



The Economic Impact of **Collins** **Class Full Cycle Docking** in Western Australia

Final Report: 8 August 2019

Executive summary

- ▲ ACIL Allen was engaged by Defence West to undertake an economic impact assessment of the potential movement of Collins class submarine Full Cycle Docking ('FCD') to Western Australia.
- ▲ The economic impact assessment will help Defence West explain the benefits of this movement by estimating the long term benefits to the state's economy over the facility's productive life in terms of the impact on output (Gross State Product), real incomes, and employment (FTE basis). The modelling has been completed in ACIL Allen's Input Output (IO) framework.
- ▲ Due to the confidential nature of Defence spending, this report is based on a range of assumptions made by ACIL Allen and Defence West, and two scenarios (a High and Low scenario) have been modelled. The assessment has been based on a combination of publicly available summary information from the Australian Submarine Corporation ('ASC'), proprietary ACIL Allen information on the composition of expenditure, and information and assumptions made by Defence West with respect to the timing of particular activities. The scenarios reflect ACIL Allen and Defence West's best estimates of the potential scale of impact associated with moving FCD to Western Australia on the current available information.
- ▲ Overall the economic impacts of FCD and Life of Type Extension ('LOTE') in Western Australia are substantial (see right). However, they do rely on ASC moving a significant operational workforce from South Australia to Western Australia. The benefits could be enhanced with greater participation in the Defence supply chain.
- ▲ ACIL Allen recommends a follow up study is commissioned, in conjunction with relevant parties to ensure access to detailed information. This would allow for an assessment to be completed based on relevant operational plans and considerations.

ECONOMIC IMPACT OF FULL CYCLE DOCKING OF COLLINS CLASS SUBMARINES IN WESTERN AUSTRALIA



Real income impacts

Total income benefits: **\$7.9bn**
Wages and salaries: **\$5.5bn**
Profits and other mixed income: **\$2.3bn**

Real income benefits reflect an increase in the purchasing power of the WA economy



Real output impacts

Total Gross State Product: **\$8.4bn**
Average Gross State Product: **\$557m p.a.**
Real consumption impact: **\$2.0bn**

Full Cycle Docking in WA is equivalent to a 4% boost to WA's manufacturing industry



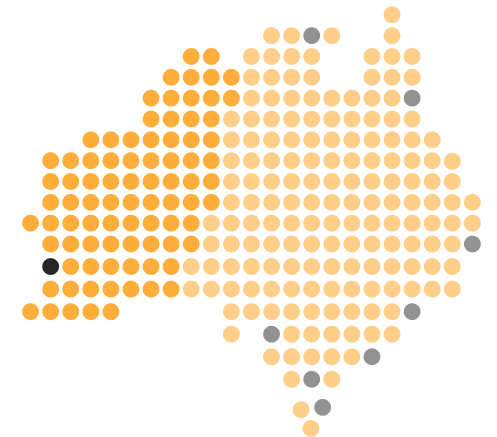
Total employment impacts

Annual average jobs: **2,278 FTE jobs**
Employment multiplier: **2.57**
Peak employment (FY36): **3,084 FTE jobs**

For every 100 direct ASC jobs there are 157 additional jobs for Western Australians



**DEFENCE
WEST**



ACIL ALLEN CONSULTING



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Preliminaries

Scope of works and key terms



ACIL Allen scope of works

- ▲ ACIL Allen was engaged by Defence West to undertake an economic impact assessment of the potential movement of Collins class submarine FCD to Western Australia.
- ▲ The economic impact assessment will help Defence West explain the benefits of this movement by estimating the long term benefits to the state's economy over the program's life in terms of the impact on output (Gross State Product), real incomes, and employment (FTE basis). The modelling has been completed in ACIL Allen's Input Output (IO) framework.
- ▲ The assessment has been based on a combination of publicly available summary information from the Australian Submarine Corporation ('ASC'), proprietary ACIL Allen information on the composition of expenditure, and information and assumptions made by Defence West with respect to the timing of particular activities. These are known as the **direct economic impacts** of the project.
- ▲ This report takes the direct economic impacts derived from this report and estimates the indirect and total economic impacts of the project on the WA economy over the project's life using ACIL Allen's Input Output modelling framework.
- ▲ The impacts will be measured in terms of the direct and indirect impact on output (GDP, GSP), incomes and employment (full time equivalent basis).

Key terms

Key Terms and Definitions	
Term	Definition
Gross product or economic output	<i>A measure of the size of an economy</i> Gross product is a measure of the output generated by an economy over a period of time (typically a year). It represents the total dollar value of all finalised goods and services produced over a specific time period and is considered as a measure of the size of the economy. At a national level, it is referred to as Gross Domestic Product (GDP); at the state level, Gross State Product (GSP); while at a regional level, Gross Regional Product (GRP).
Real income	<i>A measure of the welfare of residents in an economy through their ability to purchase goods and services and to accumulate wealth</i> Real income measures the income available for final consumption and saving after adjusting for inflation. An increase in real income means that there has been a rise in the capacity for consumption as well as a rise in the ability to accumulate wealth in the form of financial and other assets. The change in real income from a development is a measure of the change in the economic welfare of residents within an economy.
Employment	The number of full time equivalent job years created as a result of expenditure in the economy, which includes direct and indirect (flow-on) employment.
Job years	Real employment is measured in job years. A job year is employment of one full time equivalent (FTE) person for one year. Alternatively it can be expressed as one 0.5 FTE person for two years.



Modelling technique

- ▲ ACIL Allen was engaged to complete this economic impact assessment using ACIL Allen's proprietary Input Output (IO) modelling framework.
- ▲ In general, CGE modelling is preferred to IO modelling as CGE modelling allows for the dynamic adjustment of resources across the economy to their most productive uses. In an economy there are a finite number of resources (land, labour, capital) with limited flexibility, and so when a new project emerges it takes some of the resources being utilised by other existing components of the economy. This is called the "crowding out effect". CGE modelling also treats new capital expenditure as an increase in the productive capacity of the economy (ie it creates new resources), which can offset some of the crowding out effect.
- ▲ By contrast, IO modelling does not consider crowding out. It assumes there are constant returns to scale, which means the economy has an unlimited capacity to respond to additional economic activity.
- ▲ **CGE modelling is often the preferred modelling framework of ACIL Allen, and key economic agencies such as WA Treasury.** However, in this instance, ACIL Allen considers an IO approach is

adequate for Defence West's needs. This is principally due to the Defence industry existing somewhat separately to the rest of the economy, with specialist infrastructure, manufactured goods and services, human capital and funding from the rest of the economy. In addition, this particular project reflects the transfer of existing planned spend from South Australia to Western Australia. As such, the potential for this activity to lead to crowding out in the Western Australian economy is more limited than a regular study of this kind.

- ▲ Given this, ACIL Allen is confident an IO-based study is fit for purpose and can adequately demonstrate the potential indirect economic benefits of moving Collins class submarine FCD to Western Australia.

Use of scenarios

- ▲ Due to the confidential nature of Defence spending, there was limited access to information for this study. As a result, this report is based on a range of high level sources and assumptions made by ACIL Allen and Defence West.
- ▲ There was a data gap in relation to the source of supply, which reflects where the goods and services purchased to support the activities of ASC in its role at FCD and LOTE head contractors.
- ▲ To mitigate this, ACIL Allen has modelled two scenarios in the IO framework, being:
 - a "High" scenario, where it is assumed a high proportion of the materials and services expenditure of ASC flows to Western Australian businesses, and
 - a "Low" scenario, where it is assumed a low proportion of the materials and services expenditure of ASC flows to Western Australian businesses.
- ▲ The scenarios reflect ACIL Allen and Defence West's best estimates of the potential scale of impact of moving Collins class submarine FCD to Western Australia. The assumptions and their limitations are detailed further in this report.

Data sources

- ▲ Data with respect to Defence spending is difficult to source at the level typically required to complete an economic impact assessment. This is due to the confidential nature of the activities, and that the expenditure is generally either Government-to-Government or Government-to-private business.
- ▲ ACIL Allen has worked with Defence West to produce estimates of the forecast capital and operational spend associated with ASC's Collins Class infrastructure facility, as well as the operational expenditure required to undertake Full Cycle Docking and Life of Type Extension activities once vessels are at the facility.
- ▲ There are three primary sources for CAPEX and OPEX data:
 - Information provided by Defence West with respect to the capital requirements for an FCD-ready facility
 - Successive ASC Annual Reports, which provide an overview of the total expenditure of ASC in its activities as the head contractor for Collins class submarine sustainment
 - ASC 2016-17 annual report, which announced ASC had received contracts for FCD and LOTE for the CCSM through to the end of the vessels' lives in the mid-2030s
 - Existing knowledge and understanding of the nature of both marine infrastructure and the composition of Defence spending gathered from previous engagements
- ▲ **The analysis of the direct impact of FCD and LOTE activities is based on a number of assumptions in lieu of actual data being made available for this study.** The assumptions framework is presented in Figure 1.
- ▲ The Department provided ACIL Allen with a planned work schedule as part of CCSM FCD and LOTE, which has been included in Figure 2. The timing of each program determines the timing of expenditure associated with the two maintenance programs. Where LOTE is denoted, the vessel also undergoes FCD.

Figure 1: ACIL Allen Assumptions Framework

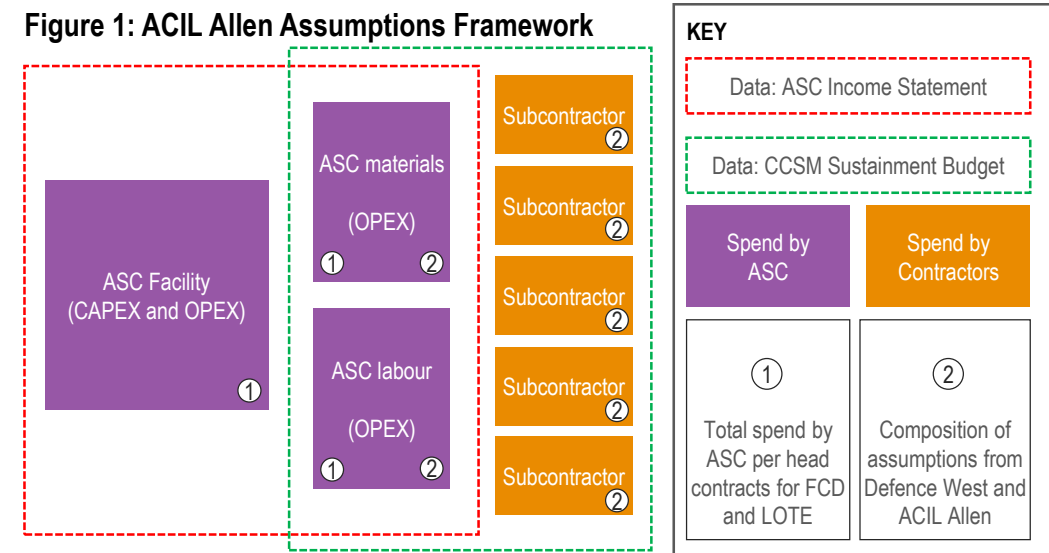
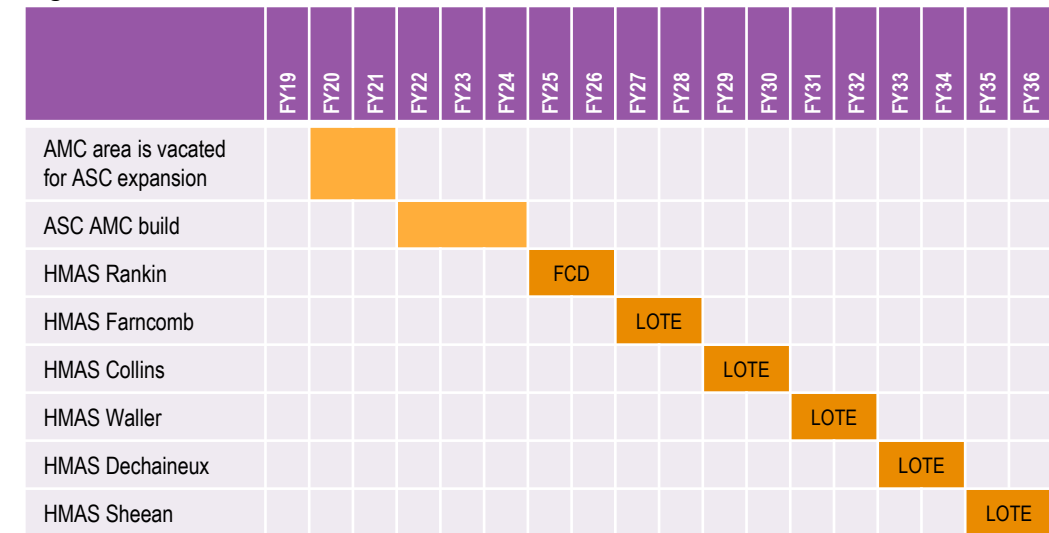


Figure 2: ASC FCD and LOTE schedule





Direct economic activity

Full Cycle Docking in Western Australia



- ▲ Full Cycle Docking is an extensive maintenance and upgrade refit program, typically involving thousands of tasks over two years, which each submarine rotates through after a decade of operational service. During the program, a submarine's hull is cut in half to remove the main motor and diesel engines for servicing, before re-assembly. Additional services are conducted on the vessel over the two years, including the future Life of Type Extension works which will further upgrade the technical and weapons systems of the vessels.
- ▲ The activities are currently conducted at ASC Osborne Naval Shipyard in South Australia. With the Commonwealth Government in the process of developing the Attack class submarine and Hunter class frigate, there is a strong possibility the current facilities in South Australia will not be able to cater for Collins class submarine sustainment activities in addition to the new builds.
- ▲ Moving Full Cycle Docking to Western Australia has a number of strategic benefits, which are discussed in a companion report. The economic benefits are related to the direct impact of ASC's expenditure to facilitate Full Cycle Docking, and the indirect impact of materials, supplies and services purchased from members of the Defence supply chain in Western Australia.

Figure 3: Defence West's case for Full Cycle Docking in Western Australia

The case for Full Cycle Docking in Western Australia



The potential to move FCD and capitalise on the flow on benefits of a larger and increasingly capable workforce is underpinned by the unique aspects of the Henderson precinct. The common user facilities and industrial area was established by the State Government in 2003 to enable WA industry to capture activity that would otherwise have been undertaken overseas. The utilisation of waterfront land adjacent to the heavy industrial area has facilitated industrial activity while stimulating the WA economy (with the precinct's heavy involvement in oil and gas construction). This co-location of both Defence, oil and gas, and other industries also allows for economies of scope and

innovation in the industrial hub. The State Government has outlined its goal for WA to be the pre-eminent base for all Defence operations in the Indian Ocean by 2030. By becoming the principal location for all submarine maintenance and sustainment it takes the first step to achieving this goal, and expands operations at Henderson.

There are a number of reasons why FCD being conducted at Henderson is beneficial to the nation and Defence's ability to conduct its work. This includes:

- there is a significant risk there will not be enough capacity or required workforce to build the Attack class submarine, Hunter class frigate, and sustain CCSM at Osborne;
- it will allow for easier retention of the specialist CCSM sustainment workforce by locating them in WA and minimising the risk of workers jumping ship to the Attack class submarine and Hunter class frigate projects;
- it co-locates all Collins class maintenance and sustainment, providing economies of scope and scale; and
- the move allows for co-location of sustainment workers with submariners (who are all based on the west coast). This may lead to additional synergies and improved capability –particularly as LOTE may significantly change the submarine systems for operators and require their ongoing input in design.

Overall, in the State's view, there is a significantly strong case that moving FCD to WA is in the national interest and allows for more efficient Defence operations

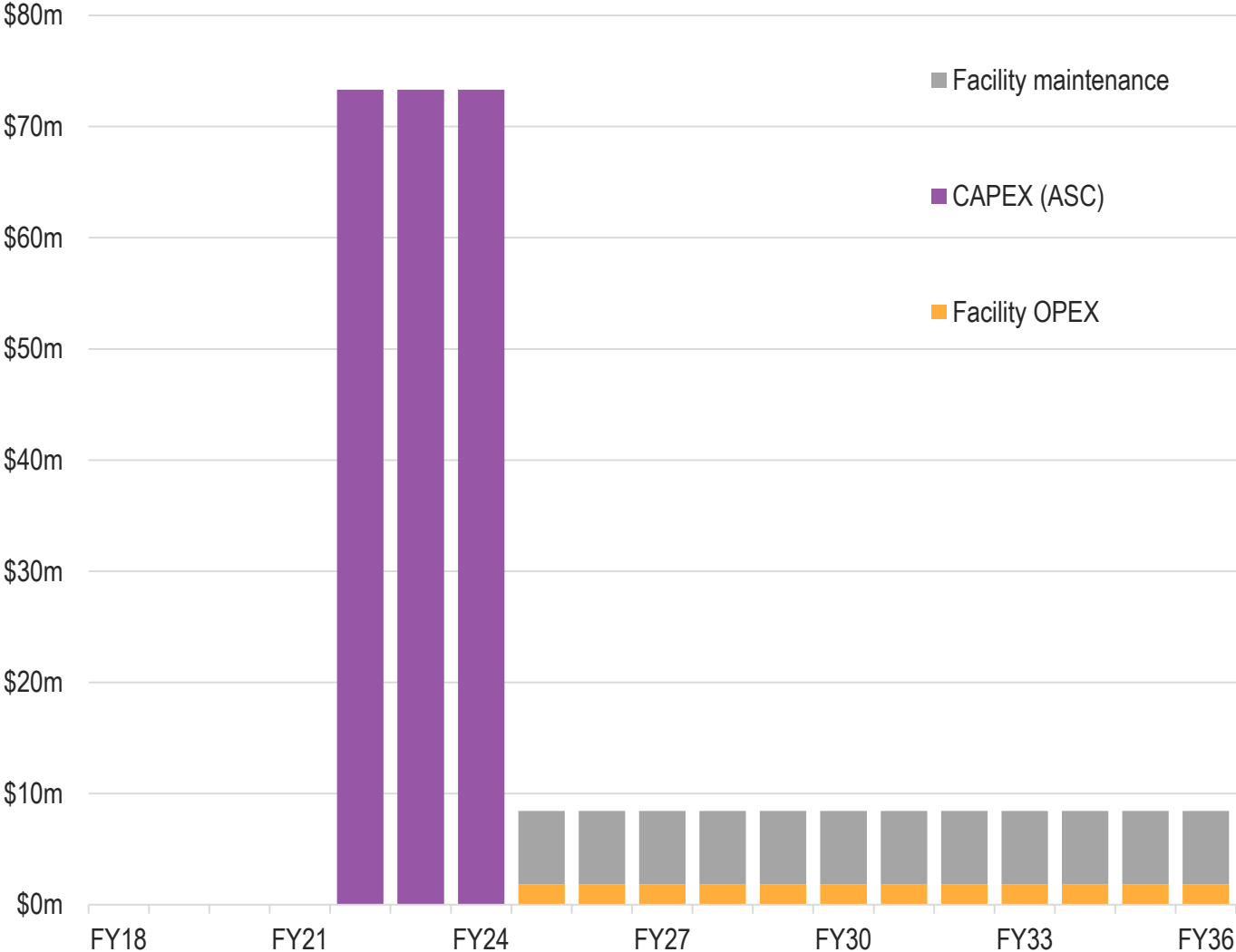
Source: Defence West



Direct economic activity (1/6): Facility CAPEX and OPEX



Figure 4: ASC Facility CAPEX and OPEX, real 2019 dollars, \$m per annum



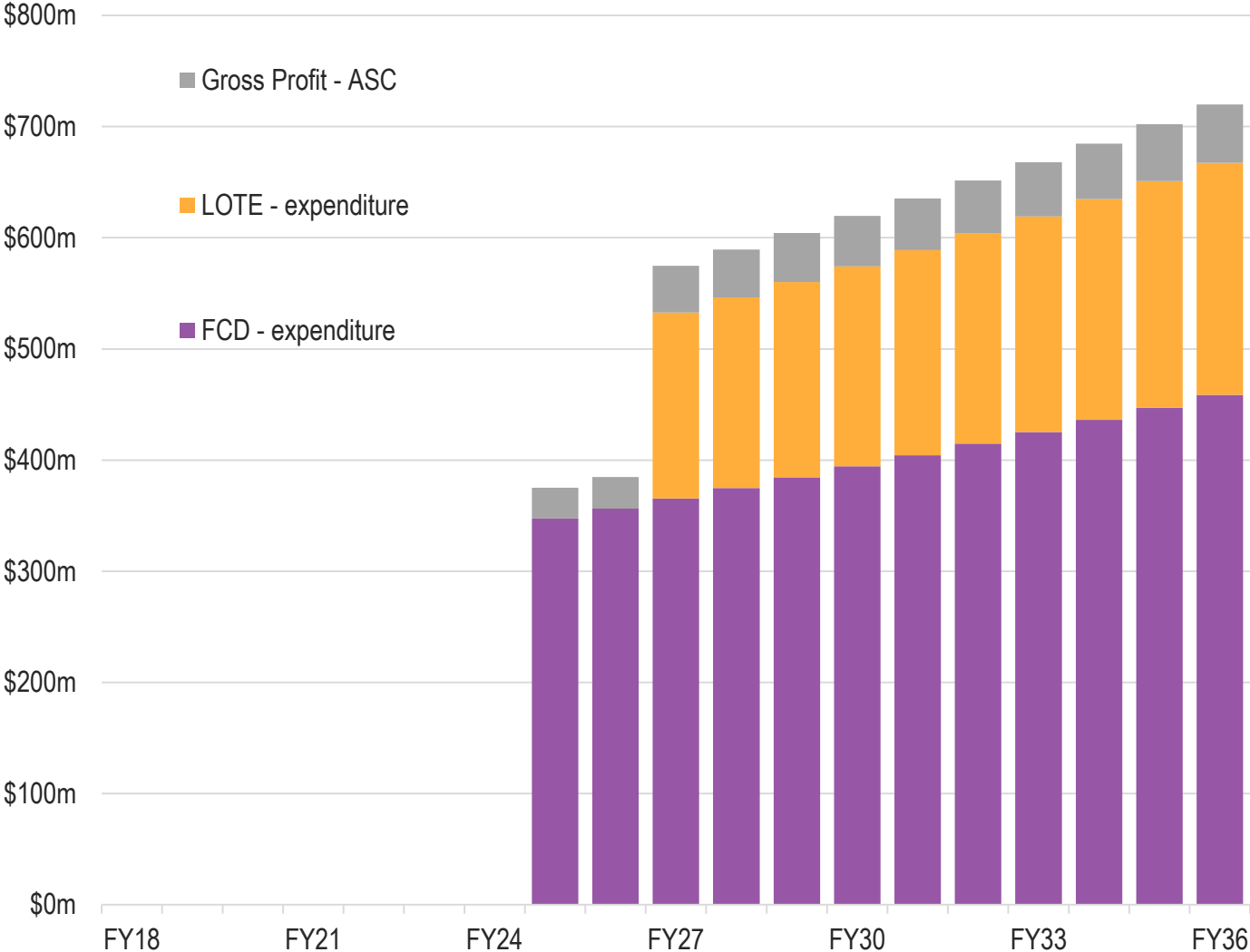
ASC facility capital and operating expenditure

- ▲ The total capital expenditure associated with the expansion of ASC is \$220 million. It is assumed the facility will take three years to build, and be operational in time for the FCD of the HMAS Rankin in 2024-25.
- ▲ ACIL Allen’s previous work suggests the annual operations and maintenance of a facility of this nature can be anywhere between two and four per cent of the capital value of the facility. As no actual information is available ACIL Allen has assumed a three per cent ratio for maintenance expenditure. The facility’s OPEX is a product of the number of personnel required to operate ASC facility on a day to day basis, in roles such as security and site management. No data on this has been forthcoming, and so ACIL Allen assumes the equivalent of ten FTE job years at an average salary equivalent to the WA Average Weekly Ordinary Time Earnings (AWOTE) is required.
- ▲ The operations and maintenance expenditure associated with ASC’s facility must be managed within the FCD and LOTE budgets. This process is discussed on the next page.
- ▲ The direct employment associated with the facility is discussed on Page 14.

Direct economic activity (2/6): Total ASC contract values



Figure 5: ASC head contract values, by contract inclusive of gross profit assumption, 2019 real, \$m



Total ASC contract values and composition

- ▲ ACIL Allen has relied upon the two head contracts awarded to ASC for CCSM-related activities as per the organisation’s 2016-17 annual report. These values are:
 - \$6.7 billion (nominal dollars) for CCSM FCD for each of the six vessels
 - \$2.6 billion (nominal dollars) for CCSM LOTE for five of the six vessels

- ▲ To convert these to annual values, ACIL Allen has combined the work schedule provided by the Department and made an overriding assumption that ASC must manage the FCD and LOTE programs to the overarching budget constraints implied by the contract values. ACIL Allen also understands there is a real growth factor of 2.5 per cent per annum in ASC’s expenditure, which has been taken into account in preparing these estimates.

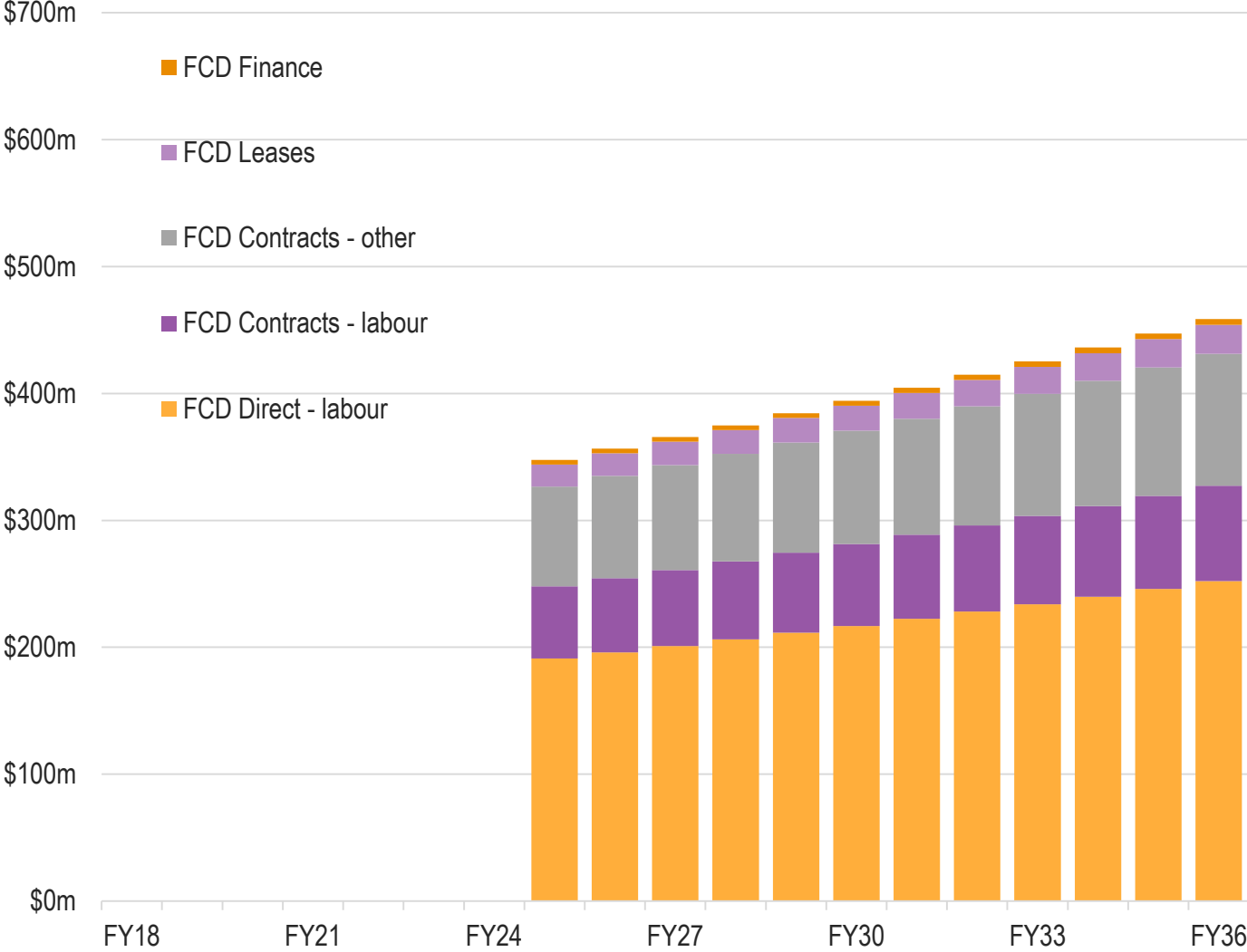
- ▲ An additional step was required to convert the values to real 2019 dollars. As the head contract values are in nominal dollars, ACIL Allen calculated the real value in the first year of the expenditure (2024-25). This calculation allows for expenditure to be increased by inflation and the real cost growth factor each year during the program and balance the overall contract value over the full life of the program.

- ▲ The total contract value for each program must account for an assumed 7.2 per cent margin, sourced from ASC’s annual report. The assumed expenditure and margin is shown in Figure 5.

Direct economic activity (3/6): FCD expenditure



Figure 6: ASC FCD expenditure, by major component, real 2019 dollars, \$m



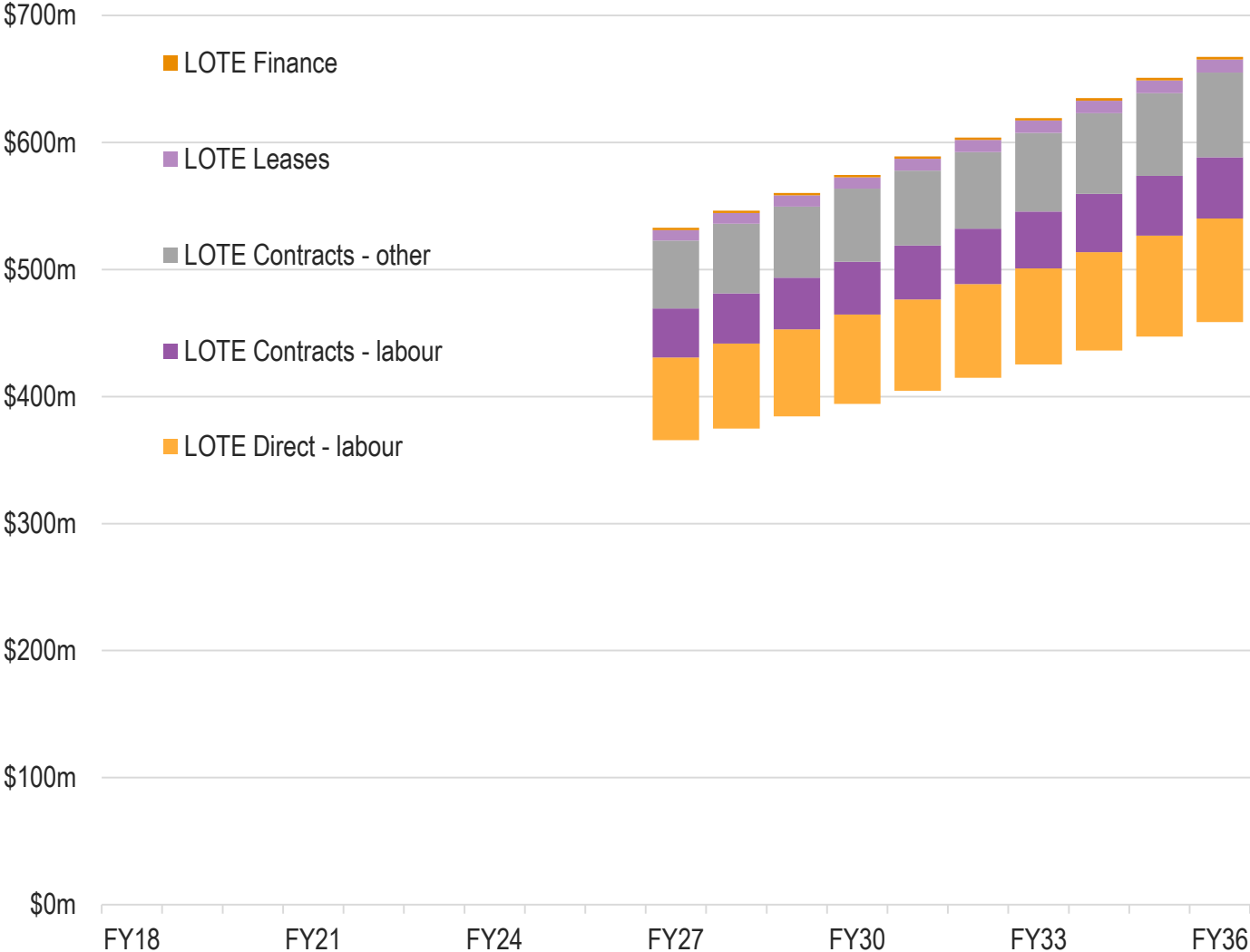
Full Cycle Docking expenditure

- ▲ The total value of ASC’s FCD head contract is \$6.7 billion nominal dollars, to facilitate the FCD of each of the six CCSM over the modelling period. To convert this to real 2019 dollars, ACIL Allen has assumed ASC must manage its expenditure to this overall funding envelope, inclusive of a margin (assumed 7.2 per cent, based on ASC annual reports).
- ▲ Another adjustment is associated with a real cost growth factor of 2.5 per cent, which has been assumed on the basis of ASC’s successive annual reports. The result of the adjustment is presented to the left.
- ▲ The distribution of this expenditure is based on successive ASC annual reports. It is assumed 55 per cent of CCSM FCD expenditure by ASC is on direct labour, 39 per cent on materials and subcontractors, five per cent on site leases and one per cent on finance costs.
- ▲ Within the materials and subcontractors expenditure, it is assumed 42 per cent of this flows to labour-related expenditure, with 58 per cent on materials. This is a high level assumption, based on proprietary ACIL Allen information, and may not reflect the actual pattern of spending as there is no information available that breaks this down.

Direct economic activity (4/6): LOTE expenditure



Figure 7: ASC LOTE expenditure, by major component, real 2019 dollars, \$m



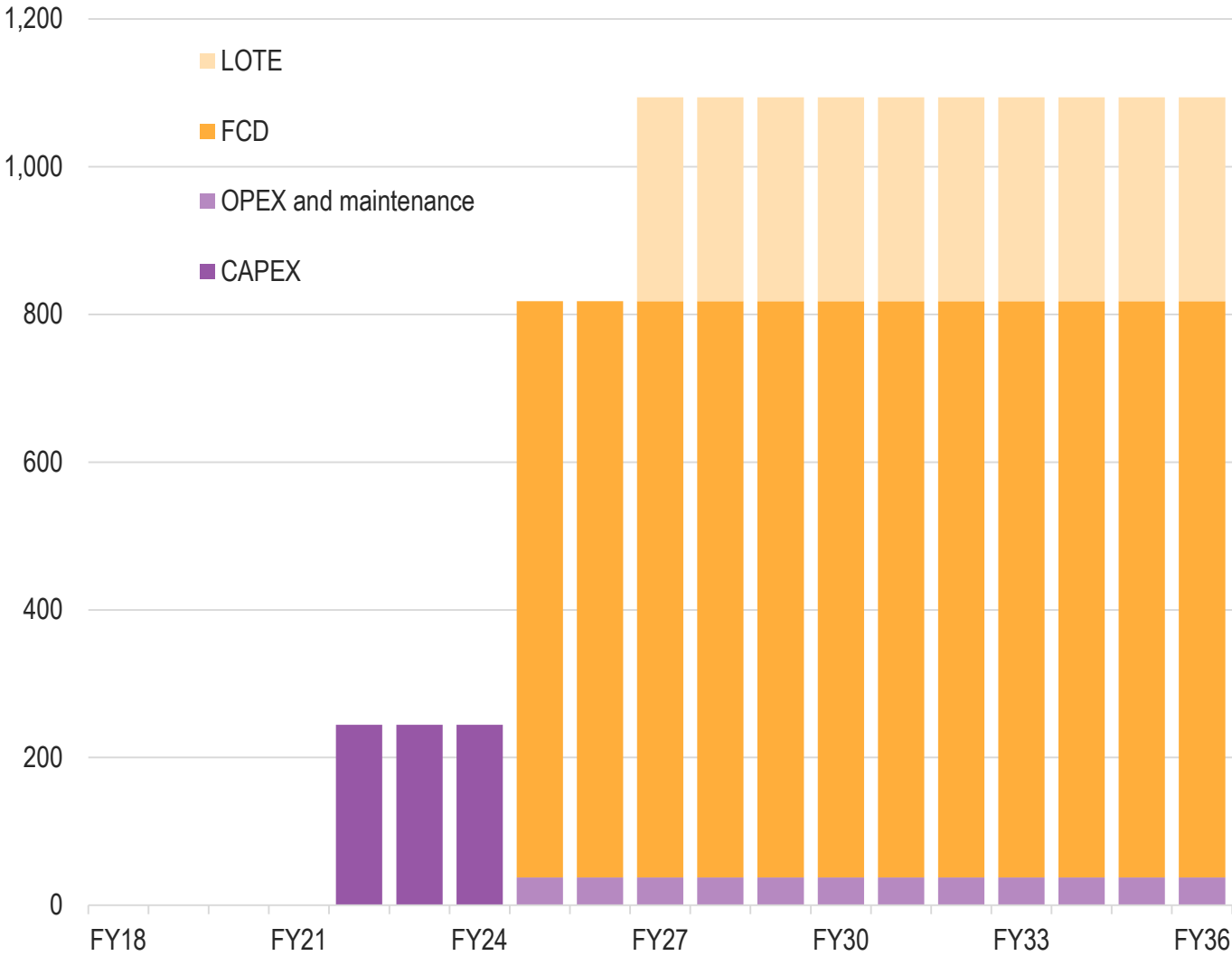
Life of Type Extension expenditure

- ▲ The total value of ASC’s LOTE head contract is \$2.7 billion nominal dollars, to facilitate the LOTE of five of the six CCSM over the modelling period. To convert this to real 2019 dollars, ACIL Allen has assumed ASC must manage its expenditure to this overall funding envelope, inclusive of a margin (assumed 7.2 per cent, based on ASC annual reports).
- ▲ Another adjustment is associated with a real cost growth factor of 2.5 per cent, which has been assumed on the basis of ASC’s successive annual reports. The result of the adjustment is presented to the left.
- ▲ The distribution of this expenditure is based on successive ASC annual reports. It is assumed 55 per cent of CCSM LOTE expenditure by ASC is on materials and subcontractors, 39 per cent on direct labour, five per cent on site leases and one per cent on finance costs. This is the inverse of FCD, as ACIL Allen understands LOTE is more in relation to material and equipment upgrades.
- ▲ Within the materials and subcontractors expenditure, it is assumed 42 per cent of this flows to labour-related expenditure, with 58 per cent on materials. This is a high level assumption, based on proprietary ACIL Allen information, and may not reflect the actual pattern of spending as there is no information available that breaks this down.

Direct economic activity (5/6): Employment



Figure 8: ASC direct employment, FTE jobs in year, by major expenditure



Total direct ASC employment

- ▲ The total direct (ASC) employment associated with moving FCD to Western Australia is presented to the left.
- ▲ For the capital expenditure and operations of the facility, ACIL Allen has assumed a capital-labour ratio (33 per cent for construction, and 50 per cent for operations). ACIL Allen has assumed an average real wage for a construction worker of \$100,000, and WA AWOTE for operations workers, based on proprietary information. This equates to a workforce of 244.4 FTE for construction in 2021-22 to 2023-24 and 37.7 FTE for operations from 2024-25 to 2035-36.
- ▲ For FCD, ACIL Allen has assumed a total ASC sustainment workforce of 1,300 FTE (from the Naval Shipbuilding Strategic Workforce Discussion Paper), and assumed 2/3 of this is associated with ASC's FCD program (under the assumption FCD expenditure is twice as large as Mid Cycle Docking expenditure). ACIL Allen has assumed 90 per cent of this direct employment will transition to Western Australia following ASC's move, being 780.3 FTE from 2024-25 to 2035-36. The details and exact timing of a phased transition would be subject to discussions between WA, ASC and Defence to ensure operational capability.
- ▲ For LOTE, ACIL Allen has assumed a labour cost per FTE ratio implied by the FCD estimates holds for LOTE, and applied this to the labour cost component of LOTE, being 275.8 FTE from 2026-27 to 2035-36.

Direct economic activity (6/6): Composition of spend



Figure 9: Assumed composition of Defence material and subcontractor expenditure

Materials expenditure	Share of total (FCD)	Share of total (LOTE)	WA share (HIGH)	WA share (LOW)
Blasting & painting	20%	-	80%	40%
Specialist defense components and services	16%	27%	10%	5%
Subcontractor subcontract labour	15%	25%	80%	40%
Other materials, supplies and services	15%	25%	40%	20%
General manufacturing components	13%	-	40%	20%
Structural repairs	6%	-	40%	20%
Engine components and maintenance	6%	10%	10%	5%
Equipment hire	4%	7%	40%	20%
Electrical work	3%	5%	10%	5%
Insulation work	2%	-	10%	5%
Direct subcontractor labour	Share of total (FCD)	Share of total (LOTE)	WA share (HIGH)	WA share (LOW)
Labour costs	100%	100%	80%	40%

*Note: columns may not add to 100% due to rounding

Composition of materials expenditure

- ▲ The indirect economic benefits of moving FCD to Western Australia are associated with the localised expenditure by subcontractors on labour and materials. There is limited information available in this respect, given the confidential nature of Defence projects.
- ▲ ACIL Allen has made some high level assumptions with respect to the local composition of Defence subcontractor expenditure in Western Australia using previous engagement experience and a brief review of the current defence industry in Western Australia.
- ▲ Figure 9 details high level assumptions with regards to how one dollar of Contracts – Labour and Contracts – Other is spent, in Western Australia and outside of Western Australia. The shares in each of the modelling scenarios are detailed in the final two columns.
- ▲ The composition of LOTE is a product of assumptions associated with FCD, removing some components which are related specifically to repairs and maintenance (which increases the share of specialist Defence-related expenditure).
- ▲ There may be opportunities to increase the local share of this expenditure in the future, given ASC's infrastructure is likely to act as an inducement for existing Defence subcontractors to increase their presence in Western Australia. However ACIL Allen has adopted conservative assumptions in this regard given the high degree of uncertainty with the estimates.



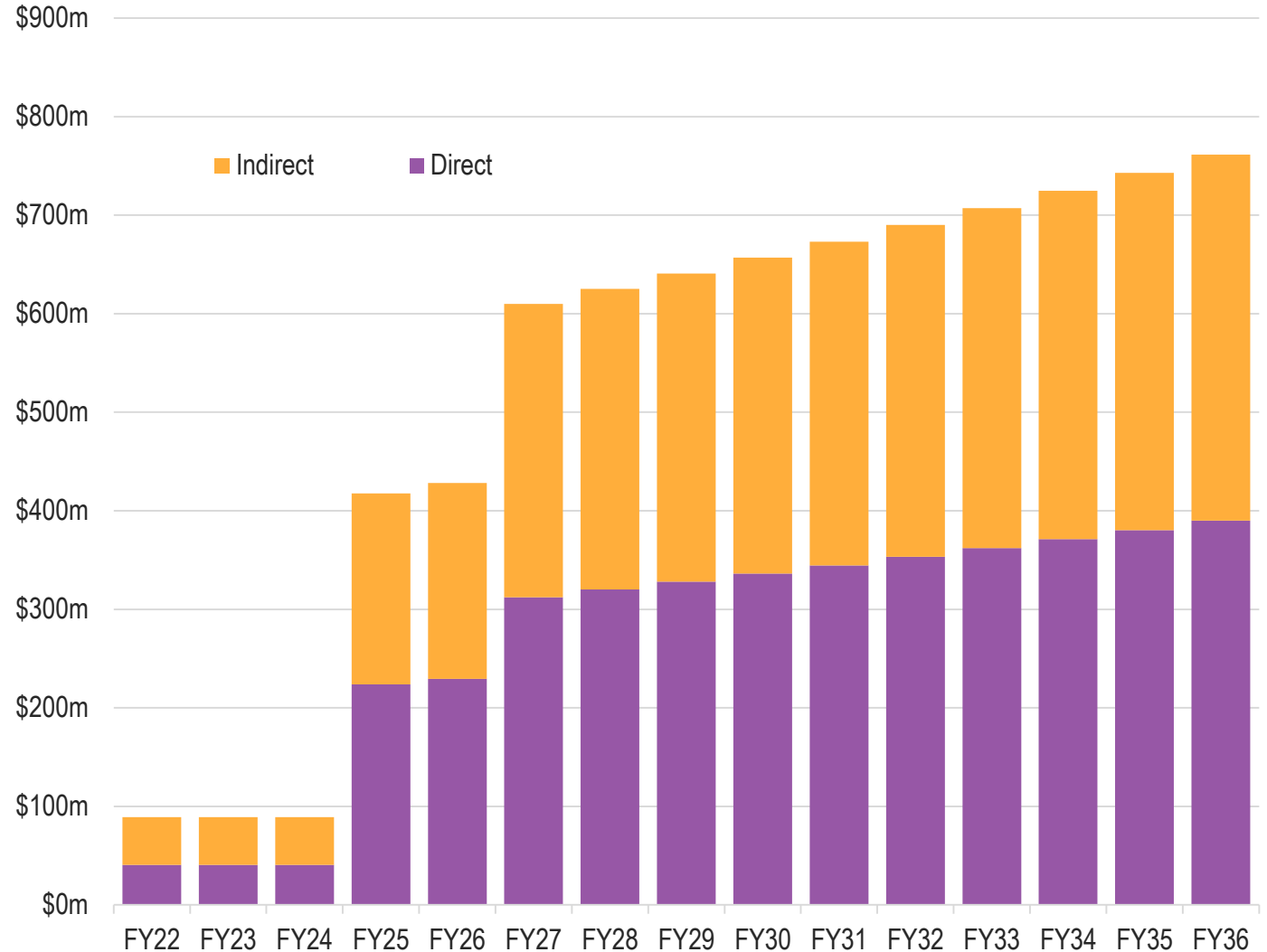
Economic impact assessment

Real income benefits of Full Cycle Docking in WA



- Real income is ACIL Allen's preferred measure of the impact of a project, as it reflects a change in the purchasing power of businesses, households and governments in an economy.
- Overall, ACIL Allen's modelling finds the real income (in terms of wages and salaries, and gross operating surplus and other mixed income) benefit of Full Cycle Docking in Western Australia is between **\$7.7 billion and \$8.1 billion** (real 2019 dollars) between 2021-22 and 2035-36, or an average annual benefit of between **\$515 million and \$544 million**.
- The benefit principally accrues to households in the form of wages and salaries, which account for **\$5.4 billion to \$5.6 billion** of the income benefit. This is principally direct wages and salaries paid by ASC to its staff (**\$3.3 billion**), suggesting the transition of ASC staff to Western Australia in line with the assumptions of this assessment is an important factor.
- The remainder of the benefit flows to profits and other mixed income, which account for between **\$2.3 billion and \$2.6 billion** of real income benefit. Unlike wages and salaries, the business-related income benefits are mostly indirect, or two thirds of the benefit, underscoring the flow on benefits (**\$1.6 billion to \$1.7 billion**) of participation in the Defence supply chain that could be facilitated.
- The profile of the real income benefit is presented in Figure 10. The benefit peaks in the final year of the study, reflecting the assumed breakdown of ASC's head contract and that both FCD and LOTE will be occurring at this time.

Figure 10: Economic impact of FCD in WA, Real income, \$m (2019 real)

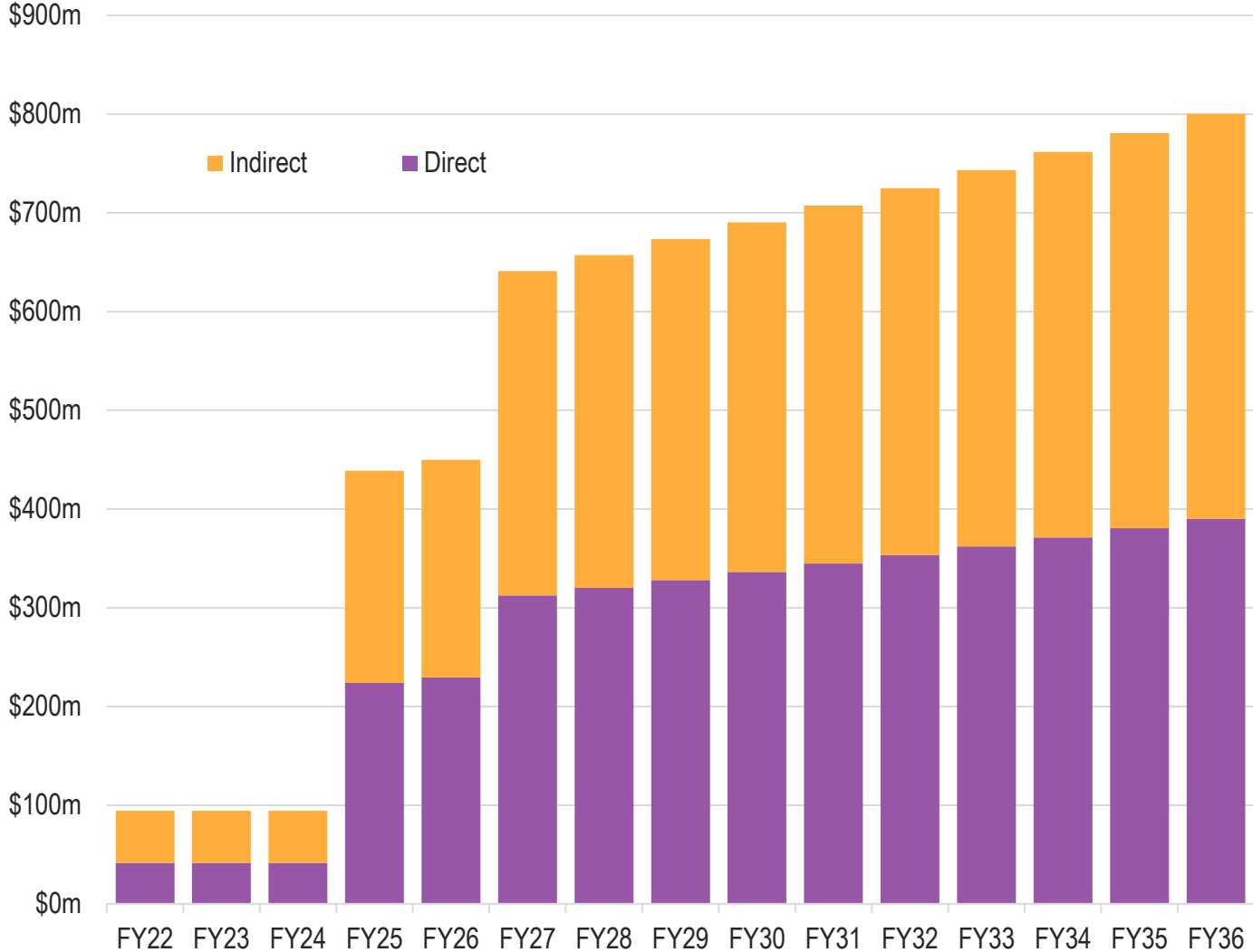


Real output (GSP) benefits of Full Cycle Docking in WA



- Overall, ACIL Allen’s modelling finds the real output (in terms of Gross State Product, or GSP) benefit of Full Cycle Docking in Western Australia is between **\$8.1 billion and \$8.6 billion** (real 2019 dollars) between 2021-22 and 2035-36, or an average annual benefit of between **\$542 million and \$572 million**.
- Over the first three years of the project, the benefit is primarily driven by the investment in the upgraded ASC facility at Henderson. Between 2021-22 and 2023-24, the output benefit for the State is **\$283 million**, or **\$94 million** per annum. Following the creation of the upgraded facility, the spend associated with its operation account for a total of **\$142 million** in output, or **\$12 million** per annum.
- Once the upgraded facility is operational, the combined impact of the Full Cycle Docking and Life of Type Extension contracts on the Western Australian economy are forecast to be between **\$7.7 billion and \$8.2 billion**, or **\$642 million and \$679 million** per annum once the contracts commence (2024-25 to 2035-36).
- The economic multiplier of Full Cycle Docking is estimated to be between 1.92 and 1.99, compared to 2.35 to 2.51 for Life of Type Extension. However, the difference in the multipliers reflects the assumed composition of the contract and the extent to which it can be serviced in Western Australia.
- The profile of the real output benefit is presented in Figure 11. The benefit peaks in the final year of the study, reflecting the assumed breakdown of ASC’s head contract and that both FCD and LOTE will be occurring at this time.

Figure 11: Economic impact of FCD in WA, Real output, \$m (2019 real)

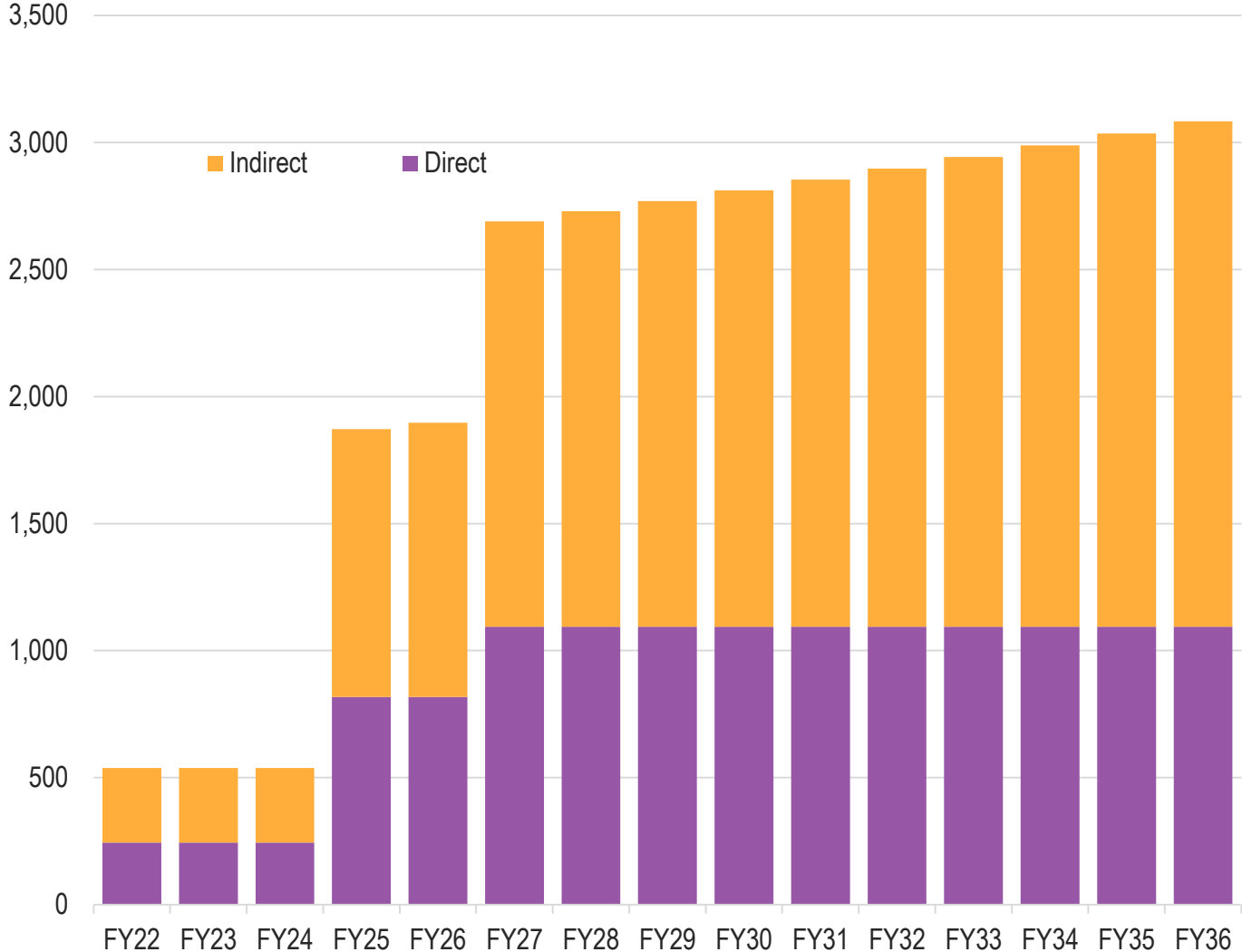


Real employment benefits of Full Cycle Docking in WA



- Overall, ACIL Allen’s modelling finds the total employment benefit (in terms of Full Time Equivalent job years, or FTE job years) of Full Cycle Docking in Western Australia is an annual average of between **2,215 FTE jobs and 2,342 FTE jobs**.
- The profile of direct employment is the same as presented in the *Direct economic benefits* section, building in line with the assumed level of activity at ASC’s facility at Henderson.
- Indirect employment owing to ASC’s activities, and the Defence industry supply chain in Western Australia, builds from between **1,010 FTE jobs and 1,097 FTE jobs** in 2025-26 to between **1,894 FTE jobs and 2,087 FTE jobs** in 2035-36.
- Employment attributable to Full Cycle Docking is estimated to average between **1,906 FTE jobs and 2,006 FTE jobs** over the modelling period, compared to **789 FTE jobs and 859 FTE jobs** for Life of Type Extension. The variance reflects the assumed composition of each contract, with a lower labour content in Life of Type Extension.
- The profile of the real output benefit is presented in Figure 12. The benefit peaks in the final year of the study, reflecting the assumed breakdown of ASC’s head contract and that both FCD and LOTE will be occurring at this time.

Figure 12: Economic impact of FCD in WA, Real employment, FTE job years





Summary and additional considerations

Summary



- ▲ The economic impact assessment demonstrates there are likely to be significant economic benefits associated with the relocation of Full Cycle Docking to Western Australia (see Figure 13). However, the study suggests the scale of the benefits to Western Australia will be driven by two main aspects of a move.
- ▲ First, the largest components of the benefits are associated with the direct employment by ASC for the purposes of fulfilling its relevant contracts. If the direct ASC jobs associated with ASC contracts are lower than assumed in this report the economic benefits to the State will be lower.
- ▲ Second, there are significant benefits associated with participation in the defence industry supply chain, which are demonstrated by the real income multiplier of close to three for indirect supplies and services purchased by ASC to fulfil its contracts.
- ▲ These two aspects of the assessment have been largely driven by the assumptions regarding the nature and distribution of ASC's contracts by ACIL Allen and Defence West. Given this, ACIL Allen recommends a follow up study is commissioned once further information is available with respect to the operational plans or options under consideration by ASC for Full Cycle Docking. This would allow for a more accurate forecast of the economic impacts of the activities in Western Australia.
- ▲ It is also important to note the study has considered the **economic** benefits to **Western Australia** only. As the activities discussed in this report are expected to occur in South Australia, the move to Western Australia reflects a **transfer of economic activity** from one State to another. The case to move FCD is also driven by broader strategic imperatives and these should be considered alongside an economic case. It is noted the South Australian economy will also likely be the beneficiary of significant economic benefits from other shipbuilding activities scheduled there.

Figure 13: Economic impacts summary, average of High and Low scenarios

Real output (GSP, \$m, real 2019)				
	Direct	Indirect	Total	Multiplier
Total	4,077	4,276	8,353	2.05
Average	271.8	285.0	556.8	
Real income (\$m, real 2019)				
	Direct	Indirect	Total	Multiplier
Total	4,072	3,873	7,946	1.95
Average	271.5	258.2	529.7	
Real employment (000s of FTE job years)				
	Direct	Indirect	Total	Multiplier
Total	13,307	20,877	34,184	2.57
Average	887	1,392	2,279	

Contact



John Nicolaou
Executive Director (WA & NT)
ACIL Allen Consulting

+61 8 9449 9621
j.nicolaou@acilallen.com.au

Ryan Buckland
Principal
ACIL Allen Consulting

+61 8 9449 9616
r.buckland@acilallen.com.au

James Hammond
Senior Consultant
ACIL Allen Consulting

+61 8 9449 9615
j.hammond@acilallen.com.au

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