

River Medway Frontage Uses and Opportunities

Final Report

Medway Council

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Quality information

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1. Executive Summary

This study has been commissioned by Medway Council to assess the economic role and status of riverside employment and leisure uses along the River Medway, and within Medway Local Authority's area, and assess the opportunities to support economic growth on the river frontage.

The study will support the development of Medway 2037, a strategy for the regeneration and development of Medway up to 2037, a Medway River Strategy currently under preparation, and inform the preparation of the new Medway Local Plan.

The scope of this evidence base study is summarised as:

- Detailed baseline review and mapping of existing land uses, businesses and infrastructure on the River Medway, within the defined administrative area.
- An economic assessment of uses and infrastructure across the River Medway.
- Consideration of potential options for future uses and infrastructure across the River Medway.

Port sector in the South East

The River Medway is located in the South East of England. Its source is in the High Weald in East Sussex from which it flows north east through Tonbridge, Maidstone and the Medway conurbation in Kent, before emptying into the Thames Estuary near Sheerness. The River Medway runs on a total distance of 70 miles, with about 18 miles within the boundaries of Medway Council.

There are six cargo handling facilities on the Medway still in use today (Sheerness (in Swale), Thamesport, Grain oil and gas jetties, Chatham Docks, Eurowharf Rochester and Crown Wharf Rochester) from which most commercial activities take place. Looking at the wider South East, it can be considered that there are at least 20 cargo handling facilities that may be able to substitute for the facilities currently on the Medway (11 on the River Thames, 3 on the Essex Coast, 3 on the Kent Coast and 3 on the Sussex Coast).

Two locations on the River Medway are capable of conducting operations for deep sea shipping. These locations are Sheerness (outside of Medway Local Authority boundary) that handles vehicles and containerised cargo, and the Isle of Grain for the shipment of energy products such as LNG. Whilst Sheerness faces a high level of competition for the shipment of vehicles and containerised cargo from a large number of ports in the South East, including London Gateway and Felixstowe which are capable of receiving the largest container ships in the world, locations trading energy products face less competition due to their ownership patterns (often owned by the commodity owner making the shipment – the vertical integration means that the terminal is one component in the cargo owner's supply chain and therefore the terminal's operation may be regarded more as a cost, rather than an activity to make profit from). Overall, deep sea freight in the South East is mainly focussed on containerised imports, with the vast amount of shipping occurring on the Thames and coastline of Essex and Suffolk.

There are also a couple of facilities on the River Medway (Chatham Docks and Crown Wharf Rochester) which are used for short sea shipping. Short sea shipping is used to convey all types of cargo: containerised, dry bulk, break-bulk (e.g. logs, steel, timber etc.) and liquids such as fuel and chemicals. Shipping is done in smaller quantities than with deep sea shipping but the smaller vessels used for short sea shipping allow goods to get closer to the end regional markets, minimising transport by road. Again, facilities on the Medway face competition from several nearby facilities such as Gravesend (aggregate), Whitstable (aggregate), Ramsgate (aggregate) or Dover (aggregate and steel). Facilities on the Medway heavily focused on construction products but also waste.

Cross channel shipping is a sub-set of short sea shipping occurring only on the South Coast of the UK (e.g. Portsmouth and Newhaven), Kent (currently only at Dover but historically at Folkestone and Ramsgate), and in Essex (at Purfleet, Tilbury and Harwich). Cross Channel shipping is usually more time sensitive and therefore ports providing a fast option of trucking goods are favoured by shippers.

Significant levels of investment have also been observed in the South East, explaining the current trends in the region's ports. Major investments that have been made in the South East include:

- Development of London Gateway from the mid-2000s (opening in 2013) provided a more efficient alternative to London Thamesport (built in 1990) which was one of the most sophisticated container terminals of its time in the UK due to partial automation of its activities. London Gateway offered deeper water (17m against 15.5m) and greater capacity which ended Thamesport's role as a deep sea container port and forced the port to diversify. London Thamesport now mainly accommodates short sea shipping routes, and in much smaller volumes.
- Diversification into the construction sector saw Thamesport capture steel traffic and there is now a dedicated steel terminal on the site, some aggregates, and a concrete plant that creates tunnel lining segments. This location has been used to support several major construction projects, including the Channel Tunnel and Thames Tideway Sewer.
- Tilbury 2 is a new port development by Forth Ports built on the site of Tilbury Power Station. Opened in 2021 it caters to ro-ro goods traffic (including many unaccompanied trailers), vehicles, and will also target the construction sector, providing a competitive alternative to London Thamesport, particularly for the markets north of the River Thames.
- Thames Freeport is one of seven Freeports created in England and includes London Gateway, Tilbury and the Ford Dagenham plant within its boundary. The freeport designation allows tax and customs advantages, and simplified planning arrangements.
- The Port of Dover has made concerted efforts to diversify its income from being heavily reliant on the cross channel ro-ro market. Considerable investment in the Eastern Docks has seen the port capture new steel, aggregates and perishable goods volumes.

The above changes demonstrate the significant level of investment in new port facilities that has taken place in the South East, albeit not in Medway, and a desire to diversify where there was heavy reliance on a single type of cargo. The construction sector is highly contested with more ports catering to this market.

The cargoes handled on the Medway are predominantly related to the construction sector, and are mainly consumed within the Kent and Sussex region. Port operators, such as Peel at Sheerness and Chatham, and Hutchison at Thamesport, operate in a highly competitive market, with a dominance of ports located on the Thames and on the coast. The main reason cargo facilities in Medway are used, is likely to be their proximity to the end market for those commodities.

For non-construction commodities the advantage of the facilities in Medway could be characterised as:

- Isle of Grain oil and gas jetties – the connections into the oil and gas distribution network, and deep water.
- For vehicles at Sheerness – the vast amount of land available for vehicle storage, which is greater than many competing ports could offer.

For containerised cargo, or ro-ro (roll-on, roll-off) ferry services, facilities in Essex have a clear competitive advantage over facilities on the River Medway given their strategic location in terms of inland transport connections. Substantial investments have been made on the north bank of the Thames over the past 20 years, and despite Medway being historically a major location deep sea container traffic is unlikely to return to Medway as a result, nor is the area an attractive location for ro-ro services due to its geographical location being considered less strategically placed to access the national market compared to alternative locations on the Thames for example.

One area where Medway may have an advantage over comparable facilities in the South East is its supporting role in major construction projects. In the same way the river was used as a construction base for the construction of the Channel Tunnel, Thames Tideway, Crossrail, the Lea Tunnel or the Northern Line extension, the River Medway could support the construction of projects such as the Lower Thames Crossing¹.

Infrastructure on the River Medway

The river infrastructure is fragmented, both spatially and in terms of ownership. That is true for both the commercial and leisure sectors. This is partly due to the geography of the Medway. Compared to other UK towns and cities with ports the Medway, when measured from the most upstream commercial facility (Scotline at Medway City Estate) to the most downstream (Sheerness) is longer. In addition, the 'remoteness' of the two opposite sides of the river, at the most downstream points on each side where commercial activity takes place, is greater for Medway than other UK ports when measured by driving distance.

AECOM has identified a total of 77 facilities in Medway which is comparable to other similar ports in the South East. Medway, however, is historically characterised by limited opportunities for agglomeration, with a larger proportion of small and medium facilities, more widely dispersed, than other comparable ports. The limited opportunities for agglomeration are the most striking feature, and probably result from the very winding nature of the river and numerous marsh habitats along much of its length. The facilities can be categorised as:

- 27 commercial facilities used for shipping (import and export of commercial goods and energy products);
- 34 leisure facilities (marinas, tourism infrastructure, watersports);
- 6 supporting facilities (boat repairs and yards); and
- 10 'other' facilities (Other uses not covered by the above categories, and including houseboats).

The mix of commercial and leisure facilities within the area is broadly similar to that in other comparable ports. Across all of the facilities, of all types, the distribution of 'capability' is what would be expected, with most facilities (circa 75%) only capable to accommodate smaller vessels. Only 12 facilities can accommodate short sea shipping and 8 can accommodate deep sea shipping.

The Medway has a range of commercial shipping facilities. These range greatly in scale, and those still in operation appear to be in good condition. Nearly all are of a scale that allows them to serve a regional function, receiving cargo for use throughout Kent, Surrey, Sussex and London.

There are however a number of commercial facilities, usually smaller in size, which are out of use and unlikely to be usable again in their current form due to either their small size and/or poor condition (predominantly jetties on the Isle of Grain and Kingsnorth Substation). Another complication is that their locations may have constraints that could restrict the consent of further associated development required to bring them back into use (i.e. road traffic generated would have to pass through residential areas or they may bear negative environmental impacts).

In addition to cargo facilities, the river also provides a wide range of leisure facilities. A total of 34 facilities have been identified, including marinas, sailing and rowing clubs, piers and other pontoons and slipways. These leisure facilities, ranging in size (almost equally distributed between small, medium and large scale)², cater in the majority for local users, with some of the largest targeting a wider market of regional users. Whilst most leisure infrastructure in use is in good condition, a small proportion (just over 10%) is considered to be in inadequate/poor condition.

¹ It can be noted that a site for aggregates near Cliffe, in Medway (but located on the River Thames) provides such support.

² See chapter 6 for definition

There are multiple small boat repair yards which offer a variety of facilities that cater to the leisure craft market, and some marinas include boat repair facilities. There is generally a shortage of boat repair facilities on the Thames and Medway, particularly for commercial uses, but locations on the Thames may be best suited to deliver additional facilities.

Other uses of the river front in Medway include Royal Engineers Jetty which is used by the armed forces, and houseboats at Port Werburgh. There are approximately 400 residential moorings in Medway.

Current economic activity

Economic activities along the River Medway are supported by 1,014 businesses collectively providing 16,307 jobs. These represent a small proportion of all businesses located in Medway (8,556 – 12%) and associated employment (93,249 jobs – 17%).

For the purpose of the baseline analysis of current economic activity, all employment sites (commercial and leisure) located along the River Medway were considered (see Table 3.2 and Figure 3.2 for full list of sites).

It is estimated that the river is essential to only 73 of these businesses (7% of River Medway businesses or less than 1% of all businesses located in Medway), as they require access to the river for their activities (such as for shipping or boat repairs). These businesses provide 1,933 jobs (12% of employment on the River Medway or 2% of all employment in Medway).

Businesses which are reliant on the access to the river for their activities are concentrated around three industrial divisions: Transportation and Storage (457 jobs); Manufacturing (442 jobs) and Electricity, Gas, Steam and Air Conditioning Supply (376 jobs).

Employment reliant on the river is predominantly concentrated across four sites: London Thamesport, Medway City Estate, Chatham Historic Dockyard and Chatham Docks. Together, those four sites account for 90% of all river-based employment on the River Medway.

Non-river user businesses are spread across a wide range of industrial divisions, with the main ones being: Administrative and Support Service Activities (2,933 jobs – 20% of total non-river users employment); Construction (1,588 jobs – 11%); Human Health and Social Work Activities (1,570 jobs – 11%); Wholesale and Retail Trade, Including Repair of Motor Vehicles (1,491 jobs – 10%); and Manufacturing (1,360 jobs – 9%).

A further 9,006 jobs are indirectly supported by the economic activity along the River Medway, of which 1,824 are linked to river user businesses – these would include jobs down the supply chain (i.e. hardware providers, maritime insurers, etc.).

Between 2011 and 2021, employment on the River Medway has increased from 12,642 jobs to 16,307 jobs (+28%) whilst the number of businesses also increased from 870 to 1,014 (+17%). This growth is however mainly driven by non-river user businesses, accounting for 82% of the additional businesses and 90% for the additional employment.

The increase of employment is particularly underpinned by growth at Chatham Historic Dockyard (+1,469 jobs between 2011 and 2021); Chatham Maritime Marina (+830 jobs); Medway City Estate (+734 jobs) and Sun Wharf (+519 jobs). On the other hand, some sites have seen a reduction in employment between 2011 and 2021, such as London Thamesport (-423 jobs); Acorn Wharf (-72 jobs); or Cuxton Marina (-55 jobs).

Several sites are owned or predominantly owned by Medway Council (or another public body). These sites, in public ownership, could present opportunities for future redevelopment (as the public sector can directly control the future of the sites). These sites include Acorn Wharf (mostly owned by Medway Council and Homes and Communities Agency), Canal Road/Riverside (99% owned by Medway Council), Chatham Historic Dockyard (Medway Council and Homes and Communities Agency), Doust Way (Medway Council), Rochester Cruising Club (Medway Council) and Sun Wharf (mostly owned by Medway Council), albeit many of these may not be suitable for development.

The value of economic activities generated along the River Medway, directly and indirectly³, is estimated at £1.6bn per annum (£1.3bn for the local economy of Medway), of which £0.3bn is generated by businesses which are reliant on the river for their activities (£0.25bn for the local economy of Medway).

It can be noted that the direct impact of businesses located along the River Medway⁴ is estimated to be £1bn per annum, of which £0.2bn is generated by businesses which are reliant on the river for their activities.

Whilst the vast majority of employment and economic value created along the River Medway is generated by businesses which are not reliant on the river for their activities, it can be noted that river-based employment tend to generate, in average per job, higher economic value at both the local and national level as those jobs are generally concentrated in higher value sectors than general employment, such as employment in the energy sector for example.

Opportunity areas

Taking into consideration the context of the River Medway, existing activities and river infrastructure, a number of areas stood out as being under-utilised in terms of what the land-river interface could offer, and the existing river activity not being aligned with surrounding land uses.

Where sufficient evidence is available, recommendations on the types of activities that could take place in these locations have been made. Recommendations are also made in regard to additional infrastructure that may be required to achieve the potential for an area. Note that these are based on a desktop review of available information accounting for the findings of this report, which would need to be explored with detailed site investigations and appropriate engagement.

Recommendations have been made for 10 areas, which have a strong potential to generate economic growth across both commercial and leisure activities, in tandem with wider regeneration. Only opportunity areas that present a realistic prospect of materialising have been considered (i.e. other opportunities could be created following substantial level of investment into particular infrastructure, which may be beyond the control and/or means of Medway Council – these opportunities have not been considered). The main recommendations are summarised below:

- **Canal Road / Riverside (Strood Station):** this area has been remediated including realignment of the road, site clearance and a new access road to Strood station. This site could accommodate new residential development, taking advantage of the proximity to the station and local amenities (retail offer at Strood retail park, Canal Road play area). Leisure facilities on the waterfront, such as new leisure craft moorings, water sports facilities or houseboats, could also be delivered, between Canal Road play area and the Boat House, building on the existing leisure offering in this area. Due to its close proximity to Strood Station, the large size of the site and the public ownership of the site, the remainder of the site has potential for mixed-use development which would need to be explored further by additional studies, including viability analysis.

The existing pier could be considered for ferry use, but the level of demand would likely be insufficient to make the operation viable. Use of the pier could be considered for alternative uses to transport, such as leisure activities (i.e. stop for leisure boats, use of the pier for pop-up retail/F&B, community garden or public space, etc.) to create a small waterfront destination area for the residents of Strood.

- **Acorn Wharf (Rochester Riverside):** whilst this site has received planning approval for a residential-led redevelopment and this work has already started, there remain opportunities to deliver leisure orientated services from Acorn Wharf. Acorn Wharf is one of the rare areas in Medway where small cruise ships could be brought from a technical point

³ This includes the value of economic activities of businesses located along the river, as well as the value of economic activities those businesses support within their supply chain (indirect impact), not necessarily located along the river, and through spending made by their employees in the economy (induced impact).

⁴ Excluding indirect and induced impact.

of view (considering river constraints and availability of land) and which make sense in terms of inter-connectivity (i.e. proximity to Rochester Station and heritage such as Rochester Cathedral or Rochester Castle, and could form part of a new waterfront promenade connecting Rochester to Chatham). New infrastructure could include a new cruise berth on the waterfront offering views of the castle and cathedral, providing the facility for boat trips (including to Upnor, islands in the Medway, Queenborough and the destinations already served by Jetstream from Sun Pier). Additional work would be required to determine and assess the potential offer from Acorn Wharf and extent of demand for such services. Given the character of the area, environmental considerations would also need to be carefully reviewed prior to the delivery of any tourism infrastructure, particularly in respect of the islands in the Medway.

A new pedestrian footbridge, as proposed in the current application for the redevelopment of the site, connecting Acorn Wharf to Canal Road would contribute to increasing the footfall in the area, and provide an alternative pedestrian route between Rochester (including Rochester Station) and Strood (including Strood Station), with the potential to create a leisure destination on both banks of the river.

- **Cory's Road and Doust Way (Old Rochester Station):** this site could form an extension of the Rochester-Chatham promenade, creating a new waterfront route. The site is segregated from the rest of Rochester (Old Rochester Station and rail tracks forming a physical barrier) which will limit the attractiveness for residential and commercial (other than industrial) opportunities. The site presents opportunities to relocate business activities from Sufferance Wharf and Sun Wharf to, in turn, enable the redevelopment of this area. Live-work units could potentially be considered in this area which is relatively segregated from conflicting uses (such as residential units). The level of demand for this type of development would need to be verified. Live-work units have the advantage of bringing life and some dynamism to an area, which would not be possible should the only use be light industrial. These would complement uses proposed at Sufferance Wharf and Sun Wharf and give a unique character to this area which could form part of a new waterfront promenade (and therefore should be inviting).

The underpass at the Old Rochester Station could be reopened to improve the connectivity to this area, and unlock it for larger developments, including residential developments.

- **Sufferance Wharf and Sun Wharf (Chatham Intra):** A riverfront promenade or other form of walkway network linking Rochester station to this area (and onward to Chatham town centre and Chatham station) could draw tourists ostensibly visiting Rochester into this area and into Chatham. A potential tourism related offer, such as a food and drink destination and floating art galleries could widen the appeal and value of the site attracting local visitors and tourists from London and generate footfall in this area.

The High Street, bordering Sufferance Wharf and Sun Wharf, is a 'transition zone (area located between Rochester town centre and Chatham town centre without belonging to any) which has started to experience gentrification, with the recent opening of bakeries and coffee shops. Economic growth in this area, building on this current trend, would benefit from further investment into cultural activities.

Further work would be required to determine the specific nature of the tourism related offer including the types.

- **Upnor Road:** New infrastructure such as a pier or landing or small jetty stage for tour boat operators and leisure craft to stop in Upnor would provide an alternative way to access this pretty village and its castle, as well as other tourist areas along the River Medway. This could boost tourism in Upnor and Medway. This area is very rural, comprising mainly of small businesses and unlikely to be able to accommodate any significant employment space. Indirect economic growth generated by tourism is therefore likely to have the biggest impact on this area. Further work would be required to determine the specific infrastructure requirements at Upnor Road to maximise its potential.
- **Castle View Moorings (Strood Civic Centre Site):** This large area of land has been remediated and is owned by Medway Council. It has a cycle path and promenade built around its waterfront edge and is accessible by road and walkable from both Strood and

Rochester stations. Given the site is sheltered, with a small creek to the south and a location south of the Rochester bridges (away from any large vessels) the waterfront also offers potential for personal watersports especially for training and teaching.

It is unclear whether there is a demand for more watersports facilities in Medway but the evidence suggests that there is limited provision, with two (remote) facilities recently closing (one located north of Upnor, one further south on the river), both only accessible by car. Re-providing watersports facilities closer to public transport and the town centres may generate sufficient demand to make the infrastructure viable – however, further market research and engagement would be required to confirm this.

- **Chatham Docks:** this area is owned by Peel Group and has significant potential for mixed-use redevelopment, with a waterfront promenade reconnecting St Mary's Island to Gillingham. The site could take advantage of its proximity to three universities, a strategic road network, and its historical maritime role to deliver employment in high growth sectors– which are predominantly office based and compatible with future surrounding residential use. There are opportunities for Medway's marine leisure offer to be expanded by the re-purposing of the dock, as has already happened on the west side of St Mary's Island at Chatham Maritime Marina. The north-east waterfront of the site, on the banks of the Medway, could be used for marine leisure, boat repair, or houseboats. Together with the existing Chatham Maritime Marina and Gillingham Marina this site could offer leisure boat users a mooring that is easily accessible from the M2 without the need to drive through built up parts of Medway.

As Medway and Chatham is readily accessible from London by road (1 hour drive) or public transport, additional high quality infrastructure in this location, associated with retail, F&B provision and Medway's cluster of marinas, could attract a vast population of potential marine leisure users, spending money in the area each time they visit.

- **Gillingham Marina:** this site was recently sold and could receive investment for the redevelopment of the Waterfront Leisure Centre and potential for further private investment to increase the capacity/range of services at the marina. This site, which already provides fully serviced berthing in two basins for up to 490 boats, could become a major marina infrastructure in Medway. Investment in the marina could be accelerated in conjunction with the potential redevelopment of Chatham Docks, which would connect the marina to St Mary's Island.

As with Chatham Docks, Gillingham Marina can offer leisure boat users a mooring that is easily accessible from the M2 without the need to drive through built up parts of Medway and attract potential marine leisure users from London and Surrey to this new high quality and affordable cluster of marinas, spending money in Medway each time they visit.

- **Area east of Gillingham Marina (gasworks):** The area east of Gillingham Marina offers long term potential for residential-led redevelopment subject to its private owner's intentions. Investment into the existing infrastructure would be required to support maritime activities on this site, such as boat repairs which might be in under-supply in Medway. Alternatively it could be better integrated with the adjacent Strand Park and existing leisure facilities, to attract tourist-oriented commercial activity similar to that found at locations like Whitstable Harbour or Herne Bay Pier, creating a small 'sea side' destination in Medway.
- **Medway City Estate:** is an ideal redevelopment area in Medway, somewhat comparable to Salford Quays in Manchester which has created an extensive business, cultural and residential area. This is a long-term opportunity due to the fragmentation of the land ownership and improved connectivity would be required to unlock the full potential of Medway City Estate and sustainable future of developments.
- **Tourist boat trips:** there is a long-term opportunity for ferries and boat trips on the Medway, aimed at tourists, operating at weekends and public holidays, following the potential (re)development of areas Acorn Wharf, Sufferance Wharf, Sun Wharf and Upnor, and any developments on Medway City Estate that may stimulate demand for pedestrian access. The operation of this service would increase activity on the river in a very visible way and add to Medway's overall attractiveness as a destination. In particular, connecting sites such as Rochester's historic high street, cathedral and castle, to Chatham Historic Dockyard and Upnor by boat makes it much easier for visitors arriving by train to see more

of Medway. Evidence of nascent demand for boat trips can be found in JetStream tour's cruises operated on the Medway. However, Jetstream can only offer tours from or between points they can safely bring their vessels alongside, which at present is limited to Sun Pier, Chatham.

A number of the opportunity areas have been identified for their development potential in the land availability assessments prepared as part of the evidence base for the emerging Medway Local Plan. Some sites are also actively being progressed as part of the Council's regeneration programme. development options⁵ so plans are progressing with regards to regeneration.

⁵ Medway Council, (2017); Medway Council Local Plan 2012-2035: Appendix 1B.

2. Introduction

- 2.1 AECOM have been commissioned by Medway Council to assess the economic role and status of riverside employment and leisure uses along the River Medway, within Medway Local Authority's area, and assess the opportunities to support economic growth on the river frontage.
- 2.2 This study follows an initial piece of work, commissioned by Medway Council, which assessed the economic importance of business activities at Chatham Docks for the Medway economy and the potential impact that would result from the potential closure of the Docks.
- 2.3 The study involves the development of an evidence base study of the River Medway more widely, and within the local authority boundary, focusing on mapping and economic appraisal of existing uses and infrastructure along the river, and considering future options of riverside sites. The study will also support the development of Medway 2037, a strategy for the regeneration and development of the Medway area up to 2037, and the emerging Medway Local Plan.
- 2.4 The scope of this evidence base study is summarised as:
- Detailed baseline review and mapping of existing land uses, businesses and infrastructure on the River Medway.
 - An economic assessment of uses and infrastructure across the River Medway.
 - Consideration of potential options for future uses and infrastructure across the River Medway.
- 2.5 Chapter 2 sets out the methodology applied to assess the current baseline of economic activity (businesses and employment), freight analysis and infrastructure and leisure baseline analysis.
- 2.6 Chapter 3 provides an analysis of the economic role and function of the River Medway, at a local level. This chapter provides information on navigational constraints (such as tide, depth, width, bridges, etc.) as well as an overview of current vessel traffic on the river. Whilst cargo activities on the river are based on partial information, it aims to represent a picture as close to the reality as possible. This enables an understanding of the type of activities that can take place on the river.
- 2.7 Chapter 4 then sets out the context of the maritime sector in the Wider South East of England, including the River Medway. This chapter focuses on commercial activities such as deep sea and short sea shipping, cross-channel shipping and existing and recent cargo facilities in the South East and on the River Medway. This positions the River Medway within the wider South East context and provides context to the role and function of the river.
- 2.8 Chapter 5 provides historical and forecasted cargo growth on the River Medway, differentiating different types of commodities such as steel and timber (mainly consumed by the construction sector), vehicles or energy products. This analysis explains the recent evolution of maritime freight on the River Medway and expected future of commercial activities on the river, providing a useful indication of future requirements that may be required to support economic activities.
- 2.9 Chapter 7 provides a baseline position of the River Medway current infrastructure (i.e. inventory) for both commercial and leisure activities as well as their current usage, where known, and condition. This section confirms the current provision of maritime infrastructure on the River Medway, its potential, and whether additional investments may be required to support the growth of particular economic sectors.
- 2.10 Chapter 7 covers the baseline analysis of businesses and employment on the River Medway and its riverside, breaking the data down by reliance on the river for business activities, industrial sector or location. The chapter also provides an overview of land ownership on sites located along the river. This chapter provides a breakdown of number of businesses and employment figures at a site-level on the river. A further breakdown between businesses which are not reliant on the river to operate ('non-river users') and businesses which rely on the river to exist ('river users') is also provided. This further breakdown provides a better estimate of the actual role of the river (through the economic value river user businesses generate) in the

Medway economy. Where appropriate, figures are compared to borough-wide data to demonstrate the relative importance of the river in Medway. The chapter also provides a breakdown of activities by cluster, identifying key sites on the river for specific industrial division. Finally, the chapter summarises the current land ownership situation across all the different sites located on the river. The high-level characteristics of land ownership are useful to understand where potential for (re)development may lie i.e. Medway Council will have more control over the future use of a site which is in their ownership than a site that is privately owned, or where fragmentation of the land ownership is low, allowing for a more comprehensive redevelopment of the site rather than piece-meal redevelopment.

- 2.11 With the baseline business and employment analysis established, Chapter 8 provides an estimate of the economic value of those businesses, including direct value (employment on site), indirect value (supply chain impact) and induced value (spend of earnings by workers) both for the local level (Medway) and the national level. The chapter provides a breakdown of economic value generated by each river and non-river users, as well as a total value.
- 2.12 Chapter 9 provides a detailed overview of the future of the maritime sector and highlights national ambitions for the sector. Several case studies are also provided, showcasing the potential of waterfront locations.
- 2.13 Finally, bringing all the analysis together, the last chapter identifies opportunity areas on the River Medway and suggests potential uses for those sites, considering their current use, land ownership, the role of the River Medway within the wider South East region and the future of the maritime industry.

3. Study Methodology

3.1 This section of the report details the methodological approach taken to establish the economic role of the River Medway's employment land and leisure uses.

Freight analysis

3.2 The basis of the freight analysis undertaken by AECOM relies on the availability of official data, coming from both the Department for Transport (DfT) and Her Majesty's Revenue and Customs (HMRC).

3.3 Both DfT and HMRC maritime data has inherent reporting 'features' that make it difficult or impossible to drill down to sub-ports and/or value of goods. Therefore, in order to provide a more complete picture of current and future freight activities on the River Medway, AECOM used official DfT maritime statistics, which is not reported at the sub-port level, and complemented this information with unverified agent level reporting data.

3.4 The 2019 data was used as baseline year, as considered to be the "last normal year" (i.e. pre-Covid-19 impact on activities). Whilst more recent data is available, this data is not considered sufficiently robust to be used for forecasting due to the impact of the lockdowns on freight activities. However, long-term impacts (trends) of Covid-19 on freight activities have been considered.

3.5 The freight analysis presented includes the current trend and context of major ports on the River Medway before looking into the potential of the river and presenting several sets of forecasts. Three different approaches to potential forecasts were considered consecutively, with the third approach being informed by the first two approaches and retained as preferred forecasts. These approaches are:

- Exponentially smoothed 5 year rolling, with no seasonality, which was developed based on DfT maritime statistics;
- Average 2015-2019 baseline, adjusted for any obvious outliers, and trended forward using the current Office for Budget Responsibility (OBR) GDP forecasts for the UK and the OBR forecasts for export and import;
- A hybrid approach, adding and reviewing forecasts based on:
 - the dwellings investment GDP forecasts⁶ from the OBR for the forestry products, iron and steel products
 - the forecast from the Society of Motor Manufacturers and Traders for motor vehicles

Infrastructure and leisure baseline analysis

3.6 The geographic scope for the infrastructure and leisure baseline analysis runs from Snodland in the south, to Sheerness to the north, and Sittingbourne Creek (but not included) in the east as shown in Figure 3.1 below.

3.7 An additional site located on the Thames (North Sea Terminal at Cliffe) was also considered for completeness.

⁶ GDP forecast based on investments on housing

3.8 These limits extend slightly beyond Medway Council’s geographic limit and include part of the Swale in addition to the River Medway. The limits were selected to give a holistic view of potential commercial shipping activity on the Medway. Specific limits were chosen in view of the following existing facilities:

- To the south: to include the Smurfit Kappa Townsend Hook packaging factory at Snodland;
- To the north: to include Sheerness; and
- To the east: Ridham Dock and the aggregate jetty in the Swale near Kemsley.

3.9 To understand marine activity on the Medway and assess facilities, riverside uses have been categorised as follows:

- Commercial – related to transport of cargo by water, or water based construction
- Leisure – activities undertaken on water for their own sake
- Connectivity – transport links operated on water, e.g. passenger ferries
- Supporting – boat repair or boat building, uses related to maintaining navigation
- Other – miscellaneous uses including houseboats

3.10 Examples and some sub-categories relevant to the Medway are outlined below:

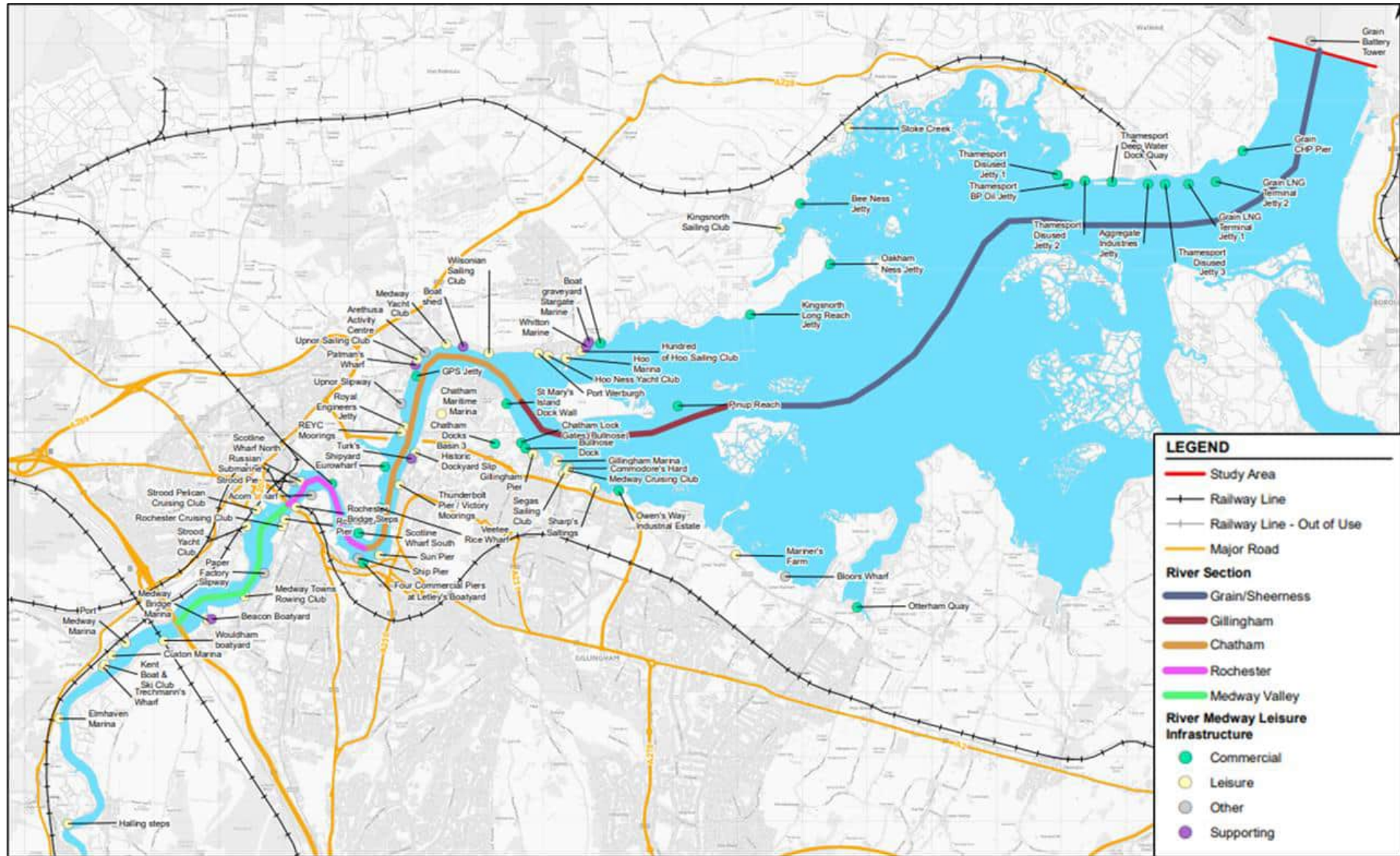
Table 3.1 Categories Used to Understand Marine Activity

Category	Sub-category (where relevant)	Examples
COMMERCIAL		
	Cargo movement	Import, export or transhipment of cargo (excluding energy)
	Energy import or export	Receiving and storage of oil or LNG delivered by ship
	Resource extraction	Landing of sea-dredged aggregates
	Marine construction support	Depots / mooring facilities for marine plant and fabrication yards for construction elements transported to site by water
LEISURE		
		Marinas
		Boat trips aimed at tourists
		Fishing, paddleboarding, kayaking other marine sports
CONNECTIVITY		
		Ferries i.e. passenger transport for travel between two points as part of a longer journey (not a boat ride for leisure)
SUPPORTING		
		Boat repair or building
		Yard for navigation aids
OTHER		
		Other uses not covered by the above categories, and including houseboats

Source: AECOM

3.11 These categories were defined based on the existing marine activity in the area and are intended to aid understanding of the extent to which one facility may substitute for another.

Figure 3.1 Geographic Scope of the Infrastructure Baseline Analysis



Businesses and employment baseline analysis

- 3.12 The data which underpins the businesses and employment baseline analysis is taken from the Office for National Statistics (ONS) IDBR, a comprehensive list of UK businesses used by government for statistical purposes. IDBR data is underpinned by Value Added Tax (VAT) and Pay as You Earn (PAYE) records from Her Majesty's Revenue and Customs (HMRC), with additional information from Companies House and ONS business surveys. The IDBR covers around 2.7 million businesses in all sectors of the economy, with 2021 records utilised for the purpose of this study. However, the data is marked 'Official Sensitive' and protected from disclosure in legislation, and therefore cannot be published directly here.
- 3.13 IDBR data represents a point in time. Businesses may have closed, merged or acquired other businesses since the register was updated which could affect its accuracy today. As such, a comparison of the IDBR data with a range of wider sources of data and intelligence has been made to sense-check the accuracy of this data. Additional sources of data reviewed include:
- AddressBase records in a Geographic Information System (GIS), an Ordnance Survey addressing product which matches Royal Mail postal address to unique property reference numbers (UPRN);
 - Data from CoStar, a commercial property information database;
 - Data provided by Peel Group in relation to its tenants, employment, floorspace/site area, business activity and lease agreements at Chatham Docks;
 - Data from Nimbus, a property database which includes information of land ownership; and
 - A site visit undertaken by the project team, offering opportunities to verify berths/plots and occupants.
- 3.14 The baseline analysis has identified individual businesses located at the time of recording (IDBR 2021) within the study area, employment figures by business, business activities (based on industry Standard Industrial Classification (SIC) codes) and land ownership records.
- 3.15 Businesses are allocated to a site based on their postcode; the most precise locational indicator available. Where businesses could be clearly identified and located, these businesses were allocated manually to their correct site. Whilst this may present some inaccuracies in regard to the size (both in terms of employment and GVA) of each individual site in the study, this does not impact the overall size and value of the River Medway as all businesses would be correctly captured at this higher level.
- 3.16 The data presented also include a distinction between "river users" and "non-river users". This categorisation was made by AECOM based on:
- Industry in which a business operates;
 - Desk-based research of the business location and potential connection to the river (Google Maps);
 - Data sourced from Companies House; and
 - Online research of businesses to gain additional information on business activities.
- 3.17 Whilst particular attention has been given to ensure the accuracy of this categorisation, it was not always possible to determine with total certainty whether a business is reliant on access to the river to operate or not. It is assumed that businesses suspected to require access to the river for business activities are considered as river users, however, businesses for which the exact nature of activities could not be determined are considered to be non-river users on the basis that no evidence of their use of the river has been identified⁷.
- 3.18 In compliance with General Data Protection Regulation (GDPR) and the terms of use of the IDBR data, which forbid the publication of individual data (including sharing commercially sensitive data such as number of employees for identifiable companies), this report only provides aggregated

⁷ These businesses represent less than 5% of all businesses.

numbers at the industrial division level. This aggregation has no impact on the findings of this report as employment figures by individual business are not reported for this study.

Economic value of businesses

- 3.19 For the purpose of this study, a total of 35 employment and leisure sites along the River Medway, and within the boundaries of Medway unitary authority, were identified. Whilst the study focuses on the River Medway, one additional site located on the Thames (North Sea Terminal at Cliffe) was considered for completeness. Whilst not located on the River Medway, this site is within the boundary of the local authority and is relevant in terms of local economic impact generated by the maritime sector in Medway.
- 3.20 The sites were identified through:
- Review of Medway's Local Plan 2003 employment site allocations (as provided by Medway Council);
 - IDBR data (to identify concentration of businesses in particular locations);
 - CoStar (to identify concentration of businesses in particular locations); and
 - Desk-based research using aerial pictures to identify sites used for employment activities.
- 3.21 In total, those sites cover an area of circa 1,150 hectares, with sites ranging in size from 0.3 hectares (Upnor Road) to 740.3 hectares (London Thamesport and adjacent employment land, as defined in Figure 3.2).
- 3.22 The sites identified are presented in Table 3.2 and Figure 3.2.
- 3.23 It should be noted that Medway Council (and related employment) has been excluded from the assessment to avoid skewing the findings of the analysis as Medway Council is a very large employer, with its main office located on the riverside.
- 3.24 Those sites form the basis of the study and are used to identify businesses located along the river and businesses which are reliant on access to the river to establish the economic value of the River Medway. In addition, a baseline analysis of existing river infrastructure, for both commercial and leisure activities, located along the River Medway, and within the boundaries of Medway unitary authority, was also undertaken.
- 3.25 The economic value of businesses and leisure facilities along the River Medway is quantified based on their impacts across three sources:
- Direct impact – Medway businesses' own activities i.e. the employment and economic activity supported directly by companies operating within Medway.
 - Indirect impact – The employment and economic activity supported through the supply chain of the companies located along the River Medway, as result of their procurement of goods and services from other UK companies. This includes capital expenditure with other UK companies.
 - Induced impact – The wider economic benefits that arise when workers from businesses along the River Medway, and its supply chain, spend their earnings, for example in retail and leisure establishments, and the employment and economic activity that this supports.
- 3.26 The sum of these sources of economic impacts constitutes the River Medway businesses' total economic impact. This is broken down into two metrics:
- Employment:
 - Direct employment – measured on a headcount basis based on 2021 IDBR data.

- Indirect and induced employment – estimated based on Type I and Type II employment multiplier⁸ by industry⁹.
 - Gross Value Added (GVA) – the value of an industry’s outputs less the value of intermediate inputs used in the production process, used as a proxy for Gross Domestic Product:
 - Direct GVA – measured based on regional GVA/head by industry (SIC¹⁰ 2007, 2 digits) applied to the direct employment headcount of each business according to their industry.
 - Indirect and Induced GVA – estimated based on overall regional GVA/head applied to total indirect and induced employment.
- 3.27 For greater clarity, and in respect of GDPR regulation, data presented in this report is aggregated. Data is presented at the Industrial Division level, unless stated otherwise, which provides an indication of number of businesses, employment and GVA generated by those businesses at a high industrial breakdown level.
- 3.28 The list of SIC industries and corresponding industrial divisions is presented in Appendix A.
- 3.29 The economic impact of businesses along the River Medway is presented for two separate geographies: Medway (local impact) and the UK as a whole (national impact). There is no difference between national and local impact in terms of direct employment and GVA, all direct jobs (on-site jobs) being both local and national. Indirect and induced employment and GVA are greater at the national level than at the local level due to “leakage” as not all indirect and induced jobs are generated within the local economy. The demand-side self-containment within the Medway economy is estimated at 48.5%¹¹, meaning that for every 10 indirect and induced jobs generated by direct activities by River Medway businesses, less than 5 are within the Medway area. The estimate of total economic impact is therefore presented across the UK (national impact), as well as the portion of this impact which would fall in Medway (local impact).

⁸ Type I multipliers account for the direct and indirect impacts based on how goods and services are supplied within a region, generating employment in the supply chain. Type II multipliers not only account for these direct and indirect impacts, but they also account for induced impacts based on the purchases made by employees within the economy (generating further employment)

⁹ ONS only produces Type I Employment multipliers by industry for the UK. As such, Type II multipliers are estimated for the UK utilising Scottish Government Input Out Tables, uplifted on a proportional basis.

¹⁰ Standard Industrial Classification

¹¹ Percentage of jobs taken by local residents; Census 2011

Table 3.2 River Medway Frontage Sites

River Medway Employment Site	Area (ha)	Site Reference Number
Acorn Wharf	15.8	21
Anchor Wharf	5.3	35
Bloors Wharf	2.5	34
Brambletree	0.6	17
Canal Road/Riverside	4.7	10
Castle View Moorings	7.9	11
Cemex Halling	11.3	16
Chatham Docks	38.4	29
Chatham Historic Dockyard	16.0	27
Chatham Maritime Marina	33.7	28
Cory's Road	3.5	22
Cuxton Marina	3.7	14
Doust Way	3.5	23
Elmhaven Marina	0.3	15
Gillingham Marina	6.8	30
Hoo Marina	6.5	4
Kingsnorth Substation	69.0	2
London Thamesport	740.4	1
Mariners Farm	3.3	33
Medway Bridge Marina	3.4	18
Medway City Estate	100.4	9
Medway Towns Rowing Club	0.4	19
Medway Valley Leisure Park	7.3	12
Medway Yacht Club	2.2	6
North Sea Terminal	32.5	36
Ordnance Yard	3.1	7
Owens Way	3.2	31
Port of Medway Marina	6.8	13
Rochester Cruising Club	0.4	20
Sufferance Wharf	3.1	24
Sun Wharf	3.1	25
Upnor Road	0.3	8
Waterside Lane	0.5	32
Whitton Marina	9.9	3
Wilsonian Sailing Club	0.4	5
Total	1,150.3	-

Source: AECOM

Figure 3.2 River Medway Frontage Sites



4. River Medway Context

Introduction

- 4.1 This section gives an overview of the geographical situation of the River Medway and its navigational constraints, such as depth of the river, width, drafts, bridges, etc. The geographical context of the River Medway provides useful indications in regard to constraints for commercial activities and starts to explain why the River Medway can be at a disadvantage compared to other locations (i.e. impact of the tide on navigation and docking, restrictions due to width and depth of the river, etc.)
- 4.2 This section also presents a baseline analysis of vessel traffic on the river, based on data available and provided by Medway Ports and the DfT. This baseline analysis provides a quick overview of the type of vessels that currently navigate on the River Medway.
- 4.3 Information on navigational constraints as well as an overview of current vessel traffic enables an understanding of the type of activities that can take place on the river.

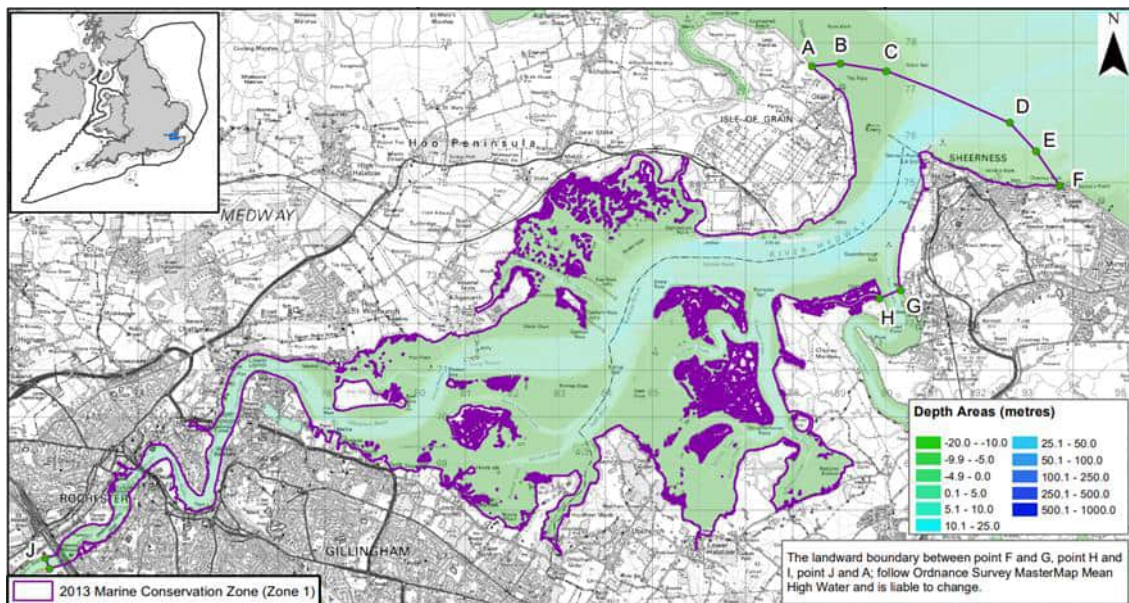
Situation

- 4.4 The River Medway is located in the South East of England. Its source is in the High Weald in East Sussex from which it flows north east through Tonbridge, Maidstone and the Medway conurbation in Kent, before emptying into the Thames Estuary near Sheerness. The River Medway runs a total distance of 70 miles, with about 18 miles within the boundaries of Medway Council.
- 4.5 The Medway area grew in importance after the Roman invasion of Britain due both to the river access and its strategic location as the main route between London and Dover.
- 4.6 The River Medway has a long shipping history, having been made navigable in the 18th century making it an artery for trade in the region. Until the late 20th century, the river was also a major hub for shipbuilding, refitting and naval vessels, with Chatham Docks serving as the Royal Navy's principle refitting and repair site for several centuries. Notably, Chatham Docks played a key role in building ships and submarines during both World War I and II. A number of the vessels constructed at the Dock during this period are now moored on display at Chatham Historic Dockyard, including the submarine HMS Ocelot. Currently, the river continues to be used for the trade and transportation of goods such as timber and cars, but it is also used for a wide range of leisure uses such as yachting and motor boating.
- 4.7 Naval use of the Medway ceased in 1984 with the closure of Chatham's naval dockyard, and whilst a visitor to the Medway towns may form an initial impression that shipping on the Medway has declined since the 20th Century, that is not the case and the river remains an important artery for shipping and that in turn supports the economy of London and the South East.
- 4.8 The river is home to two major port operators, global port operator Hutchinson Port Holdings who operate Thamesport, and UK port operator Peel Ports who operate Sheerness and Chatham Docks and are also the Competent Harbour Authority (CHA) for the Medway, responsible for conservancy and vessel traffic management. In addition, there are other terminals used by commercial shipping for specific customers or cargoes, and numerous marinas and leisure craft facilities.
- 4.9 Historically the section of the Medway from Maidstone to the Medway Towns was quite industrialised with numerous paper mills and cement works along both banks of the river. This generated significant marine traffic passing through the Medway Towns, mostly carried in traditional Thames sailing barges. From the mid-twentieth century onwards a period of de-industrialisation of this section of the river began, accompanied by new, larger facilities opening further downstream at the Isle of Grain or elsewhere such as Northfleet on the Thames. This

led to a reduction in shipping movements through the Medway towns, reducing the visibility of the sector, but not a reduction in volumes of cargo handled on the river. This is a common trend in port cities and cities located on major waterways: technology advances and vessel sizes increase, which coupled with increasing land values for city centre sites, encouraged replacement shipping facilities to be developed downstream where there is deeper water and lower cost developable land. The result is fewer vessel movements being made but by larger vessels, which do not need to sail through the city centre. This trend releases upstream, city centre waterfront sites for redevelopment typically to commercial (office) or residential use. The shipping facilities are then adapted to leisure uses. This trend occurs around the world and Medway can be considered to be typical in this regard.

- 4.10 The River Medway is accessed from the Thames Estuary at Sheerness, where it runs west towards Thamesport with navigable width of between 600 – 900m. Here, the depth ranges between approximately 10m to 20m.
- 4.11 The river then bends to the south of Hoo Salt Marsh, and the navigable width narrows to approximately 300m, and a depth of approximately 8m. As the river reaches St Mary's Island and Chatham Docks, the depth falls to around 5 or 6m, and then becomes progressively narrower and shallower upstream past Gillingham and Rochester. The river is tidal as far upstream as Allington Lock near Maidstone.
- 4.12 The river has a tidal range of approximately 6.5m at Sheerness and 5m further upstream at Rochester. The first bridge from the estuary is the Rochester Bridge which connects Strood to Rochester. A further two bridges, carrying the M2 motorway and High Speed 1 (HS1) respectively, lie parallel to one another down stream of Cuxton. A final bridge within Medway connects Holborough and Wouldham.
- 4.13 Figure 4.1 shows a map of the Medway Estuary and indication of the depth of the river in this area.

Figure 4.1: Medway Estuary



Source: Medway Estuary MCZ: 2019 designation map

Navigation

- 4.14 The Medway is navigable upstream as far as Tonbridge, although only small leisure craft can navigate this far. Like any river, the size of vessel that can navigate along it reduces further upstream. Physical limitations such as the depth of water, presence of bridges or transmission lines that limit air draft (the unobstructed height above water level), and the width of the river and bends, all present more significant constraints upstream.
- 4.15 The Medway is tidal from where it meets the Thames Estuary north of Sheerness, upstream to Allington Lock, north of Maidstone. There are two high and low tides each day with the tidal range (difference between low and high tides) reducing upstream. Medway Ports publish tide tables for Sheerness and Chatham. In 2022 predicated high tides range between:
- Sheerness 4.9m to 5.9m
 - Chatham 4.6m to 6.3m
- 4.16 Navigation and conservancy along the river is managed in two sections:
- From the Medway Buoy to Allington Lock by Medway Ports (Port of Sheerness Ltd.), the Competent Harbour Authority. Medway Ports is part of the privately owned Peel Ports group who also own and operate Chatham Dock and Sheerness.
 - From Allington Lock to Tonbridge by the Environment Agency who are the navigation authority for this section, which is known as the 'Medway Navigation'.

Drafts

- 4.17 The Medway includes some of the deepest water berths and jetties in the UK, these are located on the Isle of Grain and are used regularly by ocean going vessels with deep drafts. Water depth decreases upstream and some berths are only accessible to larger vessels during tidal windows, i.e. when the tide is high enough to allow the vessel to approach or depart the berth with sufficient under-keel clearance. Some vessels, at some berths, may be aground at low tide. This can occur at Crown Wharf, Rochester. Note not all vessels can be allowed to go aground in this way.
- 4.18 Considering the largest vessels, the first constraint they may encounter approaching a port is the approach channel. Broadly speaking the Medway Approach Channel has depths of no less than 11 m, greater at high tide. This is adequate for the deepest draft vessels of the world which are typically bulk carriers transporting liquids such as oil. Vessels with drafts in excess 13 m berth at the Isle of Grain.
- 4.19 At Chatham and Rochester depths reduce to no less than 4-5 metres in the centre of the river – adequate for short sea vessels that trade in Europe, but depths are less at the river banks, hence the practice of vessels being aground at the berths at Crown Wharf during low tide. Chatham Docks has more generous depths and a constant water level, as it is an enclosed dock. Upstream of Rochester bridges there are points where the river depth is as little as 1 m at lowest tide. However most of the centre of the river is deeper than this.

Bridges

- 4.20 The most downstream bridge is Rochester railway bridge linking Rochester and Stood. Immediately adjacent are two road bridges carrying the A2. Therefore vessels can enter the Medway from the Thames Estuary and sail as far upstream as Rochester or Strood without encountering any air draft constraints. At Rochester the air draft under the bridges is 5.9 m at high tide, greater when the tide is lower.
- 4.21 Only leisure craft regularly travel upstream of Rochester bridges, although vessels as large as short-sea cargo ships berth close to Rochester bridges, at Crown Wharf (used by timber importers Scotline) at Medway City Estate.

4.22 Further upstream are the M2 and Channel Tunnel Rail Link bridges near Cuxton, both of which are extremely tall and therefore present no air draft retractions. Only one other bridge exists on the River Medway and within Medway: the newly built St Peter's Road bridge at Holborough, the air draft of this is yet to be confirmed.

Vessel Traffic

4.23 Data presented in this analysis cover only traffic within the area managed by Medway Ports. Medway Ports control vessel movements from their Vessel Traffic Service Centre ("Medway VTS") in Liverpool. Not all vessels need to communicate their movements with Medway VTS, only those classified as 'reporting vessels' which are:

- Vessels having a Gross Tonnage of more than 50 tonnes;
- Vessels whose Length Overall is more than 40 metres;
- Passenger Vessels (a vessel carrying more than 12 passengers);
- Vessels carrying Dangerous Goods; and
- Vessels which are engaged in Towing Operations.

4.24 All vessels over 50m in length entering the River Thames or Medway need the services of a Medway Ports pilot, unless the Master holds a Pilotage Exemption Certificate. Specific berthing guidelines are published for larger vessels using the larger berths, wharves and jetties which are mainly for commercial vessels carrying cargo.

4.25 The majority of vessels berthed on the Medway at any time are small leisure craft, and are therefore exempt from the requirement to communicate with Medway VTS. This is typical of arrangements at similar ports on rivers and allows traffic management resources to be targeted at the highest risk vessels and movements.

4.26 The movements of reporting vessels give an indication of how intensively the river is used from one year to the next. Peel Ports made available a record of all the occasions a reporting vessel arrived and departed from any point on the river. Note this information is not a direct indication of cargo or passenger movement on the river because it includes:

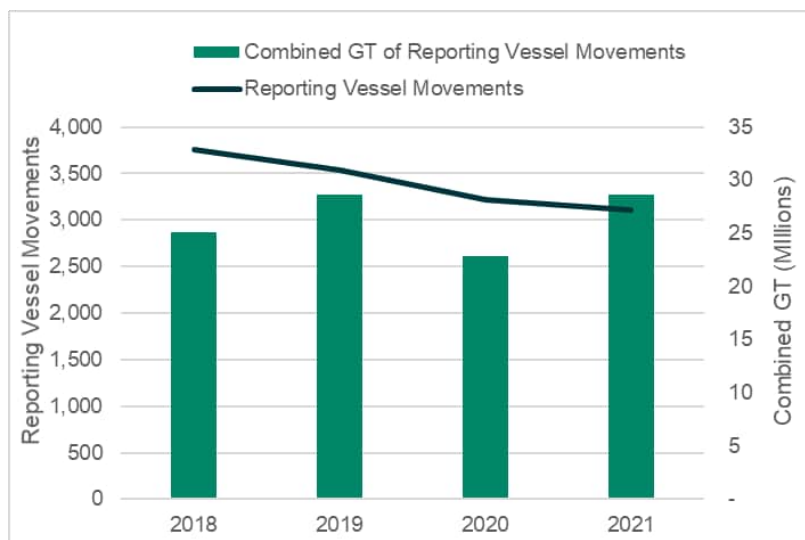
- Waiting time at anchorages
- The movement of ancillary craft such as tugs
- Does not include information on vessel loadings

4.27 Two data sets have been extracted to illustrate intensity of river use:

- Number of arrivals
- The combined gross tonnage (GT) of all arrivals

4.28 The number of arrivals alone could be misleading in scenarios where larger cargo vessels making fewer sailings replace smaller vessels making more frequent sailings, but the volume of cargo handled is constant. This effect is compounded if the cargo vessels required tug assistance as the elimination of one cargo vessel sailing could result in two or three fewer vessel movements as the associated tug movements will not take place. GT is a useful, if imperfect, indication of vessel capacity operating on the Medway. GT is not a measure of cargo capacity by weight, but in simple terms a measure of the vessel's internal volume. For vessels such as tugs, this measure is of little practical use as they never carry cargo, however for this study it can be used as a proxy for the 'size' of the vessel. It is useful in this application because all reporting vessels have a GT value.

Figure 4.2 Reporting Vessel Movements on the River Medway, 2018 – 2021



Source: AECOM

- 4.29 The data shows that while the total number of movements has declined, the overall GT of vessel movements was more constant over the period 2018 – 2021. This implies overall use of the river is fairly constant, but fewer vessel movements may be needed to achieve the same output. This conclusion should be treated with caution due to the limitations noted above.
- 4.30 For non-reporting vessels, which include the majority of leisure craft, there is no record of the number of movements. However, owners of leisure craft that are powered or longer than 5.1 m in length are required to pay a conservancy charge in return for a licence to use their vessel on the river. The charge is collected by the Competent Harbour Authority (Medway Ports), and their records show approximately 1,000 licenced leisure craft in 2021, 75% of which were associated with a club. It is known that not every vessel in Medway that requires a licence has one, so the total number of leisure craft is likely to be higher, according to some estimates two or three times the number of licenced craft.
- 4.31 Of the reporting vessels, the mix of vessel type changes along the length of the river. For analysis the river has been divided into sections as follows:
- Grain / Sheerness
 - Gillingham
 - Chatham
 - Rochester
 - Medway Valley.
- 4.32 The location of facilities by section of the river are shown in Figure 3.1.
- 4.33 Broad vessel types were identified as:
- LNG (deep sea)
 - Tanker (for oil products or chemicals, deep sea)
 - Vehicles (deep sea)
 - General cargo (short sea)
 - Cement (short sea)
 - Tug
 - Barge
 - Workboat

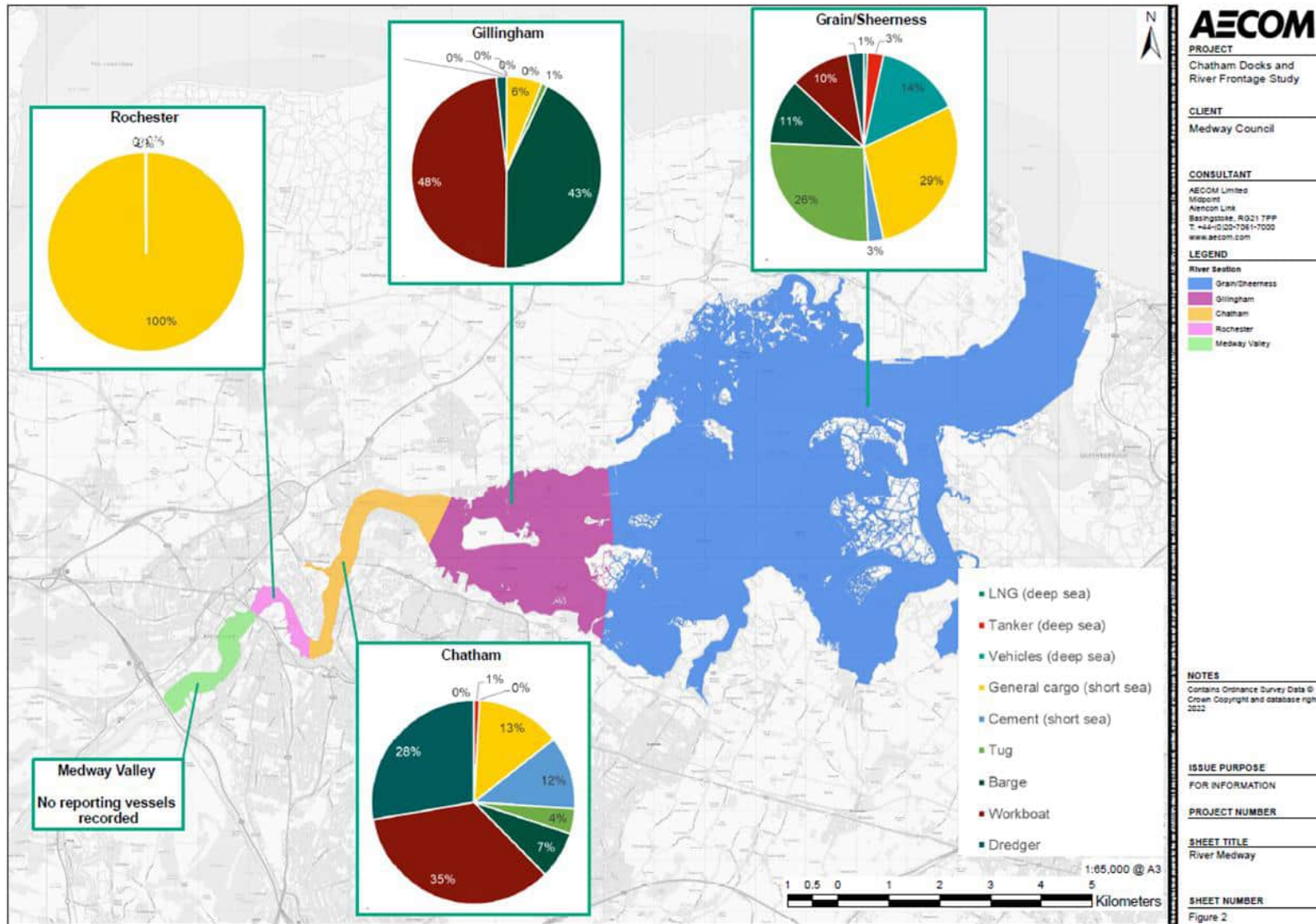
- Dredger.
- 4.34 The following plot shows the mix of vessels calling at terminals along each section of the river over the period 2018 - 2021¹². The variation in vessel type reflects the type of cargo facilities. Note this plot excludes leisure vessels as effectively no leisure vessels are reporting vessels.

Key Findings

- 4.35 The Medway is navigable upstream as far as Tonbridge, although only small leisure craft can navigate this far. Larger vessels can usually navigate up to Rochester Bridge where the height under the bridge limit the upstream access.
- 4.36 The Medway is tidal, with two high and low tides every day restricting further the navigability on the river, particularly for larger vessels going upstream. The River Medway has some of the deepest water berths and jetties in the UK, particularly on the Isle of Grain, and can be used by deep sea vessels, but depth reduces going upstream making sections of the river accessible by deep sea vessels only during the high tide windows.
- 4.37 Depth reduces upstream, around Chatham and Rochester, to no less than 4-5 metres in the centre of the river. Whilst adequate for short sea vessels that trade in Europe, the depth may be insufficient for deep sea vessels or vessels unable to go aground at low tide and therefore infrastructure may be required to make those areas operational (i.e. enclosed gate at Chatham Docks ensuring constant water level).
- 4.38 Vessels can enter the Medway from the Thames Estuary and sail as far upstream as Rochester or Strood without encountering any air draft constraints. At Rochester (most downstream bridge) the air draft under the bridges is 5.9 m at high tide, greater when the tide is lower. Only leisure craft regularly travel upstream of Rochester bridges, although vessels as large as short-sea cargo ships berth close to Rochester bridges.
- 4.39 Data on vessels movement is limited and incomplete, but based on data available, it was observed that while the total number of vessel movements on the River Medway has declined over the period 2018 – 2021, the overall gross tonnage of vessel movements was more constant. This implies overall use of the river is fairly constant, but fewer vessel movements may be needed to achieve the same output.

¹² These are years for which complete data was available.

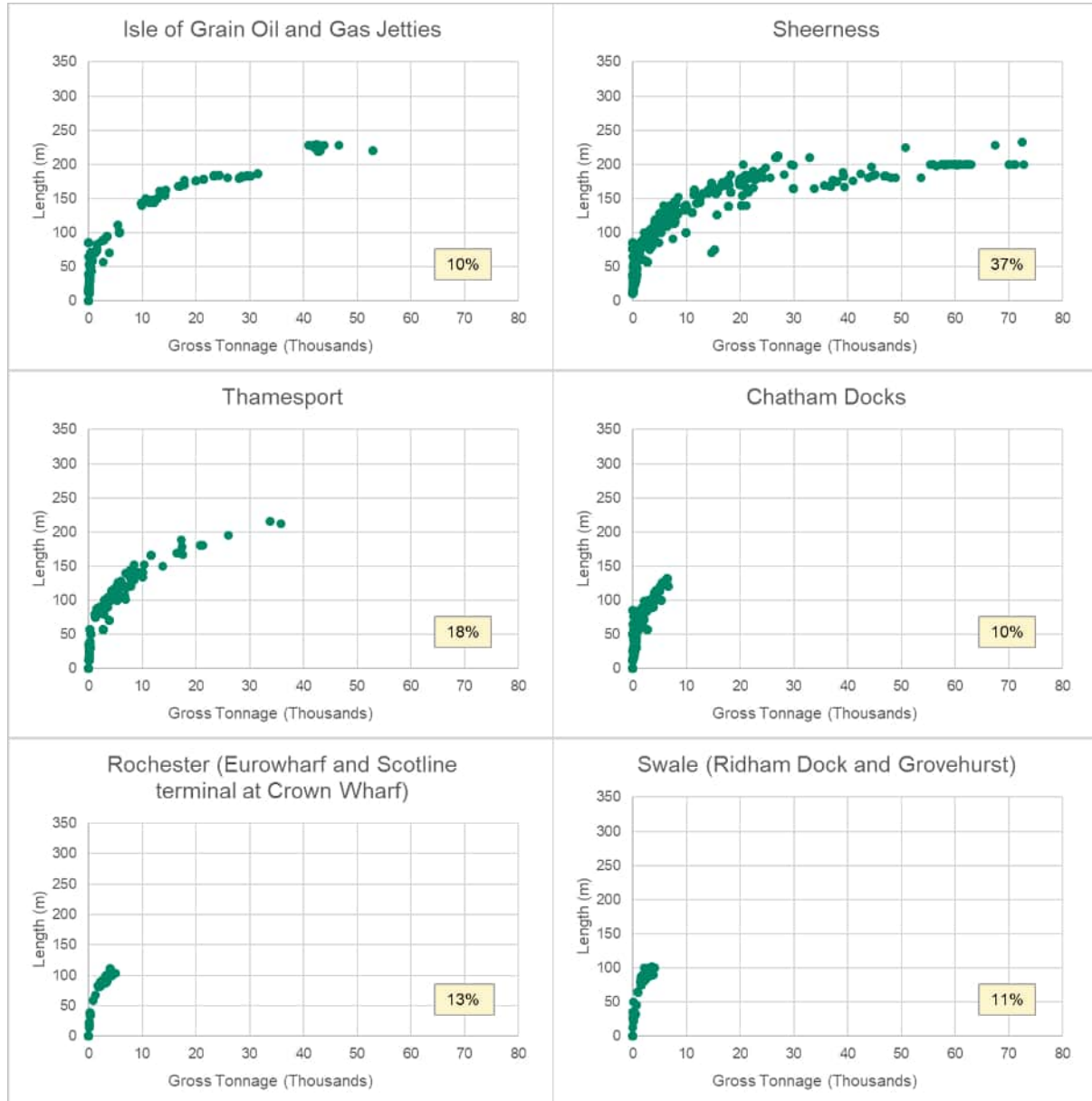
Figure 4.3 Mix of Vessel Types Calling at Terminals on the Medway, 2018 – 2022



Source: AECOM

4.40 The size of vessels calling at key locations is shown below. These graphs plot vessel length against gross tonnage to give an indication of size. The percentage indicates the proportion of all plotted movements accounted for by that terminal(s). These plots show all reporting vessel movements, including those not carrying cargo, such as tugs. Tugs are more frequently used at Sheerness and the Isle of Grain. Note these locations are similar to, but not exactly comparable with, the river sections shown in Figure 4.3 due to technical reasons. The largest vessels call at the Isle of Grain oil and gas jetties, Thamesport and Sheerness where the water is deepest. Most vessel movements take place at Sheerness.

Figure 4.4 Plots of Vessel Size and Gross Tonnage at Terminals on the Medway



Source: AECOM analysis of data provided by Peel Ports

5. Port Sector in the South East

Introduction

- 5.1 Given that commercial facilities on the River Medway are in direct competition with comparable facilities in the wider South East, it is relevant to consider the wider context in order to comprehend the current and future economic role of the River Medway.
- 5.2 This section gives an overview of the ports sector in the South East, as it relates to cargo shipping. In this context 'South East' refers to the coastline of Kent, East Sussex, West Sussex, plus the River Thames, Essex, and Felixstowe in Suffolk. Note many of the port facilities in Essex and North Kent (but not Medway) may be considered part of the port of 'London' as explained in paragraph 5.4.
- 5.3 The chapter covers the different types of commercial shipping, including deep sea shipping, short sea shipping and cross-channel shipping and identifies the different locations in the South East from where these forms of shipping take place. The chapter also provides an overview of cargo facilities in the South East and on the River Medway, matching facilities with shipping categories. Finally, the chapter provides a summary of recent investments into maritime infrastructure that have taken place in the South East and how those have influenced the sector and impacted on the level and types of activities that take place on the River Medway.
- 5.4 The term 'port' is loosely defined, especially in the Thames and Medway. For example London Gateway is only a container terminal, and is part of the larger port of 'London'¹³; however describing 'London' as a port is not useful in this analysis, nor does it reflect how shipping lines make choices on where their vessels call. London Gateway is sufficiently significant that it is referred to as a 'port' in this section, as is Tilbury and some other locations. By contrast Dover, Shoreham and Harwich are all ports in the normal sense of the word.
- 5.5 Except where specifically described as 'Tilbury 2'¹⁴, references to Tilbury refer to both the main port at Tilbury and the expansion known as 'Tilbury 2'
- 5.6 In some situations cargo unloaded at ports in the UK may include both imports from overseas and domestic shipping, which includes commodities dredged from the sea such as aggregates. In these cases the term 'landed' is used in place of 'imported', and 'despatched' in place of exported.

Cargo Types – terminology

- 5.7 Cargo types have the following meanings:
 - 'Ro ro' is used to refer to roll-on, roll-off ferry services for both passenger and goods vehicles. The shipping of vehicles as cargo, e.g. delivery of new cars, is referred to simply as 'vehicles' to avoid confusion.
 - 'Unitised' cargo refers to containers and vehicles as they are handled as discrete units.
 - 'Bulk' refers to commodities that are shipped in bulk without any container i.e. loaded directly into the ship's cargo space
 - 'Break bulk' is a sub-set of bulk and describes items that can be lifted by a crane and be stacked, e.g. timber, steel, etc, as opposed to commodities like aggregates that need to be lifted by conveyor or grab and cannot be stacked only piled.

¹³ Part of the River Thames lying between Teddington Lock and the North Sea and including any associated docks

¹⁴ Expansion project of the port of Tilbury to provide a Roll-On/Roll-Off (RoRo) terminal for importing and exporting containers and trailers, a "Construction Materials and Aggregates Terminal" (CMAT) for handling and processing bulk construction materials and storage for bulk goods or vehicles

Deep Sea Shipping

- 5.8 Deep sea shipping is a term used to describe the transport of goods by sea on intercontinental routes. For the UK, the most significant inter-continental routes tend to be 'east-west trades' between Asia and Northern Europe. Deep sea shipping is undertaken by ocean going vessels which can vary in size, with many of the larger vessels around 400 m long. Potentially all types of cargo are transported by deep sea shipping, but in the UK context three broad cargo types dominate:
- Containerised cargo,
 - Vehicles, and
 - Energy sources such as oil, liquified natural gas (LNG) etc.
- 5.9 Trade in manufactured goods (containerised cargo and vehicles) is dominated at a national level by major container ports plus some non-container ports that handle vehicles. In the South East that includes Tilbury, London Gateway, Sheerness (for vehicles) and Felixstowe. Trade in energy products tends to occur at specific sites that are located strategically on the UK's oil and gas infrastructure, and typically these have some of the deepest water because shipments of commodities such as oil have long been undertaken in very large, deep draught vessels. In the South East this includes the Isle of Grain.
- 5.10 Major ports that handle containerised cargo and vehicles are often owned by national or global port groups who operate multiple ports and often provide related logistics facilities. They operate in a highly competitive market, in part because the nature of unitised cargoes means it is relatively easy for shipping lines to switch between competing ports serving the same hinterlands. These port owners do not own the cargo, and are operating the port for profit. In the South East the following groups are present:
- National port owning groups
 - Forth Ports (Tilbury)
 - Peel Ports (Sheerness, Chatham Docks)
 - Global port owning groups
 - Hutchinson (Thamesport, Harwich and Felixstowe)
 - DP World (London Gateway)
- 5.11 Two ports in the South East (London Gateway and Felixstowe) are capable of receiving the largest container ships in the world. The capability to handle such vessels requires significant amounts of investment. These investments have occurred only at sites that are strategically located, both in terms of physical features such as water depth, and proximity to the end market for imports. Proximity in this case is not simply a question of distance, but also travel time and for that reason access to transport corridors, both road and rail, with the capacity to distribute goods further inland is also critical.
- 5.12 The UK port sector has adapted to growth in imports by increasing the 'value added' functions of ports, often embodied in the concept of 'port centric logistics' whereby storage, distribution and other value adding activities such as labelling, packaging, consolidation, pre-delivery inspection, late customisation and so on can be undertaken at the port. Ports that have existed for decades have added space for these activities to take place, whereas more recently built ports such as London Gateway, had space for port centric logistics activities designed in from the outset.
- 5.13 Major terminals that handle energy shipments have different ownership patterns, and are often owned by the commodity owner making the shipment e.g. an oil company may own oil terminals at which their own vessels call, shipping oil owned by that company. As a result, there is limited direct competition between terminals in this market. With this type of vertical integration, the terminal is one component in the cargo owner's supply chain and therefore the terminal's operation may be regarded more as a cost, rather than an activity to make profit from.

5.14 To summarise, deep sea shipping on the Medway comprises:

- Energy imports to the Isle of Grain, and
- Vehicle imports to Sheerness

5.15 A vast amount of deep sea shipping occurs on the Thames and coastline of Essex and Suffolk, but this is mainly focussed around containerised imports.

Short Sea Shipping (excluding Cross-Channel)

5.16 Short sea shipping is a term used to describe transport of goods by sea over relatively short distances. In the UK context this typically refers to trade between ports situated in geographical Europe, on the Mediterranean and Black Seas. Short sea shipping is typically undertaken by what are referred to as short sea vessels, which are predominantly almost 90m in length. The reasons for this nominal length are twofold:

- Technical requirements, i.e. the need to access smaller ports with limitations on vessel size
- Legislative requirements, which become more onerous on vessels 90m in length or greater. For this reason most short sea vessels are slightly less than 90m in length, e.g. 89.8 m

5.17 In the UK context short sea shipping is used to convey all types of cargo: containerised, dry bulk, break-bulk (e.g. logs, steel, timber etc.) and liquids such as fuel and chemicals. Short sea shipping is predominantly used in the UK to serve regional markets, mainly with dry and break bulk commodities. These tend to be cargoes that are high volume, high weight, low value and not time-sensitive. These characteristics make transport costs relatively high as a proportion of the total cost of these items in their end markets, so there is an incentive to minimise transport costs and their non-time sensitive nature allows sea transport to meet these needs. Around the UK there are numerous smaller ports and terminals serving regional markets that handle the following types of bulk commodities via short sea shipping:

- Timber
- Steel
- Cement
- Aggregates
- Fertiliser
- Waste
- Scrap metal

5.18 Once landed in the UK, these cargoes travel relatively short distances by land. The above commodities are each linked to one of three sectors:

- Construction (timber, steel, aggregates, cement)
- Agriculture (fertiliser)
- Energy (waste is shipped as refuse derived fuel (RDF) for use in waste-to-energy power stations)

5.19 Unlike the containerised goods, vehicles or energy transported on deep sea ships over long distances, the economies of scale from using very large vessels calling at fewer, larger ports do not apply to the same extent for these bulk commodities. Minimising transport costs is achieved through minimising distance by road and maximising distance by sea, which is the cheaper form of transport. Construction materials in particular (aggregates, steel and timber) are delivered by sea to relatively small ports and terminals serving more local hinterlands.

5.20 For some commodities, particularly aggregates and scrap metal, dedicated terminals that are not located in a port complex are relatively common.

- 5.21 With the exception of the energy terminals on the Isle of Grain, and vehicle deliveries at Sheerness, most of the cargo shipping on the Medway is short sea, serving regional needs in the construction sector. Facilities used for this purpose include:
- Chatham Docks
 - Crown Wharf, Rochester (Scotline)
 - Eurowharf at Medway City Estate
 - Outside Medway on the Swale:
 - Grovehurst aggregate terminal
 - Ridham Dock
- 5.22 The hinterland of these terminals will vary, and also vary by commodity. Hinterlands can be inferred by examining the location of similar facilities along the coast. The following nearby facilities serve similar purposes to those at Medway:
- Gravesend (aggregates)
 - Whitstable (aggregates)
 - Ramsgate (aggregates)
 - Dover (aggregates and steel)
- 5.23 Aggregates terminals tend to be most closely spaced along the coast, and in the South East they are all used to land aggregates, not despatch. Whilst there may be differences in the types of aggregate they handle, it is reasonable to assume from the proximity of terminals that aggregates travel the shortest distance inland. By contrast, the distance between terminals that import timber is greater, suggesting timber may be distributed greater distances inland.
- 5.24 To summarise, excluding the energy imports at Grain, and vehicle imports at Sheerness, commercial shipping on the Medway can be characterised as:
- Short sea shipping
 - Focussed heavily on construction but also including waste
 - Serving regional needs i.e. Kent, Sussex, London and perhaps some areas north of the Thames, with inland distance varying by commodity.

Cross Channel Shipping

- 5.25 Cross channel shipping is a sub-set of short sea shipping, however it is distinct from the short sea shipping of bulk commodities found generally around the coast of the UK. Cross channel shipping occurs on the south coast (e.g. Portsmouth and Newhaven), Kent (currently only at Dover but historically at Folkestone and Ramsgate), and in Essex (at Purfleet, Tilbury and Harwich).
- 5.26 Cargo carried by cross channel shipping can be characterised as:
- mainly part or finished goods
 - in small shipments e.g. individual truckloads
 - typically higher value, lower weight and volume, and more time sensitive than the cargoes described in the section on short sea shipping.
- 5.27 These characteristics make it worthwhile for shippers to use the relatively expensive but relatively fast option of trucking goods to and from Europe. While the economics of cross channel shipping is a complex subject in its own right, pertinent points for understanding the current market are:
- Shippers choose this option because it is fast and secure (the presence of the truck driver is considered to increase security)

- The economics of both ferry operation and trucking have progressively favoured the Dover – Calais route over time as it offers lower overall cost to shippers because the:
 - Short crossing time allows ferries to make more return trips each day,
 - Short crossing time and short waiting time due to frequent sailings minimises overall journey time
- 5.28 This trend has been challenged in recent years due to the shortage of truck drivers. As truck driver costs have increased, some shippers have opted to accept longer journey times rather than increased transport costs. As an alternative some cargoes are now shipped as unaccompanied trailers (i.e. without tractor unit and driver) or in containers. The removal of the driver from the channel crossing has made the crossing time less critical, and this has favoured other routes from the continent to ports on the east coast of the UK. Tilbury and Purfleet are major beneficiaries of this trend.
- 5.29 Facilities on the River Medway are not competitive for cross-channel shipping due to transport costs associated compared to alternative locations which are easier and faster to access from Europe and are closer to end markets.

Cargo Facilities in the South East

- 5.30 There are numerous cargo handling ports and terminals in the South East. This section provides an overview¹⁵, with emphasis on those that may be able to substitute for the facilities currently on the Medway:
- River Thames
 - Angerstein Wharf, Greenwich – aggregates jetty, mainly receives sea-dredged aggregate, rail connected with regular trains
 - Purfleet – oil products, aggregates and ro-ro ferry for goods vehicles to Zeebrugge and Rotterdam
 - Erith – Cory Riverside waste to energy power station, aggregates and oil jetties
 - Dagenham – Ford Motor Company jetty for use by their own shipping services
 - Dartford – ro-ro terminal (present use unclear), aggregates jetty
 - Grays – oil products
 - Northfleet – steel, aggregates
 - Tilbury – containers, aggregates, timber, scrap, grain, vehicles
 - Tilbury 2 – ro-ro service to Zeebrugge for goods vehicles, vehicles
 - Gravesend – aggregates
 - London Gateway – containers
 - Essex Coast
 - Brightlingsea – scrap
 - Harwich – ro-ro ferry, vehicles
 - Felixstowe – containers, oil products
 - Kent Coast
 - Whitstable – aggregates
 - Ramsgate – aggregates, and occasionally vehicles

¹⁵ This is not a definitive list: a) where individual terminals are located close to one another, they have been summarised as one location, e.g. 'Purfleet'; b) not all cargoes handled at each location are listed, but those that are dominant in order to characterise typical use.

- Dover – ro-ro services to Calais and Dunkirk, steel and aggregates, containerised perishables e.g. fruit
- Sussex
 - Rye – aggregates, fertiliser
 - Newhaven – aggregates, scrap, ro-ro service to Dieppe
 - Shoreham – timber, aggregates, steel, oil products

5.31 This list shows there are:

- Numerous cargo handling facilities serving the South East, implying choice for shippers.
- Facilities serving the construction sector are numerous, implying each serves a relatively small hinterland.
- Ports of national importance (Tilbury, Tilbury 2, London Gateway and Felixstowe) are all located on the north bank of the Thames, or north of the Thames (arguably Dover is also of national importance, but presently that is only true for cross-channel cargo).

Cargo Facilities on the Medway

5.32 Cargo handling facilities on the Medway still in use today include:

- Sheerness
- Thamesport
- Grain oil and gas jetties
- Chatham Docks
- Eurowharf, Rochester
- Crown Wharf, Rochester

5.33 Although not on the River Medway nor in Medway, for completeness, in the Swale are:

- Grovehurst aggregates jetty
- Ridham Dock

5.34 Briefly, they can be characterised as follows in Table 5.1:

Table 5.1 Cargo Handling Facilities in Medway

Facility	Ocean Going	Short Sea	Principal Commodities	Rail connected
Sheerness	Yes	Yes	Vehicles, timber	Yes, not used in recent years
Thamesport	Yes, but now infrequently used	Yes	Containers, steel	Yes
Grain oil and gas jetties	Yes	Yes	Oil and gas	Yes
Grain Aggregates Jetty	No	Yes	Aggregates	Yes
Chatham Docks	No	Yes	Steel, timber, cement, waste	No
Eurowharf, Rochester	No	Yes	Aggregates	No
Crown Wharf, Rochester	No	Yes	Timber	No
Grovehurst	No	Yes	Aggregates	No
Ridham Dock	No	Yes	Aggregates	No

Source: AECOM

5.35 Waste is the only commodity despatched from the Medway, all other cargos are landed. Most of the cargo handled in Medway is likely destined for local consumption in Kent, Sussex, Surrey and London. Two commodities that may travel further throughout the UK are:

- Energy imports to the Isle of Grain
- Vehicle imports to Sheerness

5.36 Note a number of major construction projects in the South East have been supported by port facilities in Medway and Swale, including:

- The Isle of Grain was used to cast tunnel lining segments for the Channel Tunnel and the Thames Tideway sewer
- Chatham Dock was used to cast tunnel lining segments for Crossrail
- Ridham Dock was used to cast tunnel lining segments for the Thames Tideway sewer, Lee Tunnel project in London, and Northern Line Extension to Battersea.

Recent Developments in South East Ports

5.37 The following changes affecting port infrastructure in the South East are relevant to understanding current trends in the region's ports:

- Thamesport was built in 1990 as a deep sea container terminal, and was partially automated making it one of the most sophisticated container terminals of its time in the UK. Although later deepened to 15.5 m the opening of London Gateway effectively ended Thamesport's role as a deep sea container port. London Gateway offers deeper water (17 m) and much greater capacity. To counter this Thamesport has diversified. Containers are still handled but from short sea shipping routes, and in much smaller volumes. Diversification into the construction sector saw the Thamesport capture steel traffic and there is now a dedicated steel terminal on the site, some aggregates, and a concrete plant that creates tunnel lining segments. This location has been used to support major

construction projects several times, including the Channel Tunnel and Thames Tideway Sewer.

- London Gateway was developed from the mid-2000s and opened in 2013, and is Britain's newest container terminal, with logistics park and rail connections. Presently it has three berths but is only partially complete, land to build a further three berths is available at the site. The opening of London Gateway seriously eroded Thamesport's deep sea container volumes.
- Tilbury 2 is a new port development by Forth Ports built on the site of Tilbury Power Station. Opened in 2021 it caters to ro-ro goods traffic (including many unaccompanied trailers), vehicles, and will also target the construction sector, providing a competitive alternative to London Thamesport, particularly for the markets north of the River Thames.
- Thames Freeport is one of seven Freeports created in England and includes London Gateway, Tilbury and the Ford Dagenham plant within its boundary. The freeport designation allows tax and customs advantages, and simplified planning arrangements.
- The Port of Dover has made concerted efforts to diversify its income from being heavily reliant on the cross channel ro-ro market. Considerable investment in the Eastern Docks has seen the port capture new steel, aggregates and perishable goods volumes.

5.38 The above changes demonstrate the significant level of investment in new port facilities that has taken place in the South East, albeit not in Medway, and a desire to diversify where there was heavy reliance on a single type of cargo. The construction sector is highly contested with more ports catering to this market.

Key Findings

5.39 With the exception of energy received at the Isle of Grain and vehicles at Sheerness, the cargoes handled on the Medway are predominantly related to the construction sector, and consumed within the region. With the exception of terminals owned by the cargo owner (such as Scotline at Crown Wharf, Rochester; and many of the aggregate jetties), port operators such as Peel at Sheerness and Chatham, and Hutchison at Thamesport, operate in a highly competitive market. The main reason cargo facilities in Medway are used is likely to be their proximity to the end market for those commodities.

5.40 For non-construction commodities the advantage of the facilities in Medway could be characterised as:

- Isle of Grain oil and gas jetties – the connections into the oil and gas distribution network, and deep water
- For vehicles at Sheerness – the vast amount of land available for vehicle storage, which is greater than many competing ports could offer.

5.41 For containerised cargo, or ro-ro ferry services, facilities in Essex have a clear advantage given their strategic location in terms of inland transport connections. Substantial investments have been made on the north bank of the Thames over the past 20 years, and deep sea container traffic is unlikely to return to Medway as a result, nor is Medway an attractive location for ro-ro services.

5.42 One area where the Medway may have an advantage over comparable facilities in the wider South East is the supporting role it has played in major construction projects. The same way the river was used as a construction base for the construction of the Channel Tunnel, Thames Tideway, Crossrail, the Lea Tunnel or the Northern Line extension, the River Medway could support the construction of projects such as the Lower Thames Crossing. In fact, Chatham Docks has been identified by Highways England as one of the potential "suppliers delivery site" for the delivery of cement to the Port of Tilbury via the river as an alternative to road transport¹⁶.

¹⁶ https://highwaysengland.citizenspace.com/ltc/community-impacts-consultation-2021/supporting_documents/Outline%20Materials%20Handling%20Plan.pdf

6. Cargo Growth on the River Medway

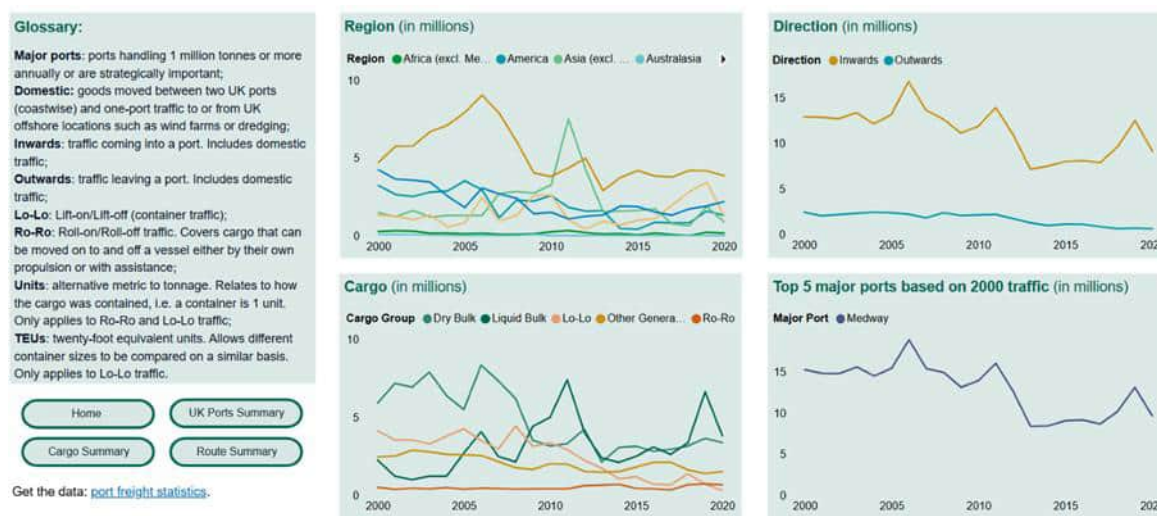
Caveats

- 6.1 Both DfT and HMRC maritime data have inherent reporting ‘features’ that make it difficult or impossible to drill down to terminal level and/or value of goods. The data used in this report is supplemented by unverified agent level reporting to inform freight forecasts for the River Medway (covering all ports on the river, including Sheerness).

General trends and context

- 6.2 Figure 6.1 shows that there has been a downward trend in freight activities generated on the River Medway (considering ‘major ports’¹⁷ only). This is consistent with the general trend observed of freight activities relocating downstream of rivers and in more accessible locations (such as location on the Thames).
- 6.3 The majority of trade recorded is with the EU, which grew between 2000 and 2006 before decreasing in the following years. Trade with all other regions has either decreased or remained stable between 2000 and 2020.
- 6.4 The majority of trade has been “inward”, with more cargo being unloaded on the Medway (including domestic cargo movements) than loaded onto ships. This demonstrates the role of the River Medway as a point of entry of goods for transformation and/or consumption in the UK (and most likely in the South East).

Figure 6.1 UK Major Ports Freight Trends – River Medway

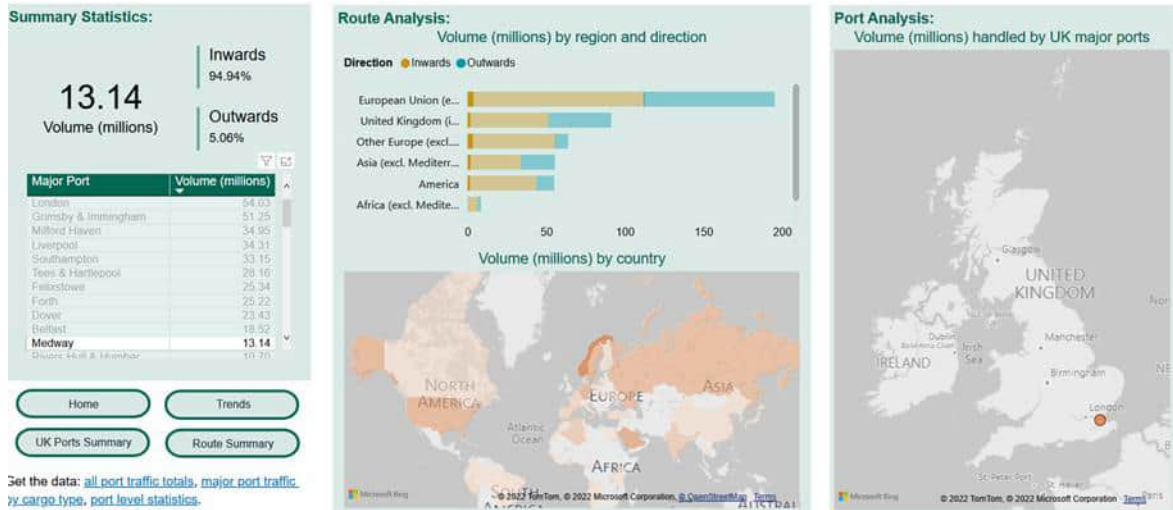


Source: DfT

- 6.5 Business activity on the River Medway takes place with similar trading partners to other UK ports. However, as shown in Figure 6.2, there is a noticeable bias to Norway which could be related to the importance of liquid bulk products (such as oil products and liquefied gas) and timber.

¹⁷ Defined as ports handling 1 million tonnes or more annually or are strategically important

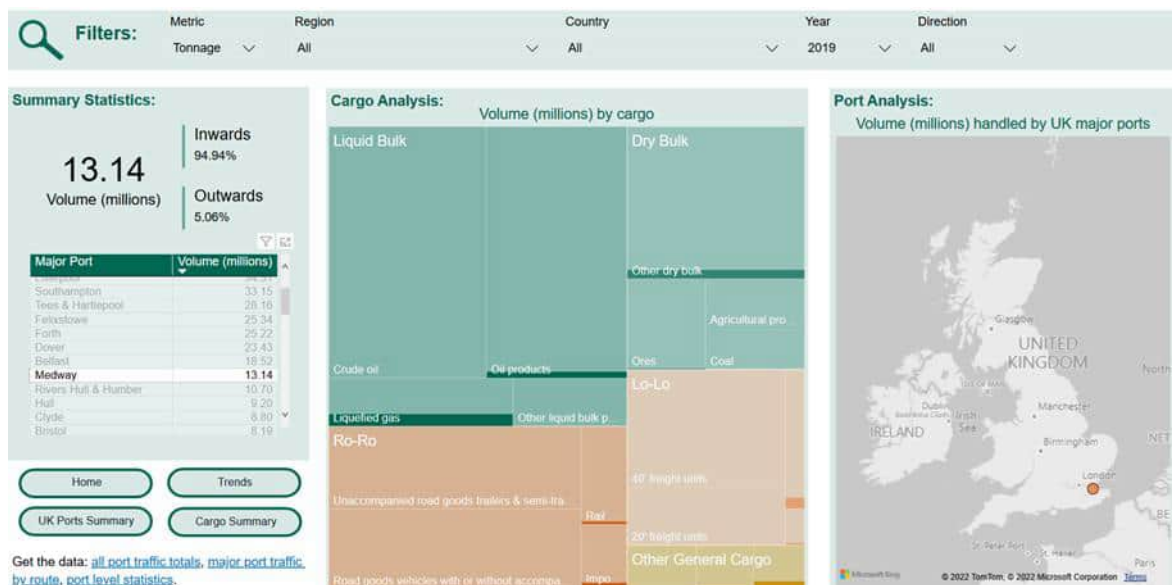
Figure 6.2 UK Major Ports Route Summary – River Medway



Source: DfT

6.6 Medway is a significant port for forestry and timber imports amongst UK ports and an important entry point for goods for the construction industry of Kent and the South East more widely.

Figure 6.3 UK Major Ports Cargo Summary – River Medway



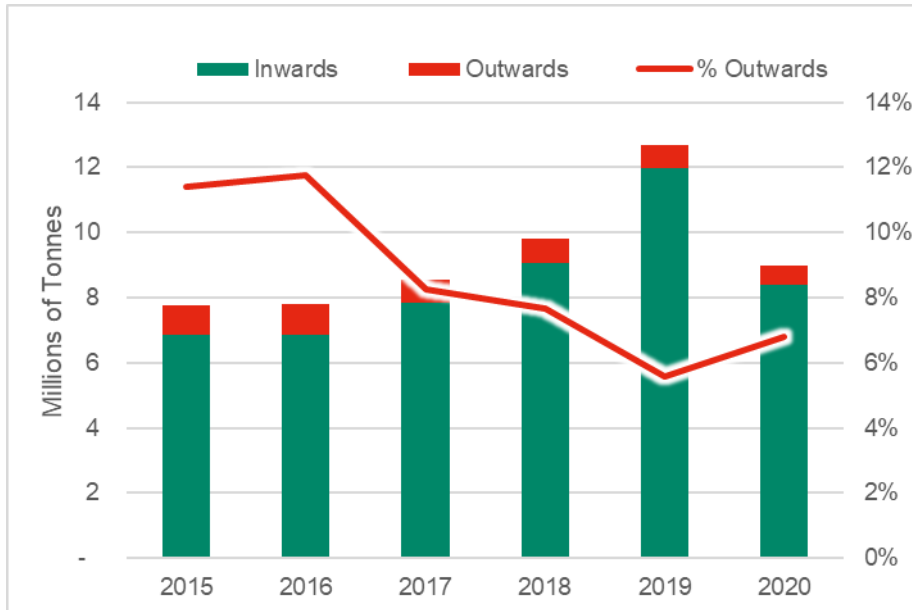
Source: DfT

- 6.7 In 2020, HMRC statistics show that £323m worth of goods were exported from Medway, and £585m worth of goods were imported into the area. 50% of exports and 58% of imports were to/from Non-EU Countries.
- 6.8 Medway accounted for 10% of exports in Kent (out of a total of £3.2b) and 9% of imports (out of a total of £6.8bn in Kent). Kent, including Medway, accounted for around 1.1% of UK goods exports, and 1.6% of UK goods imports overall.
- 6.9 Whilst precise data on imports from the EU into the Port of Medway (including Sheerness) are not available due to changes as a result of exiting the EU, £163m worth of goods were exported through the Medway Ports in 2021, whilst around £2.1bn of Non-EU imports were exported. If the share of EU vs Non-EU imports for Kent held true for the Port of Medway including Sheerness, there would have been £5.2bn worth of imports in 2021 across the entire Port, or around two thirds of the total for Kent as a whole.
- 6.10 On this basis Medway Ports including Sheerness accounted for around 1.56% of UK imports in 2021 – but just 0.04% of UK exports.

- 6.11 Between 7% and 21% of Medway businesses import or export goods around the world, although it is not possible to break down businesses by those who both import and export goods, as there may be overlap.
- 6.12 A 2017 study by Centre for Cities found Medway had £4,900 worth of goods exports for every job in Medway, compared with the national average of £9,000 per job. Medway was similar to places such as Manchester, Plymouth, Nottingham and Newcastle, whereas examples of areas with high levels of goods exports included Derby, Sunderland, Slough, Coventry and Luton.

Cargo Analysis by Weight

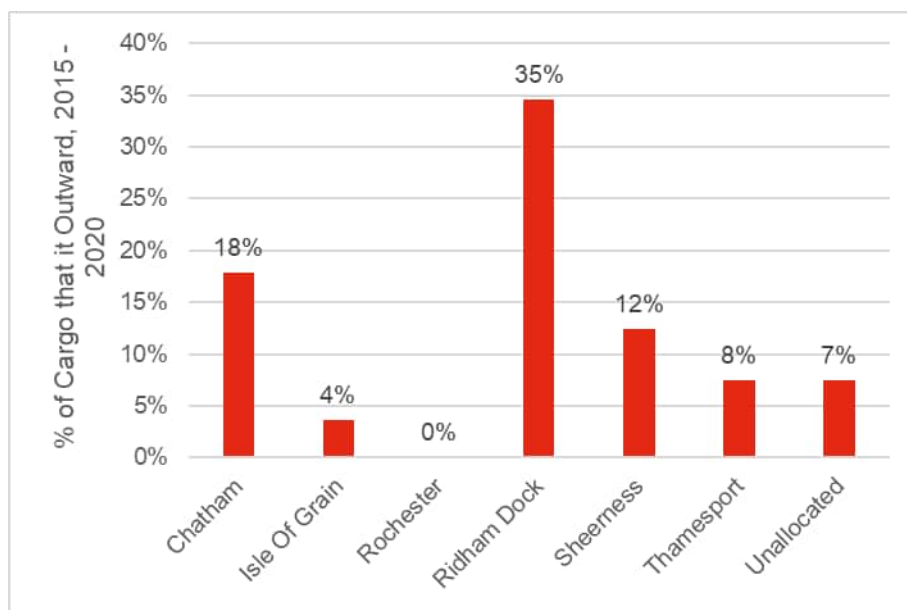
Figure 6.4 Cargo Handled within Medway Ports, 2015 - 2020



Source: AECOM analysis of DfT data

- 6.13 Figure 6.4 shows in more detail how the majority of cargo handled is 'inward', i.e. unloaded at terminals on the Medway, with 6-12% being outward during this period. Variation in the proportion of outward can be caused by growth in inwards. Variations in absolute terms could be explained by the completion of major construction projects to which Medway ports send outward cargo, such as tunnel lining segments.

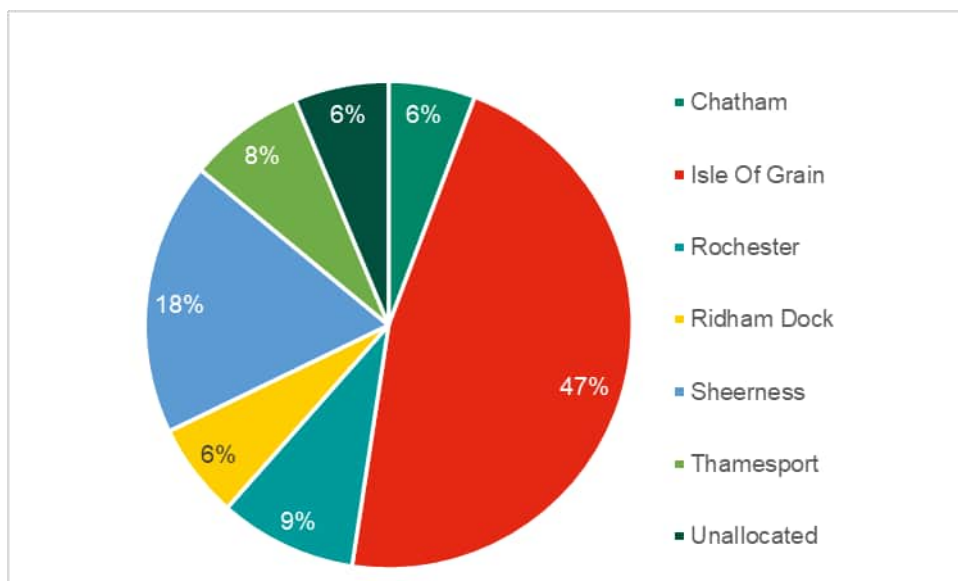
Figure 6.5 Percentage of Cargo that is Outward (by weight) average 2015 – 2020



Source: AECOM analysis of DfT data

6.14 All facilities except Rochester handled some outward cargo, with Ridham Dock having the greatest percentage of its cargo outward. Tunnel lining segments are cast on a site adjacent to Ridham Dock.

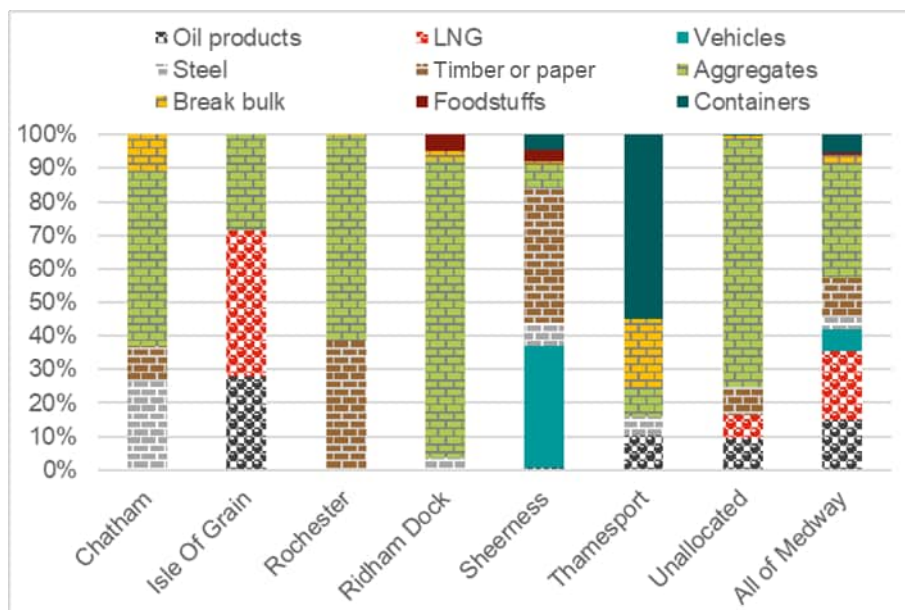
Figure 6.6 Distribution of Cargo (by weight) among Facilities, 2015 - 2020



Source: AECOM analysis of DfT data

6.15 Measured by weight, the most used facilities are the Isle of Grain oil and gas jetties. Sheerness is the next most significant. The remaining facilities handle around 6-9% each, by weight.

Figure 6.7 Proportion of Commodities Handled at Each Facility in Medway, 2015 - 2020



Notes:

- 1) Brick pattern represents commodities linked to the construction sector
- 2) Bubble pattern represents commodities linked to the energy sector
- 3) It has not been possible to distinguish between timber and paper, but the great majority is timber (paper is handled at Sheerness)
- 4) It is assumed that: i) all 'Other dry bulk' in the source statistics is aggregates ii) all break bulk is construction related
- 5) It is believed that 'Rochester' includes the aggregate terminal at Eurowharf and Scotline terminal at Crown Wharf
- 6) There are some errors in the underlying data

Source: AECOM analysis of DfT data

6.16 Figure 6.7 shows that, excepting the Isle of Grain, Sheerness and Thamesport, all other terminals mainly or exclusively serve the construction sector.

Potential and forecasts

6.17 AECOM trialled three approaches to potential forecasts:

- Exponentially smoothed forecast (last 5 years rolling), with no seasonality
- Average 2015-2019 trended forward using the current Office for Budget Responsibility (OBR) GDP forecasts for the UK and the OBR forecasts for export and import
- Hybrid forecast, adding and reviewing forecasts based on:
 - the dwelling investment GDP forecasts from the OBR for the forestry products
 - the forecast from the Society Of Motor Manufacturer And Traders for motor vehicles for iron and steel products

6.18 The first two forecasting scenarios both assume that past trends will continue in the future and do not take into account potential future changes to the regional, national and global economic and political context. The third scenario aims to address this limitation by adjusting the forecast for the two main goods transported on the river (forestry products and iron and steel products) using proxy forecasts to understand the future demand for those products.

6.19 Therefore, the last approach, informed by the others, is considered to be the most robust forecast and has been considered as the central scenario.

Exponentially smooth forecast

6.20 The first approach considered is an exponentially smoothed forecast (last 5 years rolling), with no seasonality, which was developed based on DfT maritime statistics. Since the data for 2020

was atypical it was forecast rather than reported; all containerised goods were 'binned' together and various small outlier products not forecast. 99% of all previous trade flows were included. The results showed potential overall growth based on previous patterns of 59% by the end 2025 compared to 2019, broken down as illustrated in Table 6.1 below.

Table 6.1 River Medway Growth Forecast (volume of goods) – Exponentially smoothed 5 year rolling

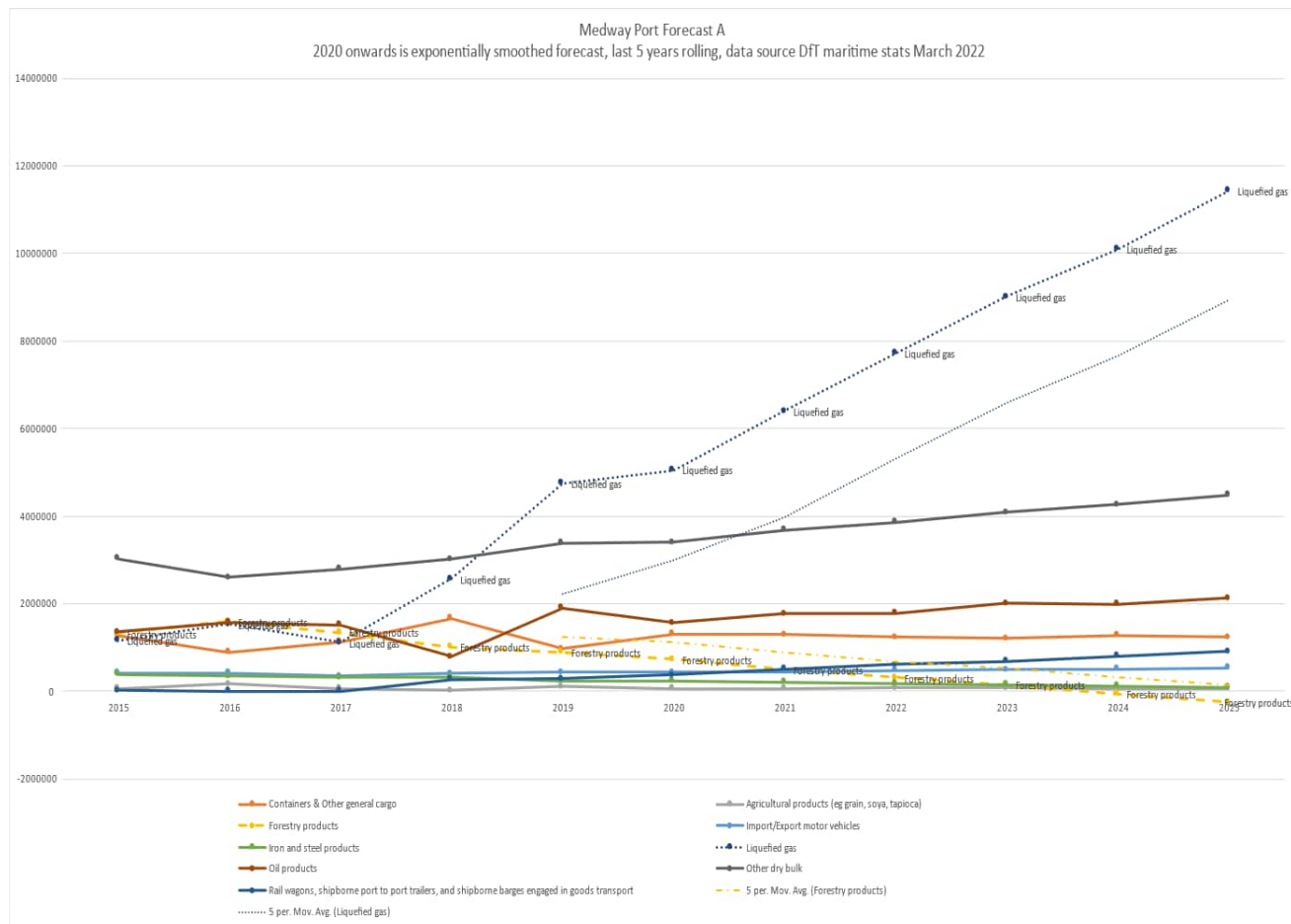
2021	2022	2023	2024	2025	2021-2025
12.9%	9.4%	9.8%	6.8%	8.1%	59%

Source: AECOM based on DfT and OBR

6.21 However, the problem with forecasting from the past is that even a smoothed forecast can be adversely affected by a short-term change, especially with no contextual understanding of the underlying cause. This can then be compounded by the assumption of unlimited growth or collapse, and this was seen in the above forecast when graphed at the cargo type level, as shown in Figure 6.8.

6.22 Both liquefied gas and forestry products were forecast unreliably, one with a massive growth (gas) and one a massive decline (forestry). Whilst the increase in gas may be possible it is likely that there are both demand, supply and infrastructure limits to such a scenario; and given the longstanding role of the Medway as a forestry products port it is unlikely that such a precipitous fall is likely.

Figure 6.8 River Medway Growth Forecast A (Exponentially smoothed 5 year rolling) by Cargo Type



Source: AECOM based on DfT and OBR

Average 2015-2019 trended forward forecast

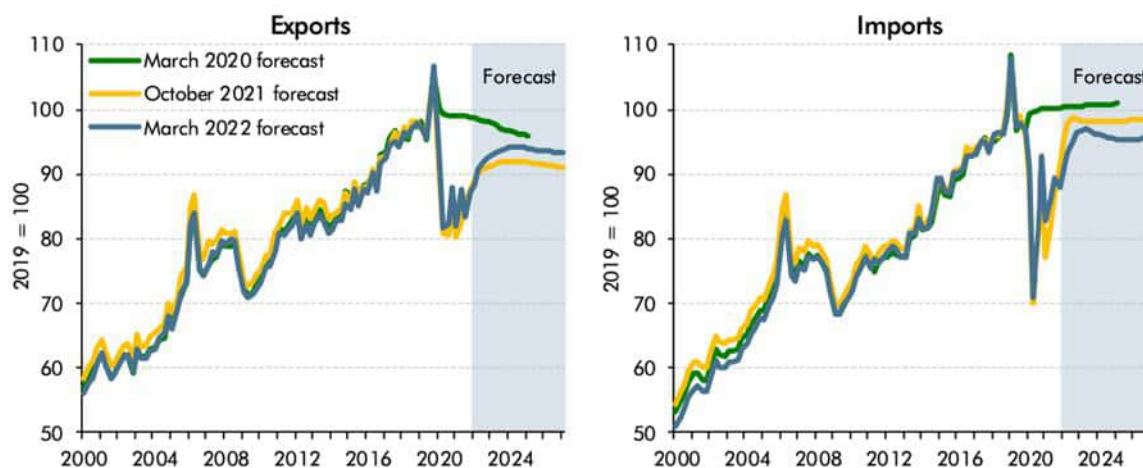
6.23 The second approach considered adopts a baseline figure using the average 2015-2019. The baseline is adjusted to take into account any obvious outliers. This baseline average is then

trended forward using the current Office for Budget Responsibility (OBR) GDP forecasts for the UK and the OBR forecasts for export and import.

6.24 Since freight transport growth has been coupled with GDP growth for many decades, this relationship seems appropriate and defensible as a benchmark but the OBR forecasts incorporate the falling proportion of GDP that they expect to be due to trade in the coming years.

6.25 The OBR forecasts that were used are those shown in Figure 6.9 and Table 6.2.

Figure 6.9 Import and export volumes



Source: ONS, OBR – March 2022

Table 6.2 OBR Forecasts (14th February 2022)

	2020	2021	2022	2023	2024	2026	2026
Imports: forecast	-17.81%	2.73%	15.68%	0.48%	0.03%	0.12%	0.13%
Export market share: forecast	-14.58%	-4.06%	-1.25%	-3.45%	-3.06%	-3.76%	-3.47%
GDP growth		7.50%	3.80%	1.80%	2.10%	1.80%	1.70%

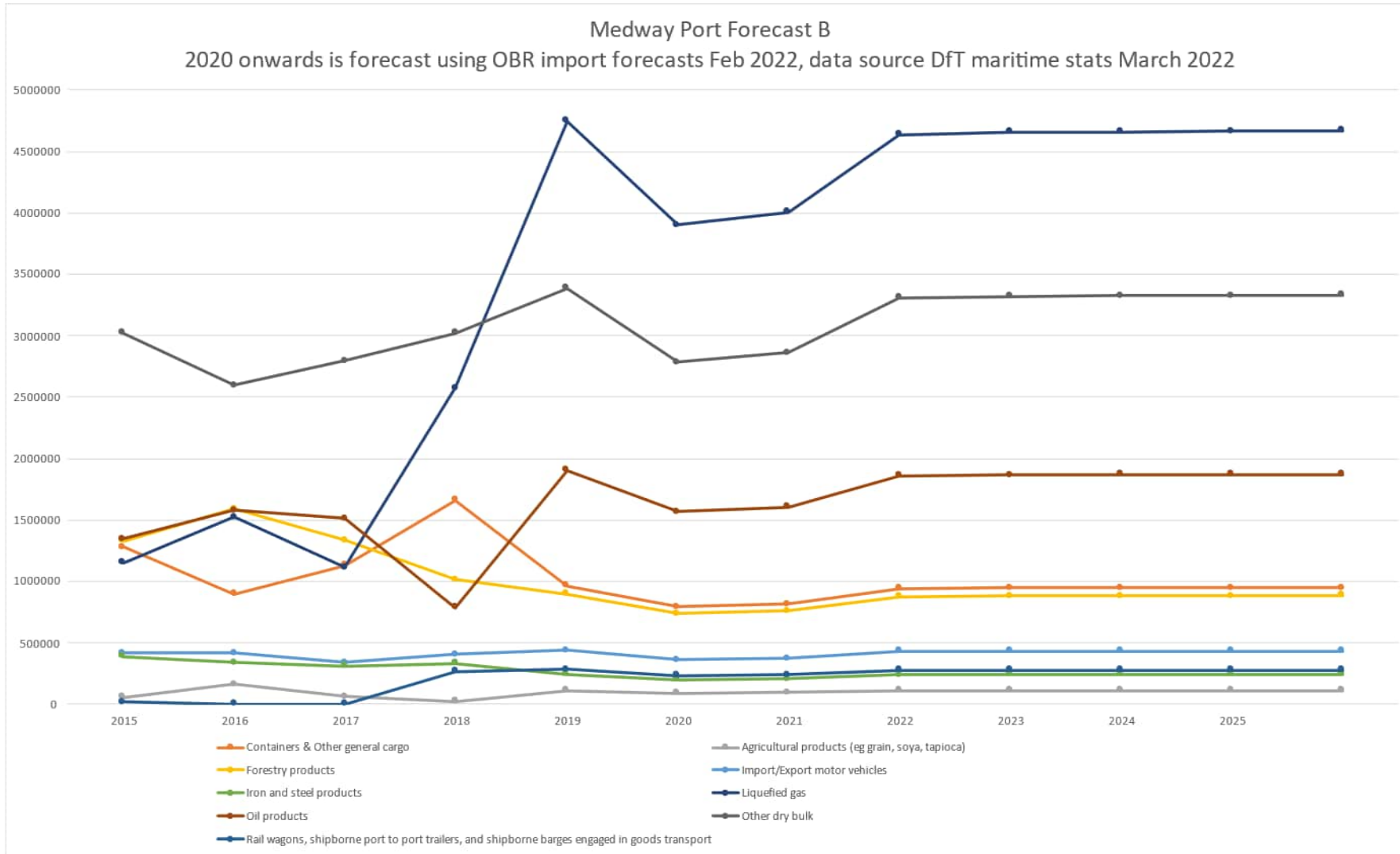
Source: OBR, February 2022

6.26 Since the River Medway is primarily an import port (95% of all goods were imports in 2019) and since the export market share is not quite the same as export forecast, the use of the OBR forecast has been favoured for the second forecast approach.

6.27 This forecast suggests a stable onward position, with the caveat that the liquified gas forecast is predicated on the recent uplift in 2019 being maintained.

6.28 The forecast following the second approach (2015-2019 baseline with OBR forecast) is presented in Figure 6.10.

Figure 6.10 River Medway Growth Forecast B (2015-2019 baseline, OBR Forecast) by Cargo Type

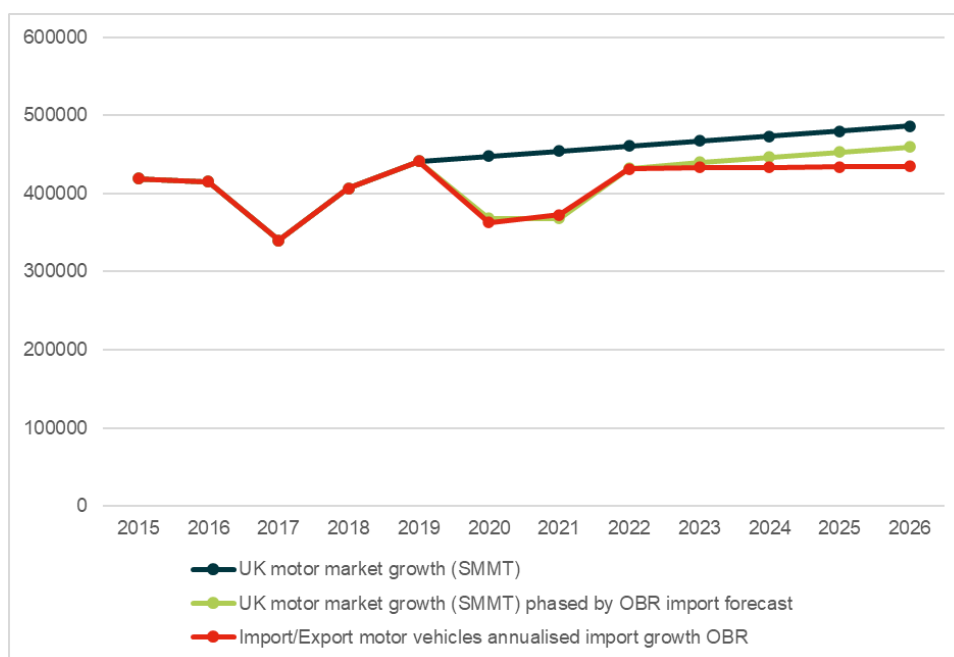


Source: AECOM

Hybrid forecast

- 6.29 Finally, the third approach considers a hybrid forecast, adding and reviewing forecasts based on the dwelling investment GDP forecasts from the OBR for the forestry products & iron and steel products; closely linked to that metric, and for motor vehicles, the forecast from the Society Of Motor Manufacturer And Traders.
- 6.30 “The UK, reflecting a weak and Brexit-hit 2019 market, offers firmer growth (versus 2019) by 2025, up more than 200,000 units to more than 2.5 million units.”¹⁸
- 6.31 This domestic motor vehicle forecast is not calibrated by year. AECOM have mapped it in a linear fashion as a separate series. However, that assumes that imported vehicles, which are the main flow through the Medway stay stable, whereas the OBR suggests that the proportion of UK GDP from trade will fall, and as such it maybe that that growth will be satisfied by domestic production. To that end, and additional series is forecast, whereby the domestic grows in line with the OBR imports forecast.
- 6.32 It should be noted that car imports are related to the Port of Sheerness (in Swale) and therefore do not directly influence on the level of maritime traffic within Medway’s section of the river.
- 6.33 These scenarios, shown in Figure 6.11, suggest a range of outcomes by 2026, varying from 434,768 to 459,782 to 486,555 thousand tonnes of vehicles per annum, or -1.6% to +3.55% to +9.21% cumulative forecast 2019-2026.

Figure 6.11 Various motor vehicle scenarios (kTonnes)



Source: DfT, OBR, SMMT

- 6.34 The OBR forecasts for dwelling investments, presented in Table 6.3, show a different growth pattern than their imports forecast. This has been mapped as a separate series.

¹⁸ Society Of Motor Manufacturer And Traders Trade Report 2021

Table 6.3 Expenditure contributions to real GDP, forecasts by sector

	Percentage points, unless otherwise stated						
	Outturn		Forecast				
	2020	2021	2022	2023	2024	2025	2026
GDP growth (per cent)	-9.4	7.5	3.8	1.8	2.1	1.8	1.7
<i>Main contributions:</i>							
Private consumption	-6.7	3.9	3.4	0.6	0.9	0.7	0.7
Business investment	-1.1	-0.1	1.0	0.5	0.4	0.6	0.5
Dwellings investment ¹	-0.6	0.6	0.1	0.1	0.0	0.1	0.1
Government ²	-0.9	3.2	0.5	0.5	0.2	0.4	0.5
Change in inventories	-0.7	0.6	-0.3	0.0	0.0	0.0	0.0
Net trade	0.8	-1.2	-0.6	-0.1	0.5	0.0	-0.1
Other ³	0.0	0.4	-0.3	0.0	0.0	0.0	0.0

¹ The sum of public corporations' and private sector investment in new dwellings, improvements to dwellings and transfer costs.
² The sum of government consumption and general government investment.
³ Includes the statistical discrepancy and net acquisition of valuables.
 Note: Components may not sum to total due to rounding.

Source: DfT and OBR

- 6.35 AECOM used this dwelling investment forecast as a proxy for construction activity and explored different scenarios for forestry and iron & steel products as most directly linked to that forecast, given that 50% of all iron and steel products on the Medway go to ArcelorMittal Kent Wire for manufacture into civil engineering support structures.
- 6.36 Given that the products come from identifiable sources through established and stable businesses (largely Scotline and ArcelorMittal) no third forecast was produced.
- 6.37 The forecasts suggest a range of goods movements of 884,896 to 932,226 thousand tonnes of forestry products per annum, or a cumulative forecast 2016-2026 of -1.60% to +3.55%. The forecasts suggest a range of goods movements of 243,752 to 256,789 thousand tonnes of iron and steel products per annum, or a cumulative forecast 2016-2026 of -1.60% to +3.55%. This is shown in Figure 6.12.

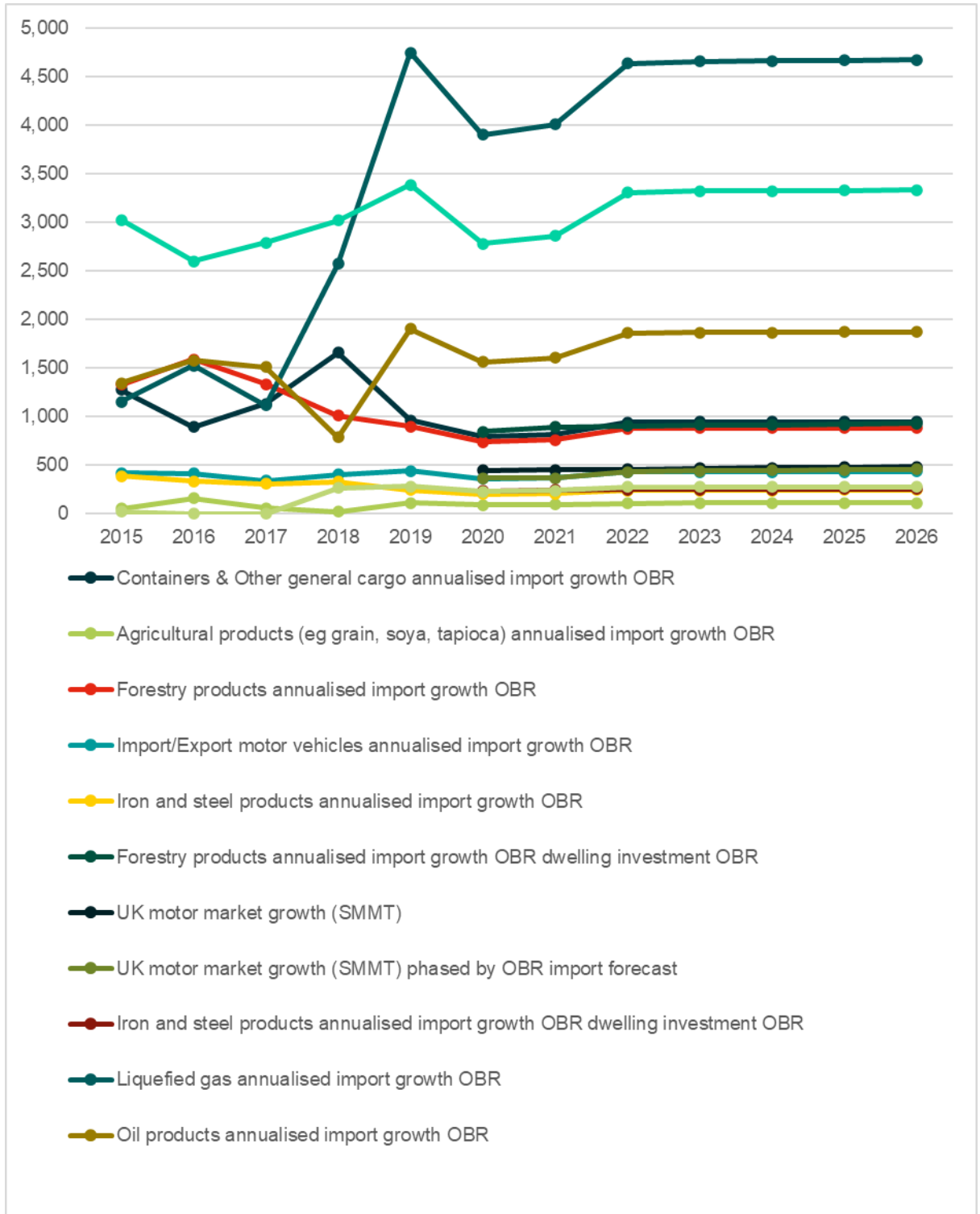
Figure 6.12 Various motor vehicle scenarios (kTonnes)



Source: DfT, OBR, SMMT

- 6.38 Energy policy and the net zero decarbonisation policies may yield another net change to the flows of liquified gas through the Medway, albeit perhaps not with the timeframe of current forecasting. Such a change would possibly be a step change similar to that of the new facilities coming online in 2019 and may or may not be replaced by new liquid hydrogen flows. As such, AECOM has not attempted to predict such a potential step change as a quantitative forecast but note that it is a very real change probably coming in the next 10-20 years.
- 6.39 Given the two key forecasts used (the OBR imports forecast and the OBR/SMMT forecasts for certain sectors) and given that the OBR expects that trade as a proportion of UK GDP will tend to fluctuate but fall overall up to 2026, the choice is between a cumulative forecast 2019 to 2026 of -1.6% (falling imports) or about +3.55% growth (in line with various GDP forecasts).
- 6.40 Energy policy may cause a step change in liquified gas, but this is difficult to quantify given the potential for a new hydrogen economy, the effect of the Russo-Ukrainian war, and potential competitive factors between UK gas terminals.
- 6.41 Figure 6.13 presents forecasts of trade on the Medway major port, unconstrained, and which have ranges of forecasts for forestry products, iron & steel, and motor vehicles.
- 6.42 Note that it is quite possible that the sectors with single OBR import forecasts could also be viewed with a more 'optimistic' forecast in much the same way as the three we have explored in detail.

Figure 6.13 Medway Freight Forecasts to 2026, kTonnes



Source: DfT, OBR, SMMT

7. Assessment of River Infrastructure

Introduction

- 7.1 This provides a baseline position of the River Medway current infrastructure (i.e. inventory) for both commercial and leisure activities as well as their current usage, where known, and condition.
- 7.2 Where sufficient evidence is available, this chapter assesses whether the existing infrastructure is sufficient to support commercial and leisure activities in Medway and considers whether the provision of additional infrastructure, or renovation of infrastructure in poor condition, could support further growth.
- 7.3 The infrastructure assessment also considers connectivity (ferry services) and support activities (boat repairs and yards) that take place on the river and infrastructure associated.

Approach

- 7.4 The existing river infrastructure has been assessed to inform planning decisions for developments that may rely on, or impact the river as a navigable waterway or more generally in terms of river-related economic activity. The assessment characterises what currently exists, how facilities are distributed along the river, and how they may be used. 'River infrastructure' in this context refers to facilities that allow people or goods to access the river for transport or recreation, i.e. jetties, wharves, slipways, quays and so on. Generally this will involve the use of a vessel of some kind, and on the Medway a vessel could range in size from a kayak to an ocean going oil or gas tanker. Other forms of personal water transport and recreation such as paddleboards and jet skis are included. The following are excluded from this analysis:
 - Other infrastructure in the river such as sluices, outfalls, cables and pipelines, and
 - The environmental sensitivity or ecological value of habitats in the river or on the river bank (these are better reviewed separately in the context of specific policies or planning decisions), and
 - Other uses of the river such as swimming.
- 7.5 A full list of infrastructure reviewed is provided in Appendix C.
- 7.6 The following attributes were used to assess river infrastructure:
 - Type – broad characterisation of use
 - Scale – an indication of relative size for the type of facility in question
 - Condition – judged from desktop research principally from operator websites and views Google Earth
 - Capability – an indication of the largest type of craft or vessel that could reliably use the facility
 - Function – an indication of the geographic size of market the facility could serve given its size and access constraints, which impact the scale of development or operations that may be suitable at that location
- 7.7 A caveat to note regarding condition: no enquiries, site visits or surveys have been undertaken, the condition assessment has a low level of reliability and should be taken only as a starting point for more thorough investigations. Using the desktop information sources noted above (websites and Google Earth) it could be the case that a facility appears to be in good condition but has failed structurally underwater and is beyond economic repair. This assessment was cross-referenced with findings from stakeholder consultation informing a strategy for economic development of the River Medway (Medway River Strategy) being prepared for the Council by SQW consultants, to ensure that the assessment is as accurate as possible and informed by local knowledge.

7.8 Attributes and grading are defined in Table 7.1. Grading of sites is not an exact science. Note that if a location has multiple features only the most common or significant is noted, and the site assessed is in the context of its most common feature, with the aim of expressing what the site is predominantly used for.

Table 7.1 Site Attributes and Grading System for Identifying Baseline River Infrastructure

Attribute	Grade	Definition			
CONDITION: Apparent condition ascertained from desktop sources	A	In use appears good - From visual searches or other data sources the facility appears to be operational and well maintained			
	B	In use but condition appears not ideal - From visual searches or other data sources the facility appears to be operational but the remaining lifespan may be limited, repairs may be required to extend lifespan			
	C	Out of use appears good - From visual searches or other data sources the facility appears to not be currently in use, but otherwise appears to be well maintained			
	D	Out of use appears not ideal - From visual searches or other data sources the facility appears to not be currently in use, and the remaining lifespan may be limited, repairs may be required to extend lifespan, or demolition and rebuilding may be needed.			
	E	Derelict - Appears to be derelict, considered more likely that demolition and rebuilding is more economic than repair			
	X	Unknown - Cannot be ascertained			
CAPABILITY: Largest vessel the facility appears suitable for, on a regular basis	Personal watercraft only	Paddleboards, kayaks, jetskis			
	Unpowered craft	Small boats without engines that accommodate more than one person, i.e. rowing boats, dinghies etc.			
	River craft	Most leisure craft, barges or small commercial craft that are not sea-going			
	Short sea	Capable of sailing between the UK, Ireland and mainland Europe, or coastal shipping around the UK			
	Ocean going	Capable of sailing between continents			
	Specialised	For specific type of vessels e.g. tugs or dredges, or specialised use e.g. boat repair			
FUNCTION: indication of the geographic size of market the facility could serve given its size and access constraints	Regional	Access via 'A' roads with efficient connections to the motorway network, HGV access possible, could be suitable to serve Kent, Surrey and Sussex. Ample parking / yard area.			
	Local	Access via properly paved roads that are part of the local road network, can serve the Medway area as a whole and possibly other areas of Kent. Clear areas for parking, site not severely constrained in terms of size/land area.			
	Neighbourhood	Access via narrow roads, through housing estates or otherwise difficult and suitable only for small vehicles (no HGVs) and small volumes of traffic. Can serve small scale local needs. Limited parking, small site with constraints.			
SCALE: indication of relative size for the type of facility		Commercial	Leisure	Supporting	Other
	Small	Visual judgement using Google Earth based on the number of moorings and yard area on land	Could berth one short sea vessel	No distinction made	No distinction made
	Medium		Could berth multiple short sea vessels		
	Large		Could berth an ocean going vessel		

Source: AECOM

Baseline assessment

Overview of Medway

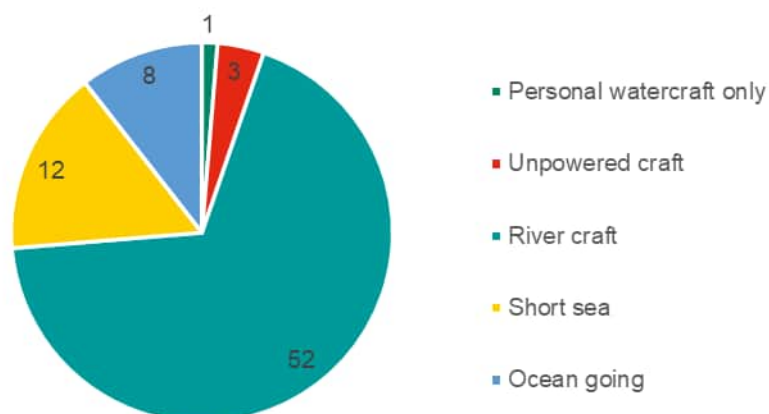
7.9 The river infrastructure is fragmented, both spatially, and in terms of ownership. That is true for both the commercial and leisure sectors. This is partly due to the geography of the Medway. Compared to other UK towns and cities with ports the Medway, when measured from the most upstream commercial facility (Scotline at Medway City Estate) to the most downstream (Sheerness) is longer. In addition, the ‘remoteness’ of the two opposite sides of the river, at the most downstream points on each side where commercial activity takes place, is greater for Medway than other UK ports when measured by driving distance. Comparison of length and remoteness of different rivers in the UK is provided in Table 7.2.

Table 7.2 Comparison of River Length and ‘Remoteness’

Town/City	Distance along which commercial shipping facilities are located (miles)	Notes	Driving time between most downstream commercial shipping facility on opposite river banks (minutes)	Notes
Medway	13.5	Scotline at Medway City Estate to Sheerness	52	Sheerness to Grain CHP
Teesside	12	Haverton Hill to Hartlepool	42	Hartlepool to South Gare
Liverpool	10	Seaforth to Garston / Eastham (start of Manchester Ship Canal)	33	Seaforth to Perch Rock
Southampton	10	Redbridge to Falvey	36	Fawley to QEII Cruise Terminal
Portsmouth	2	Portsmouth International Port to Gunwharf	39	Gunwharf to Gosport Block House

7.10 AECOM has identified a total of 77 facilities in Medway across all categories (commercial, leisure, supporting or other). Across all of the facilities, of all types, the distribution of ‘capability’ is what would be expected: fewer facilities can accommodate large ocean going vessels, and there are more facilities that can accommodate smaller vessels, as shown in Figure 7.1. This figure shows that only 12 facilities can accommodate short sea shipping and 8 can accommodate deep sea shipping. All the other facilities cater for smaller vessels (personal watercraft, unpowered craft, river craft).

Figure 7.1 Capability of Reviewed Facilities in terms of Largest Vessel they could accommodate

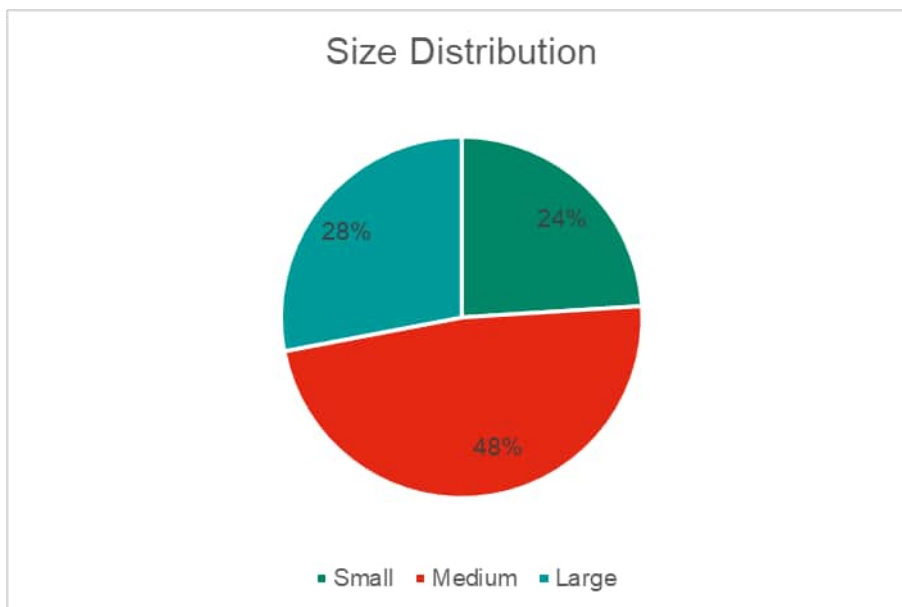


Source: AECOM

Commercial

- 7.11 Out of the 77 pieces of infrastructure identified by AECOM on the River Medway, 27 are considered to be commercial facilities. These range greatly in scale (Figure 7.2), and those still in operation appear to be in good condition (Figure 7.4). Nearly all are of a scale that allows them to serve a regional function, receiving cargo for use throughout Kent, Surrey, Sussex and London (Figure 7.3). There are a number of smaller facilities out of use, most of which are unlikely to be usable again in their current form. There are a handful of facilities, currently out of use, which may potentially be re-habilitated; however, whether there is a financial case for doing so is far from certain and would require more in-depth study.
- 7.12 Two reasons emerge to explain why the out-of-use facilities are unlikely to be used again for commercial shipping:
- They are specialised, and/or too small, and or in too poor condition to be considered for re-activation. This applies predominantly to jetties on the Isle of Grain.
 - They are in locations where it may be difficult to gain permission for the associated development required to bring them back into use, particularly with regard to the road traffic generated which would have to pass through residential areas. Water depth may also be an issue as depths are currently low and the resulting tidal restrictions may be unattractive to the commercial shipping sector, especially when there is capacity at other sites with deeper water. This applies predominantly to sites such as Bloor's Wharf and Otterham Quay which are closer to the centre of Medway.
- 7.13 Figure 7.2, Figure 7.3 and Figure 7.4 provides a breakdown of the commercial facilities by size, function and condition.

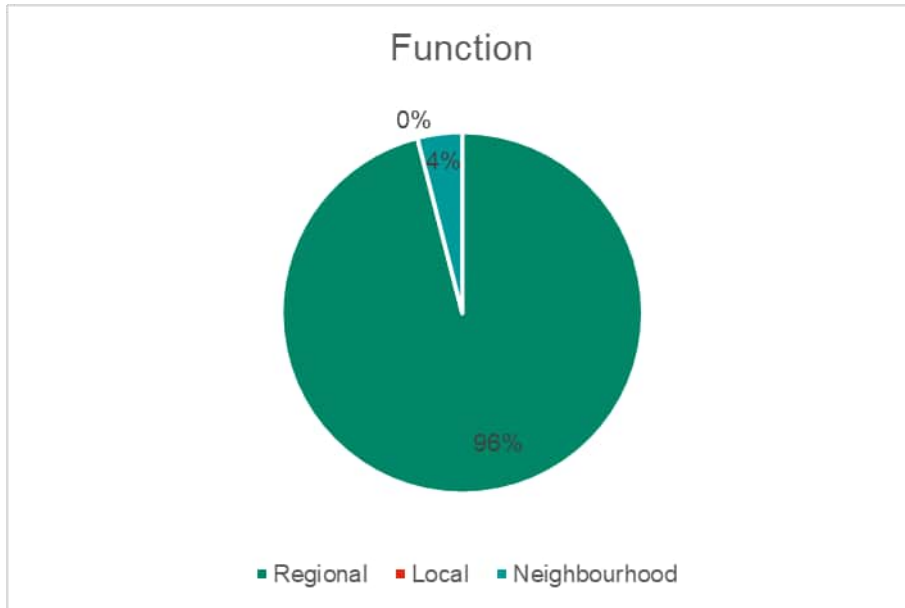
Figure 7.2 Commercial Shipping Facilities – Distribution by Scale



Note: See Table 7.1 for definitions

Source: AECOM

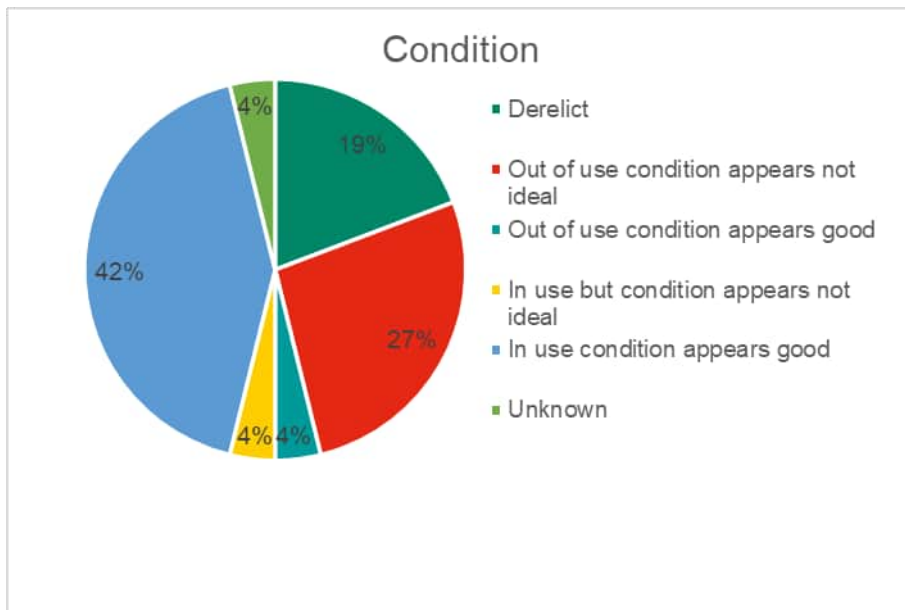
Figure 7.3 Commercial Shipping Facilities – Distribution by Function they are suited for



Note: See Table 7.1 for definitions

Source: AECOM

Figure 7.4 Commercial Shipping Facilities – Condition



Source: AECOM

Leisure

7.14 Leisure facilities on the River Medway are broadly distributed evenly between small, medium and large facilities (Figure 7.5) allowing to equally cater for different markets going from the neighbourhood to the regional market (Figure 7.6). In addition, most of the facilities appear to be in good condition and in use (Figure 7.7).

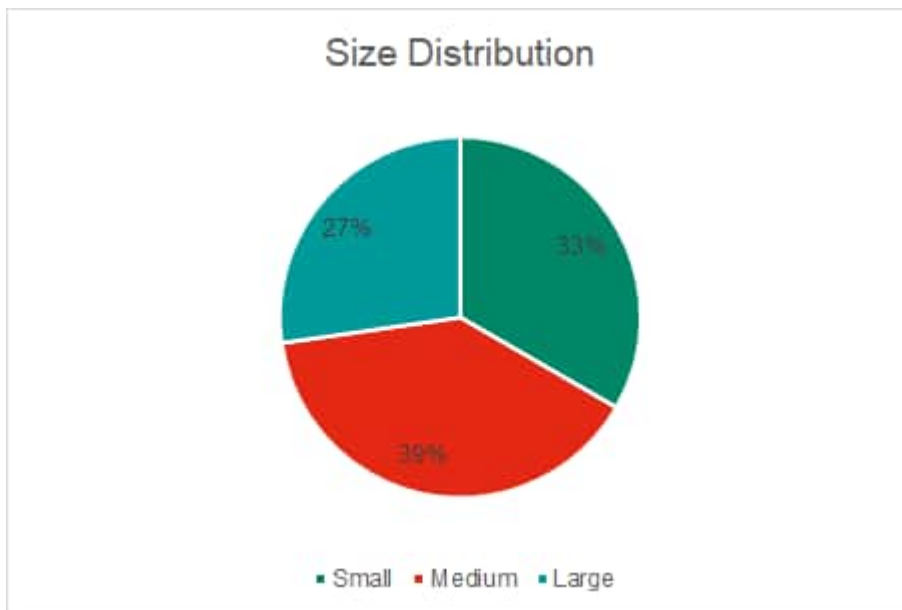
7.15 The River Medway has a vibrant and diverse leisure boating community. It includes different types of boating activity with evidence found of:

- paddleboarding
- kayaking
- rowing

- dingy sailing
 - sailing craft
 - motor vessels, and
 - water skiing.
- 7.16 Whilst it is difficult to identify the proportion of overall leisure activity on the Medway each of the above activities accounts for, the following was noted:
- The great majority of the facilities appear to be catering to boat ownership, predominantly motor vessels. Estimates by the Medway and Swale Boating Association put the number of moorings on the Medway at 2,400 moorings and 10,000 individual boat users including all types of boat (including dinghies and canoes) and vessels not moored on the river (i.e. kept on land).
 - Dingy sailing and rowing may be the next most widely supported activity,
 - Use of personal watercraft (paddleboarding and kayaking) and water skiing are the least supported activity,
- 7.17 There is an abundance of leisure craft facilities on the Medway with multiple marinas, clubs and boatyards offering a range of services. Facilities vary in size, offering and charges¹⁹. There are in excess of 20 marinas or other facilities for storing boats, and the majority appear to be in good condition. This suggests a well-functioning market offering choice and competition.
- 7.18 There are privately owned commercially operated marinas, boatyards, and watersport facilities, as well as approximately 17 club-owned facilities. These clubs, associations and trusts, many of which are registered charities, have approximately 4,000 registered members pre-pandemic. Ten clubs in Medway also offer Royal Yachting Association (RYA) accredited sailing courses. Most clubs have a club house with varying levels of facilities.
- 7.19 Many of the marinas are on sites originally used for commercial shipping, however some facilities (particularly those run by clubs) have long histories in their own right. Most are of sufficient scale to serve Medway as a whole.
- 7.20 For water sports such as rowing, or the use of personal watercraft etc. facilities are present, but fewer in number.
- 7.21 Without further evidence it is difficult to identify a shortage of any particular type of facility, although findings from the stakeholder engagement indicate that local community groups would support provision of further infrastructure, and in particular infrastructure to access the river (such as pontoons and slipways). The presence of numerous privately owned commercial facilities suggests supply meets demand for the most profitable activities. Many privately run marinas could potentially offer services for the less supported activities (use of personal watercraft) and presumably would do so if there was sufficient demand and margins were comparable to their existing activity.
- 7.22 Demand for moorings has been growing in the UK for a number of years, and population growth in Medway may further drive demand. This may result in higher margins for providing boat moorings on the riverside than other uses, and therefore shortages of other types of facility may arise but without further consultation there is no clear evidence of this.
- 7.23 Tourist boat trips are operated from Sun Pier, Chatham by JetStream on a seasonal basis. In all, 34 leisure facilities were identified and they can be characterised as follows:

¹⁹ Charges were not specifically reviewed for this study, but variations were noted.

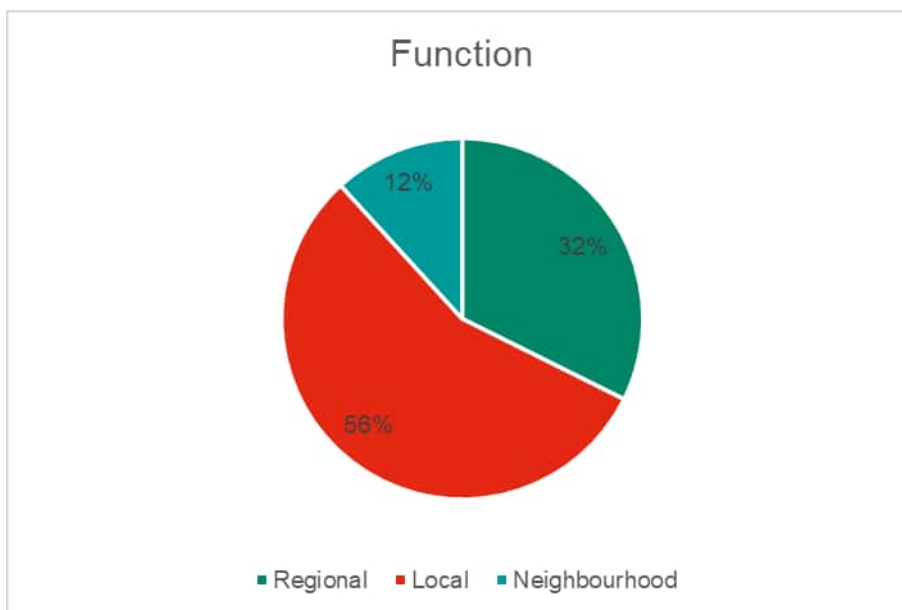
Figure 7.5 Leisure Facilities – Size by Scale



Note: See Table 7.1 for definitions

Source: AECOM

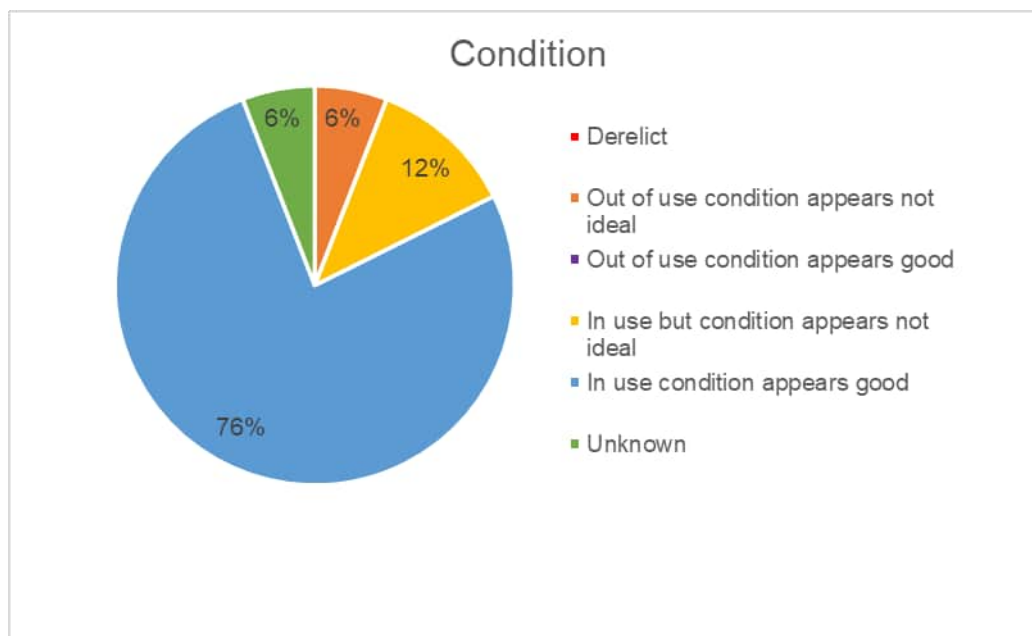
Figure 7.6 Leisure Facilities – Distribution by Function they are suited for



Note: See Table 7.1 for definitions

Source: AECOM

Figure 7.7 Leisure Facilities – Condition



Source: AECOM

Connectivity

- 7.24 There are no ferries providing connectivity on the Medway. Because boats are generally slower than land transport, ferry routes connecting points along the length of a river will not generally be viable. This is even more true when the route of the river is not straight, as is the case in Medway. Ferry routes connecting opposite sides of a river, providing short crossing times, can be viable where there are no nearby bridges and tunnels, and sufficient demand (trip 'productions', i.e. people, and trip attractions) either side of the river. This does not occur on the River Medway, partly because of the presence of bridges and tunnels, but also because the west bank of the Medway is less densely developed than south bank. In addition most of the development on either river bank is not concentrated on the waterfront but some distance from it, which makes ferry river crossings less viable.
- 7.25 On the other hand, leisure boat trips linking attractions on the Medway could be more viable, under the right circumstances. This would require sufficient trip attractions at points along the river to generate demand for pedestrian and cyclist river crossings and clear marketing of the service as a means of accessing the attractions e.g. as means of rail passengers arriving at Rochester to access Chatham Dockyard or Upnor.

Supporting

- 7.26 There are multiple small boat repair yards with varying facilities that cater to the leisure craft market, and some marinas include boat repair facilities. There is generally a shortage of boat repair facilities on the Thames and Medway particularly for commercial vessels but three such facilities can be found on Medway: Chatham Historic Dockyard in Chatham, GPS Marine's repair facility at Chatham Dock, and European Active Projects also located at Chatham Dock. It is hard to find a suitable location for this activity and a facility for serving both the Thames and Medway may be better located on the former.

Other

- 7.27 Other uses of the river front in Medway include Royal Engineers Jetty which is used by the armed forces, and houseboats at Port Werburgh. There are approximately 400 residential moorings in Medway.
- 7.28 The site at Royal Engineers Jetty could be used for new or re-located commercial activity (waste barging, tug and barge storage, or as an aggregates jetty) if it ever became available given it has good connections to the road network.

Key findings

- 7.29 Most facilities on the River Medway do not have suitable infrastructure to accommodate large vessels, with only 20 out of 77 facilities capable to accommodate the larger boats for short and deep sea shipping.
- 7.30 Commercial facilities are mainly oriented towards the local and regional market. As seen in previous sections of this report, those facilities focus predominantly on the handling of cargos related to the construction sector.
- 7.31 About half of all commercial facilities are considered as being derelict or in poor condition (either in use or out of use), predominantly the smaller facilities. There are no clear opportunities for those to be brought back to use due to constraints related to their location (impact on local traffic, conflict with surrounding uses, etc.) and/or size which does not respond to the market requirements and/or condition.
- 7.32 The River Medway has a vibrant and diverse leisure boating community and offers an abundance of leisure craft facilities. Leisure facilities vary in sizes and cater for all markets (neighbourhood, local and regional). Overall, the leisure facilities are in good condition and appear to be in use (over 75% of all leisure facilities).
- 7.33 At this stage, and without further engagement with key users, it is difficult to identify a shortage of any specific types of leisure facility. However findings from the stakeholder consultation that is informing the Medway River Strategy indicates that local community groups would support further facilities being provided, particularly infrastructure to access the river (such as pontoons and slipways).
- 7.34 There are no ferries providing connectivity on the Medway. These services are unlikely to be viable due to their lack of attractiveness for the general public (slower than travel by road), however leisure boat trips linking attractions on the Medway could be more viable, under the right circumstances.
- 7.35 There are multiple small boat repair yards with varying facilities that cater to the leisure craft market, and some marinas include boat repair facilities. Whilst there is generally a shortage of boat repair facilities on the Thames and Medway particularly for commercial vessels, it is difficult to find a suitable location for additional facilities to serve both the Thames and Medway which would be competitive with similar facilities located on the Thames.
- 7.36 Other uses on the River Medway include houseboats and residential moorings, with an identified 400 moorings in Medway, providing an alternative to traditional housing.

8. Baseline Assessment of Businesses and Employment

Introduction

- 8.1 This chapter covers the baseline analysis of businesses and employment on the River Medway, breaking the data down between businesses which are reliant on the access to the river for business activities or not, industrial sector and locations (across 35 sites).
- 8.2 The breakdown of businesses and employment between businesses which are reliant on the River Medway to carry out their activities and businesses which are not provides a better estimate of the actual role of the river (through the economic value river user businesses generate) in the Medway economy.
- 8.3 This analysis shows the type of economic activities that take place on sites located along the River and identifies clusters of employment by industrial sector.
- 8.4 In addition, the chapter provides an overview of land ownership across the 35 sites considered. The high-level characteristics of land ownership are useful to understand where potential for (re)development may lie i.e. Medway Council will have more control over the future use of a site which is in their ownership than a site that is privately owned, or where fragmentation of the land ownership is low, allowing for a more comprehensive redevelopment of the site rather than piece-meal redevelopment.

Overview of businesses and employment on the River Medway

- 8.5 The number of businesses and employment level located along the River Medway was assessed drawing on IDBR data.
- 8.6 The two main sources of input into the IDBR are Value Added Tax (VAT) and Pay As You Earn (PAYE) records from HMRC. Additional information comes from Companies House and ONS business surveys. Since the two tax sources have thresholds, very small businesses operating below these will, in most cases, not be included in the data. Similarly, employees registered by a company at one location but being seconded to another location will be counted in the data for the primary location²⁰.
- 8.7 Data provided by IDBR for 2021 indicates that there are 1,014 businesses within the study area (frontage of the River Medway). Collectively, they directly provide 16,307 jobs, which equates to 14,094 Full Time Equivalents (FTEs) assuming that one part-job is equivalent to 0.5 FTE (and full-time jobs are equivalent to 1 FTE).
- 8.8 In terms of comparison, the 2021 IDBR data indicated that there are 8,556 businesses in Medway, providing 93,249 jobs. Businesses located along the River Medway therefore represent 12% of all businesses in Medway (local authority area) and directly provide 17% of all employment in the local authority.
- 8.9 On average, businesses located along the River Medway tend to be larger (in terms of employment size) than all businesses located in the authority area (both along the river and inland), with an average employment number per business of 16 for businesses located along the river against 11 for overall businesses in Medway.
- 8.10 Figure 8.2 shows the sectoral breakdown of the employment of Medway's riverside businesses by industrial division group.

²⁰ This can lead to an over-estimation of employment, particularly in sectors where employees are very mobile (such as the construction sector, where most employees will work on sites – away from the registered business location).

- 8.11 The administrative and support services activities (N) accounts for the largest proportion of employment amongst the study area, with 2,985 jobs out of 16,307 in total (18%)²¹. The manufacturing (C)²², construction (F)²³, wholesale and retail trade (G)²⁴ and human health and social work activities (Q)²⁵ also account for relatively large numbers of jobs, with 1,802 (11%), 1,626 (10%), 1,581 (10%) and 1,570 (10%) jobs respectively.
- 8.12 Overall, based on the repartition of employment between the different sectors, it could be considered that the land-use character of the riverside is relatively industrial. This can be seen in Figure 8.1 which provides an overview of land use along the river.

²¹ Large employers include Ward Security Limited, Qube Recruitment, CC Cousins Limited, Kaeffer Ltd, Paramount Independent Property

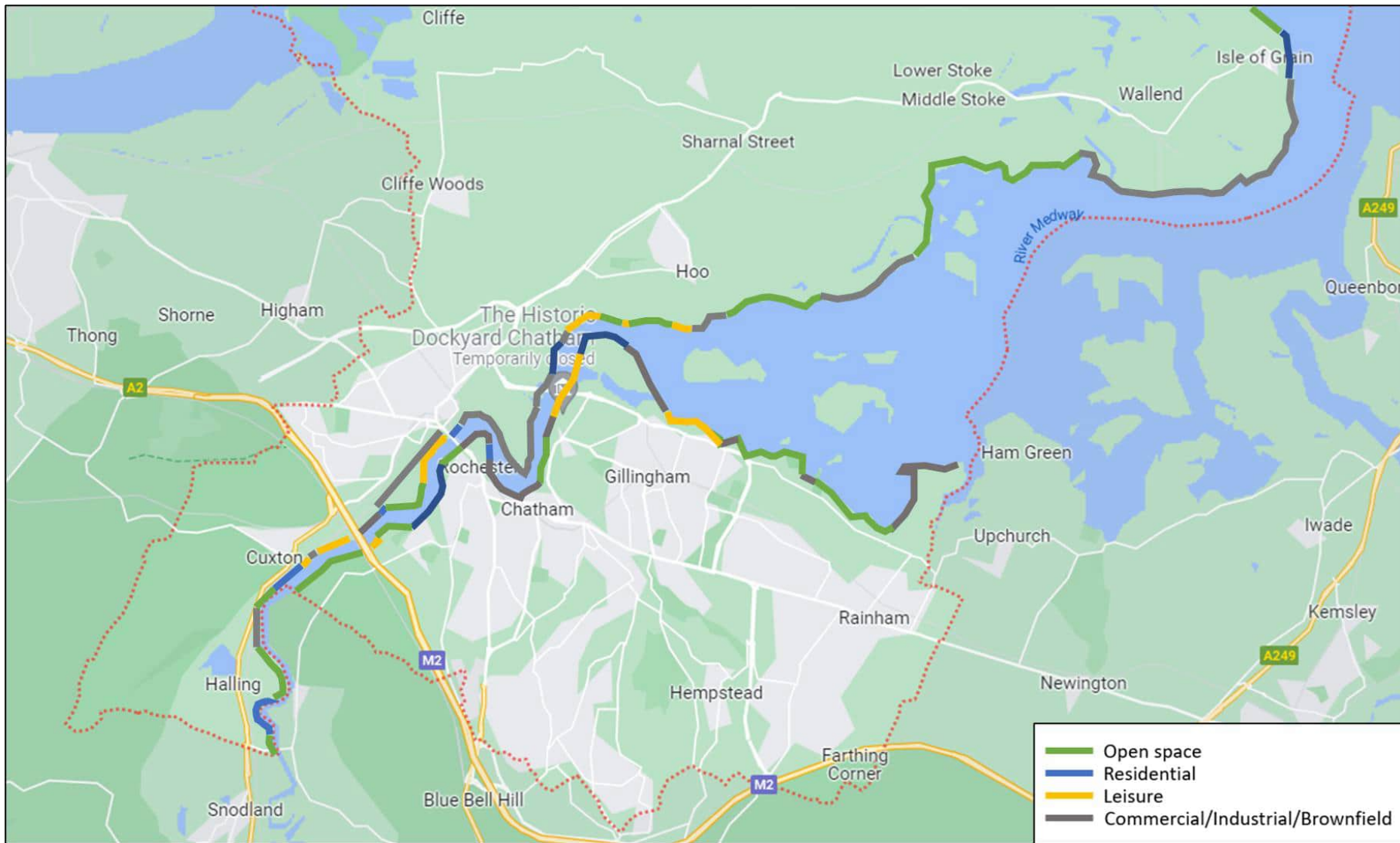
²² Large employers include Veetee Rice Ltd, Veetee Food Limited, Key Promotion (UK) Ltd, ArcelorMittal Kent Wire Limited, Jubilee Clips Ltd, Hy-ten Ltd

²³ Large employers include GKR Scaffolding Limited, Alltask Limited, Smart Managed Solutions Ltd, Lawtech Group

²⁴ Large employers include CDS (Superstores International), Channel Commercials PLC, Systems Technology (SE) Limited

²⁵ Large employers include London Care Limited, Diagrama Healthcare Services, Forge House Care Ltd, Everycare (Medway/Swale) Ltd, Scott Care Ltd

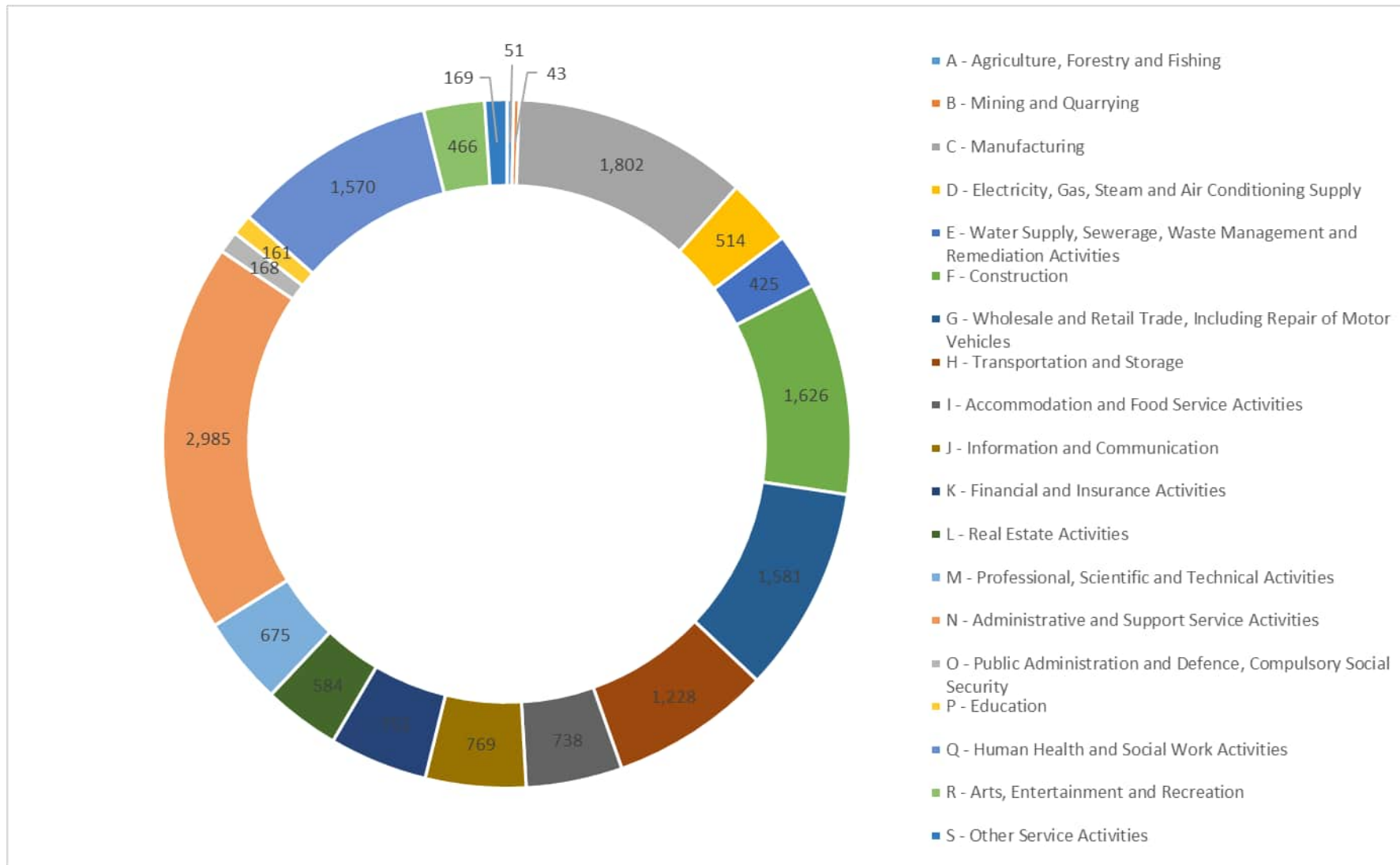
Figure 8.1 River Medway Land Use



Source: AECOM

- 8.13 Whilst some businesses in industrial sectors such as manufacturing, construction or wholesale could have an advantage to be located by the river (for import/export of goods), other businesses are less likely to benefit from it (i.e. employment in human health and social care industry). This may reflect the changing character of the River Medway, slowly moving away from its historical industrial past and increasingly moving towards the service industry. Regeneration projects along the river front have also replaced employment land use with residential development, most notably at Rochester Riverside and St Mary's Island.

Figure 8.2 Employment at Medway’s Riverside Businesses by Industrial Division



Source: AECOM, based on IDBR 2021

8.14 The largest industrial divisions on the River Medway in terms of employment are:

- N – Administrative and Support Service Activities (2,985 jobs – 18% of total river employment)
- C – Manufacturing (1,802 jobs – 11%)
- F – Construction (1,626 jobs – 10%)
- G – Wholesale and Retail Trade, Including Repair of Motor Vehicles (1,581 jobs – 10%)
- Q – Human Health and Social Work Activities (1,570 jobs – 10%).

8.15 A Location Quotient (LQ) analysis allows to compare the concentration of employment by industrial sector on the River Medway against Medway. An LQ above 1 indicates that the concentration in employment is higher on the River Medway than across Medway (this industry may be considered to be clustered), whilst an LQ below 1 indicates a lower concentration of employment in the industry compared to the local average. The LQ analysis is presented in Table 8.1 and shows that there is a particular concentration of employment in the following industrial divisions:

- mining and quarrying activities
- electricity, gas, steam and air conditioning supply
- water supply, sewerage, waste management and remediation activities
- information and communication
- real estate activities.

8.16 Whilst the first three industries can be considered as heavy industrial activities, particularly relating to utilities, the other two industries relate to services and may be an indicator of the transition that is taking place on the riverside (from industrial to services) as well as within the wider economy.

Table 8.1 Industrial Division Location Quotient Analysis – River Medway vs Medway

Industrial Division	LQ
A - Agriculture, Forestry and Fishing	0.2
B - Mining and Quarrying	5.6
C - Manufacturing	1.4
D - Electricity, Gas, Steam and Air Conditioning Supply	4.2
E - Water Supply, Sewerage, Waste Management and Remediation Activities	2.5
F - Construction	1.5
G - Wholesale and Retail Trade, Including Repair of Motor Vehicles	0.7
H - Transportation and Storage	1.3
I - Accommodation and Food Service Activities	0.7
J - Information and Communication	2.3
K - Financial and Insurance Activities	1.4
L - Real Estate Activities	2.8
M - Professional, Scientific and Technical Activities	1.0
N - Administrative and Support Service Activities	1.9
O - Public Administration and Defence, Compulsory Social Security	0.2
P - Education	0.1
Q - Human Health and Social Work Activities	0.6
R - Arts, Entertainment and Recreation	1.2
S - Other Service Activities	0.6

Source: AECOM, based on IDBR 2021

- 8.17 Between 2011 and 2021, employment on the River Medway has increased from 12,642 jobs to 16,307 jobs (+29%) whilst the number of businesses also increased from 870 to 1,014 (+17%). The faster growth in employment than number of businesses suggests that a share of employment growth was generated by expanding existing businesses (or new larger businesses have replaced smaller businesses which are now closed).
- 8.18 The increase of employment is particularly supported by employment growth at Chatham Historic Dockyard (+1,469 jobs between 2011 and 2021); Chatham Maritime Marina (+830 jobs); Medway City Estate (+734 jobs) and Sun Wharf (+519 jobs). On the other hand, some sites have seen a reduction in employment between 2011 and 2021, such as London Thamesport (-423 jobs); Acorn Wharf (-72 jobs); or Cuxton Marina (-55 jobs). It should be noted that employment figures reported do not necessarily accurately reflect the number of workers on those sites as IDBR data only records the number of employees declared by companies based on those sites, which may, for example, have employees working from or between other locations.
- 8.19 At the local authority level (Medway), employment also increased between 2011 and 2021 but a slower rate (+17%) whilst the growth in number of businesses is above the River Medway trend (+40%). This indicates an increased reliance on smaller size businesses.
- 8.20 The evolution of the number of businesses and employment on the River Medway and in Medway between 2011 and 2021 is presented in Table 8.2.

Table 8.2 Medway and River Medway, Businesses and Employment Evolution (2011-2021)

	2011	2016	2021	Change 2011-2021 (%)
<hr/>				

River Medway	Businesses	870	965	1,014	17%
	Employment	12,642	13,678	16,307	29%
Medway	Businesses	6,128	7,888	8,556	40%
	Employment	79,650	87,169	93,249	17%

Source: AECOM, based on IDBR 2021

- 8.21 Whilst the majority of businesses located on the River Medway are micro businesses (0 to 9 jobs), the share of those businesses (67%) is small compared to the Medway area average (82%). This is compensated by a higher share of small (10 to 49 jobs) and medium businesses (50 to 249 jobs).
- 8.22 It can be noted that whilst there are large businesses (250 jobs and more) in both study areas (2 along the River Medway and 34 in Medway), those represent a marginal proportion of businesses in their area.
- 8.23 Table 8.3 provides a breakdown of the number of businesses by employment size.

Table 8.3 Businesses by Employment Size (2021)

	Micro	Small	Medium	Large
River Medway	67%	25%	8%	0%
Medway	82%	14%	3%	0%

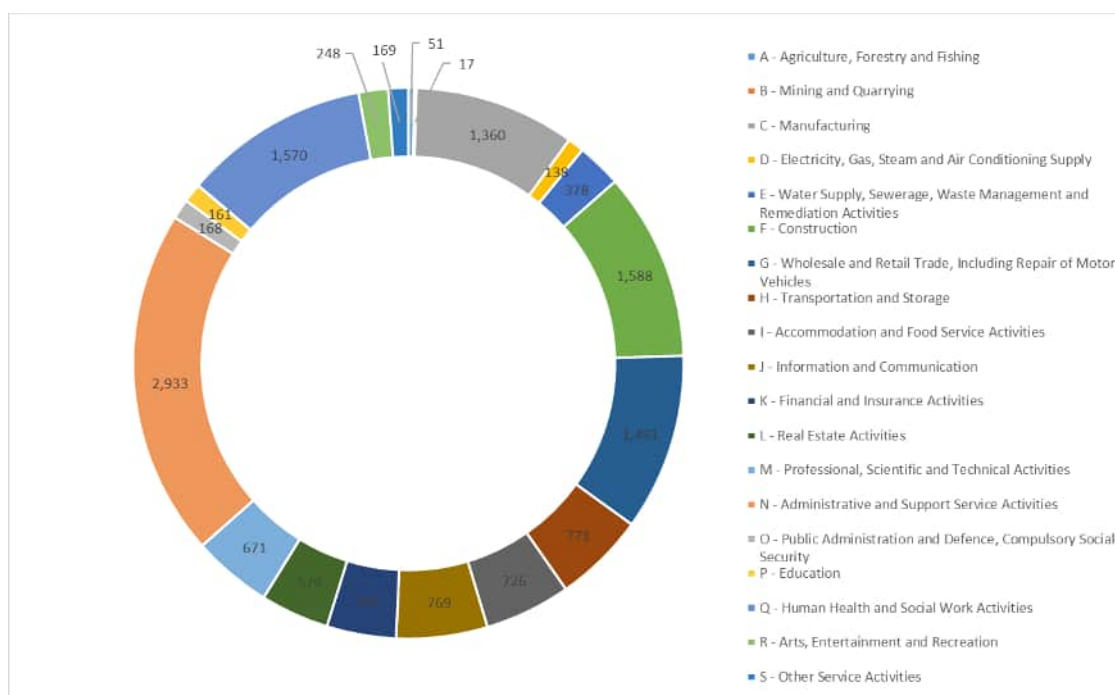
Source: AECOM, based on IDBR 2021

Non-River users

- 8.24 The majority of businesses located along the River Medway are “non-river users”²⁶. This is similar in terms of employment, with a majority of jobs along the River Medway being within businesses which do not require an access to the river to operate.
- 8.25 Out of the 1,014 businesses located on sites along the River Medway, 936 are considered to be non-river users and could therefore operate in alternative locations, including inland. This represents 92% of all businesses located in the study area (portion of the River Medway located within the local authority boundary).
- 8.26 Similarly, out of the 16,307 jobs located in the study area, 14,374 are supported by businesses which do not require access to the river for their commercial activities. This represents 88% of all employment located along the River Medway.
- 8.27 The above figures suggest that the average business located in the study area supports 15 jobs. This is above the local authority average of 11 (paragraph 8.9).
- 8.28 Unsurprisingly, as shown in Figure 8.3, the split of employment by industrial division is not dissimilar to the split seen for all businesses (including river-users) on the River Medway – given that non-river users represent the vast majority of employment in the study area.

²⁶ Businesses that are not believed to require access to the River Medway for their commercial activities. Note that there is not always a clear distinction between businesses that require access to the river and businesses that do not, particularly when their core activities are maritime related (i.e. some manufacturing businesses, producing shipping equipment, may not require to be located on the river front and may supply customers from an industrial estate located inland).

Figure 8.3 Non-River Users Employment at Medway Riverside Businesses by Industrial Division



Source: AECOM, based on IDBR 2021

8.29 The main industrial divisions in terms of employment for non-river users include:

- N – Administrative and Support Service Activities (2,933 jobs – 20% of total non-river users employment);
- F – Construction (1,588 jobs – 11%);
- Q – Human Health and Social Work Activities (1,570 jobs – 11%);
- G – Wholesale and Retail Trade, Including Repair of Motor Vehicles (1,491 jobs – 10%); and
- C – Manufacturing (1,360 jobs – 9%)

8.30 It should be noted that the Medway City Estate was reclaimed from marsh and designated as an enterprise zone in the 1980s. The designation of this large swathe of reclaimed land would have influenced the types of businesses which located in Medway (and particularly at the Medway City Estate) with a focus away from traditional maritime activities.

8.31 The evolution of the number of non-river user businesses and associated employment on the River Medway between 2011 and 2021 is presented in Table 8.4. This table shows that both the number of businesses and employment have increased between 2011 and 2021, with a respective growth of 14% and 28%. These growth figures indicate that the average size of businesses (in terms of employment) has increased over the 10-year period.

Table 8.4 River Medway, Non-River User Businesses and Employment Evolution (2011-2021)

		2011	2021	Change 2011-2021 (%)
River Medway	Businesses	816	930	14%
	Employment	11,051	14,167	28%

Source: AECOM, based on IDBR 2021

River users

8.32 Overall, the River Medway is considered to be essential, directly, to 78 businesses in Medway, supporting a total of 1,933 jobs in 2021. River users represent 0.9% of total businesses in Medway and support 2.1% of all employment in the local authority.

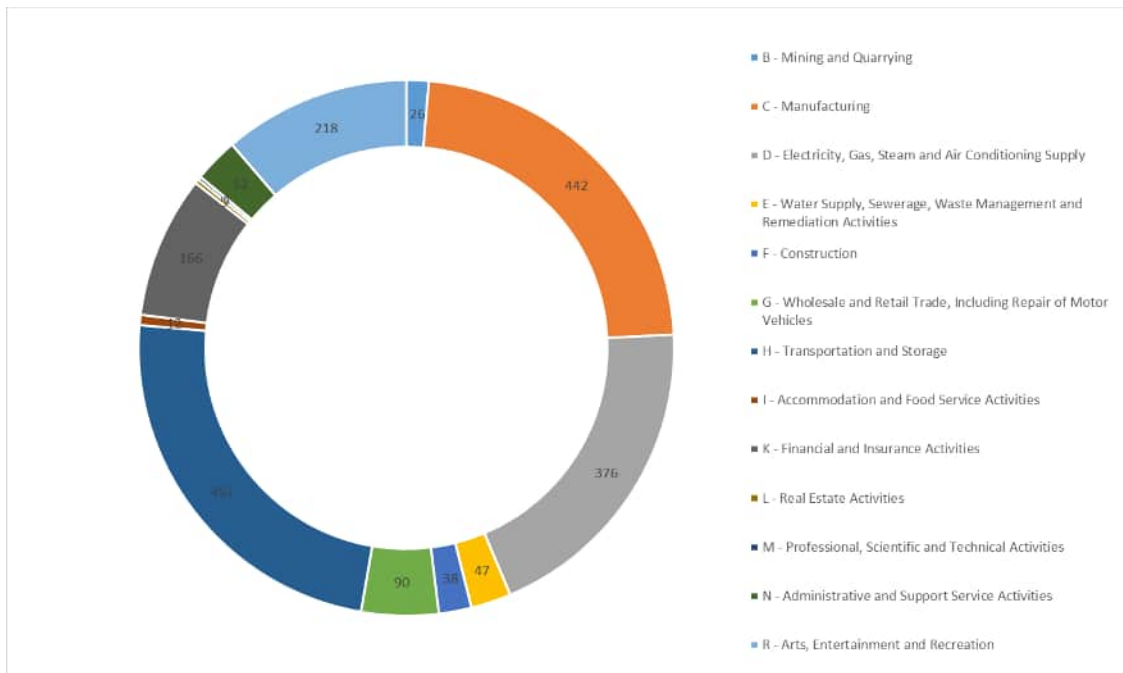
8.33 Based on these figures, we estimate that the average river-reliant business in the study area provides 25 jobs. This is well above the local authority average (11 jobs per business) and the average for non-river user businesses located on the River Medway (15 jobs per business).

8.34 Figure 8.4 shows the breakdown of employment by industrial division.

8.35 The largest industrial divisions in terms of employment for river users include:

- H – Transportation and Storage (457 jobs – 24% of total river users employment);
- C – Manufacturing (442 jobs – 23%);
- D – Electricity, Gas, Steam and Air Conditioning Supply (376 jobs – 19%);
- R – Arts, Entertainment and Recreation (218 jobs – 11%); and
- K – Financial and Insurance Activities (166 jobs – 9%).

Figure 8.4 River Users Employment at Medway Riverside Businesses by Industrial Division



Source: AECOM, based on IDBR 2021

8.36 It should be noted that, on top of the 78 businesses and 1,933 jobs identified as being reliant on the River Medway for their activities, and located within the study area, a further 6 businesses, providing 58 jobs have been identified as river-users but are located outside of the study area (inland, within the local authority of Medway)²⁷. These businesses include boat repairs businesses and marina operators for example. Data available is not sufficient to confirm why these businesses are not located along the River Medway according to the IDBR data, but the most likely is that businesses are either registered at their HQ or at the residential address of their owner and have operational facilities located on the River Medway.

8.37 Circa 10% of all businesses located along the River Medway are reliant on the river for their business activities. A few reasons can start to explain this relatively low proportion:

²⁷ Consilium Marine (registered in t ME2 2BF), Marine & Industrial Pump Services (ME3 9SW), Marine Hatchery Consultancy (ME8 ONN), TMC Assist Consultancy Ltd (ME8 0QP), Extra Marine Solutions (ME7 2YY), Phoenix Marine Ltd (ME5 9QA).

- Not all businesses are captured by the IDBR data. Some businesses such as charities or non for profit organisation would for example be excluded from the data. This might be particularly true for some leisure organisation (such as boating associations, rowing clubs, etc.). However, it should be noted that those organisations usually provide limited numbers of jobs and would be mostly run by volunteers.
- Some businesses, which are reliant on access to the river for their commercial activities may only have a workshop on the river, with their main registered office being located elsewhere. All employment would be allocated to the main office and therefore not captured in the data presented in this report.
- The general UK trend is for businesses to be relocated up river, in locations offering better access to the national and international markets. This is also true for Medway, with some evidence of businesses considering their relocation in more accessible locations.
- Depth and bridges limit the accessibility on the river, with large boats unable to go beyond Rochester Bridge. This therefore limits the type of maritime-related activities that can take place on the river beyond this point.
- Tides will also limit the types of activities that can take place on the river without infrastructure (such as gate locks or dry docks)

8.38 Businesses that are located along the river and are reliant on the river for commercial activities include companies from a wide range of sectors, such as:

- The Chatham Historic Dockyard Trust, an important employer in Medway, is a maritime museum on part of the site of the former royal/naval dockyard at Chatham. This is a major tourism attraction in Medway, attracting over 150,000 visitors per year and contributing £1.83m in additional GVA in Medway and Kent²⁸. Location on the river frontage is essential for the museum, with several warships being stationed there as visitor attractions.
- GPS Marine Contractors, located in Ordnance Yard, is a marine civil engineering company with over 50 years of service in the maritime industry. GPS Marine operates in ports and harbours throughout Europe and a key marine contractor on the Thames and Medway. The business provides marine civil engineering and construction services, backhoe and plough dredging, marine and offshore demolition, international, coastal and harbour towage, transport of goods by barge, diving and sub-surface engineering. Their activity is therefore entirely dependent on the access to the river.
- Thamesport (London) Limited, once a deep sea container port, has since diversified to provide reliable short sea and bulk cargo solutions. The company offers services such as deep water quay with road, rail and barge connections, Lift-on/lift-off (LOLO) container services and bulk cargo solutions, short sea services to/from continental Europe, border Control Post and Authorised Economic Operators (AEO) accredited. The conversion of activities from deep sea container to short sea cargo demonstrates the trend of businesses relocating up rivers (such as on the Thames) and remaining businesses to refocus their activities on narrower markets.
- National Grid Grain LNG, located on the Isle of Grain, is another important employer in Medway and distributes gaseous fuels (energy sector). Grain LNG is of strategic national importance to UK energy infrastructure and security of supply and are the largest terminal in Europe and eighth largest in the world by tank capacity. They offer a range of services from primary capacity and secondary capacity to truck loading.

8.39 Businesses in the leisure industry are mainly composed of smaller employers, such as the Rochester Cruising Club, the Medway Yacht Club or the Medway Bridge Marina, Cuxton Marina, Port Medway Marina (all providing less than 15 jobs).

8.40 The evolution of the number of river user businesses and associated employment on the River Medway between 2011 and 2021 is presented in Table 8.5. This table shows that both the number of businesses and employment have increased between 2011 and 2021, with a

²⁸ DCRResearch, "Economic Value and Tourism Impact of Chatham Historic Dockyard", October 2018

respective growth of 44% and 21%. These growth figures indicate that the average size of businesses (in terms of employment) has decreased over the 10-year period.

- 8.41 It can be noted that whilst the growth of river user businesses is greater than the growth observed for non-river user businesses (44% against 14%), the growth in associated employment is lower (21% against 28%) showing that non-river user activities are gaining in importance.

Table 8.5 River Medway, River User Businesses and Employment Evolution (2011-2021)

		2011	2021	Change 2011-2021 (%)
River Medway	Businesses	54	78	44%
	Employment	1,591	1,933	21%

Source: AECOM, based on IDBR 2021

Businesses and Employment by River Site

- 8.42 The individual river employment sites range greatly in their size, between those that a single-occupier sites to Medway City Estate which contains over 500 businesses and over 8,000 jobs (over 7,000 FTEs), accounting for more than half of all businesses and employment on the River Medway.
- 8.43 Table 8.6 gives an overview of the sites and the number of businesses and employees which they support. It should be noted that due to the way the data is collected (see paragraph 8.6), employment figures per site may not reflect the full reality (with potential for under or over-estimations).
- 8.44 Where a site does not contain any businesses or employment, this can be because this site is vacant (undeveloped, derelict or vacant buildings), but considered as relevant in terms of employment activities (commercial or leisure) on the River Medway. This could also be due to the nature of the data with some forms of activities not being registered, such as volunteering activities. This will be particularly true for leisure and community activities.

Table 8.6 River Medway Sites Businesses and Employment

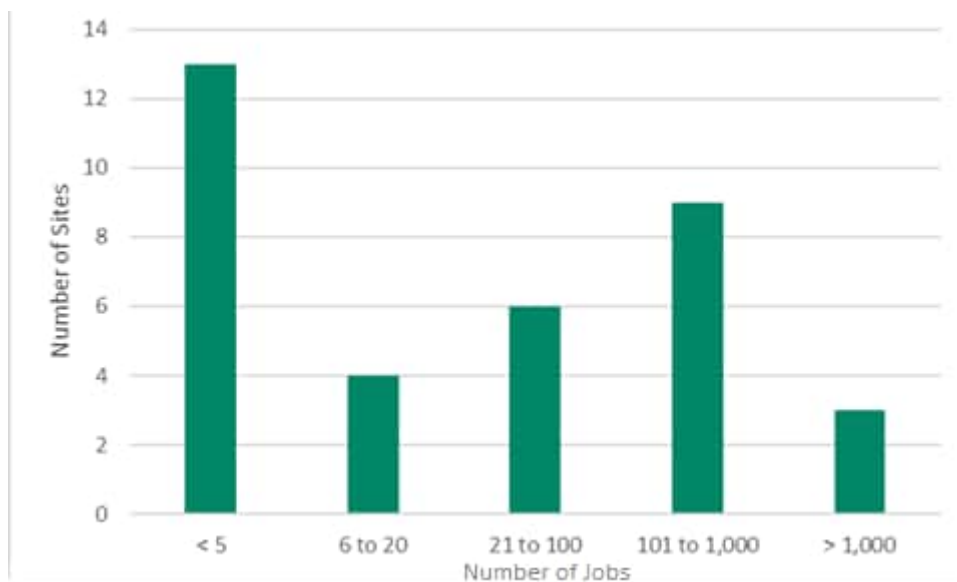
River Medway Employment Site	Number of Businesses	% River Users	Employment	% River Users	FTEs	% River Users
Acorn Wharf	21	0%	122	0%	112	0%
Anchor Wharf	4	0%	12	0%	12	0%
Bloors Wharf	3	0%	3	0%	1	0%
Brambletree	0	0%	0	0%	0	0%
Canal Road/Riverside	8	0%	85	0%	72	0%
Castle View Moorings	33	6%	272	3%	255	3%
Cemex	1	0%	1	0%	1	0%
Chatham Docks	22	36%	460	53%	438	55%
Chatham Historic Dockyard	102	11%	1,934	20%	1,655	10%
Chatham Maritime Marina	94	3%	1,794	1%	1,462	1%
Cory's Road	1	0%	3	0%	3	0%
Cuxton Marina	11	18%	68	18%	66	18%
Doust Way	1	0%	60	0%	54	0%
Elmhaven Marina	3	0%	9	0%	8	0%
Gillingham Marina	0	0%	0	0%	0	0%
Hoo Marina	30	13%	300	4%	260	3%
Kingsnorth Substation	3	33%	53	2%	52	2%
London Thamesport	27	74%	852	83%	711	80%
Mariners Farm	1	100%	3	100%	3	100%
Medway Bridge Marina	4	25%	19	63%	17	62%
Medway City Estate	531	3%	8,387	5%	7,387	5%
Medway Towns Rowing Club	0	0%	0	0%	0	0%
Medway Valley Leisure Park	13	0%	440	0%	296	0%
Medway Yacht Club	1	0%	2	0%	2	0%
North Sea Terminal	4	75%	38	74%	38	74%
Ordnance Yard	30	13%	257	37%	176	13%
Owens Way	2	0%	75	0%	73	0%
Ports of Medway Marina	0	0%	0	0%	0	0%
Rochester Cruising Club	1	100%	6	100%	4	100%
Sufferance Wharf	20	0%	175	0%	152	0%
Sun Wharf	41	2%	872	1%	787	1%
Upnor Road	0	0%	0	0%	0	0%
Waterside Lane	0	0%	0	0%	0	0%
Whitton Marina	2	50%	5	60%	4	50%
Wilsonian Sailing Club	0	0%	0	0%	0	0%
Total	1,014	8%	16,307	12%	14,094	11%

Source: AECOM, based on IDBR 2021

- 8.45 Medway City Estate is by far the largest site both in terms of the number of businesses located there and the level of employment, with 531 businesses, and 8,387 jobs in total (7,387 FTEs). The average size of these businesses is small, with 16 jobs by business on average.
- 8.46 Other large sites include Chatham Maritime Marina (94 businesses, 1,794 jobs, 1,462 FTEs) and Chatham Historic Dockyard (100 businesses, 1,766 jobs, 1,653 FTEs).
- 8.47 Acorn Wharf, Castle View Moorings, Chatham Docks, Hoo Marina, London Thamesport, Ordnance Yard, Sufferance Wharf and Sun Wharf are also important employment sites, supporting 20 or more businesses each and over 3,000 jobs between them.

8.48 Figure 8.5 provides a breakdown of the sites by the number of businesses that are located there. A large proportion of sites (37%, 13 sites) have 5 or fewer jobs. Some of these include sites whose primary use is for leisure, including Medway Towns Rowing Club and Wilsonian Sailing Club. A quarter of the sites (9 sites) employ between 101 and 1,000 people, with a further 9% (3 sites) employing more than 1,000 people. The remaining sites (28% - 10 sites) employ between 6 and 20 people (11% - 4 sites) and between 21 and 100 people (17% - 6 sites).

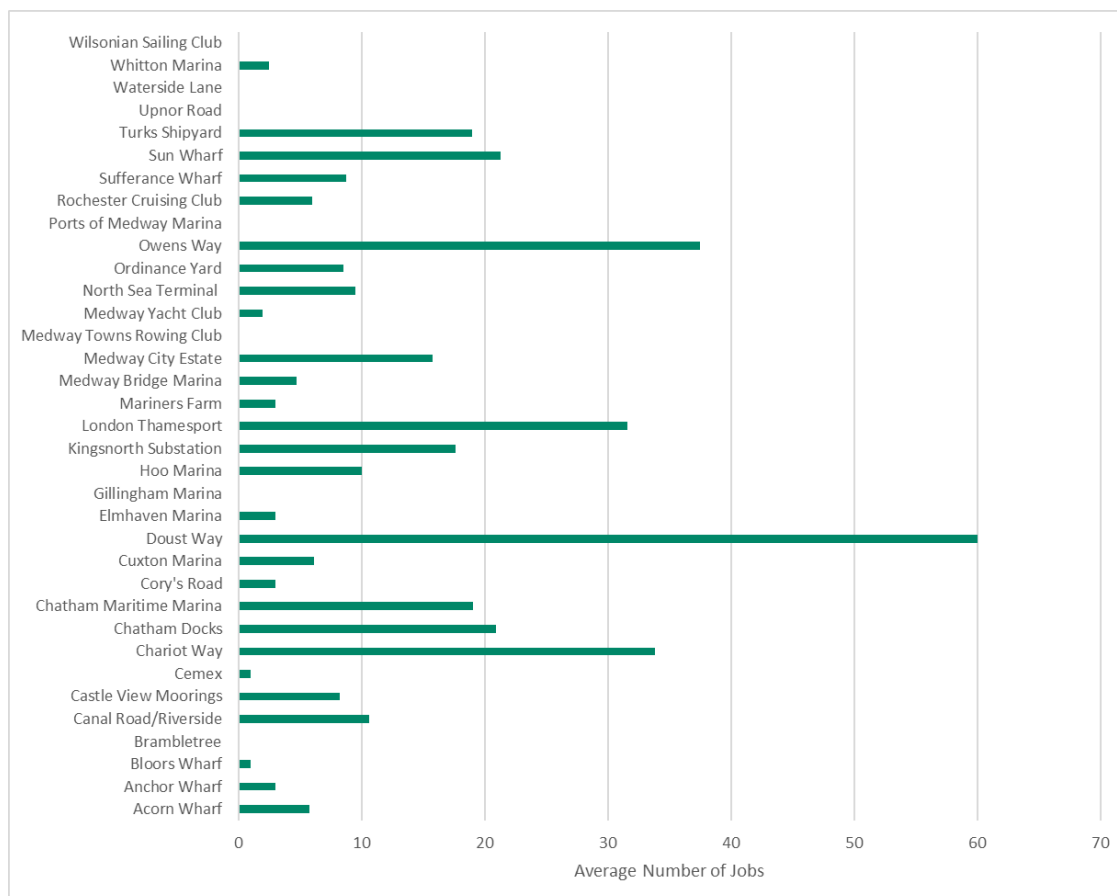
Figure 8.5 Sites by Number of Jobs



Source: AECOM, based on IDBR 2021

8.49 As shown in Figure 8.6, Doust Way has the largest average business size (in terms of number of jobs), with an average of 60 jobs per business registered on this site. However, it should be noted that this is based on only one business located on this site, an office relating to Hyde Housing Association – which shows the wide diversity of business activities that take place along the River Medway. Next largest are Owens Way, Medway Valley Leisure Park and London Thamesport/Isle of Grain which all have businesses employing more than 30 employees on average (38, 34 and 32 respectively).

Figure 8.6 Average Size of Businesses (Employment)



Source: AECOM, based on IDBR 2021

- 8.50 Owens Way industrial estate plays host to a range of manufacturing and wholesale and retail trade businesses, whilst Medway Valley Leisure Park and London Thamesport are more diverse and host activities such as manufacturing, construction, wholesale and retail trade, transportation and storage, accommodation and food services, information and communication activities, administrative and support service activities, human health and social work activities, or arts, entertainment and recreation activities.
- 8.51 A breakdown of employment by industrial division by site is presented in Table 8.7 and Table 8.8.

Table 8.7 Businesses by Site and Industrial Division (% of total employment on site)

	A - Agriculture, Forestry and Fishing	B - Mining and Quarrying	C - Manufacturing	D - Electricity, Gas, Steam and Air Conditioning Supply	E - Water Supply, Sewerage, Waste Management and Remediation Activities	F - Construction	G - Wholesale and Retail Trade, Including Repair of Motor Vehicles	H - Transportation and Storage	I - Accommodation and Food Service Activities	J - Information and Communication	K - Financial and Insurance Activities	L - Real Estate Activities	M - Professional, Scientific and Technical Activities	N - Administrative and Support Service Activities	O - Public Administration and Defence, Compulsory Social Security	P - Education	Q - Human Health and Social Work Activities	R - Arts, Entertainment and Recreation	S - Other Service Activities	Total Number of Businesses
Acorn Wharf	0%	0%	14%	0%	0%	10%	33%	0%	14%	5%	0%	0%	5%	14%	0%	0%	0%	5%	0%	21
Anchor Wharf	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	0%	25%	0%	0%	0%	0%	0%	4
Bloors Wharf	0%	0%	0%	0%	0%	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	3
Brambletree	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Canal Road/Riverside	0%	0%	25%	0%	0%	0%	13%	13%	13%	13%	0%	0%	0%	25%	0%	0%	0%	0%	0%	8
Castle View Moorings	0%	0%	15%	0%	3%	9%	33%	3%	6%	0%	3%	0%	3%	15%	0%	0%	3%	3%	3%	33
Cemex	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1
Chariot Way	0%	0%	0%	0%	0%	0%	0%	0%	54%	8%	0%	0%	0%	8%	0%	0%	8%	23%	0%	13
Chatham Docks	0%	0%	23%	0%	18%	14%	5%	23%	0%	0%	5%	0%	0%	14%	0%	0%	0%	0%	0%	22
Chatham Maritime Marina	0%	0%	1%	0%	0%	2%	34%	2%	22%	4%	1%	5%	9%	9%	0%	0%	3%	4%	3%	94
Cory's Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	1
Cuxton Marina	0%	0%	9%	0%	0%	18%	18%	27%	0%	0%	0%	0%	0%	18%	0%	0%	9%	0%	0%	11
Doust Way	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	1
Elmhaven Marina	0%	0%	0%	0%	0%	33%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	3
Gillingham Marina	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Hoo Marina	3%	0%	23%	0%	0%	10%	13%	0%	3%	0%	0%	3%	7%	27%	0%	3%	0%	3%	3%	30
Kingsnorth Substation	0%	0%	0%	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	3
London Thamesport	0%	0%	19%	26%	0%	11%	11%	22%	4%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	27

Table 8.8 Businesses by Site and Industrial Division (% of total employment on site) (continue)

	A - Agriculture, Forestry and Fishing	B - Mining and Quarrying	C - Manufacturing	D - Electricity, Gas, Steam and Air Conditioning Supply	E - Water Supply, Sewerage, Waste Management and Remediation Activities	F - Construction	G - Wholesale and Retail Trade, Including Repair of Motor Vehicles	H - Transportation and Storage	I - Accommodation and Food Service Activities	J - Information and Communication	K - Financial and Insurance Activities	L - Real Estate Activities	M - Professional, Scientific and Technical Activities	N - Administrative and Support Service Activities	O - Public Administration and Defence, Compulsory Social Security	P - Education	Q - Human Health and Social Work Activities	R - Arts, Entertainment and Recreation	S - Other Service Activities	Total Number of Businesses	
Mariners Farm	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	1
Medway Bridge Marina	0%	0%	0%	0%	0%	25%	25%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	4
Medway City Estate	0%	0%	15%	0%	2%	17%	21%	4%	1%	5%	2%	2%	8%	16%	0%	2%	3%	1%	2%	0%	531
Medway Towns Rowing Club	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Medway Yacht Club	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	1
North Sea Terminal	0%	25%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	4
Ordinance Yard	0%	0%	7%	0%	0%	20%	3%	3%	13%	0%	7%	3%	23%	13%	3%	0%	0%	3%	0%	0%	30
Owens Way	0%	0%	50%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2
Ports of Medway Marina	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Rochester Cruising Club	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	1
Sufferance Wharf	0%	0%	5%	0%	0%	5%	20%	0%	5%	15%	0%	15%	15%	10%	0%	5%	5%	0%	0%	0%	20
Sun Wharf	0%	0%	0%	0%	0%	2%	12%	7%	2%	2%	22%	5%	12%	2%	7%	5%	17%	0%	2%	0%	41
Turks Shipyard	0%	0%	9%	0%	1%	8%	3%	2%	2%	11%	4%	3%	26%	16%	0%	5%	5%	4%	2%	0%	102
Upnor Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Waterside Lane	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Whitton Marina	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	2
Wilsonian Sailing Club	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0

Source: AECOM, based on IDBR 2021

Employment Growth by River Site

8.52 Table 8.10 below summarises the change in employment by river site between 2011 and 2021. This table provides a further breakdown between employment that is reliant on the river and employment that is not.

8.53 This table shows that employment growth has been unevenly distributed between river users and non-river users' employment and between sites.

8.54 Key observations from the findings are:

- Significant decrease in employment at Bloors Wharf;
- Large increase in employment at Chatham Historic Dockyard in both river users' employment (+184 jobs; equivalent to +93%) and non-river users' employment (+1,285 jobs; +485%). This is the site that has gained the most employment along the river;
- Large increase in non-river users' employment at Chatham Maritime Marina (+823 jobs; +86%);
- Large increase in river users' employment at London Thamesport (+212 jobs; +43%) compared to an even larger decline in non-river users' employment (-437 jobs; -75%);
- Increase in employment at Medway City Estate in both river users' employment (+115 jobs; +42%) and non-river users' employment (+718 jobs; +10%);
- Increase in river users' employment at North Sea Terminal (+16 jobs; +133%) compared to an even larger decline in non-river users' employment (-65 jobs; -87%);
- Increase in employment at Ordinance Yard in both river users' employment (+86 jobs; +860%) and non-river users' employment (+116 jobs; +258%);
- Large increase in employment at Sun Wharf in non-river users' employment (+509 jobs; +144%).

Table 8.9 Change in Employment by Site (2011-2021)

Site	River Users			Non-River Users		
	2011	2021	Change	2011	2021	Change
Acorn Wharf	13	0	-13	181	122	-59
Anchor Wharf	0	0	0	19	12	-7
Bloors Wharf	0	0	0	13	3	-10
Brambletree	0	0	0	0	0	0
Canal Road/Riverside	0	0	0	55	85	30
Castle View Moorings	3	7	4	175	265	90
Cemex	0	0	0	0	1	1
Chatham Docks	234	244	10	141	216	75
Chatham Historic Dockyard	200	384	184	265	1550	1285
Chatham Maritime Marina	11	18	7	953	1776	823
Cory's Road	0	0	0	0	3	3
Cuxton Marina	9	12	3	114	56	-58
Doust Way	0	0	0	0	60	60
Elmhaven Marina	0	0	0	3	9	6
Gillingham Marina	0	0	0	0	0	0
Hoo Marina	6	11	5	139	289	150
Kingsnorth Substation	0	1	1	47	52	5
London Thamesport	496	708	212	581	144	-437
Mariners Farm	0	3	3	0	0	0
Medway Bridge Marina	8	12	4	2	7	5
Medway City Estate	275	390	115	7279	7997	718
Medway Towns Rowing Club	0	0	0	0	0	0
Medway Valley Leisure Park	0	0	0	306	440	134
Medway Yacht Club	0	0	0	0	2	2
North Sea Terminal	12	28	16	75	10	-65
Ordnance Yard	10	96	86	45	161	116
Owens Way	0	0	0	130	75	-55
Ports of Medway Marina	0	0	0	0	0	0
Rochester Cruising Club	6	6	0	0	0	0
Sufferance Wharf	0	0	0	171	175	4
Sun Wharf	0	10	10	353	862	509
Upnor Road	0	0	0	0	0	0
Waterside Lane	0	0	0	0	0	0
Whitton Marina	0	3	3	4	2	-2
Wilsonian Sailing Club	0	0	0	0	0	0

Source: AECOM, based on IDBR 2011 and IDBR 2021

Clusters of activities

- 8.55 Appendix B provides maps showing the concentration of employment, by industrial division, along the River Medway. Each industrial division is presented on an individual map, with circle sizes identifying the number of jobs in each postcode located within the study area. From these maps, it is possible to visually identify, at a geographical level, the location where different industries concentrate along the River Medway.
- 8.56 Table 8.10 summarises this, providing employment figures by river site, a breakdown of employment related to non-river users and to river users, as well as summarising where on the River Medway the different industrial division concentrate (for both non-river users and river users' employment).
- 8.57 This table shows that the Medway City Estate is an important location for a wide range of industrial activities, including manufacturing, construction, wholesale and retail trade or administrative and support services for example. This is true for employment in both river users and non-river users businesses.
- 8.58 Other areas, such as Chatham Docks are particularly relevant for manufacturing and water supply, sewerage, waste management and remediation activities from river users businesses.
- 8.59 Chatham Historic Dockyard has a high concentration of employment in a range of sectors including both commercial and leisure. Commercial uses relate to the construction sector, financial and insurance activities, information and communication and professional services. Most of the buildings are in use as offices. There is also a high concentration of arts, and entertainment and recreational activities from a range of river users and non-river users.
- 8.60 Sun Wharf includes a mixed of concentrated professional services activities, including information and communication, financial and insurance activities, public administration and human health and social care activities, predominantly from non-river users.
- 8.61 Leisure activities (which would be primarily captured under accommodation and food service activities or arts, entertainment and recreation) are concentrated principally across three sites:
- Chatham Historic Dockyard (river users)
 - Medway Valley Leisure Park (non-river users)
 - Chatham Maritime Marina (non-river users)
- 8.62 It should be noted that the total economic benefits of leisure activities on the river will not be fully captured by IDBR data. Placing a full economic value on these activities is challenging due to the difficulty in quantifying the value arising from health and wellbeing benefits.

Table 8.10 River Medway Sites Businesses and Employment

Industrial Division	Employment			Area(s) of concentration of non-river users' employment	Area(s) of concentration of river users' employment
	Total River Medway	Non-river users	River users		
A - Agriculture, Forestry and Fishing	51	51	-	Hoo Marina	N/A
B - Mining and Quarrying	43	17	26	Medway City Estate	North Sea Terminal, Medway City Estate
C - Manufacturing	1,802	1,360	442	Medway City Estate	Medway City Estate, Chatham Docks, London Thamesport
D - Electricity, Gas, Steam and Air Conditioning Supply	514	138	376	London Thamesport, Kingsnorth Power Station	London Thamesport
E - Water Supply, Sewerage, Waste Management and Remediation Activities	425	378	47	Medway City Estate	Chatham Docks
F - Construction	1,626	1,588	38	Medway City Estate	Chatham Historic Dockyard, Ordnance Yard, London Thamesport
G - Wholesale and Retail Trade, Including Repair of Motor Vehicles	1,581	1,491	90	Medway City Estate, Chatham Maritime Marina	Medway City Estate, London Thamesport
H - Transportation and Storage	1,228	771	457	Medway City Estate, Chatham Docks	London Thamesport, Medway City Estate, Ordnance Yard
I - Accommodation and Food Service Activities	738	726	12	Chatham Maritime Marina, Medway Valley Leisure Park	Ordnance Yard, Hoo Marina
J - Information and Communication	769	769	-	Medway City Estate, Chatham Historic Dockyard, Sun Wharf, Chatham Maritime Marina	N/A
K - Financial and Insurance Activities	752	586	166	Sun Wharf, Medway City Estate, Chatham Maritime Marina	Chatham Historic Dockyard
L - Real Estate Activities	584	579	5	Medway City Estate, Chatham Maritime Marina, Doust Way	Mariners Farm, Hoo Marina
M - Professional, Scientific and Technical Activities	675	671	4	Medway City Estate, Chatham Historic Dockyard, Chatham Maritime Marina	Whitton Marina, Chatham Historic Dockyard
N - Administrative and Support Service Activities	2,985	2,933	52	Medway City Estate, Chatham Historic Dockyard	London Thamesport, Cuxton Marina
O - Public Administration and Defence, Compulsory Social Security	168	168	-	Sun Wharf, Medway City Estate	N/A
P - Education	161	161	-	Medway City Estate	N/A
Q - Human Health and Social Work Activities	1,570	1,570	-	Medway City Estate, Chatham Maritime Marina, Sun Wharf	N/A
R - Arts, Entertainment and Recreation	466	248	218	Medway Valley Leisure Park, Medway City Estate	Chatham Historic Dockyard
S - Other Service Activities	169	169	-	Medway City Estate, Hoo Marina	N/A

Source: AECOM, based on IDBR 2021

Land ownership

- 8.63 This section provides an overview of landownership across the different River Medway Sites. This is not a comprehensive listing of all land owners but rather an indication of predominant owners and highlight sites that have a large share of public ownership. The ownership of the land will have an impact on the predictability of the future of a site.
- 8.64 The land ownership characteristics of each site is outlined in Table 8.11.
- 8.65 Sites where Medway Council own a large area of the site include, Acorn Wharf, Bloors Wharf, Canal Road/Riverside, Castle View Moorings, Doust Way, Rochester Cruising Club, Sun Wharf and Chatham Historic Dockyard.

Table 8.11 Land Ownership Characteristics of the Sites

Site	Land Ownership Characteristics
Acorn Wharf	The site is made up of 25 plots which are mostly small in size. Medway Council owns the largest plot which accounts for approximately 70% of the site's area.
Anchor Wharf	The entire site is owned by Chatham Historic Dockyard Trust. There are five leaseholds within the site.
Bloors Wharf	Bloors Wharf is a small 2.5 ha site, all of which is owned by Medway Council.
Brambletree	The site is made up of ten plots which are all owned privately.
Canal Road/Riverside	Medway Council owns approximately 99% of the site in one plot of land. The rest of the site is split across two small plots which are both privately owned.
Castle View Moorings	The site is made up of 14 plots with ownership split between a variety of owners. Medway Council is the largest landowner, accounting for approximately 75% of the land on the site.
Cemex	The whole site is owned by Cemex UK Operations Ltd.
Chatham Docks	The whole site is owned by Peel Group Ltd.
Chatham Historic Dockyard	The site split between Medway Council and the Homes and Communities Agency.
Chatham Maritime Marina	Chatham Maritime Marina is divided across five plots which also have a large number of leaseholds. The Homes and Community Agency are the biggest landowner on the site.
Cory's Road	There is no land ownership data available for this site.
Cuxton Marina	The site is separated into three plots which are all privately owned.
Doust Way	The 3.5 ha site is entirely owned by Medway Council.
Elmhaven Marina	The site is separated into four plots which are all privately owned.
Gillingham Marina	The marina is made up of four plots owned by two companies. There are five leaseholds within the site.
Hoo Marina	There are six plots of land within the site. The majority of the site is owned by Residential Marine Ltd.

Site	Land Ownership Characteristics
Kingsnorth Substation	The whole of the site is owned by Uniper UK Ltd.
London Thamesport	The majority of the site is owned by Uniper UK Ltd, but BP, National Grid and Southern Gas Networks also own large plots.
Mariners Farm	The whole site falls within a large privately owned plot of land.
Medway Bridge Marina	The vast majority of the site is owned by Medway Bridge Marina Ltd.
Medway City Estate	The site comprises 299 plots and is characterised by highly fractured ownership. Medway Council owns approximately 5% of the site's area while Scotline Terminal Ltd are the biggest landowner on the site accounting for approximately 11% of the area. There are also a large number of leaseholds on the site.
Medway Towns Rowing Club	The whole site is within private ownership.
Medway Valley Leisure Park	The site is separated into four plots, split between three landowners.
Medway Yacht Club	The whole site falls within a large privately owned plot of land.
North Sea Terminal	The site is divided into four plots divided between two companies, although these companies appear to be sister companies.
Ordnance Yard	The site is characterised by fractured ownership with over 30 plots, 18 of which are privately owned.
Owens Way	The entire site is owned by a single company.
Port of Medway Marina	The site comprises two plots, both of which are privately owned.
Rochester Cruising Club	All of the land in the site is owned by Medway Council.
Sufferance Wharf	The site is characterised by fractured ownership and a large number of small plots.
Sun Wharf	Medway Council owns the majority of the land along the riverfront. There are other privately owned land parcels back from the river.
Upnor Road	There are three plots along the riverfront which are owned by different companies
Waterside Lane	All of the land within the site accounts for privately owned homes.
Whitton Marina	The site is divided into seven plots, most of which are privately owned. There are also four leaseholds on the site.
Wilsonian Sailing Club	The whole site falls within a large privately owned plot of land.

Source: AECOM, based Nimbus Map

Key Findings

8.66 The baseline assessment of businesses and employment provides a clear picture of the types of activities on the River Medway and role of the river to support economic activity in the Borough. The key findings from this assessment are:

- The vast majority of businesses located along the River Medway are not reliant on access to the River to operate. It is estimated that only around 8% of businesses (supporting 12% of employment) on the river frontage are reliant on access to the river to operate.
- It should be noted that IDBR relies on two main sources of input: Value Added Tax (VAT) and Pay As You Earn (PAYE) records from HMRC. Since the main two tax sources have thresholds, very small businesses operating below these will, in most cases, not be included. Therefore, the baseline analysis may not comprehensively report the entire ecosystem on the River Medway and may exclude small independent businesses, non-for profit or charitable organisations.
- Overall, the River Medway is home to a very varied range of businesses, with businesses and employment in all 19 industrial divisions.
- Non-river user businesses are spread across a wide range of industrial divisions, with the main ones being: Administrative and Support Service Activities (2,933 jobs – 20% of total non-river users employment); Construction (1,588 jobs – 11%); Human Health and Social Work Activities (1,570 jobs – 11%); Wholesale and Retail Trade, Including Repair of Motor Vehicles (1,491 jobs – 10%); and Manufacturing (1,360 jobs – 9%).
- River user businesses are mainly concentrated across three industrial divisions: Transportation and Storage (457 jobs – 24% of total river users employment); Manufacturing (442 jobs – 23%); Electricity, Gas, Steam and Air Conditioning Supply (376 jobs – 19%).
- River based employment is predominantly concentrated across four sites: London Thamesport, Medway City Estate, Chatham Historic Dockyard and Chatham Docks. Together, those four sites account for 90% of all river-based employment on the River Medway.
- It can be noted that river based employment at Medway City estate represents only 5% of total employment on this site. All other sites have a high share of river based employment (above 20%). Ordnance Yard and North Sea Terminal are two other sites with a high proportion of river based employment (37% and 75% respectively).
- Chatham Docks concentrates a high number of jobs in manufacturing and water supply, sewerage, waste management and remediation activities (river user).
- Chatham Historic Dockyard has a high concentration of employment in a range of sectors including both commercial and leisure. Commercial uses relate to the construction sector, financial and insurance activities, information and communication and professional services. Most of the buildings are in used as offices. There is also a high concentration of arts, and entertainment and recreational activities from a range of river users and non-river users.
- Other sites such as Sun Wharf includes a mixed of concentrated professional services activities, including information and communication, financial and insurance activities, public administration and human health and social care activities, predominantly from non-river users.
- Finally, leisure activities (which would be primarily captured under accommodation and food service activities or arts, entertainment and recreation) are concentrated principally across three sites: Chatham Historic Dockyard (river users), Medway Valley Leisure Park (non-river users), Chatham Maritime Marina (non-river users).
- Several sites are owned or predominantly owned by Medway Council (or another public body). These sites, in public ownership, could present opportunities for future redevelopment (as the public sector can directly control the future of the sites). These sites include Acorn Wharf (mostly owned by Medway Council and Homes and Communities

Agency), Canal Road/Riverside (99% owned by Medway Council), Chatham Historic Dockyard (owned by Medway Council and Homes and Communities Agency), Doust Way (owned by Medway Council), Rochester Cruising Club (owned by Medway Council) and Sun Wharf (mostly owned Medway Council), albeit many of these may not be suitable for development.

9. Economic Value Assessment

Introduction

- 9.1 This section details the economic value of the River Medway for the local area (Medway local authority area) as well as at the national level (including indirect and induced employment generated by activities on the River Medway).
- 9.2 This section considers the share of total value that is generated by businesses that require access to the River Medway for their commercial activities (“river users”) against the share of the total value that is generated by other businesses, which are not reliant on the River Medway to trade (“non-river users”).
- 9.3 The analysis identifies the direct impact (employment and GVA generated directly on site), as well as indirect impact (generated by the supply chain) and induced impact (generated by workers’ spending in the economy) and relies on data presented in Chapter 8 to break down the economic value between the two types of businesses (river users and non-river users) and sites.
- 9.4 The quantification of the impact generated by employment located along the River Medway and employment reliant on access to the river allows the report to demonstrate the true value of the river for the local economy of Medway and the UK. The findings of this analysis could be taken into consideration when deciding whether an investment into the renovation or repair of infrastructure would represent value for money (cost of intervention is inferior to the economic value supported). The findings of this analysis can also be used by Medway Council to consider the impact of the change of use (redevelopment) of a site leading to a loss or relocation of the existing employment.

Direct value

- 9.5 The direct employment associated with businesses located on the River Medway is taken from the ONS IDBR as the primary source of information in relation to business activity on sites identified as forming part of the River Medway frontage (see **Chapter 3**).

Direct value at the national level

- 9.6 This data suggests that the businesses based within the study area generated 16,307 jobs in 2021. It should be noted that the IDBR data only provides a snapshot of existing employment at a certain point in time (2021) and therefore that current employment level may have evolved since.
- 9.7 Applying industry specific GVA per worker benchmarks, utilising the latest data from ONS Regional Accounts²⁹ and the Business Register and Employment Survey (BRES)³⁰, to the employment generated in the study area suggests that the overall direct GVA value of employment along the River Medway totals £1.05bn per annum. This represents a substantial share of the entire Medway economy, for which we have estimated a total GVA of £4.85bn per annum³¹ applying the same methodology to all businesses located in Medway. This represents an average GVA per job of £64,160.
- 9.8 River users represents circa 12% of total employment on the River Medway but accounts for 18% of the GVA created by activity on the river (£192m per annum). This represents an average GVA per job of £99,556. This is driven up by the high proportion of employment in high value sectors such as the Electricity, Gas, Steam and Air Conditioning Supply industrial division. It should be noted that due to the way the data is collected (see paragraph 8.6), employment figures per site may not reflect the full reality (with potential for under or over-

²⁹ ONS Regional gross value added (balanced) by industry 2019

³⁰ ONS BRES 2019

³¹ It can be noted that the Regional gross value added (balanced) at the local authority level, last published by the ONS in 2019 estimated the value of the Medway economy to be £5.3bn in 2019 (pre-covid). Therefore, this provides reassurance that the methodology applied to estimate the value of businesses located on the River Medway is robust.

estimations). Limitations of the data will have an impact of the level of GVA estimated (over or under-estimating it).

Table 9.1 Direct Economic Value of the River Medway

River Medway Employment Site	Employment	% River Users	Total GVA	River users GVA
Acorn Wharf	122	0%	£5,995,266	£-
Anchor Wharf	12	0%	£693,922	£-
Bloors Wharf	3	0%	£241,900	£-
Brambletree	0	0%	£-	£-
Canal Road/Riverside	85	0%	£3,435,198	£-
Castle View Moorings	272	3%	£17,103,078	£1,034,694
Cemex	1	0%	£87,789	£-
Chatham Docks	460	53%	£41,583,872	£23,795,891
Chatham Historic Dockyard	1,934	20%	£96,415,406	£25,356,316
Chatham Maritime Marina	1,794	1%	£79,297,120	£686,133
Cory's Road	3	0%	£185,455	£-
Cuxton Marina	68	18%	£3,641,815	£636,800
Doust Way	60	0%	£3,709,091	£-
Elmhaven Marina	9	0%	£655,235	£-
Gillingham Marina	0	0%	£-	£-
Hoo Marina	300	4%	£16,705,393	£516,768
Kingsnorth Substation	53	2%	£13,294,122	£270,448
London Thamesport	852	83%	£142,681,898	£116,028,643
Mariners Farm	3	100%	£185,455	£185,455
Medway Bridge Marina	19	63%	£793,776	£571,787
Medway City Estate	8,387	5%	£531,747,200	£17,673,811
Medway Towns Rowing Club	0	0%	£-	£-
Medway Valley Leisure Park	440	0%	£14,446,847	£-
Medway Yacht Club	2	0%	£83,238	£-
North Sea Terminal	38	74%	£1,367,778	£727,778
Ordnance Yard	257	37%	£12,918,384	£4,155,152
Owens Way	75	0%	£4,750,947	£-
Ports of Medway Marina	0	0%	£-	£-
Rochester Cruising Club	6	100%	£285,893	£285,893
Sufferance Wharf	175	0%	£7,600,893	£-
Sun Wharf	872	1%	£46,186,543	£396,825
Upnor Road	0	0%	£-	£-
Waterside Lane	0	0%	£-	£-
Whitton Marina	5	60%	£169,412	£120,000
Wilsonian Sailing Club	0	0%	£-	£-
Total	16,307	12%	£1,046,262,925	£192,442,392

Source: AECOM, based on IDBR 2021, ONS Regional gross value added (balanced) by industry 2019 and BRES 2019

Direct value at the local level

- 9.9 The value generated by direct employment along the River Medway is the same at the national and local level given that direct employment is solely local (as well as national). Therefore, total GVA generated at the local level, from direct employment, is estimated at £1.05bn, of which £192m is generated by businesses reliant on access to the River Medway.

Indirect and induced value

- 9.10 In addition to the direct employment generated, the current activities supported along the River Medway will generate employment through the indirect and induced effects of these businesses' activities.
- 9.11 The economic impact associated with the indirect and induced impacts is captured through economic multipliers, of which there are two types. Type I multipliers only consider the economic impact in the supply chain (indirect), whereas Type II multipliers also include the spending of the staff involved in the process (induced).
- 9.12 The economic multipliers that are used are modelled from the ONS Input–Output Supply and Use Tables³², with Type I and Type II employment multipliers applied to specific activities of businesses located along the River Medway³³.

Indirect and induced value at the national level

- 9.13 The application of these multipliers suggests that economic activity in the supply chains of businesses located along the River Medway supported 5,555 (indirect) jobs and wage-financed consumption of workers of businesses located in the study area and those in its supply chain supported a further 3,451 (induced) jobs at the UK level.
- 9.14 With no data to breakdown indirect and induced employment by specific industries, an overall GVA per worker benchmarks for Medway (£60,681/head) is applied to estimate the indirect and induced GVA impact. The indirect GVA impact comes in at £337m per annum and the induced GVA impact totals £209m per annum, for a total indirect and induced impact of £546m.
- 9.15 Businesses reliant on access to the River Medway for their activities supported 1,824 indirect and induced jobs in 2021, generating a total of £111m per annum at the UK level.

Indirect and induced value at the local level

- 9.16 To assess the indirect and induced value of businesses in the study area at the local level, it is important to consider that regional propensities to import tend to be higher than national propensities, meaning local borders are more porous than national frontiers, with the national multipliers adopted above requiring adjustment to reflect this.
- 9.17 Consequently, each multiplier (for each industry and both Type I and Type II) is adjusted by a proportional basis to reflect the level of leakage, assumed to be 48.5% based on the demand-side self-containment within the Medway economy³⁴.
- 9.18 The application of these sub-regional multipliers suggests that economic activity in the supply chains of businesses located within the study area supported 2,694 (indirect) jobs and the wage-financed consumption of workers along the River Medway and those in its supply chain supported a further 1,674 (induced) jobs at the local level.
- 9.19 Again, this is converted to GVA by overall GVA per worker benchmarks for Medway, with the indirect GVA impact estimated at £163m per annum and the induced GVA impact totalling £102m per annum, for a total of £265m per annum.
- 9.20 Businesses reliant on access to the River Medway for their activities supported 885 indirect and induced jobs in 2021, generating a total of £54m per annum at the local level.

³² <https://www.ons.gov.uk/economy/nationalaccounts/supplyandusetables/datasets/inputoutputsupplyandusetables>

³³ ONS only produces Type I Employment multipliers by industry for the UK. As such, Type II multipliers are estimated for the UK utilising Scottish Government Input Out Tables, uplifted on a proportional basis

³⁴ Percentage of local jobs taken by local residents; Census 2011 Travel to Work

Total Economic Value

9.21 The value of business activities in the study area by all businesses and businesses reliant on access to the River Medway for the UK is summarised in Table 9.2.

Table 9.2 Economic Value of the River Medway at national level

	Employment			GVA		
	Direct	Indirect / Induced	Total	Direct	Indirect / Induced	Total
River users	1,933	1,824	3,757	£192m	£111m	£303m
Non-river users	14,374	7,182	21,556	£854m	£436m	£1,290m
Total	16,307	9,006	25,313	£1,046m	£547m	£1,593m

Source: AECOM

9.22 The value of business activities in the study area by all businesses and businesses reliant on access to the River Medway for the local area (local authority of Medway) is summarised in Table 9.3.

Table 9.3 Economic Value of the River Medway at local level

	Employment			GVA		
	Direct	Indirect / Induced	Total	Direct	Indirect / Induced	Total
River users	1,933	885	2,818	£192m	£54m	£246m
Non-river users	14,374	3,483	17,857	£854m	£211m	£1,065m
Total	16,307	4,368	20,675	£1,046m	£265m	£1,311m

Source: AECOM

10. Future of Maritime Activities

Introduction

- 10.1 This chapter provides a detailed overview of the future of the maritime sector and highlights national ambitions for the sector as well as several case studies.
- 10.2 These can be used to showcase the future potential of waterfront locations on the River Medway and identify opportunities. Considerations will need to be given to the differences in characteristics and context between Medway and other locations presented as case studies.

General trends

- 10.3 In the past ten years global containerised trade has more than tripled to 148 million twenty-foot equivalent units (TEUs). Growth is set to maintain current levels with containerised and dry bulk commodities expected to experience the strongest growth, though trading patterns may adjust to reflect strong population growth in Africa and Asia and the growth of Asia's middle class. Although trade reliance on shipping may decline somewhat as a result of new technologies such as 3D printing and other modes of transport expanding, the Maritime Sector will still be the primary mode of transport for international trade in the foreseeable future.
- 10.4 Within this international context, the maritime sector remains a vital part of the UK economy, and in turn, the UK remains an important player in the international maritime sector. The UK is well placed to capitalise on its current position as a major provider of maritime goods and services, though changes are anticipated within the sector that the UK will require flexibility and innovation to respond to. As noted in Maritime 2050³⁵, more specialisation in commodities is expected in the future, with fewer ports handling the majority of goods entering and leaving the UK, which may require ports to diversify and adapt their operations into new activities.
- 10.5 Current trends suggest that utilising ports and their surrounding areas as locations for a consolidation of retail and other supply chains through port-centric transport and distribution are likely to be maintained owing to the significant efficiency benefits these locations offer by removing a leg of the logistics chain, reducing multiple handling stages, and minimising "dead time" where product is awaiting distribution to market. Maritime infrastructure owners can combine their access to local and international markets, availability of land and central position in the supply chain, to exploit significant opportunities to develop new ancillary and value-adding services to their core business. UK ports are seeking to maximise the adoption of this approach by investing in logistics parks and warehousing sites in and around their facilities nationwide. As such, facilities are increasingly undertaking the role of regional distribution centres, or in some cases, national distribution centres.
- 10.6 Furthermore, locating manufacturing sites with ready access to maritime infrastructure, space, material supply chains and storage facilities, minimising both the time and cost of production is highly feasible. Combining this with good access to logistics networks and retailers supports just in time delivery and means that there is a strong case for ports being at the forefront of developments in relation to the 3D printing supply chain – potentially serving off-shore markets with replacements parts and building key components on site for existing sectors such as commercial boat building.
- 10.7 The UK's marine manufacturing sector is recognised globally for its skills and expertise in marine systems, equipment, design, manufacturing, engineering and architecture. The Department for International Trade³⁶ outlines a number of key growth markets which represent opportunities for future investment in port and river-based environments:

³⁵

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872194/Maritime_2050_Report.pdf

³⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/964144/maritime-5-year-plan-digital-a4-revised-feb-2021.pdf

- **Green Maritime Technologies**, such as increased efficiency and the integration of lower greenhouse gas emission fuels/hybrid systems with the longer-term objective of moving to zero emission systems. This will be required to allow the sector to meet IMO mandated emission targets to reduce greenhouse gas emissions by at least 50% by 2050 compared to 2008 and to fully decarbonise this century.
- **Digitisation**, and the adoption of “smart shipping” technologies to allow operators to create efficiencies, reduce costs and increase their cyber security. Indeed, the UK shipping technology sector is estimated to grow from £4bn to £13 billion per year by 2030.
- **Autonomous Vessels**, the increased use of autonomous systems to improve safety, increase cargo space, and save on operating costs. This applies not only to vessels but also maintenance and asset management.
- **Marine Science**, and the need for oceanographers, offshore surveyors, as well as those concerned with environmental monitoring and pollution control in order to understand the role of the oceans in our environment and economy. These services are in high demand including in the defence and security, offshore energy, ports and harbours, and aquaculture sectors.

10.8 A key growth opportunity for the maritime sector is in relation to offshore energy, in particular offshore wind. The UK is home to the largest operating offshore wind sector in the world. As set out in the Energy White Paper, the UK Government is targeting 40GW installed capacity by 2030, with around 10GW currently operational in the UK. While the majority of this potential growth is expected to occur in the North Sea and in regions along the eastern seaboard of the UK, particularly the East of England, Scotland, Yorkshire and The Humber and North East, there may be opportunities to secure investment linked to the Medway’s access to the sea and history of steel fabrication³⁷. Furthermore, with much of the installed capacity in proximity to the Medway having been operational for a number of years, there may be future opportunities in relation to the decommissioning and future operation of these sites³⁸. Alongside the development of renewable energy technologies are emerging markets in ancillary and support technologies such as energy storage which may present opportunities for the future.

10.9 Furthermore, The National Shipbuilding Strategy (2022)³⁹ outlines the Government’s ambition to “bring shipbuilding home”, with the aim for a globally successful, innovative and sustainable UK shipbuilding enterprise which drives growth and prosperity across all parts of the UK. The UK shipbuilding sector has many strengths, including the design and integration of warships, complex vessel design, leisure vessels, and vessel conversion, as well as systems and subsystems suppliers. While much of the value is in consolidated locations/yards such as Belfast, the Strategy highlights the ability of a thriving shipbuilding sector to support the development of the wider supply chain – with 99% of the 1,685 registered business in this industry being Small and Medium Enterprises (SMEs) – and the government’s levelling up ambitions.

10.10 An increasing number of people are spending their leisure time undertaking boating activities. In 2018, 3.5 million people took part in 12 core boating activities, the largest increase since 2009. Overall, a total of 4.16 million people (7.9% of UK adults) enjoyed boating and water sports. Direct boating tourism contributes over £6bn in Gross Value Added (GVA) to the UK economy, a 68% growth since 2013. In the leisure and recreation sector, there has been an advancement in the development of marinas for recreation and leisure in recent years, although there is no readily available data to clearly pinpoint the main locations where this has taken place. This has seen traditional marina infrastructure moving from a storage operation into a destination in itself, with waterfront developments for retail and food as well as maritime and ancillary services. By the same token there are approximately 1,500 clubs and commercial training centres in the UK, which provide sailing and power boating activities to the people of UK and overseas. This potentially presents new opportunities for the Medway to attract interest

³⁷ <https://theisleofthanelnews.com/2021/07/29/gmb-union-calls-for-thanel-to-get-share-of-net-zero-wind-turbine-fabrication-jobs/>

³⁸ The UK must decommission approximately 300 and 1600 early-model offshore wind turbines by 2025 and 2030, respectively - <https://www.kent.ac.uk/news/science/27849/ageing-offshore-wind-turbines-could-stunt-the-growth-of-renewable-energy-sector#:~:text=The%20research%20reveals%20that%20the.by%202025%20and%202030%2C%20respectively.>

³⁹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1061201/CP_605_National_Shipbuilding_Strategy_Refresh.pdf

in riverside land and property, from retail, food, associated maritime and other ancillary services such as training, recreational and small commercial marine interests⁴⁰. This will make these areas destinations in themselves, adding value to the sector and contributing to the local economy.

- 10.11 A wide range of quay/riverside regeneration programmes and projects have been progressed in recent years, linked to the desirability of waterside environments and structural changes in the economy which have impacted maritime infrastructure requirements and the activities supported.

Case studies

- 10.12 This section presents a range of case studies of regeneration schemes of waterfront areas. These offer examples of potential opportunities for the waterfront locations within Medway. The case-studies vary in their geography and the way in which regeneration of the area is achieved. Consideration is given to the differences in the context between the sites on the River Medway and the locations presented.

Millbay Docks, Plymouth

- 10.13 Millbay's historic former docks were built by the iconic Victorian engineer Isambard Kingdom Brunel and became a key staging post for the great ocean liners and their rich and famous VIP passengers travelling to and from the USA. However, as air travel increased and maritime passenger numbers dropped, the area fell into decline before becoming the subject of a major regeneration project to create a new waterfront quarter for Plymouth.
- 10.14 The aim, underpinned by the Millbay Masterplan, was to transform Millbay into a thriving area offering new homes, business space, retail units, and to reconnect the city centre to the waterfront through the creation of an innovative public Boulevard. The project also committed to preserving Millbay's historic infrastructure, with the listed dock walls and quaysides repaired and major marine, infrastructure and groundworks improvement across the whole site. Millbay is being delivered by The English Cities Fund — a strategic joint venture between national urban regenerator, Muse Developments, Legal and General, and Homes England – in partnership with Plymouth City Council.
- 10.15 To date, the development has delivered over 550 new homes, 4,000 square meters (sqm) of business and retail space, improved infrastructure and refurbished listed docksides, new public realm, a 1,000- pupil school, the 171-berth King Point Marina and Dock Restaurant, with 400 more homes, a 126 bed hotel and an 80-home extra care facility⁴¹.
- 10.16 Significant progress has been made in delivering the vision for the site, with more than £120 million of a planned £250 million invested since 2006. More commercial space is expected to be delivered over the next five years.
- 10.17 The Millbay Docks have parallels to the decline of shipping and naval activity on the Medway. The project presents a possible pathway to realise mixed-use development for sites along the Medway including Chatham Docks.

Centenary Quay, Southampton⁴²

- 10.18 Centenary Quay is a development of a substantial brownfield site (12.5 ha) previously owned and occupied by Vosper Thornycroft (UK) Ltd which had operated as a shipyard since 1876.
- 10.19 The shipyard was acquired by the South East England Development Agency (SEEDA) in March 2003 and finally vacated by Vosper Thornycroft in March 2004. A Masterplan for the site was subsequently developed which included provision for mixed use development comprising:

⁴⁰ UK new and used boat sales grew 9% in 2020. 3,544 new and used boats were sold, generating £250m in revenue – growth of 19% compared to 2019. This growth reflects increased demand for boats across virtually all vessel types and size ranges, but particularly among more expensive boats worth over £100,000, unit sales of which were up 18% compared with 2019 unit sales. This demand suggests the potential to attract small leisure boat builders, with examples of similar operations on the Medway e.g. Chatham Historic Dockyard

⁴¹ <https://www.millbayplymouth.com/latest-news/millbay-named-development-of-the-year/>

⁴² <https://solentlep.org.uk/media/1516/bbp-regeneration-centenary-quay-business-case-issued-for-publication-10-may16v2.pdf>

- 1,620 dwellings (including 405 affordable homes);
- retail (Class A1 / E(a) - 5,525 square metres, including a foodstore);
- restaurants and cafes (Class A3 / E(b) - 1,543 square metres);
- offices (Class B1 / E(g)(i)- 4,527 square metres);
- yacht manufacture (Class B2 - 21,237 square metres);
- Business, industrial, storage and distribution uses (Class B1 / E(g)(i); B2; B8 - 2,617 square metres);
- 100 bedroom hotel (Class C1- 4,633 square metres);
- 28 live/work units (2,408 square metres); community uses (Class D1- 2,230 square metres);
- two energy centres (1,080 square metres).



10.20 The Masterplan is split into 7 distinct phases. Phases 1 and 2 provided 336 homes and included a new library and day nursery. Phase 3 comprised 329 apartments including 72 shared ownership and 102 'Build to Rent' units along with a 5,100 sqm. Morrisons superstore and retail and leisure units. The early phases of development have led to significant changes in the retail and cafe provision in nearby areas, with several units having been renovated and modernised, demonstrating the direct and beneficial impact that the new housing is having on the local economy.

10.21 In total, the early phases have seen around 1,000 of the 1,620 residential units delivered, boosted recently by the delivery of a 27-floor apartment complex providing 165 new homes, delivered in February 2022⁴³.

10.22 This redevelopment has points of similarity with the redevelopment of St Mary's Island on the former Naval Dockyard in Chatham, although St Mary's Island is primarily focused on residential development.

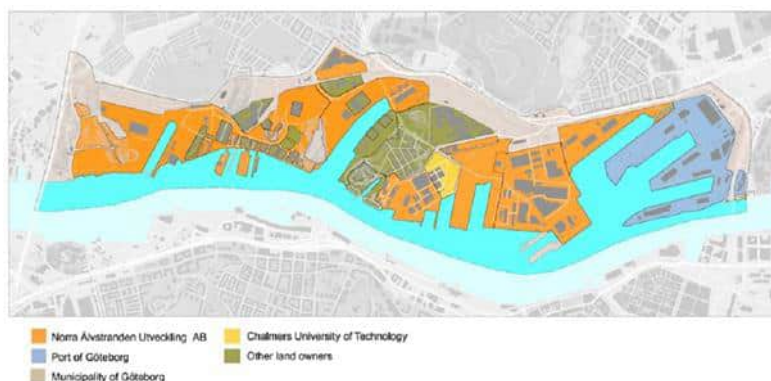
10.23 The scheme may provide useful insights for realising opportunities at other brownfield sites on the Medway which have been identified as having potential for mixed use development such as Acorn Wharf and Sun Wharf.

Holborn, South Shields (Phase 1 In Progress)

10.24 The Holborn area of South Shields has been home to derelict dockland for many years. In response to the challenge associated with this area, a Masterplan was developed to transform the disused docks and surrounding brownfield land into a bustling riverside quarter for high quality offices, housing and a cultural offer.

10.25 The £200m Masterplan includes the provision of 400 houses and apartments; 18,600 sqm of Grade A office space and parking within an Enterprise Zone; a new riverside promenade and the renovation of the smaller graving docks to provide public realm and preserve the riverside's industrial history.

⁴³ <https://www.dailyecho.co.uk/news/19911181.centenary-quay-reaches-highest-point-woolston/>



10.26 The plans will create around 1,700 jobs and will complement wider development in proximity to the site including Harton Quays Park, business centre One Trinity Green and Trinity South residential development.

10.27 Work is beginning on Phase 1 of the residential element of the scheme, in tandem with civil engineering works which will prepare the wider nine-hectare site for future development. The scheme secured £1.85m from the government's Brownfield Land Release Fund to help deliver 250 of the new dwellings. It also benefits from £9.4 million of funding to support delivery of new office space in the Enterprise Zone.

10.28 Though the regeneration of Holborn is likely to be much larger in scale than at any individual site identified along the Medway, the emphasis on creating a cultural quarter may offer lessons to be incorporated into wider plans to regenerate sites along the Medway including the River Strategy.

Norra Älvstranden, Gothenburg

10.29 Norra Älvstranden (Northern Riverside) is an area of approximately 290 hectares (1 square mile) which runs for about 5 kilometres (3 miles) along the north bank of the Göta Älv river, opposite Gothenburg's historic city centre. Up until the 1970s Norra Älvstranden was the site of Gothenburg's three world famous shipyards, and it also contained cargo handling and port facilities. About 15,000 people were employed directly in the yards, and there were perhaps another 30,000 who worked elsewhere in the city in other firms which supplied the shipyards as their main customers.



10.30 Following the collapse of the shipbuilding industry, the area became virtually derelict, and many of the buildings that remained were huge and difficult to re-use. The vision for the redevelopment of Norra Älvstranden as a mixed-use district (with housing, high-tech industries, educational facilities, a science park, and an accessible waterfront) was first developed in the

1990s; but, it was not until the City of Gothenburg took full charge that a holistic and sustainable regeneration strategy gradually emerged.

10.31 A number of key activities are seen to have contributed to the successful regeneration of the area:

- Initial work was undertaken to clean up the site and improve the environment and some of the large buildings were converted to provide premises for small businesses and studio space for artists.
- A series of educational facilities, including several 'upper secondary' technical schools, vocational training establishments and university facilities in the same area to act as a foundation/anchor and redevelop the area as an important 'knowledge centre' for the whole city-region.
- Efforts were made to change the image of the area in the minds of the people of Gothenburg by providing reasons for them to visit Norra Älvstranden. This was a slow but necessary process which eventually led to increased migration to the area and greater levels of private investment.

10.32 What was once an industrial site has become a destination for a multiplicity of leisure and cultural activities, as well as a public space where work and play merge. By the time the scheme is complete, in 2025, there will be a new neighbourhood in this area with a projected 13,000 new residents and some 40,000 people will work and study in the area.

10.33 Unlike Norra Älvstranden, the River Medway has an existing education cluster in Chatham with the University of Kent, the University of Greenwich and Waterfront UTC located in close proximity. Sites such as Chatham Maritime Dockyards, similarly to Norra Älvstranden, developed an educational sector following the closure of the naval Dockyards in the 1980s. There is opportunity to mirror the success of Norra Älvstranden by capitalising on the existing education cluster and build 'anchors' for the wider redevelopment of the area such as space for high-tech industries⁴⁴.

Clyde Waterfront

10.34 Between 2003 and 2014 the Clyde Waterfront partnership was a major focus for rejuvenating a 20km corridor along the River Clyde. The development – supported by a strategic partnership of the Scottish Government, Scottish Enterprise, Glasgow City Council, Renfrewshire Council and West Dunbartonshire Council – focused on 6 distinctive regeneration areas along the corridor. It saw public sector partners and the private sector invest £4bn in the transformation of the waterfront.

10.35 Much of this activity has been focused on key areas of the River Corridor, resulting in the creation of a series of world-class destinations for culture, leisure and education. These include the SSE Hydro, Glasgow Science Centre and the Riverside Museum, which together bring millions of visitors to the River Corridor each year. Meanwhile, housing developments at Laurieston, Govan and Glasgow Harbour are creating new residential locations.

10.36 Over the 2003-2014 period, the project saw the development of 370,000 sqm of commercial floorspace, 73,000 sqm of retail accommodation, over 250,000 sqm of new office accommodation and over 10,000 new residential units.

10.37 More recently there has been a shift towards a knowledge-based economy. New education, health and employment hubs have emerged, growing the city's innovation, life sciences, financial and medical sectors and promoting the creative industries and related services. There remain significant opportunities to direct future investment, with the River Clyde Development Corridor Strategic Development Framework having been established to guide the strategic direction of the River Corridor as a major regeneration project of regional and national significance.

10.38 The relevance of the Clyde Waterfront project lies in its successful utilisation of culture and leisure as a means of attracting further investment into other employment sectors and

⁴⁴ Opportunities to link up with the Institute of Cyber Security for Society or the Durrell Institute of Conservation and Ecology at the University of Kent for example.

neighbouring stretches of the river. There is considered to be comparable opportunity to build upon the existing tourist and cultural offerings in Medway, such as The Historic Dockyard Chatham, to facilitate wider renewal of the area.

Salford Quays⁴⁵

- 10.39 First opened in 1894, the Salford docks, together with the Manchester Ship Canal, helped to consolidate the north west of England as one of the economic powerhouses of the world. However, by 1982, all the docks had closed and over 3,000 jobs were lost. Salford docks were left derelict and contaminated.
- 10.40 The city council recognised the need for a development plan to provide confidence to both public and private sector long-term investors: and to provide the framework for environmental improvement, economic development and employment. The government agreed in principle to the city council leading the docks' regeneration, providing a unique rolling programme of derelict land and urban programme funding, on condition that the first phase of development was successful.
- 10.41 The future development of Salford Quays and its implementation was set out in the mix of development and infrastructure framework. The plan proposed a flexible mixed-use development and suggested that the site would be made up of approximately a third commercial offices, a third residential and a third leisure. To maintain the development plan and its urban design principles, development land parcels were identified and released, programmed in partnership with the public infrastructure, using design briefs and competitions.
- 10.42 Key milestones have included the opening of MediaCity, a purpose-built home for over 250 creative and tech businesses which houses one of the largest high-definition studio facilities in Europe, as well as a wider offer of bars, cafés and restaurants; The Lowry, with its theatres, galleries, shops, bars, restaurant and conference facilities; and The University of Salford, which has a campus at MediaCityUK.
- 10.43 The redevelopment of Salford Quays has created an extensive business, cultural and residential area. As of 2015, there were approximately 3,500 residents and 900 businesses supporting over 26,000 jobs— around 23,000 more jobs than were lost when Manchester Docks closed in 1982. Furthermore, a recent report by KPMG⁴⁶ highlighted that 10,000 jobs have been created in the digital sector in Salford, following the BBC's move to MediaCityUK a decade ago.
- 10.44 The regeneration of Salford Quays is generally regarded as one of the most successful large-scale regeneration projects in the UK in recent times. The success in establishing a tech and media cluster to fuel further investment into the area provides a blueprint for other regeneration projects which look to utilise existing or new advanced employment clusters.

Safeguarded Wharf Marine Logistics Facility, Orchard Wharf, London⁴⁷

- 10.45 During the 19th Century, the London Docklands located in East London grew to become the biggest port in the world and a major centre for trade around the British Empire. However, with the decline of the British Empire, along with the growth of container shipping and heavy bombing of the area during the second world war, the Docklands began to fall into disuse.
- 10.46 By the end of the 20th Century the decline of the Docklands sparked a large-scale project to regenerate the area. This ongoing regeneration project has included the redevelopment of Canary Wharf as well as other smaller sites within the area. Orchard Wharf, which lies to the south of the Leamouth Peninsula, is one wharf which has so far remained untouched by regeneration and has been vacant for nearly 30 years. The site is a safeguarded wharf and therefore any development is required to incorporate an active frontage for use by waterborne freight. This designation has meant that the site has remained vacant despite the rapid residential growth of surrounding areas of East London.

⁴⁵ <https://www.salford.gov.uk/mediacityuk>

⁴⁶ <http://www.salfordnow.co.uk/2021/05/19/mediacityuk-economic-success-found-to-be-strongly-linked-to-the-presence-of-the-bbc/>

⁴⁷ <https://thamesestuary.org.uk/wp-content/uploads/2022/02/Thames-Estuary-Growth-Board-River-Freight-Report-by-WSP-For-website.pdf>

- 10.47 In 2020, a new proposal was submitted aiming to provide over 800 homes alongside more than 8,000 sqm of floorspace for a new last mile industrial logistics centre on the site. The wharf will remain in use, to bring goods from larger ports to be sorted at the logistics centre before being distributed throughout East London via delivery vehicles. The proposal also includes office space, flexible commercial space and over 6,500 sqm of public realm and pedestrian routes.
- 10.48 The proposal to mix last mile logistics with residential uses is the first of its kind, and the use of the river to bring goods to the logistics centre will help to remove larger haulage vehicles from London's roads. Much of the development will be constructed on a large deck with the residential and commercial uses segregated between different layers of the decking.
- 10.49 The project highlights how mixed-use development can be achieved around an active port and could reflect opportunities for sites along the Medway where there is active port use or where there is opportunity for ferry services.

Wind Turbine Factory, Teesside^{48,49}

- 10.50 Teesside in the North East of England has historically been a national hub for heavy manufacturing including steel-making and chemical manufacturing. However, along with other major industrial centres in the UK, the manufacturing industry in Teesside declined rapidly during the late 20th century, and the area has since been a major focus for regeneration and investment in order to help create a new economic base in the region.
- 10.51 A recent component of this on-going project is a major redevelopment of a former heavy fuel oil farm into a new 1km long heavy lift quay and accompanying wind turbine factory at South Quay. The turbine factory will be 74,400 sqm in size. The plans will help to make Teesside the UK's premier hub for offshore wind and will build on existing local synergies in the offshore wind power sector. When the factory is complete, it will supply turbine blades to Dogger Bank wind farm, the largest wind power farm in the world which is located 80 miles off the North East coast.
- 10.52 Construction of the quay and factory is slated to create 1,500 jobs during construction and in the wider supply chain, while the operational factory will create a further 750 jobs. It is hoped that upon their completion in 2023, the factory and quay will contribute towards Teesside becoming the core hub for clean energy and net zero alternative fuels in the country.

Project Cavendish, Isle of Grain, Medway⁵⁰

- 10.53 Project Cavendish is a plan to construct new hydrogen fuel production and carbon capture facilities in the South East of England. At the time of writing, and based on available information, this project is not actively being progressed due to a change in government funding allocations but the plans for the site can be considered indicative of the potential opportunity it presents. National Grid commissioned a study (completed in 2020) to determine the viability of utilising existing infrastructure to enable the Isle of Grain region to supply decarbonised hydrogen for the South East. The study also determined what additional infrastructure would be required if the Isle of Grain was to supply all of London's hydrogen, including the identification of critical environmental issues and ecosystem mapping of stakeholders.
- 10.54 The development would have been situated on the Isle of Grain in Medway, Kent. The Isle of Grain is the easternmost point of the Hoo peninsula in Medway. Despite its name, it is no longer an island and is part of the marshy peninsula that sits between the Thames and Medway Estuary. The site is already established as an industrial location and has a number of existing energy infrastructure uses.
- 10.55 The plans come in the context of the UK Government's target to bring all greenhouse gas emissions to net zero by 2050, with the hydrogen plant having been proposed to become a major source of clean energy for the South East and London. Project Cavendish, named after Henry Cavendish, who discovered hydrogen in 1766, was aiming to produce 700 Mega Watts (MW) per year of low-carbon hydrogen on the Isle of Grain site by 2026. The plant would produce hydrogen from natural gas and capture any bi-product carbon dioxide. The plant would

⁴⁸ <https://www.constructionenquirer.com/2021/09/13/green-light-for-teesside-wind-turbine-factory/>

⁴⁹ <https://www.gazettelive.co.uk/news/teesside-news/work-starts-south-bank-quay-21720709>

⁵⁰ <https://www.projectcavendish.com/>

have had the capacity to capture 1.2 million tonnes of carbon dioxide every year by 2026 and up to 10 million tonnes by 2030. A location on the River Medway was selected to allow for the captured carbon to be collected by vessel and transported to an offshore storage facility.

- 10.56 The Medway site was also selected because of the existing energy infrastructure which would provide efficiency and cost benefits. The facility would be in proximity to gas and electricity networks and power stations. It would have created 800 construction jobs and supported 50 jobs once it is operational.
- 10.57 Despite the project no longer progressing, the potential of the site as envisaged for the site remains and represents a continued opportunity to further build on the growth of the green energy industry in Medway, developing a hydrogen or green energy cluster and support in its supply chain. The supply chain to support the hydrogen economy is complex and wide ranging and includes⁵¹: utilities, providing either raw materials or energy to enable hydrogen production; the supply chain that supports hydrogen manufacture, including the production of hydrogen manufacturing equipment and relevant supply chains; hydrogen transport, distribution and storage, including pipeline and vessel/vehicle transport, underground (caverns, saline aquifers, etc.) and above ground (tank) storage and fuelling infrastructure; monitoring and control; manufacture of fuel cell components and fuels cells; hydrogen carrier chemicals and materials and decommissioning and end of life valorisation. Some of these activities could take place on or near the Isle of Grain.

Peel Protos Plastic to Energy Facility, part of the wider Net Zero North West Cluster Plan^{52,53,54}

- 10.58 The Protos plant is a novel development project to build an industrial eco-park. It is located along the Manchester Ship Canal, to the east of the town of Ellesmere Port in Cheshire. The park will specialise in developing power from sustainable sources that have yet to be fully utilised in the UK energy mix. Plants on the site include the flagship facility that will convert unrecyclable waste plastic into hydrogen, and biodigesters which turn general waste into gas. The individual businesses running these operations are clustered together and encouraged to share ideas and resources with each other.
- 10.59 Once the park is fully built, it aims to generate 140 MW of low-carbon heat and electricity per year, enough to power over 250,000 homes in the area. The plant will be comprised of 16 plots, 12 of which have already been constructed with occupiers starting to move in. The developers, Peel L&P, estimate that the plant will create 3,000 jobs and generate £350 million a year for the North West economy every year.
- 10.60 The project is part of the wider North West Energy and Hydrogen Cluster in the region, which is a collective of businesses backed by regional politicians who are aiming to build the region into a national and global leader for low carbon generation and technology. It is estimated that the cluster, which spans across the Manchester, Liverpool and Cheshire areas, could deliver 33,000 jobs to the region, attract more than £4bn of investment, and save 10 million tonnes of carbon per year.
- 10.61 The site itself has a long industrial past, sitting to the south of the Manchester Shipping Canal, one of the arteries through which Manchester became a major industrial centre during the Victorian period. The site was formally owned by Shell and was sold to Peel L&P in the 1990s. It is surrounded by other large heavy manufacturing sites, energy generation sites and fuel refineries.

Tipner and Horsea Island⁵⁵

- 10.62 Tipner and Horsea Island lie to the North West of Portsmouth city centre adjacent to the M27 and M275 motorways. Horsea Island is a former landfill site and is also home to a Ministry of Defence (MoD) diving school, while Tipner is bordered by an MoD firing range. The area remains largely vacant on account of the remediation work that would be required to prepare

⁵¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1092371/supply-chains-to-support-uk-hydrogen-economy-wood-template.pdf

⁵² <https://www.mrw.co.uk/news/peel-hopes-protos-plastic-park-will-be-first-of-many-13-07-2021/>

⁵³ <https://netzeronw.co.uk/net-zero-nw-cluster-plan/>

⁵⁴ <https://www.nsenenergybusiness.com/features/protos-plant-uk/>

⁵⁵ <https://businesshampshire.co.uk/land-property/development/port-solent-portsmouth/>

the old landfill site for new uses, as well as other constraints such as Ramsar designations around the site, rare bird species nesting areas, noise from the active MoD sites, and lack of access. However, the Portsmouth Plan (2012)⁵⁶ allocated the area for a major regeneration project to create a new northern gateway to the city from the two motorways.

- 10.63 The plans aim to create a sustainable mixed use development providing housing, employment, a country park, community facilities and improved access to public transport links. The former landfill site on Horsea Island will be remediated and converted into a 52 ha country park. Horsea Island will also be developed to provide 50,000 sqm of employment floorspace and a number of dwellings. This will be complimented by 20,000 sqm of employment floorspace, 8,000 sqm of education floorspace and a new park and ride facility at Tipner to improve access to the city centre.

Portishead Quays Marina Shipway

- 10.64 In 2020, a new boat launch site was opened in Portishead Quays Marina near Bristol. The dangerous currents along the Bristol Channel do not provide safe facilities for inexperienced young people who wish to learn to sail or enjoy watersports. Therefore, the new launch and recovery area will improve access to the water for young and novice sailors, as well as for disabled sailors who were previously poorly catered for. The development was commissioned by North Somerset Council and was funded through Section 106 contributions from housing developers. The new slipway will now be used by the local sailing clubs, but individuals can also arrange to use access.

Key findings

- 10.65 Global containerised trade has more than tripled in the past 10 years and is expected to keep growing in future years. There are although uncertainties over future growth due to the impact of technology advancement (such as 3D printing) or the currently economic and political context (Brexit, Covid, the war in Ukraine all have shown the limit of globalisation and importance to secured supply chains).
- 10.66 The maritime industry is vital for the UK and a strategic growth sector. However, more specialisation in commodities is expected in the future, with fewer ports handling the majority of goods entering and leaving the UK. With facilities in the River Medway facing high level of competition from alternative locations (facilities on the Thames or on the South Coast for example), this may require commercial facilities in Medway to diversify and adapt their operations into new activities.
- 10.67 There is also a trend on consolidation of the supply chain (retail, wholesale, manufacturing) facilities in areas surrounding ports – in order to minimise transport. Therefore, to remain competitive, port facilities on the Medway would likely need to provide a vast amount of developable land to accommodate such facilities. There are limited possibilities in Medway for this, with the exception of land at Kingsnorth and Grain, and therefore it is reasonable to consider that existing facilities on the River Medway will continue to serve mainly as an entry point to its regional market (South East).
- 10.68 It should also be noted that there exists some capacity at Thamesport which could be prioritised as a location for new maritime based employment (given the existing maritime infrastructure on this site).
- 10.69 Kingsnorth could provide additional maritime based employment space but would require the delivery of new maritime infrastructure to support the creation of a maritime based cluster in this area. The delivery of additional infrastructure may be facilitated by the potential relocation of Veetee Rice to a 40-acre site at Kingsnorth⁵⁷. The site could also deliver more generic employment space (non-river reliant), such as manufacturing activities or logistics, taking full advantage of the distance of the site from residential areas

⁵⁶ Portsmouth City Council, (2012) Portsmouth Plan

⁵⁷ Veetee Rice has not applied for planning permission yet, and therefore there remains a high level of uncertainty around its relocation, and the timing of this potential relocation.

- 10.70 The River Medway provides limited sites for the development, at a large scale, of new maritime growth sectors such as offshore energy, although Grain is of national importance for energy importation such as LNG (case study: Wind Turbine Factory Teeside) and via electricity inter-connectors with mainland Europe. Whilst there are potential opportunities to invest into the construction of a hydrogen fuel production and carbon capture facilities on the Isle of Grain (case study: Project Cavendish), these projects are limited, they would require heavy investments to compete with existing hubs in the UK and they can often only take place in secluded, industrial areas. As mentioned in the case study for Project Cavendish, there may be an opportunity to deliver some supporting services to the hydrogen industry on the Isle of Grain. However, this is entirely reliant on the successful delivery of Project Cavendish, which at this stage cannot be formally assured. With only specific locations fitting this scope, future growth in those sectors in other parts of Medway are limited.
- 10.71 From a geographical point of view, all major river-related commercial activities will continue to take place downstream Rochester Bridge, which represent an obstacle to large scale maritime traffic. Other forms of commercial activities are also likely to take place downstream of the bridge due to the rural character and lack of developable employment land upstream.
- 10.72 In recent years, a large number of former docks and maritime facilities in the UK have been considered for the delivery of mixed-use development (case studies: Millbay Docks, Centenary Quay, Holborn South Shields, Norra Alvstranden, Clyde Waterfront, Salford Quays, Tipner and Horsea Island, Dover Western Docks) to respond to the demand for housing and in consideration of the sustainability of new developments, limiting the need for transport. Several sites in Medway could be considered for similar regeneration, in the short term (Chatham Docks) or longer term (Medway City Estate)⁵⁸.
- 10.73 The proximity to London (South and East London) and Surrey could be an advantage for the growth of leisure activities in Medway as waterfront facilities in London and Surrey are scarce and expensive, while Medway is easily accessible by car and rail from much of London. The provision of additional marina space at scale, through the expansion of existing infrastructure (i.e. at Gillingham Marina for example) or as part of a mixed use development (at Chatham Docks for example), and supporting facilities could be particularly relevant and contribute to the creation of a critical mass which would make Medway a leading hub for leisure boating in the South East.
- 10.74 From a geographical point of view, leisure activities would be the most viable if delivered in populated and well connected area, which already have some maritime infrastructure, such as Gillingham Marina, Chatham Docks or Acorn Wharf for example. Those sites are almost exclusively located in the middle section of the River Medway (Rochester and Chatham sections – see Figure 3.1).

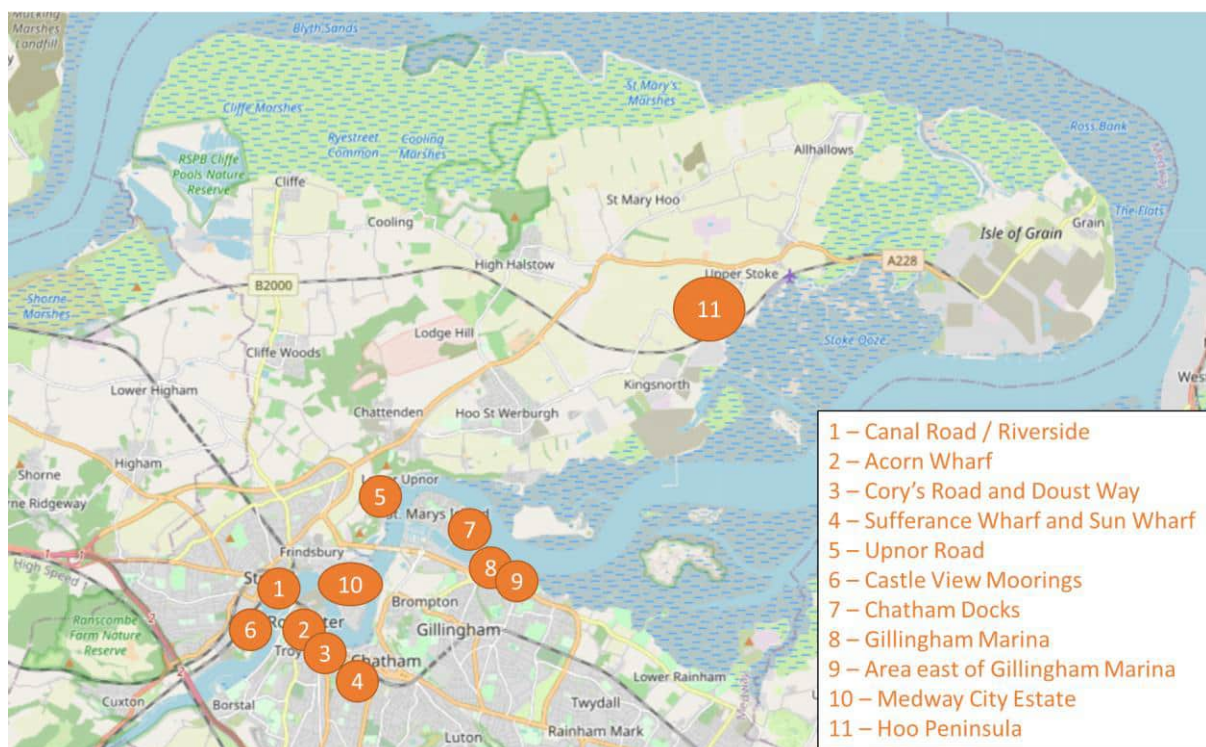
⁵⁸ The regeneration of the Medway City Estate as a mixed-use area could start following the relocation of Veetee Rice to Kingsnorth – providing a large area of land for redevelopment on the Medway City Estate.

11. Conclusion: Potential for the Sites on the River Medway

Introduction

- 11.1 Bringing all the analysis together, this section identifies opportunity areas on the River Medway and suggests potential uses for those sites, considering their current use, land ownership, the role of the River Medway within the wider South East region and the future of the maritime industry.
- 11.2 It should be noted that the section provides conclusions and recommendations regarding high-level opportunities for the Council to take forward as part of further work involving appropriate officers and key stakeholders, and through the evolution of the spatial strategy and policies for the new Medway Local Plan. This would be particularly important given that several opportunity sites identified in this section are subject to ongoing redevelopment and therefore their context will evolve over time. It also is noted that further technical assessments would be required on many sites to consider wider planning impacts, including the environment, heritage, transport capacity and infrastructure requirements. These specific issues are outside of the scope of this report. Opportunity areas
- 11.3 In the course of reviewing river infrastructure, a number of areas stood out as being inefficiently utilised in terms of what the land-river interface could offer, and the existing river activity not being aligned with surrounding land uses.
- 11.4 These 'opportunity areas' could be considered for more intensive use of the riverfront, taking into consideration the characteristics of the River Medway and the future of the maritime activities more broadly.
- 11.5 This section identified 11 opportunity areas, shown in Figure 11.1, and discussed in more details below.

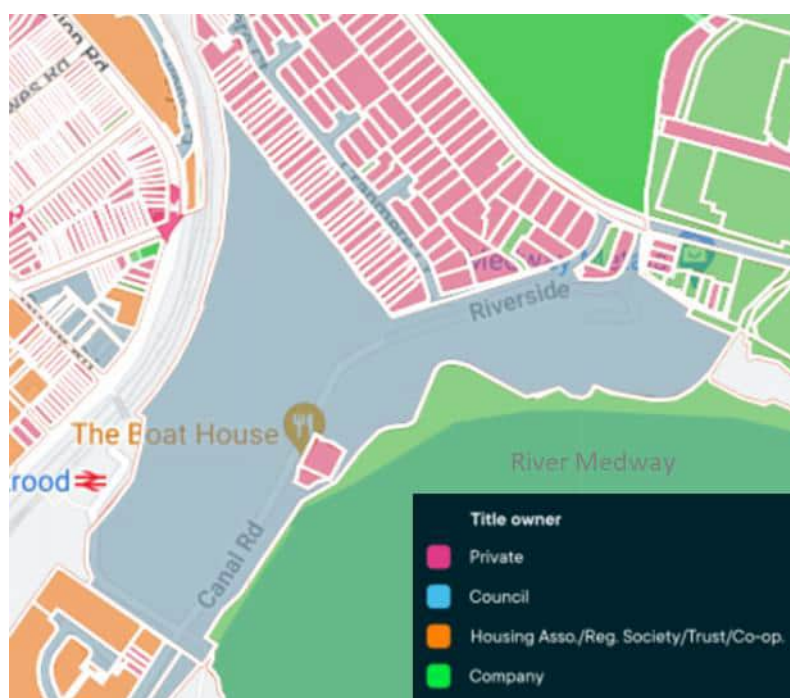
Figure 11.1 Opportunity Areas



Area 1 Canal Road / Riverside (Strood Station)

- 11.6 This area has been remediated including realignment of the road, site clearance (with the exception of a former pub which has been retained) and a new access road to Strood station. At this location the waterfront is very close to Strood station and Strood Pier remains but is currently out of use. The pier may seem useful for a ferry, but the fundamental problem of where you can usefully travel to by ferry from Strood, compared to walking or taking public transport, remains. Use of the pier could be considered for alternative use than transport, such as leisure activities (i.e. stop for leisure boats, use of the pier for pop-up retail/F&B, use of the pier to accommodate a community garden or public space, etc.). This would contribute to the creation of a local waterfront/leisure area easily accessible to the residents of Strood, something that is currently missing.
- 11.7 This site could host more leisure craft moorings, maybe water sports facilities or houseboats given housing requirements. The area is well connected by road and rail, and directly accessible from A2 the site is highly accessible although small.
- 11.8 This area is almost exclusively owned by Medway Council (identified in blue), with 4.6 ha. This gives a high level of control and flexibility over the future use of the site. This site is flattened and currently vacant. Two small pieces of land are in private ownership (unknown owner), less than 0.1 ha, and are occupied by a food & beverages business.
- 11.9 With easy access to public transport and public ownership of a large area of land, the rest of the site could be ideal for the delivery of a comprehensive residential-led mixed use development. The potential for such a development would need to be explored further by additional studies, including viability analysis.

Figure 11.2 Area 1 Strood Station



Source: Nimbus Map, 2022

Area 2 Acorn Wharf (Rochester Riverside)

- 11.10 This is a large area of remediated land that includes Rochester Bridge Steps and the former Acorn boat yard slipway.
- 11.11 Acorn Wharf is one of the rare areas in Medway where small cruise ships could be brought from a technical point of view (considering river constraints and availability of land) and which make sense in terms of inter-connectivity (proximity to stations and historical assets). Suitable low cost facilities would need to be provided (berthing on north or east side of the site?). Whilst similar infrastructure could be delivered further south on the river, closer to historical buildings

in Rochester, this would limit the size of vessels that could operate due to the need to pass Rochester Bridge.

- 11.12 A cruise berth at this location would offer a view of the castle and cathedral, road access for coaches directly from the A2, a short walk to Rochester Castle, and access by road or small boat to Chatham Dockyard. There is also easy access to London for cruise passengers, with short journey time.
- 11.13 A facility for boat trips would also be useful with possible destinations including Upnor, islands in the Medway, Queenborough and the destinations already served by Jetstream from Sun Pier. A boarding point here would be walkable from the town and station. The boat trips could serve cruise passengers when a cruise ship is present and general tourists at other times. Ideally the boarding facility would be fully accessible (currently Sun Pier is not). The facility for the cruise ship could be used by private leisure boats when no cruise ship is berthed.
- 11.14 Market research to understand the level of demand for such services would be required to ensure the commercial viability of this opportunity.
- 11.15 Overall, the development of Acorn Wharf would contribute to diversify the economy of Medway and grow the tourism industry in the area, impacting on supporting industries such as retail, F&B or the hospitality sectors.
- 11.16 As shown in Figure 11.3, a large section of this opportunity area is owned by Medway Council (identified in blue – 11.1 ha), with the remaining areas of the site owned by Homes and Communities Agency (identified in green – 3.8 ha) as well as an unknown private owner on the river bank (identified in pink – 0.4 ha). This area is flattened and currently vacant. A collection of unknown private owners can also be identified in the centre of the site where residential development has recently been delivered, likely preventing the future use of this site for industrial activities. Public ownership represents the majority of the area (and particularly the one in Medway Council’s ownership) providing a high level of control over the future use of the site, providing compatibility with residential uses in the centre of the site.

Figure 11.3 Area 2 Rochester Riverside – land ownership



Source: Nimbus Map, 2022

- 11.17 Medway Council’s planning portal references a hybrid planning application (MC/17/2333) seeking outline permission for the erection of up to 1,400 no. dwellings including a primary school and nursery (D1 use), up to 1,200 sqm of commercial floorspace (A1/A2/A3/A4/B1/D1 and D2 uses) together with a pedestrian footbridge, parking, open space and landscaping at Rochester Riverside. This application was approved, with conditions and redevelopment of the site is well underway.
- 11.18 There is an aspiration for the delivery of a new link (pedestrian bridge) across the Medway which would contribute to increasing the footfall in the area, and provide an alternative

pedestrian route between Rochester (including Rochester Station) and Strood (including Strood Station).

- 11.19 The application of this planning permission could constrain the potential of the site to accommodate infrastructure for small cruise ships.

Area 3 Cory's Road and Doust Way (Old Rochester Station)

- 11.20 This site presents similar characteristics to Rochester Riverside (flattened vacant land), east of Area 2 but smaller in size and less ideally situated in relation to public transport and surrounding areas. The Old Rochester Station and rail forms a physical barrier between this site and the rest of Rochester, which will limit the attractiveness of the area for future occupiers.

- 11.21 Doust Way is a 3.5 ha site, partly vacant and fully owned by Medway Council. This provides some high opportunities for Medway to influence the future of the site and generate growth in the wider area.

- 11.22 There is no land ownership data on Cory's Road, but the site is currently being used as open storage yard and therefore could be redeveloped to host more efficient uses, given its proximity to Rochester Station.

- 11.23 This site could form part of a Rochester-Chatham promenade (see Area 4 below) and accommodate a range of lower density housing, studios and workshops. Live-work units could be considered in this area which is relatively segregated from conflicting uses (such as residential units). Live-work units have the advantage of bringing life and some dynamism to an area, which would not be possible should the only use be light industrial. These would complement uses proposed at Sufferance Wharf and Sun Wharf and give a unique character to this area which could form part of a new waterfront promenade (and therefore should be inviting). These would complement uses proposed for Opportunity Area 4 below. It should be noted that the level of demand for live-work units would need to be tested.

- 11.24 The underpass at the Old Rochester Station could be reopened to improve connectivity to this area, and unlock it for larger developments, including residential developments.

Area 4 Sufferance Wharf and Sun Wharf (Chatham Intra)

- 11.25 Immediately west of Chatham town centre, at the border area between Chatham and Rochester are several piers including some which are used by commercial vessels (tugs and barges). Most are lightly used and possibly not in the best condition and there is no clear reason why they need to be located here. Also in this area is Sun Pier, used by Jetstream for boat trips.

- 11.26 This area had been run-down for many years, but recently gentrification has started to occur. The area is close to Chatham town centre and its railway station. This waterfront could be home to houseboats, an artist's colony and/or a waterfront food and drink destination, along the lines of Box Park in Croydon, building on the recent gentrification of the area (with new bakeries, coffee shops, vintage clothes recently opening).

- 11.27 Floating art installations or galleries could widen the appeal and value of the site attracting local visitors and tourists from London and elsewhere. It could increase the appeal of Medway by providing a cultural attraction to visit in addition to historical areas in Rochester and Chatham Historic Dockyard.

- 11.28 A riverfront promenade or other form of walkway network with river views linking Rochester station to this area (and onward to Chatham town centre and Chatham station) could draw tourists ostensibly visiting Rochester into this area and into Chatham. With the option of a journey by boat (see tourist boat trips below) or walking from Rochester, and the option of returning home by train from Chatham station rather than retracing the route back to Rochester station, this could provide a convenient alternative.

- 11.29 Further work would be required to determine the specific nature of the tourism related offer

- 11.30 Sufferance and Sun Wharfs are characterised by a high number of land owners. The aggregation of sites, to deliver a coherent and comprehensive redevelopment may be a challenge. Medway Council owns a large swathe of land at Sun Wharf, which could be used to

kick start regeneration in the area and unlock further investments on adjacent, privately owned, plots.

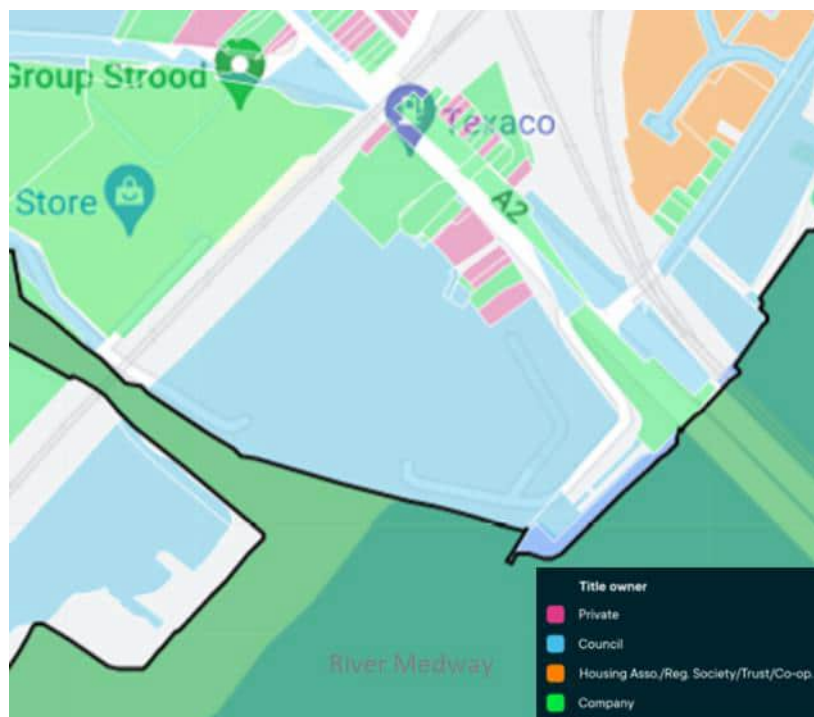
Area 5 Upnor Road

- 11.31 Upnor is a very small attractive village with a castle. The ability for tour boat operators or leisure craft to land here bringing tourists to Upnor and Upnor Castle would boost tourism in Medway broadening its appeal to visitors and overall support economic growth in the area with a positive impact on the retail, F&B and hospitality sectors. The remnant of an old slipway remains, but a new infrastructure such as a pier or landing or small jetty stage would be required for tour boat operators and leisure craft to stop in Upnor. This would provide an alternative way to access this historic village and its castle, as well as other tourist areas along the River Medway. This would boost tourism in Upnor and Medway.
- 11.32 This area is very rural, comprising mainly of small businesses and unlikely to be able to accommodate any significant additional employment space. Indirect economic growth generated by tourism is therefore likely to have the biggest impact on this area. Further work would be required to determine the specific infrastructure requirements at Upnor Road to maximise its potential.
- 11.33 The small village has two pubs and a restaurant, which are popular with visitors, with two more pubs nearby in Upper Upnor. An increase of tourism to the area could boost employment in the village (relative to its size) and generate new jobs (although limited in actual numbers).
- 11.34 Whilst there are no registered businesses in this area, there are several small employment sites in Upnor, all owned by private owners (potentially owner-occupiers), which may limit the potential for growth directly on the waterfront in this area.

Area 6 Castle View Moorings (Strood Former Civic Centre Site)

- 11.35 This area of land has been remediated by Medway Council with a cycle path and promenade built around its waterfront edge. It could be a good location for increasing provision of personal watersports (if that is considered desirable), increasing participation rates for Medway residents.
- 11.36 The river here is relatively sheltered and includes a small creek to the south for even more sheltered teaching areas. Being south of the Rochester bridges it is away from any large vessels (such as Scotline's ships, or small cruise ships if a cruise berth is built). The site is easily accessible by road and walkable from both Strood and Rochester stations.
- 11.37 It is unclear whether there are currently sufficient watersports facilities, in accessible locations, in Medway. Two facilities, one located north of Upnor and one located further south on the river, recently closed. A new watersports facility has recently opened at St Andrews Lake in Halling, in the south of Medway. There is a limited number of comparable infrastructure in Medway, which could suggest that the reprovision of new watersports facilities, in a highly accessible location, could find a market.
- 11.38 This area is predominantly owned by Medway Council (identified in blue – 3.2 ha), which offers a high level of control and flexibility over the future use of the site. This part of the area has been flattened and is currently vacant. Several small sites, located to the north of the area, along the A2, are owned by several private owners with most of those sites developed and providing retail units.
- 11.39 The site has been the subject of a number of council masterplans and would likely accommodate housing, with some leisure/watersports activities on the waterfront.

Figure 11.4 Area 6 Strood South – land ownership



Source: Nimbus Map, 2022

Area 7 Chatham Docks

11.40 Peel Group has announced their intention to close Chatham Docks by 2025 due to the cost of maintenance of the lock gates and the commercial viability of the operation. Plans for mixed use redevelopment, including residential, have been proposed by Peel L&P.

11.41 The site could take advantage of its proximity to three universities (the University of Kent, University of Greenwich and Canterbury Christ Church University), strategic location on the road network being close to the Medway tunnel, and its maritime history to deliver high-value employment, including in growth maritime sectors. These jobs would be predominantly office based and compatible with future surrounding residential and leisure uses.

11.42 There is ample opportunity for Medway's marine leisure offering to be expanded by the re-purposing of the dock, as already happened on the west side of St Mary's Island at Chatham Maritime Marina. In addition to the dock itself, the north east waterfront of the site, on the banks of the Medway, could be used for marine leisure, boat repair, or houseboats. Together with the existing Chatham Maritime Marina and Gillingham Marina this site can offer leisure boat users a mooring that is easily accessible from the M2 without the need to drive through built up parts of Medway. Much of south London is within a one hour drive time of these three marinas, therefore a potentially vast population of potential marine leisure users could be attracted to Medway's cluster of marinas, spending money in Medway each time they visit the area.

11.43 Several examples of successful mixed use regeneration in former docks can be considered such as Salford Quays, Centenary Quay or Norra Älvstranden.

11.44 Being in private ownership, Medway Council has limited control over the future use of this site.

Area 8 Gillingham Marina

11.45 Gillingham Marina, which provides fully serviced berthing in two basins for up to 490 boats, was recently sold to an unknown private buyer.

11.46 This site was marketed by agents as an "attractive redevelopment opportunity" with scope to redevelop, subject to the necessary consents, the 3,100 sqm Waterfront Leisure Centre, which includes a swimming pool, squash and badminton courts, games room, gym and bar/restaurant.

11.47 Private investment could be delivered on this site, subject to the new owner's intentions.

11.48 As with Chatham Docks, Gillingham Marina can offer leisure boat users a mooring that is easily accessible from the M2 without the need to drive through built up parts of Medway (by using M2 junction 1 and the A289). Much of south London is within a one hour drive time of these three marinas, therefore a potentially vast population of potential marine leisure users could be attracted to Medway's cluster of marinas, spending money in Medway each time they visit.

Area 9 Area east of Gillingham Marina (gasworks)

11.49 This area, of circa 4.5 ha, is owned by SNG Property Holdings Limited. The site is partly leased to Southern Gas Networks, Rainham Coach Limited and Segas Sailing Club on long-term basis (remaining lease of over 7 years).

11.50 This site could have a long term potential for redevelopment subject to its private owner's intentions.

11.51 The potential redevelopment of Chatham Docks would deliver a new neighbourhood which could increase the potential of this site as a leisure destination. Furthermore, the redevelopment of Chatham Docks could create a continuous connection on the riverside from the gaswork site to St Mary's Island and Chatham Maritime.

11.52 Investment into the marina could be accelerated to capture the opportunity generated by this regeneration of neighbouring areas and increase in potential customers/visitors.

11.53 The berth adjacent to the site could be optimised to increase the leisure offer or deliver supporting commercial activities (boat repairs). Alternatively it could be better integrated with the adjacent Strand Park and existing leisure facilities, to attract tourist-oriented commercial activity similar to that found at locations like Whitstable Harbour or Herne Bay Pier, creating a small 'sea side' destination in Medway.

Area 10 Medway City Estate

11.54 The potential for a comprehensive redevelopment of Medway City Estate to deliver residential-led mixed use development has been recognised for some years but specific plans have not yet materialised.

11.55 Medway City Estate would be an ideal redevelopment area in Medway, somewhat comparable to Salford Quays in Manchester which has created an extensive business, cultural and residential area. However, improved connectivity would be required to unlock the full potential of Medway City Estate and sustainable future developments. The closest rail station (Strood) is located 2 miles away from the south of the peninsula (walking route) making it relatively isolated. Improved connectivity could be achieved by a new bus line servicing the area, foot bridge(s) linking to Rochester and/or Chatham Station or water taxi services.

11.56 This site could deliver up to 20,000 homes (based on a density of 200 dwellings per hectare) or a mix of residential and commercial space.

11.57 Successful examples of waterfront regeneration include Salford Quays, or Clyde Waterfront.

Area 11 Hoo Peninsula

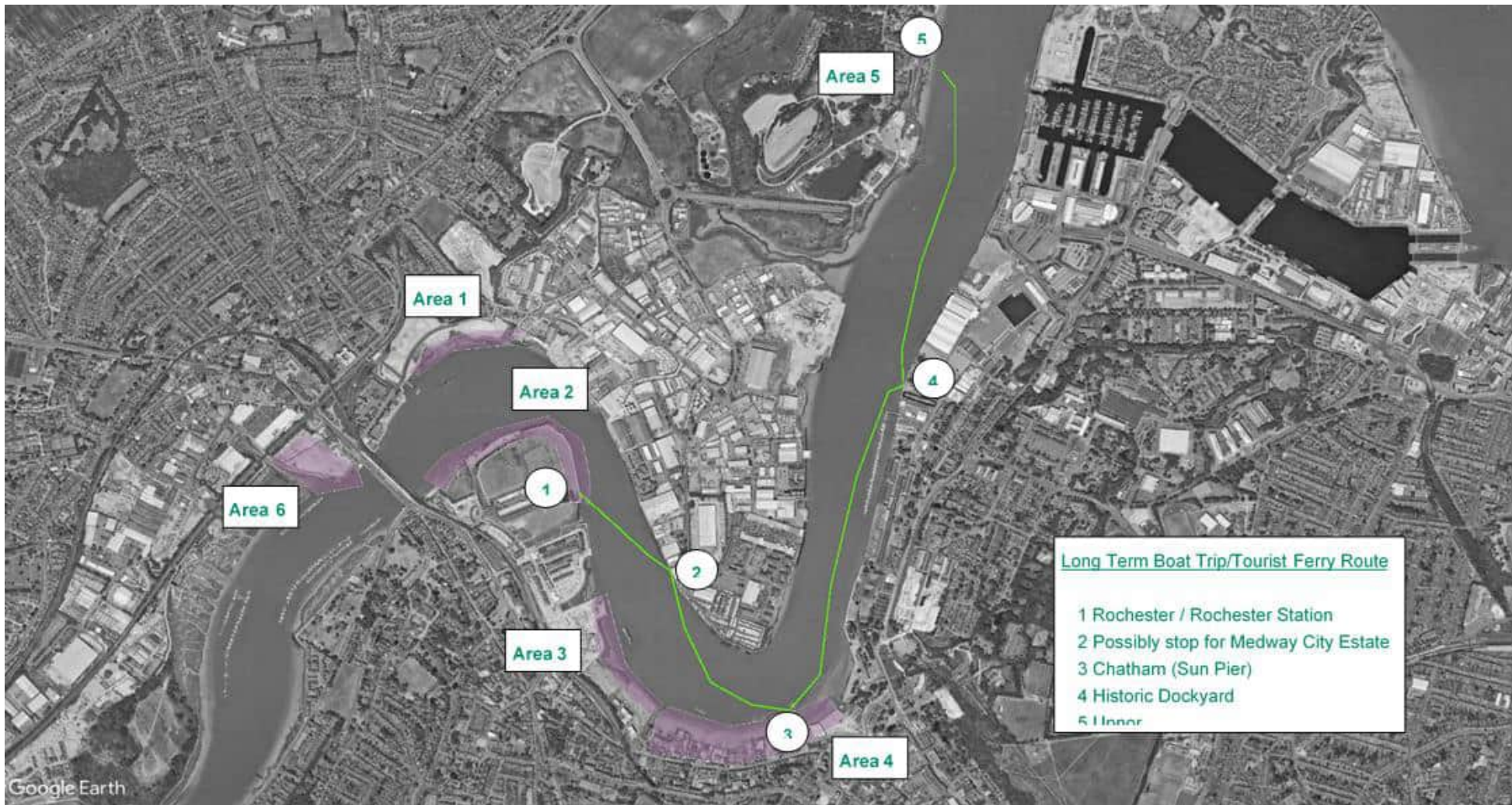
11.58 As previously mentioned, the potential relocation of Veetee Rice to a site at Kingsnorth could support the creation of a wider supply chain cluster (manufacturing, warehousing and wholesale) in and around the site. However, priority should be given to the redevelopment and intensification of land at Thamesport. With 66 hectares at Kingsnorth and 192 hectares on the Isle of Grain allocated to employment land in the current Medway Local Plan (2003), the Hoo Peninsula provides an opportunity for a new, high-quality, employment cluster which could enable the relocation of businesses from other locations in Medway such as the Medway City Estate and Chatham Docks, and in turn enable the regeneration of those sites.

11.59 The Isle of Grain could also support the development of the energy sector, including a potential hydrogen cluster, providing essential services for the industry. Progress in advancing proposals for Project Cavendish should be monitored, and opportunities reviewed when there is greater clarity regarding the certainty of this development. The area would mainly provide space for businesses which do not require access to a ship for their operations.

Tourist Boat Trips

- 11.60 There is limited scope for ferries or boat trips on the Medway due to the lack of attractions on opposite banks of the river, especially on the north bank (Upnor is the only one).
- 11.61 However in the longer term with the development of areas 2, 4 and 5 above, and any developments on Medway City Estate that may stimulate demand for pedestrian access, the following route may be viable: Rochester (area 2) > Medway City Estate > Sun Pier (for area 4) > Historic Dockyard > Upnor (area 5) and return.
- 11.62 This would likely be aimed at tourists, and operate at weekends and public holidays. Whether this could become an all week service that functions as part of a public transport network is less likely. It would not be building on any long established demand for pedestrians to cross the river in the same way that ferry operations like Thames Clippers have done.
- 11.63 The operation of this service would increase activity on the river in a very visible way, and add to Medway's overall attractiveness as a destination. In particular, connecting sites such as Rochester's historic high street, cathedral and castle, to Chatham Historic Dockyard and Upnor by boat makes it much easier for visitors arriving by train to see more of Medway. For example, visiting Upnor and Rochester in the same day is very difficult for public transport users at present, and moreover a boat ride has more tourist appeal than using public buses. Evidence of nascent demand for boat trips can be found in JetStream tour's cruises operated on the Medway, which are a purely commercial undertaking. Jetstream can only offer tours from or between points they can safely bring their vessels alongside, which at present is limited to Sun Pier and Chatham.

Figure 11.5 Opportunity Areas and Long Term Boat Trip/Tourist Ferry Route



Source: AECOM

Appendix A – SIC Industries and Industrial Divisions

SIC Code	SIC Industry	Industrial Division
1	Crop and animal production, hunting and related service activities	A - Agriculture, Forestry and Fishing
2	Forestry and logging	A - Agriculture, Forestry and Fishing
3	Fishing and aquaculture	A - Agriculture, Forestry and Fishing
5	Mining of coal and lignite	B - Mining and Quarrying
6	Extraction of crude petroleum and natural gas	B - Mining and Quarrying
7	Mining of metal ores	B - Mining and Quarrying
8	Other mining and quarrying	B - Mining and Quarrying
9	Mining support service activities	B - Mining and Quarrying
10	Manufacture of food products	C - Manufacturing
11	Manufacture of beverages	C - Manufacturing
12	Manufacture of tobacco products	C - Manufacturing
13	Manufacture of textiles	C - Manufacturing
14	Manufacture of wearing apparel	C - Manufacturing
15	Manufacture of leather and related products	C - Manufacturing
16	Manufacture of wood and of products of wood and cork, except furniture	C - Manufacturing
17	Manufacture of paper and paper products	C - Manufacturing
18	Printing and reproduction of recorded media	C - Manufacturing
19	Manufacture of coke and refined petroleum products	C - Manufacturing
20	Manufacture of chemicals and chemical products	C - Manufacturing
21	Manufacture of basic pharmaceutical products and pharmaceutical prep	C - Manufacturing
22	Manufacture of rubber and plastic products	C - Manufacturing
23	Manufacture of other non-metallic mineral products	C - Manufacturing
24	Manufacture of basic metals	C - Manufacturing
25	Manufacture of fabricated metal products, except machinery and equip	C - Manufacturing
26	Manufacture of computer, electronic and optical products	C - Manufacturing
27	Manufacture of electrical equipment	C - Manufacturing
28	Manufacture of machinery and equipment n.e.c.	C - Manufacturing
29	Manufacture of motor vehicles, trailers and semi-trailers	C - Manufacturing
30	Manufacture of other transport equipment	C - Manufacturing
31	Manufacture of furniture	C - Manufacturing
32	Other manufacturing	C - Manufacturing
33	Repair and installation of machinery and equipment	C - Manufacturing
35	Electricity, gas, steam and air conditioning supply	D - Electricity, Gas, Steam and Air Conditioning Supply

36	Water collection, treatment and supply	E - Water Supply, Sewerage, Waste Management and Remediation Activities
37	Sewerage	E - Water Supply, Sewerage, Waste Management and Remediation Activities
38	Waste collection, treatment and disposal activities; materials recovery	E - Water Supply, Sewerage, Waste Management and Remediation Activities
39	Remediation activities and other waste management services	E - Water Supply, Sewerage, Waste Management and Remediation Activities
41	Construction of buildings	F - Construction
42	Civil engineering	F - Construction
43	Specialised construction activities	F - Construction
45	Wholesale and retail trade and repair of motor vehicles and motorcycle	G - Wholesale and Retail Trade, Including Repair of Motor Vehicles
46	Wholesale trade, except of motor vehicles and motorcycles	G - Wholesale and Retail Trade, Including Repair of Motor Vehicles
47	Retail trade, except of motor vehicles and motorcycles	G - Wholesale and Retail Trade, Including Repair of Motor Vehicles
49	Land transport and transport via pipelines	H - Transportation and Storage
50	Water transport	H - Transportation and Storage
51	Air transport	H - Transportation and Storage
52	Warehousing and support activities for transportation	H - Transportation and Storage
53	Postal and courier activities	H - Transportation and Storage
55	Accommodation	I - Accommodation and Food Service Activities
56	Food and beverage service activities	I - Accommodation and Food Service Activities
58	Publishing activities	J - Information and Communication
59	Motion picture, video and television programme production, sound rec	J - Information and Communication
60	Programming and broadcasting activities	J - Information and Communication
61	Telecommunications	J - Information and Communication
62	Computer programming, consultancy and related activities	J - Information and Communication
63	Information service activities	J - Information and Communication
64	Financial service activities, except insurance and pension funding	K - Financial and Insurance Activities
65	Insurance, reinsurance and pension funding, except compulsory social	K - Financial and Insurance Activities
66	Activities auxiliary to financial services and insurance activities	K - Financial and Insurance Activities
68	Real estate activities	L - Real Estate Activities
69	Legal and accounting activities	M - Professional, Scientific and Technical Activities
70	Activities of head offices; management consultancy activities	M - Professional, Scientific and Technical Activities
71	Architectural and engineering activities; technical testing and anal	M - Professional, Scientific and Technical Activities
72	Scientific research and development	M - Professional, Scientific and Technical Activities
73	Advertising and market research	M - Professional, Scientific and Technical Activities
74	Other professional, scientific and technical activities	M - Professional, Scientific and Technical Activities

75	Veterinary activities	M - Professional, Scientific and Technical Activities
77	Rental and leasing activities	N - Administrative and Support Service Activities
78	Employment activities	N - Administrative and Support Service Activities
79	Travel agency, tour operator and other reservation service and related	N - Administrative and Support Service Activities
80	Security and investigation activities	N - Administrative and Support Service Activities
81	Services to buildings and landscape activities	N - Administrative and Support Service Activities
82	Office administrative, office support and other business support act	N - Administrative and Support Service Activities
84	Public administration and defence; compulsory social security	O - Public Administration and Defence, Compulsory Social Security
85	Education	P - Education
86	Human health activities	Q - Human Health and Social Work Activities
87	Residential care activities	Q - Human Health and Social Work Activities
88	Social work activities without accommodation	Q - Human Health and Social Work Activities
90	Creative, arts and entertainment activities	R - Arts, Entertainment and Recreation
91	Libraries, archives, museums and other cultural activities	R - Arts, Entertainment and Recreation
92	Gambling and betting activities	R - Arts, Entertainment and Recreation
93	Sports activities and amusement and recreation activities	R - Arts, Entertainment and Recreation
94	Activities of membership organisations	S - Other Service Activities
95	Repair of computers and personal and household goods	S - Other Service Activities
96	Other personal service activities	S - Other Service Activities
97	Activities of households as employers of domestic personnel	T - Activities of Households as Employer
98	Undifferentiated goods- and services-producing activities of private	T - Activities of Households as Employer
99	Activities of extraterritorial organisations and bodies	U - Activities of Extraterritorial Organisations and Bodies

Source: Office for National Statistics

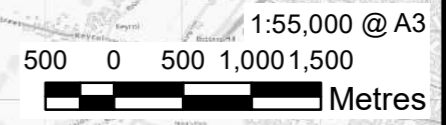
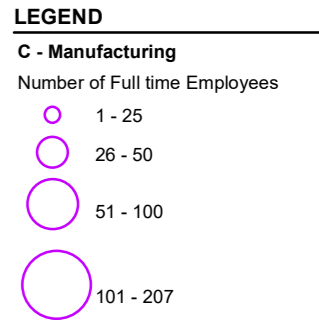
Appendix B – Clusters of Employment by Industrial Division



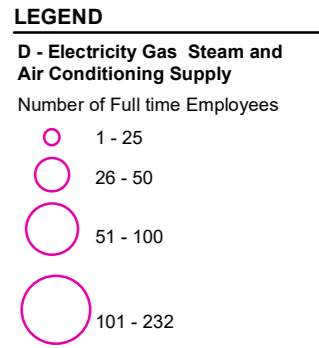
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Chatham Docks and River Frontage Study

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LEGEND

E - Water Supply Sewerage Waste Management and Remediation Activities

Number of Full time Employees

- 2 - 25
- 26 - 49
- 50 - 100
- 101 - 238

NOTES

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ISSUE PURPOSE

FOR INFORMATION

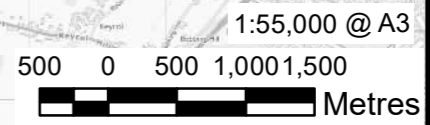
PROJECT NUMBER

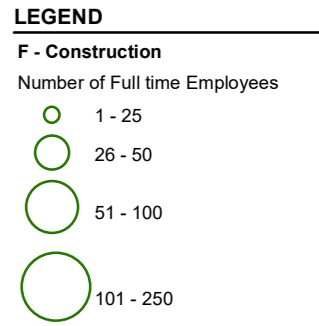
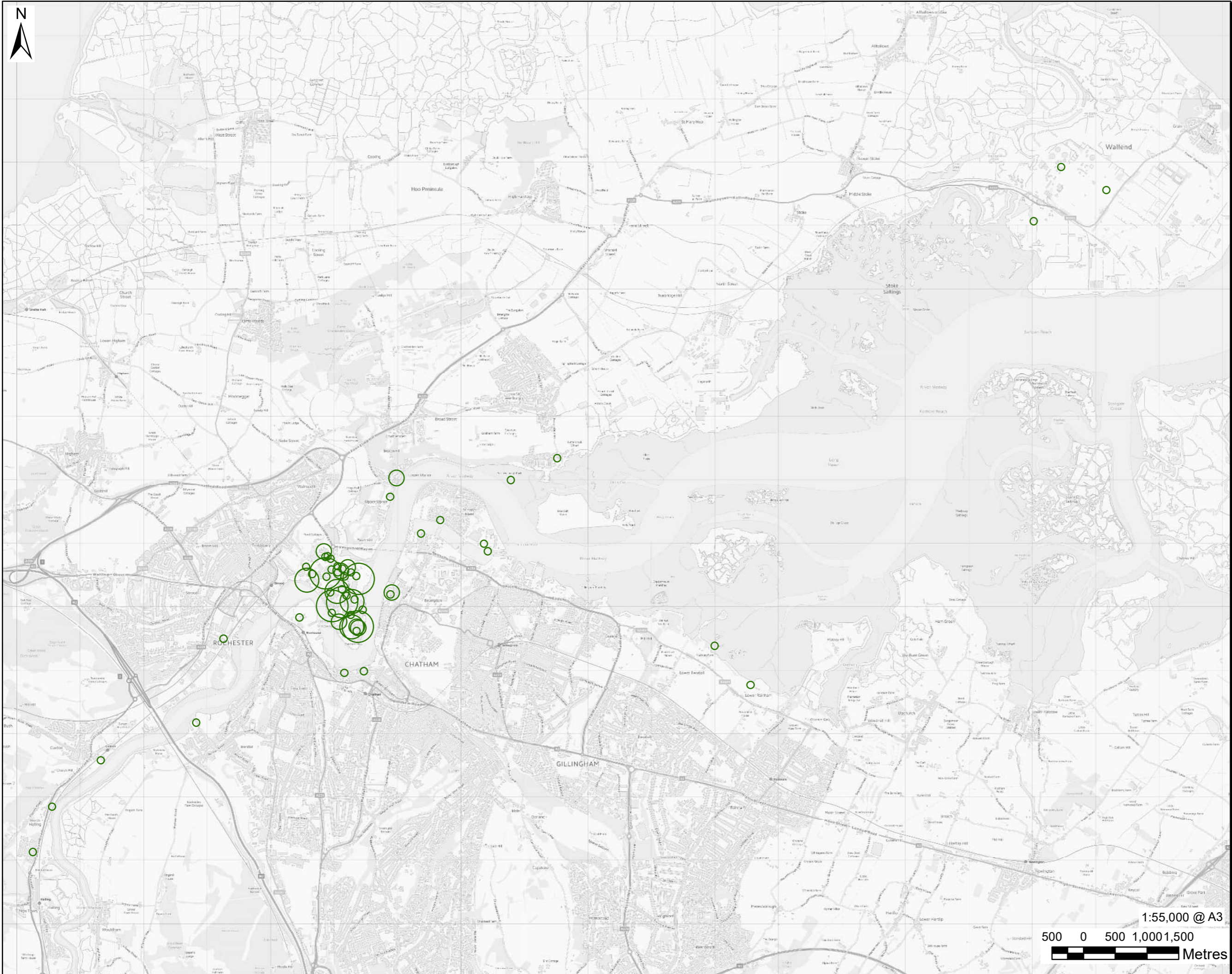
SHEET TITLE

Number of Full Time Employees within the Water Supply, Sewerage, Waste Management and Remediation Sector
SHEET NUMBER

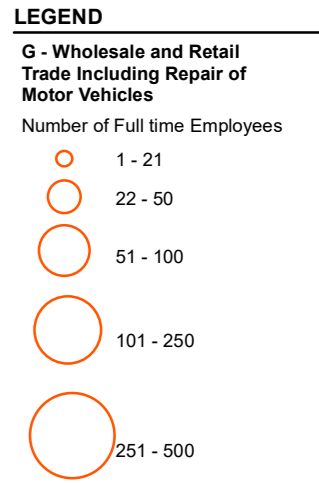
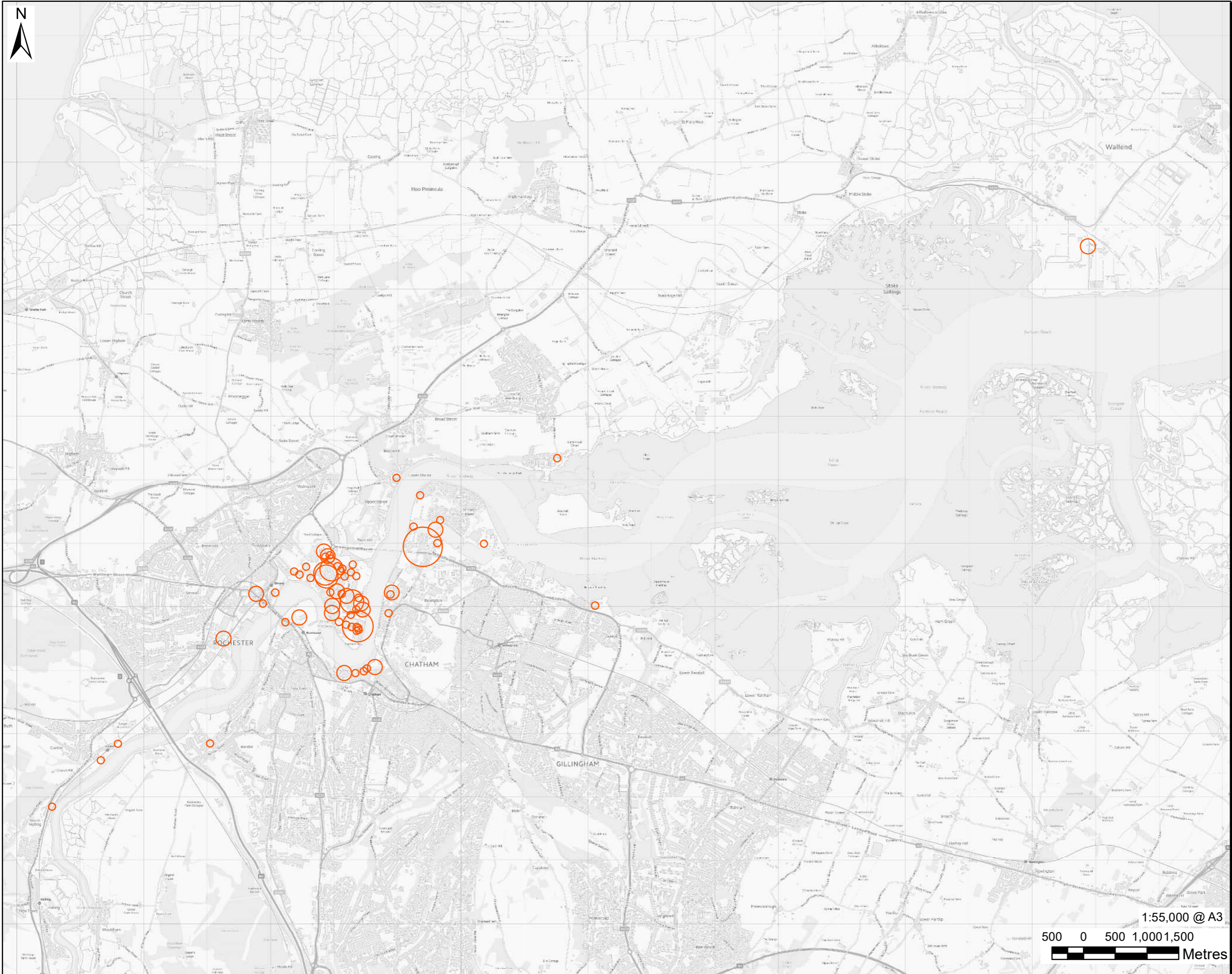
Figure 5

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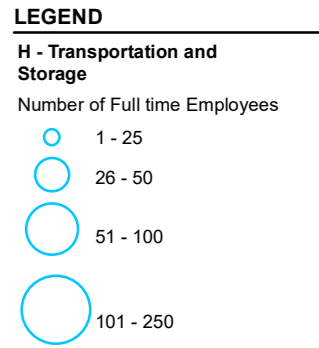




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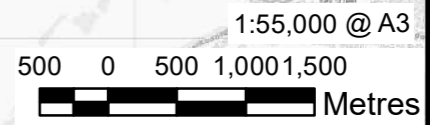
NOTES
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ISSUE PURPOSE
FOR INFORMATION

PROJECT NUMBER

SHEET TITLE
Number of Full Time Employees within the Transportation and Storage Sector

SHEET NUMBER
Figure 8



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LEGEND

I - Accommodation and Food Service Activities

Number of Full time Employees

- 1 - 25
- 26 - 50
- 51 - 100
- 101 - 250
- 251 - 500

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ISSUE PURPOSE

FOR INFORMATION

PROJECT NUMBER

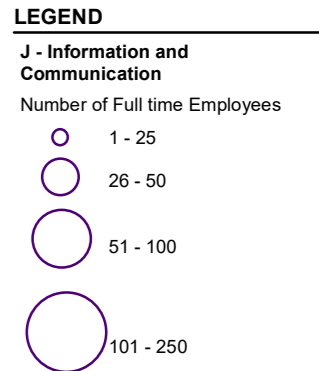
SHEET TITLE

Number of Full Time Employees within the Accommodation and Food Service Activities Sector

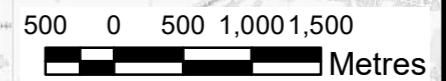
SHEET NUMBER

Figure 9

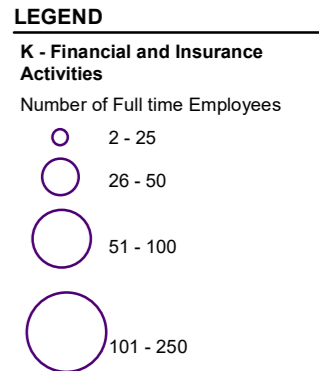
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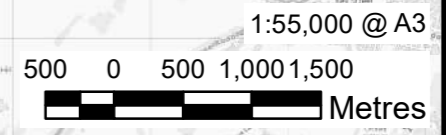
ISSUE PURPOSE
FOR INFORMATION

PROJECT NUMBER

SHEET TITLE
Number of Full Time Employees within the Financial and Insurance Activities Sector

SHEET NUMBER
Figure 11

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LEGEND

L - Real Estate Activities

Number of Full time Employees

- 1 - 25
- 26 - 50
- 51 - 100
- 101 - 250

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ISSUE PURPOSE

FOR INFORMATION

PROJECT NUMBER

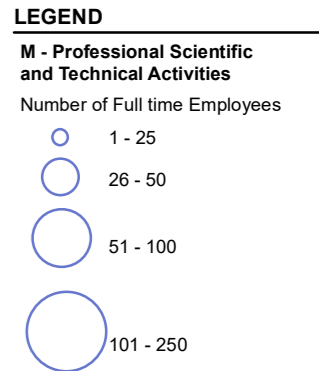
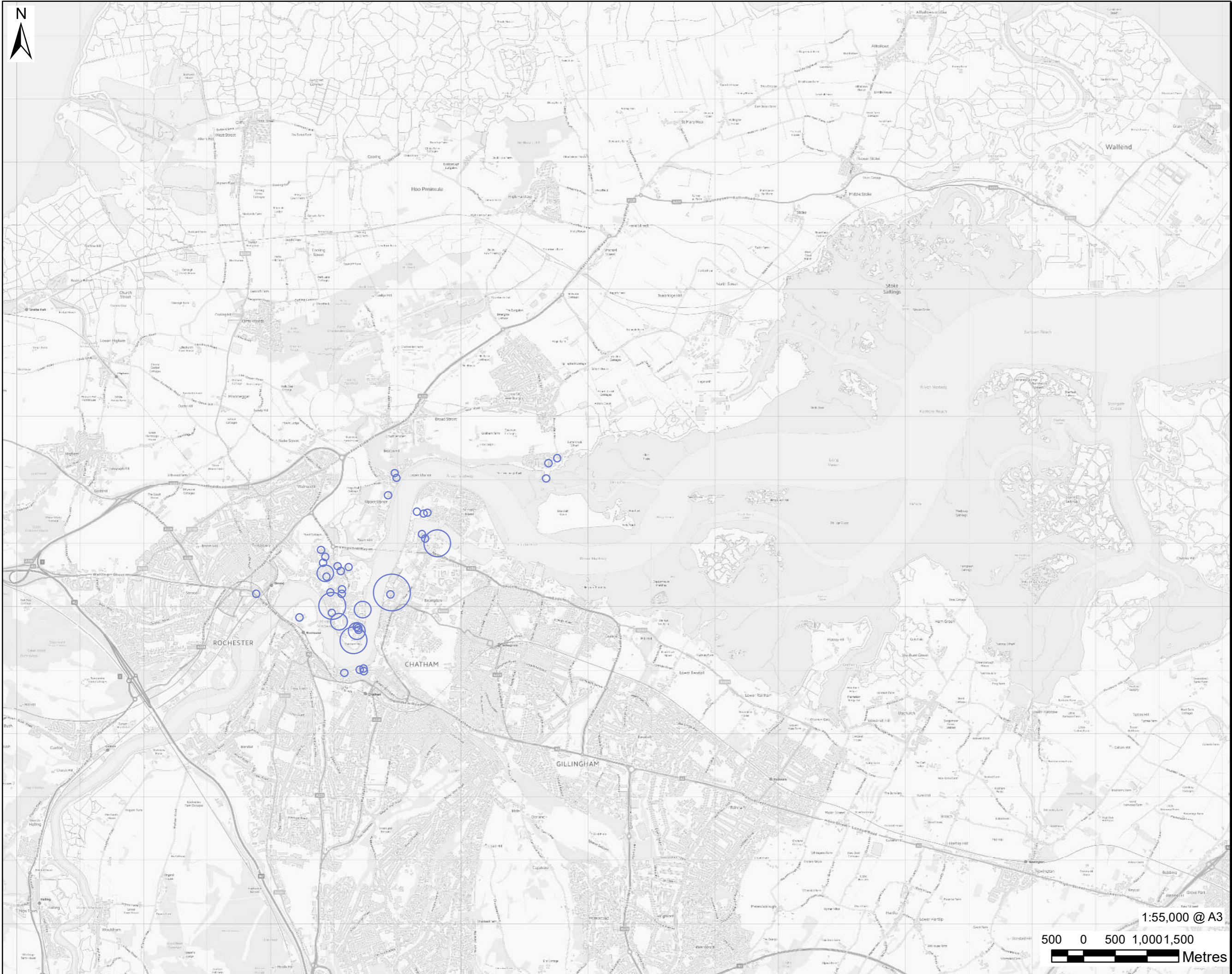
SHEET TITLE

Number of Full Time Employees within the Real Estate Activities Sector

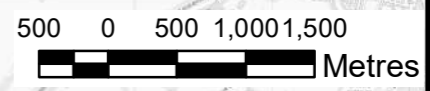
SHEET NUMBER

Figure 12

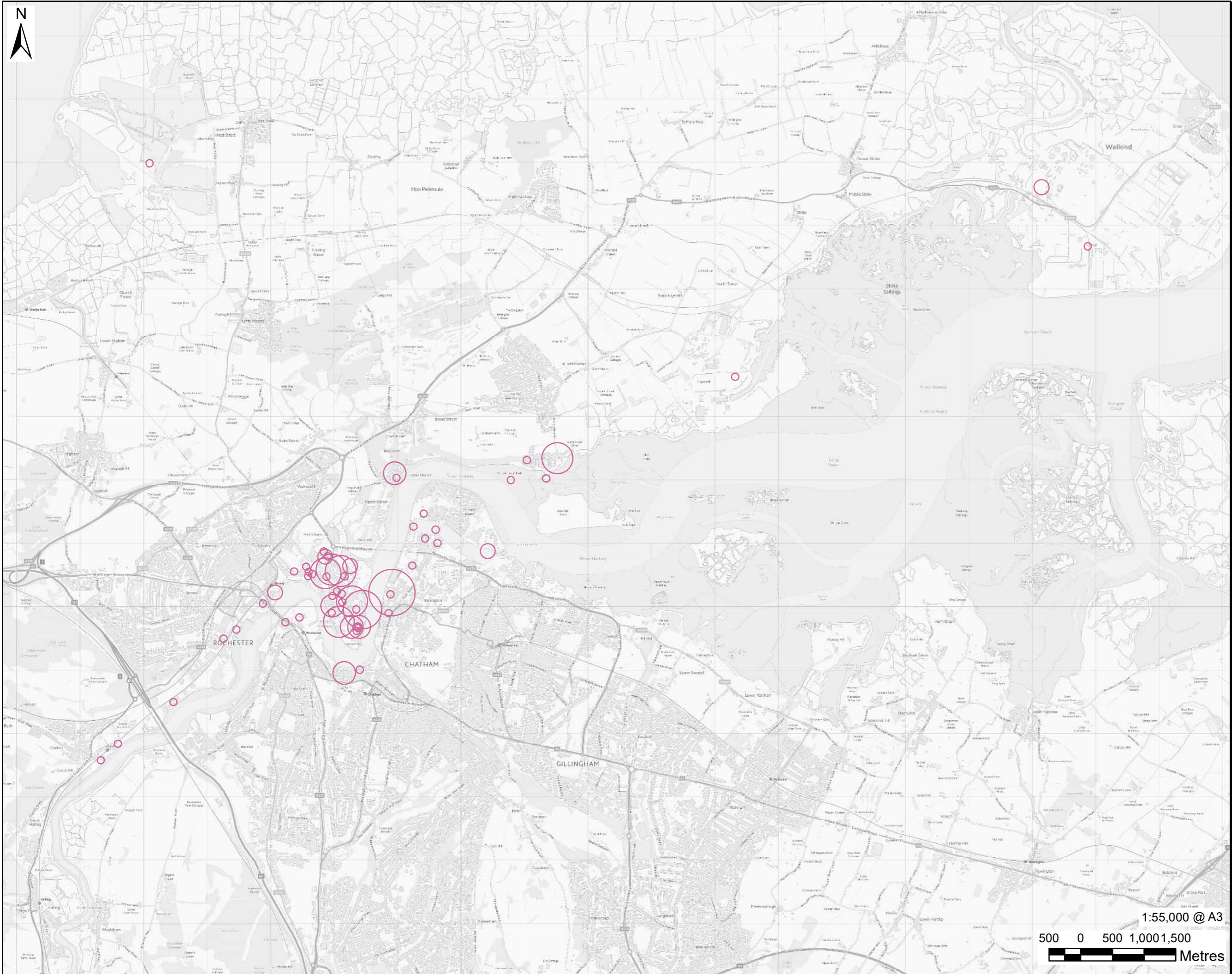
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LEGEND

N - Administrative and Support Service Activities

Number of Full time Employees

-  1 - 25
-  26 - 50
-  51 - 100
-  101 - 250
-  251 - 500
-  >500

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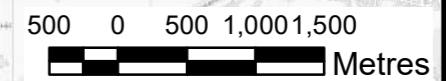
SHEET TITLE

Number of Full Time Employees within the Administrative and Support Service Activities

SHEET NUMBER

Figure 14

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LEGEND

O - Public Administration and Defence Compulsory Social Security

Number of Full time Employees

- 4 - 25
- 26 - 50
- 51 - 100

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ISSUE PURPOSE

FOR INFORMATION

PROJECT NUMBER

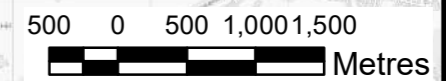
SHEET TITLE

Number of Full Time Employees within the Public Administration and Defence Compulsory Social Security Sector
SHEET NUMBER

Figure 15

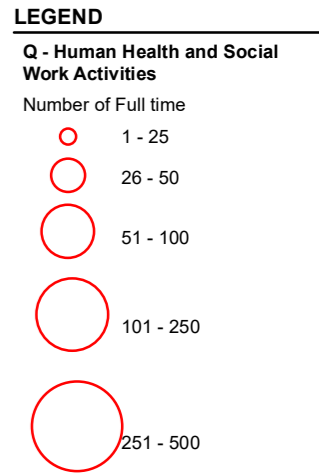
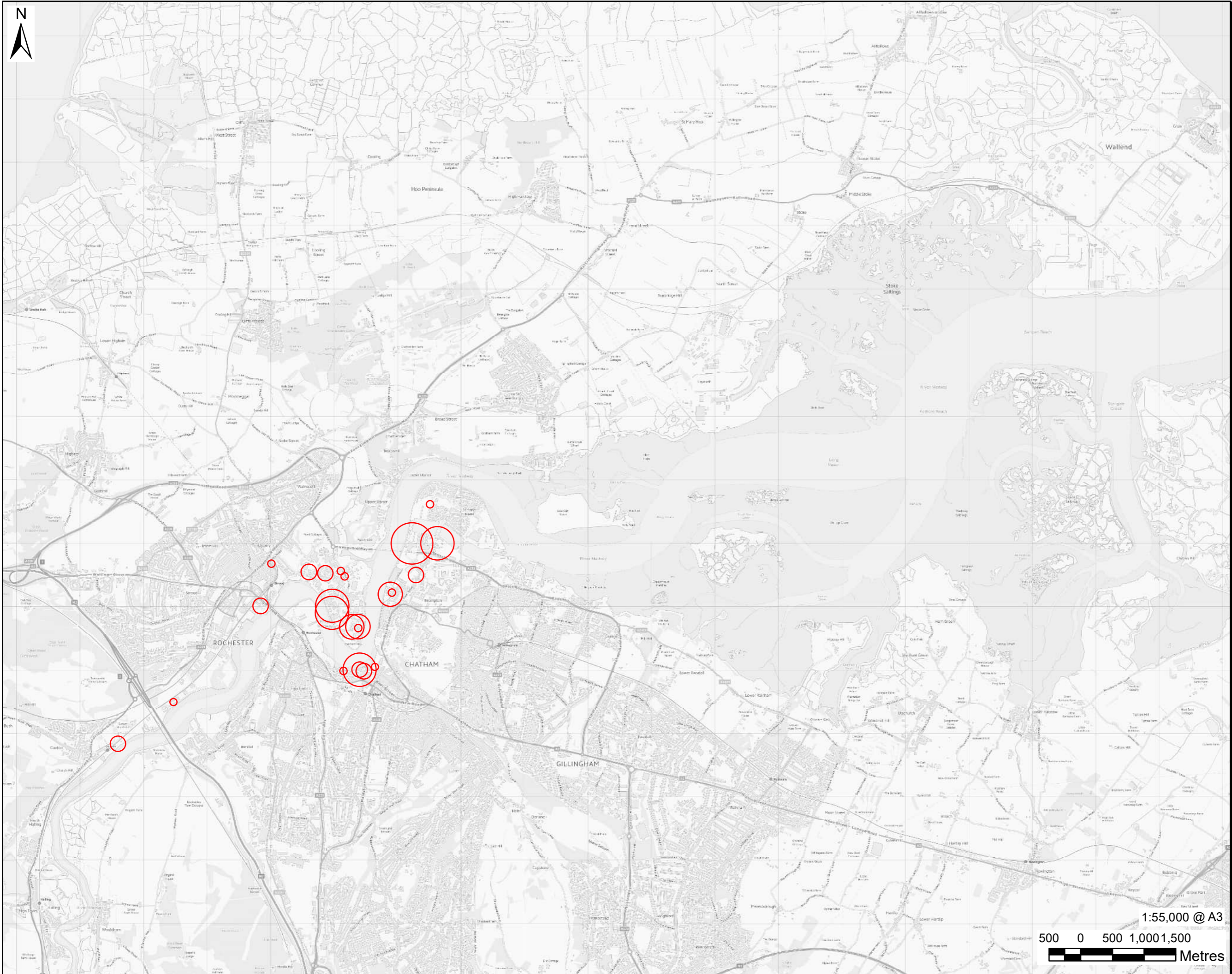
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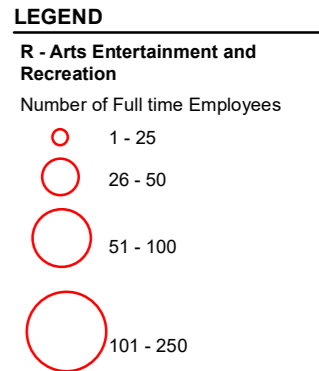
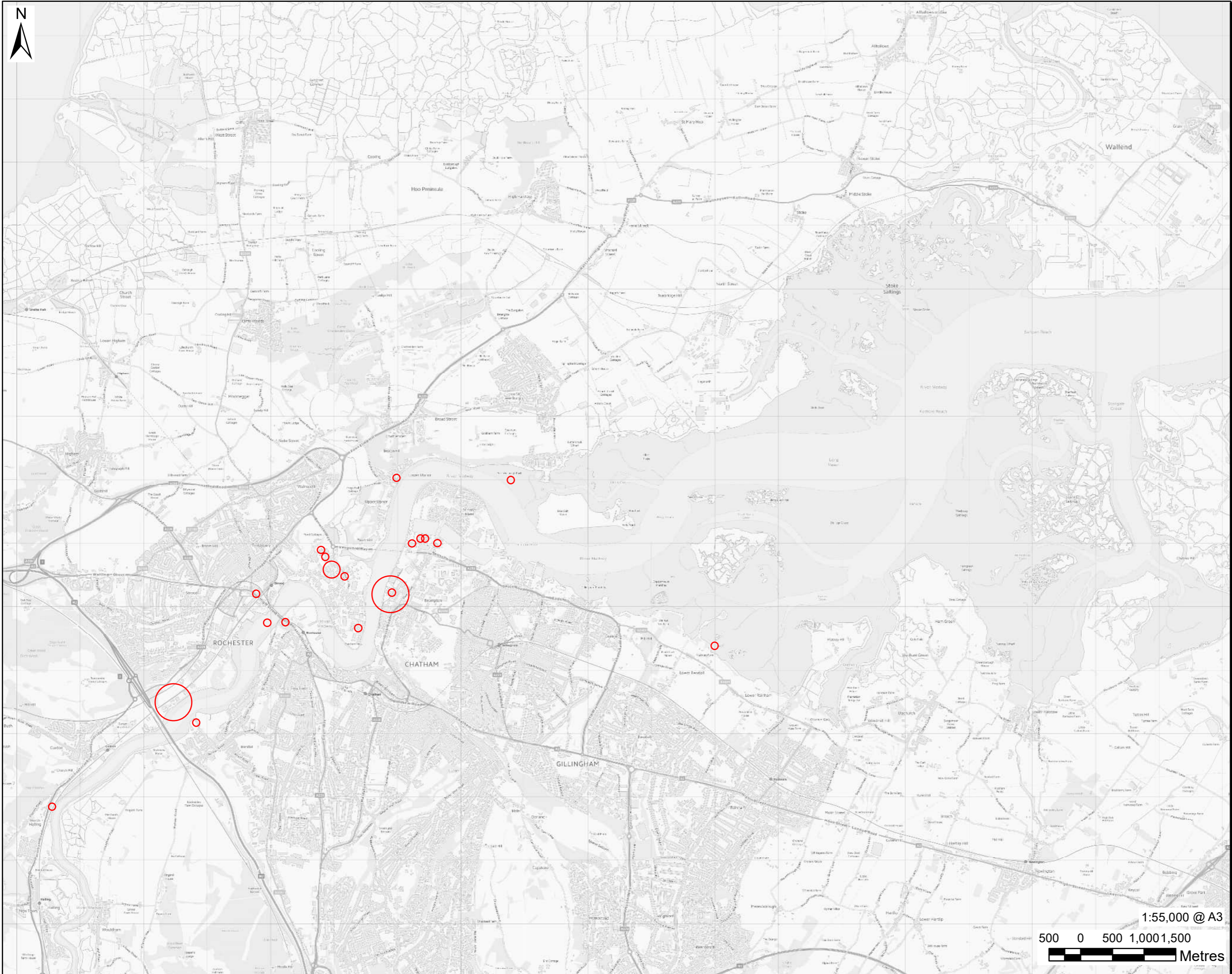
ISSUE PURPOSE
FOR INFORMATION

PROJECT NUMBER

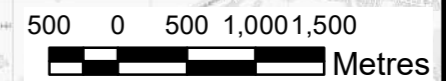
SHEET TITLE
Number of Full Time Employees within the Human Health and Social Work Sector

SHEET NUMBER
Figure 17

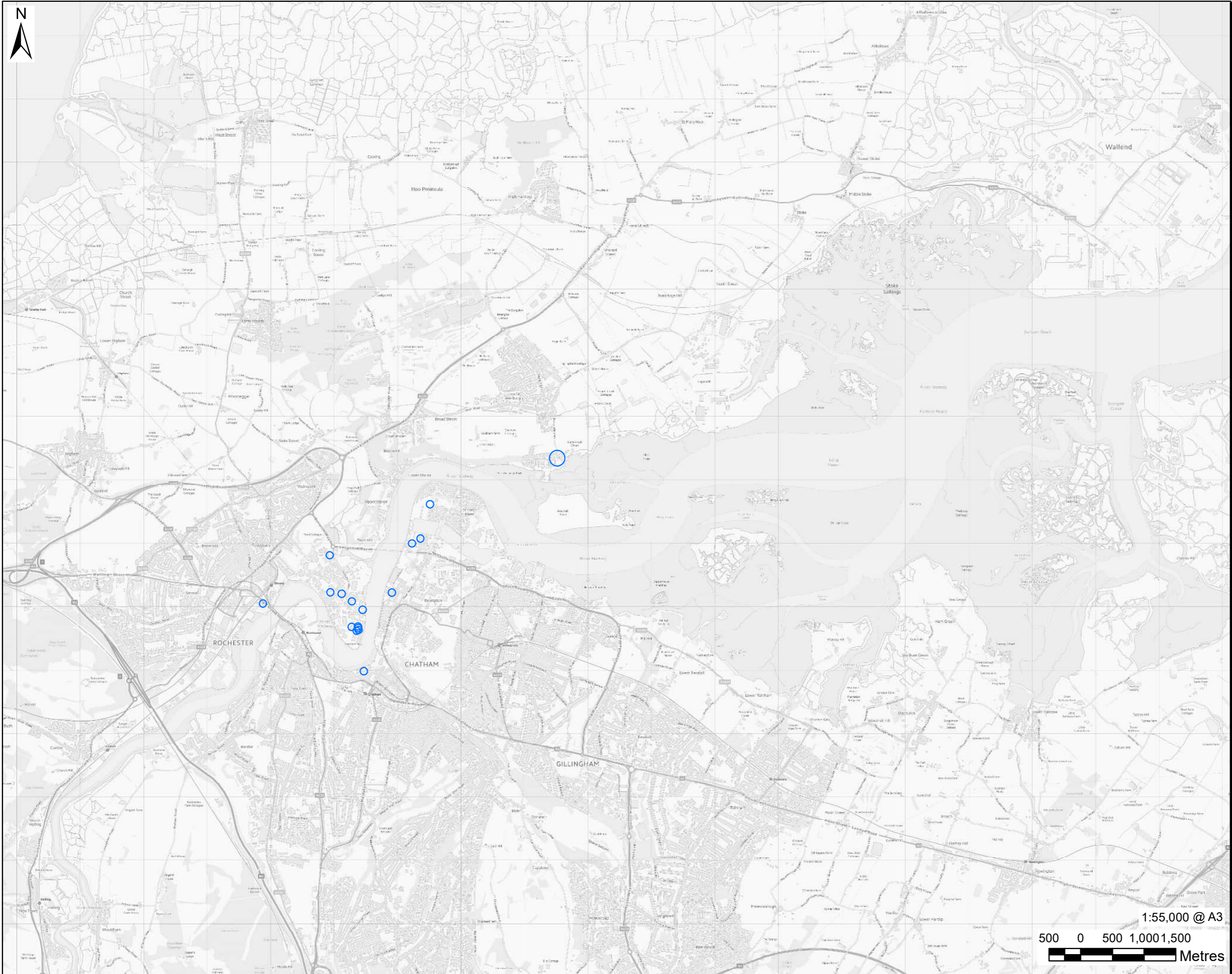
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LEGEND

S - Other Service

Number of Full time

- 1 - 25
- 26 - 50

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PROJECT NUMBER

SHEET TITLE

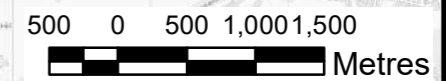
Number of Full Time Employees
within Other Service
Activites Sectors

SHEET NUMBER

Figure 19

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Appendix C – River Infrastructure Reviewed

COMMERCIAL

1. Aggregate Industries Jetty
2. Aggregate Jetty in Swale
3. Bee Ness Jetty
4. Bullnose Dock
5. Chatham Docks Basin 3
6. Eurowharf
7. Four Commercial Piers at Letley's Boatyard
8. GPS Jetty
9. Grain CHP Pier
10. Grain LNG Terminal Jetty 1
11. Grain LNG Terminal Jetty 2
12. Kingsnorth Long Reach Jetty
13. Neptune Wharf
14. Oakham Ness Jetty
15. Otterham Quay
16. Owen's Way Industrial Estate
17. Ridham Dock
18. Rushenden Pier
19. Scotline Crown Wharf berth 1
20. Scotline Crown Wharf berths 2 and 3
21. Sheerness
22. Thamesport BP Oil Jetty
23. Thamesport Deep Water Dock Quay
24. Thamesport Disused Jetty 1
25. Thamesport Disused Jetty 2
26. Thamesport Disused Jetty 3
27. Veetee Rice Wharf

LEISURE

1. Chatham Maritime Marina
2. Commodore's Hard
3. Cuxton Marina
4. Elmhaven Marina
5. Gillingham Marina
6. Gillingham Pier
7. Halling steps
8. Historic Dockyard Slip
9. Hoo Marina
10. Hoo Ness Yacht Club
11. Hundred of Hoo Sailing Club
12. Kent Boat & Ski Club
13. Kingsnorth Sailing Club
14. Mariner's Farm
15. Medway Bridge Marina
16. Medway Towns Rowing Club
17. Medway Yacht Club
18. Patman's Wharf
19. Port Medway Marina
20. Queenborough
21. Rochester Bridge Steps
22. Rochester Cruising Club
23. Rochester Pier
24. Segas Sailing Club
25. Sharp's Saltings

26. Stoke Creek
27. Strood Pelican Cruising Club
28. Strood Yacht Club
29. Sun Pier
30. Thunderbolt Pier / Victory Moorings
31. Trechmann's Wharf
32. Upnor Sailing Club
33. Wilsonian Sailing Club
34. Wouldham boatyard

SUPPORTING

1. Beacon Boatyard
2. Boat shed
3. Brownes Boatyard, Queenborough
4. Stargate Marine
5. Chatham Historic Dockyard
6. Whitton Marine

OTHER

1. Acorn Wharf
2. Arethusa Activity Centre
3. Bloors Wharf
4. Paper Factory Slipway
5. Port Werburgh
6. REYC Moorings
7. Royal Engineers Jetty
8. Ship Pier
9. Strood Pier