25.3.1 Port related employment

RTP conducted an economic impact assessment of BPC in 2004 including an in-depth analysis of the fine level employment data to identify employment that the TBPC operations support. Employment was organised into four categories based on their relationship with the Port. These categories were revisited for this EIA in order to assess the relative importance of the Port related jobs over time. The categories are as follows:

- **Port specific industries** – this includes only port related jobs i.e. cargo handling, water transport and shipbuilding. It can be assumed that the vast majority of jobs in these industries are directly related to the Port. This category also includes employment directly by the BPC.
- **Port tenants** – this category assumes that the majority of jobs with Port tenants are related to the Port and the Port site.
- **Port dependent industries** – these are industries in the local area that may operate outside of the Port facility but are thought to be reliant on its infrastructure i.e. allowing trade of goods in/out. Only a portion of these jobs are dependant on the Port.
- **Port related and port support industries** – this category is likely to have only a small portion of jobs related to port activity. Not all port service providers are located within the local area, and for those which are, only a proportion of the businesses will be providing services to Bristol Port. Furthermore, within those businesses, only a proportion of their trade will be within the Port and its tenants.

Port Specific Industries and Port Tenants

Categories one and two combined capture the port operations and tenants, and is used here as a benchmark for the relative strength of the Bristol Port employment site.

In the port's immediate area, the numbers of jobs in these catergories have declined from their recent high of 2,700 in the year 2000, to less than 2,000 jobs in 2003. Since 2003, the port's on-site employment catergories have shown growth (14%) from 2003-2005. This rate of growth exceeds the Greater Bristol growth (2%) over the same years.

Port related industries

This group includes all four categories described above and seeks to capture all employment in the immediate area related to the Port. It should be noted that this group also includes jobs that do not perform port-dependent functions but may utilise port infrastructure e.g. recycling of scrap metal uses the TBPC's export facility but is not directly related to the TBPC itself. This group contains 87 industrial categories (SIC 4 digit level).

Figure 25.2 illustrates the influence these industries have on employment within the immediate area. Almost half of all employment within the immediate area is in these categories. Although these industries saw significant decline between 2001 and 2003 with a decrease in nearly 1000 jobs, since 2003 the relative share of these industries has increased again.

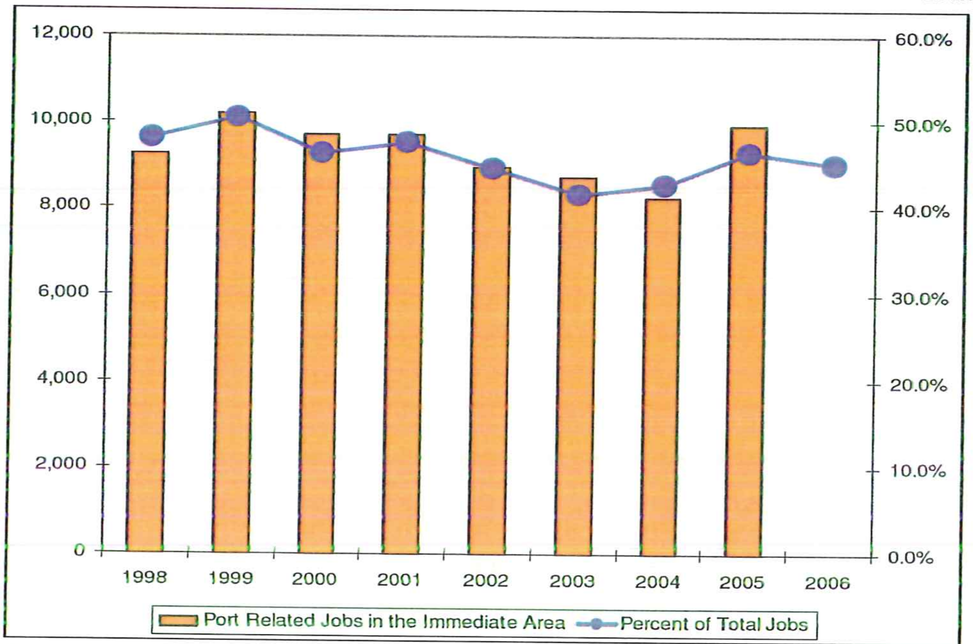

Figure 25.2 All Port related industry jobs and proportion of total jobs in the immediate area 1998-2006 (ABI, various years)

Firm size

In 2006 there were approximately 1,700 firms operating in the immediate vicinity of the TBPC. The majority of firms (79%) were small firms with 10 or less employees each. Whilst this dominates the firm size structure in the immediate area, there are proportionately more small firms both locally and nationally (see Table 25.2). In addition, it is likely that medium sized firms (11-199 employees) are over-represented as the immediate area is dominated by one particular operation i.e. large format distribution premises (Bristol Employment Land Survey, 2007).

Table 25.2. Number and size of firms as a % of the total (Source: ABI, 2006)

No. employees	Immediate area (%)	Bristol (%)	N. Somerset (%)	S. Glos. (%)	South West (%)	Great Britain (%)
1-10	79	82	85	83	85	84
11-49	16	14	12	13	12	12
50-199	4	3	2	3	3	3
200+	1	1	0	1	1	1
All (100%)	1,700	17,300	7,800	9,300	215,100	2,348,400

The total number of firms in the immediate area grew by 19% between 1998 and 2006.

25.3.2 Employment resource

Local population

In 2001 there were 27,700 people residing in the immediate area surrounding the Port (Census, 2001). The majority of this population was contained within the Avonmouth ward of Bristol. Avonmouth ward is the most populated ward in the immediate area of the TBPC with 12,000 of the total population residing there. Over 73% of the immediate area's population are of working age (16-74 years) although only 62% are economically active. Approximately 15.5% of this population were retired in 2001, which is higher than the national average of 13.5%. This suggests that there is scope within the local labour market for additional workers.

Unemployment and economic activity

Compared with both the national unemployment rate (5.4%) and the South West unemployment rate (3.9%), South Gloucestershire and North Somerset unitary authorities have low unemployment (3.0% and 1.8% respectively). The City of Bristol however has a higher than average unemployment rate (4.3%). This suggests flexibility within Bristol's labour market to fill any potential opportunities offered by the new terminal.

Qualifications

In 2001, the population within the immediate area of the Port had approximately 3,900 economically active people with no qualifications, and approximately 2,000 economically active people with higher-level qualifications. The higher number of workers without qualifications is to be expected as the area surrounding the Port is an important provider of employment space which generally includes more manual labour and low value added activities. This type of employment generally requires fewer skills than office employment space.

Occupational profile

The occupation profile of the TBPC indicates that the employment opportunities generated by the TBPC estate are balanced i.e. a high proportion of managers and senior officials along side workers in processing and elementary occupations. Conversely, there are relatively few people in professional occupations and sales (Census, 2001). More than half of the residents in the immediate area who are seeking employment are seeking opportunities in the elementary and processing occupations.

Deprivation

The high rates of economic activity and low rates of unemployment in the local area mask pockets of relative deprivation. Figure 25.3 shows the national Index of Multiple Deprivation (IMD) rankings for 2007; the TBPC immediate area is outlined in red.

Figure 25.3 demonstrates that many parts of the local authority areas surrounding TBPC are within the top 30% of least deprived areas nationally. However, parts of Bristol district and Weston Super-Mare are within the lower half of the index, and Avonmouth ward is relatively deprived.

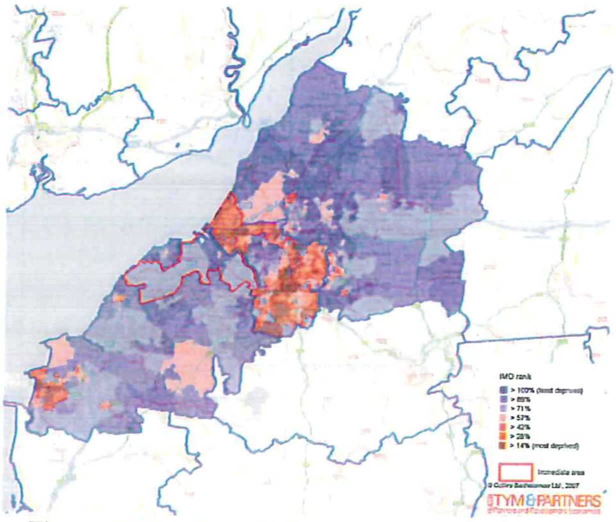

Figure 25.3 Index of Multiple Deprivation, 2007

Income

The average pay offered by the TBPC, £27,585 pa, is competitive within the South West. Even the lowest paid occupations receive a 25% higher salary than the South West average. The lowest paid jobs at TBPC include processing positions. These positions are obtainable by people without formal qualifications. These jobs therefore offer the potential to reduce deprivation in areas with a low skill base.

Future employment forecasts

Cambridge Econometrics has produced district level job forecasts for the South West region. The forecasts utilises trend data and may be seen as 'business as usual' projections i.e. they assume that the patterns of past performance (since 1981) will be maintained. These forecasts do not therefore take account of business plans or investments.

Table 25.3 shows the district, local and regional level job forecasts. Bristol City is the largest area in Greater Bristol in terms of employment, but employment is projected to grow at a significantly lower pace than the rest of Greater Bristol at only 11.5% compared to 15 percent in the region (2006-2026). By 2026 based on the CE projections, there will be an additional 63,000 full time equivalent jobs (FTEs) in the Greater Bristol area.

Table 25.3. Area jobs forecasts 2006-2026 (000's) Source: Cambridge Econometrics

Region	2006	2016	2026	% Change 2006-2026
S W England	2,207	2,401	2,530	15
Bristol	242	260	270	11
S Glos	137	153	161	18
N Somerset	72	79	83	16
Greater Bristol	451	492	514	14

Future population trends

The Office for National Statistics (ONS) provides population projections at a regional and district levels. The ONS forecasts are trend based and, similar to job forecasts, do not take account of planned infrastructure investment.

Based on the ONS projections for the City of Bristol, North Somerset and South Gloucestershire, the working age population within these districts will increase by 76,000 between 2006 and 2026. These districts are expected to contain 18.7% of the South West's working age population by 2026.

Labour supply and demand

With such high rates of anticipated growth among economically active age groups, there is a potential mismatch between forecast jobs growth and the forecast population growth i.e. the population growth exceeds the job forecast. The new economic activity projections from the ONS indicate that economic activity rates will rise in the future and secondly that a larger number of people aged over 64 will remain in the workforce further increasing the proportion of economically active populations. For these reasons it is calculated that the number of workers in Greater Bristol is expected to increase by 83,000 workers between 2006 and 2026.

In 2006, Greater Bristol had approximately 20,000 more jobs than economically active residents indicating the areas importance as an employment centre. However, by 2026 Greater Bristol is forecast to have approximately 3,000 more economically active people than jobs. The implication is that; firstly the areas importance as an employment hub is declining and secondly that in order to obtain full employment net out-commuting would be required in the future.

Investment plans outside of these models, such as BDSCT, would have the effect of reducing this forecast pattern.

25.3.3 Calculating the economic impact

In order to identify the economic impacts of the BDSCT, a study was undertaken to model the employment and value added (income) effects. This involved gathering detailed information and data relating to the TBPC's existing operations and those predicted as part of the DSCT proposal. This information took the following forms:

- Employment information – numbers of employees, occupational structure, residence of employees, average wages by occupational sector.
- Detailed specification of the BDSCT.
- Estimations of the expected employment and capacity outcomes from the BDSCT.
- Personnel survey to derive the induced effect of the Port expansion – this survey estimated the level of personnel spending in the local area and identified the sectors of spending.
- As a background to assessing the impact of the DSCT, reference was made to the RTP study (2004) which undertook in-depth surveys of the businesses associated with the Port including
    - A survey of users of the Port and businesses located on the Port Estate.
    - A survey of suppliers of services and goods to TBPC and Port users and tenants, including transport providers.

- A survey of businesses in the Avonmouth/Gordano area.
- A survey of major employers in the Greater Bristol area.

These data established that in 2004 there 7,660 jobs depended on the port, 5,940 jobs were the port and port related activities while the remainder are multiplier jobs arising from the above jobs and incomes. These can be divided as follows:

- Over 735 jobs within port operations including jobs at the TBPC;
- 1,508 transport jobs associated with the port including shipping companies, shipping agencies, brokers, road haulage, railway, freight forwarders, warehousing, distribution and supply chain management, marine insurance, ship repair, bunkering and government departments;
- 2,246 jobs in port related industries;
- 966 jobs supported within suppliers or goods and services, and
- Over 480 construction jobs.

Methodology
Two main methods were used to calculate the economic impacts of the DSCT:

- Case study based method using national input-output tables to calculate the multiplier effects of the terminal development. This method is informed by 'A Project Appraisal Framework of Ports' (Dft, 2004). This is a similar method to that applied at Dibden Bay and Felixstowe.
- A standard economic impact approach to estimate impacts based on current port operations. This approach follows national guidance to economic appraisals as set out in English Partnerships 'Guide to Additionality'. This method calculates jobs supported through the supply expenditures of TBPC and the jobs supported by the Port through its customers including tenants, shipping lines and shipping agents etc.

25.3.4 Employment structure of the new terminal

The new deep sea container terminal is expected to generate just over 480 full time equivalent jobs when fully staffed. Table 25.4 provides a breakdown of the jobs by occupation at the new terminal.

The key areas of employment in the new terminal will be within marine, engineering, administration, cleaning, police, operational engineering and operations. This includes crane operators; plant and lorry drivers, operational engineers and supporting administrative and supervisory roles. The majority of jobs within the operational occupations will be shift work, many operating 24 hours seven days a week.

In addition, there will be a number of specific jobs created in activities associated with the new DSCT including roles linked to pilotage, rail activities, road haulage and warehousing

For the purposes of the economic study, impacts on three local authority areas were covered; the City of Bristol, North Somerset and South Gloucestershire. It is anticipated that the majority of employees for the new terminal will reside in these localities. The national impact was not investigated as the estimates of the net effects to the national economy need to include complex assumptions of macroeconomic variables which are beyond the scope of this study e.g. exchange rates.

Table 25.4 Job structure of the new container terminal (TBPC, 2008)

Department, job title and location		Personnel FTE	Contract
MARINE			
Assistant Havenmaster		1	days
Pilot crew		10	shifts
Marine Officers		11	shifts
Hydrographic Surveyors		2	shifts
Dredging staff		15	shifts
Admin/support staff		6	shifts
ENGINEERING			
Maintenance Manager		1	shifts
Deputy Manager (landside)		1	shifts
Deputy Manager (waterside)		1	shifts
Senior Technicians		3	shifts
Supervisors		4	shifts
Operatives/Fitters		20	shifts
Admin/support		5	shifts
ADMIN & CLEANING			
Reception and general admin		4	
Cleaners, offices and buildings		4	
POLICE			
Police Sergeant		1	shifts
Police Constables		5	shifts
Police Support		9	shifts
OPERATIONAL ENGINEERING			
Manager		1	days
Assistant Development		1	days
Development Engineers		4	days
Assistant Maintenance		1	days
Section Leaders	Quaywall	1	days
	Yard	1	days
	Mobile	1	days
Team Leaders (4 shifts)	Quaywall	4	shifts
	Yard	4	shifts
	Mobile	4	shifts
Engineers	Quaywall	32	days/ shifts
	Yard	28	days/ shifts
	Mobile	24	days/ shifts
Administration		2	
PLC Engineers		5	shifts
PLC Team Leader		1	days
General Duties		4	days
OPERATIONS			
Manager		1	days
Section Leader	Quaywall	1	days
	Yard/Rail	1	days
Quaywall Ops	Cranes	94	24/7 shifts
	Riggers	21	24/7 shifts
	Supers	11	24/7 shifts
Yard Ops	RMG's	33	3 shifts
	Supers	9	3 shifts
Railhead	RMG's	12	3 shifts
	Checker	3	3 shifts
General Plant Drivers	Mobile	36	shifts
	Super	3	shifts
Admin Lorries	Trackers	18	shifts
	T'Leaders	2	shifts
Gatehouse Security	Security	12	shifts
Administration	Clerks	4	days
	TOTALS	482	

Similar to the existing TBPC profile many of the proposed jobs are categorised as processing roles. The proposed profile however also indicates a higher proportion of professional occupations. Handling of large container volumes will require skilled workers. A greater proportion of engineering staff will be required as well as a higher proportion of large crane operators. These higher skilled jobs provide on average higher