manufacture existing products, and especially the manufacture of new products emerging from new advanced technologies."* Source: US President's Council of Advisors on Science and Technology (from https://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-advanced-manufacturing-june2011.pdf) (June, 2011)

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