

PLANNING ACT 2008
INFRASTRUCTURE PLANNING
(APPLICATIONS: PRESCRIBED FORMS AND PROCEDURE) REGULATIONS 2009
REGULATION 5 (2) (q)

PROPOSED PORT TERMINAL AT FORMER TILBURY POWER STATION

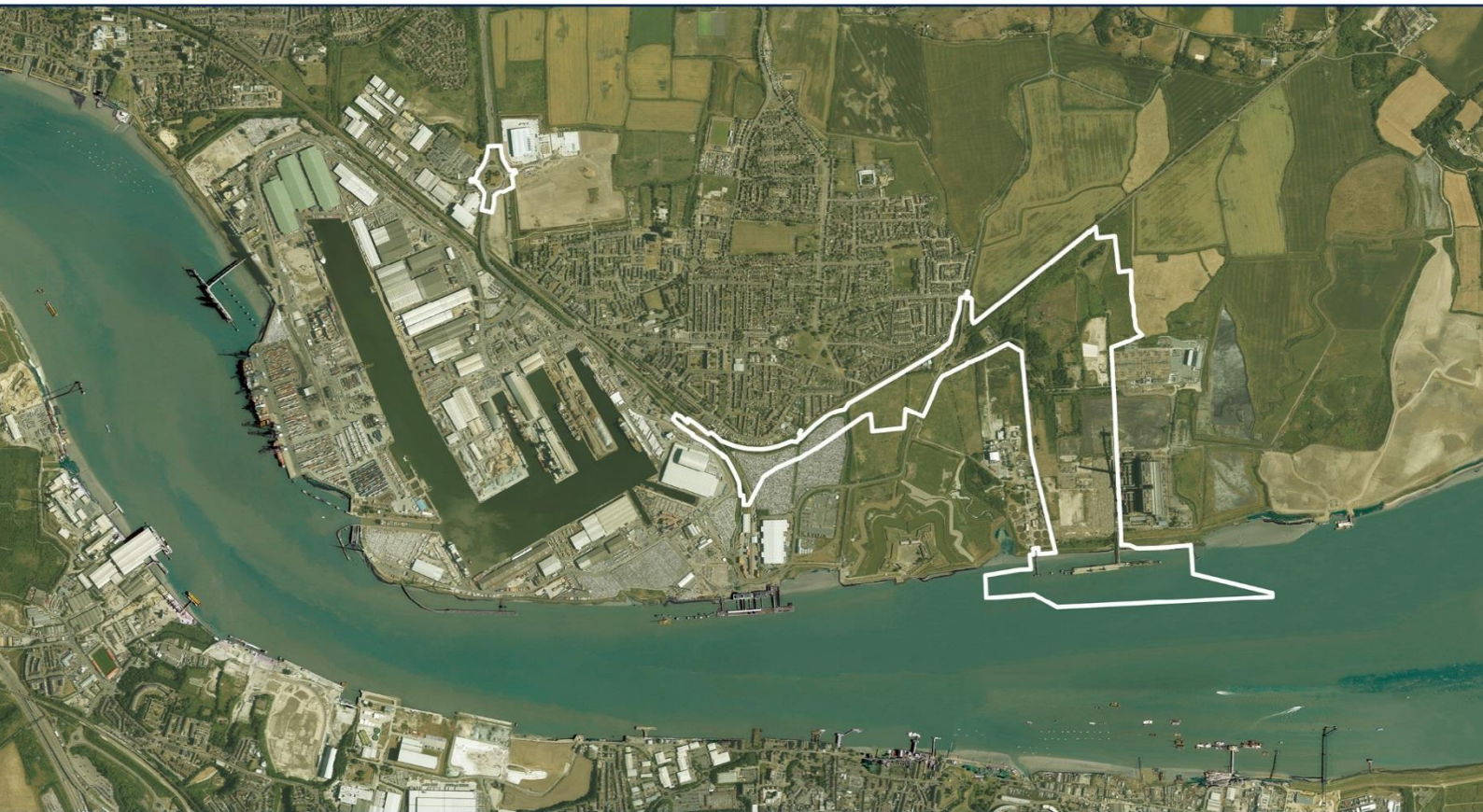
TILBURY2

TR030003

VOLUME 5

HEADS OF TERMS FOR SECTION 106 AGREEMENT WITH THURROCK COUNCIL

DOCUMENT REF: 5.3



1. INTRODUCTION

- 1.1 This document outlines the proposed Heads of Terms for an agreement under section 106 of the Town and Country Planning Act 1990 (as amended) ("the Act") relating to the development consent order sought by Port of Tilbury London Limited ("PoTLL") for the proposed "Tilbury2" development ("the Project"). The agreement would secure the performance of certain planning obligations related to the Project. This document therefore seeks to inform the Examining Authority of PoTLL's intentions in this regard.
- 1.2 An early set of proposed Heads of Terms were issued to Thurrock Council ("the Council") in August 2017. PoTLL engaged with the Council on those and developed its proposals to form these Heads of Terms. Shortly prior to submission of this DCO application, PoTLL issued an initial draft of an agreement under section 106 of the Act based on these Heads of Terms and awaits comments from the Council.
- 1.3 PoTLL will continue engagement with the Council and are confident of concluding an agreement based on these Heads of Terms before the close of the examination. An update on this matter will be included in the Statement of Common Ground between the parties that will be submitted into the examination in due course.

2. THE PARTIES

- 2.1 The Section 106 agreement (the "**Agreement**") will be between:
- 2.1.1 Port of Tilbury London Limited (the "**Owner**"); and
- 2.1.2 Thurrock Council (the "**Council**").
- 2.2 PoTLL does not consider any additional parties need to consent or be joined to the Agreement, but if required such parties will be identified in the Agreement.

3. SCOPE OF THE DEVELOPMENT CONSENT OBLIGATIONS

- 3.1 The Agreement shall include the following obligations:
- 3.1.1 the Owner must make a financial payment to the Council ("the Fund") for the purposes specified below:
- (a) the implementation of improvements to the Gravesend – Tilbury Ferry, by way of:
- (i) the installation of real-time information boards at the departure points of the service; and
- (ii) the installation of real time information boards at Tilbury Town Railway Station;
- (b) the undertaking of a feasibility study into enhancements that could be implemented at Tilbury Fort to bring forward tourism and heritage benefits including, but not limited to, car parking, access and interpretive signage; and

(c) the implementation of any measures that are identified in the above feasibility study as reasonably able to be implemented and realise tourism and heritage benefits at Tilbury Fort.

3.1.2 the Owner and its contractors must implement and promote the objectives of the Employment and Skills Strategy attached at Appendix 1 (during both construction and operation of the Project) and ensure, so far as is reasonably practicable, that these objectives are met; and

3.1.3 the Owner must carry out certain improvements to the highway network outside of the Order limits in accordance with a prepared Active Travel Study.

4. **CONDITIONALITY**

4.1 The obligations outlined at 3.1 above shall be conditional upon the granting of a DCO for the Tilbury2 scheme and the commencement of the Development.

5. **TECHNICALITIES**

5.1 The Agreement will satisfy all of the technical requirements of section 106 of the Act and include provisions relating to:

5.1.1 duration;

5.1.2 release of liability upon disposal of interest;

5.1.3 binding successors in title;

5.1.4 enforcement; and

5.1.5 dispute resolution.

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APPENDIX A SKILLS AND EMPLOYMENT STRATEGY

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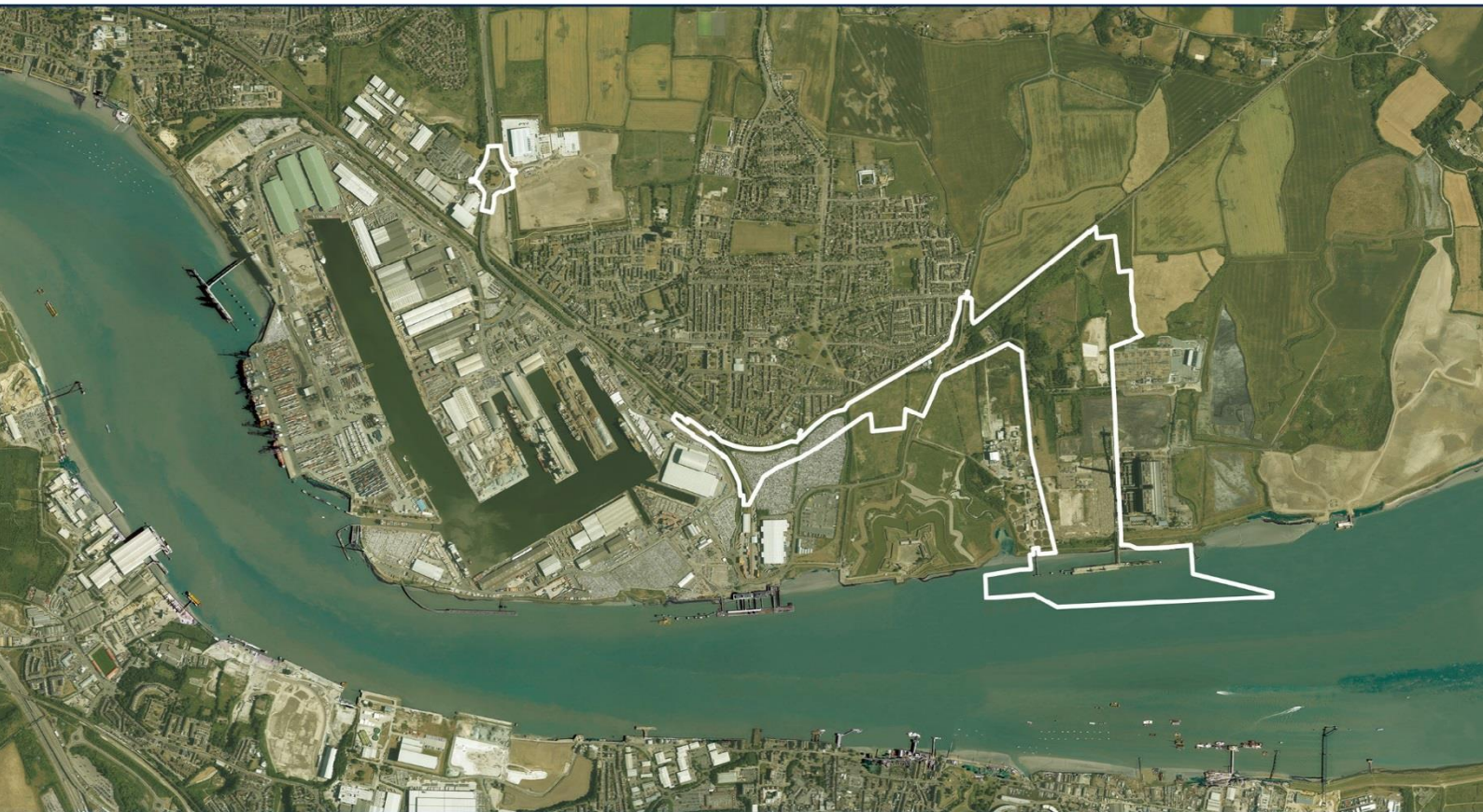


TABLE OF CONTENTS

1.0	INTRODUCTION	1-1
	PURPOSE OF THE SKILLS AND EMPLOYMENT STRATEGY	1-1
	LOCAL AREA	1-1
2.0	LOCAL CONTEXT	2-1
	CURRENT PATTERN OF EMPLOYMENT	2-1
	DEMOGRAPHICS	2-1
	EMPLOYMENT	2-2
	SKILLS	2-3
	CONCLUSION AND IMPLICATION FOR THE STRATEGY	2-5
3.0	CURRENT EMPLOYMENT AND SKILLS INITIATIVES	3-1
	APPROACH	3-1
	WORK UNDERTAKEN TO DATE AND ONGOING	3-3
4.0	EMPLOYMENT & SKILLS STRATEGY	4-1
	POTLL COMMITMENT FOR THE COMING YEARS	4-1
	LOCAL EMPLOYMENT COMMITMENTS	4-2
5.0	APPENDIX: POTLL SKILLS AND EMPLOYMENT	5-1

1.0 INTRODUCTION

PURPOSE OF THE SKILLS AND EMPLOYMENT STRATEGY

- 1.1 PoTLL operates the existing Port of Tilbury. The Port currently supports some 4,200 Full Time Equivalent (FTE) jobs on-site through a mixture of PoTLL and tenant employment. Including induced, indirect, and operator and tenant jobs, Tilbury supports more than 8,600 jobs. Thanks to a small number of strong private sector employers, including PoTLL, the small town of Tilbury is a net importer of labour: there are 787 more jobs in Tilbury than there are employed residents¹.
- 1.2 It is also the case that there is a problem of persistent long-term unemployment in Tilbury, with higher than average unemployment rates and higher incidences of long-term unemployment. Long-term unemployment in Tilbury is 2.2%, a full percentage point higher than the national average.²
- 1.3 The £120 million investment being made by PoTLL into Tilbury at Tilbury2 will be a significant net economic gain for Tilbury, Thurrock and UK Plc and brings huge economic potential. Nevertheless, developments of this scale and nature cannot be completed without an element of disruption and some negative impacts in addition to the positive impacts identified. The Environmental Impact Assessment (EIA) sets out a detailed assessment of the various positive and negative impacts linked with this development and in many cases sets out the steps that can be taken to mitigate or compensate for these impacts.
- 1.4 Given that any impacts will primarily be felt by residents of Tilbury, PoTLL is committed to ensuring that as much as possible of the economic benefit of the Tilbury2 investment is felt in Tilbury. The purpose of this Employment and Skills Strategy is to set out the steps that PoTLL will take to secure this objective. In doing so, it:
- Sets out the labour market context in which the Tilbury2 development will take place;
 - Details the extensive involvement PoTLL already has in local skills and employment initiatives;
 - Sets out the commitments PoTLL is willing to make to improve skill levels locally, maintain 57% local employment across its two sites, and the steps it will take to reach that target.

LOCAL AREA

- 1.5 This document refers to the 'local area' or 'local population'. The primary focus of this strategy is Tilbury town, as an identified area for improvement within Thurrock³. However, impacts on the wider Thurrock borough are of interest to PoTLL and their

¹ Thurrock Community-Led Local Development (CLLD) Strategy (2016).
<https://www.thurrock.gov.uk/sites/default/files/assets/documents/tilbury-clld-strategy-v01.pdf>

² Equality & Diversity Scheme for CLLD in Tilbury (2016)
<https://www.thurrock.gov.uk/sites/default/files/assets/documents/tilbury-clld-strategy-appendix6-equality-v01.pdf>

³ Thurrock Community-Led Local Development (CLLD) Strategy (2016).

local employment and skills strategy. For the purposes of the Local Employment targets, 'local area' refers to the district of Thurrock.

- 1.6 This is in line with the area identified⁴ as the most impacted by unemployment and lack of training by Thurrock council.

⁴ Thurrock Community-Led Local Development (CLLD) Strategy (2016).

2.0 LOCAL CONTEXT

CURRENT PATTERN OF EMPLOYMENT

- 2.1 Currently PoTLL supports direct on-site employment at the existing Port of Tilbury of around 649 Full-Time Equivalent (FTE) staff. Including induced, indirect, and operator and tenant jobs, PoTLL supports more than 8,600 jobs in total.
- 2.2 Of PoTLL employees, 57% are residents of Thurrock. This represents 370 FTE staff. The remaining 43% of port employees are from elsewhere in Greater London or the South East. According to a recent Customer, Tenants and Suppliers Survey PoTLL understands these numbers to be broadly in line with where the employees of PoTLL's tenants and customers originate.

Employee location	PoTLL	Customers	Tenants	Suppliers
Thurrock Borough	57%	51%	62%	9%
Greater London (M25 & surrounding area)	11%	12%	21%	6%
Elsewhere in the Greater South East	31%	19%	11%	53%
Rest of UK	1%	18%	5%	30%
International	0%	1%	0%	3%
<i>Data Source:</i>	<i>PoTLL (2017)</i>	<i>Customers, Tenants and Suppliers Survey 2016</i>		

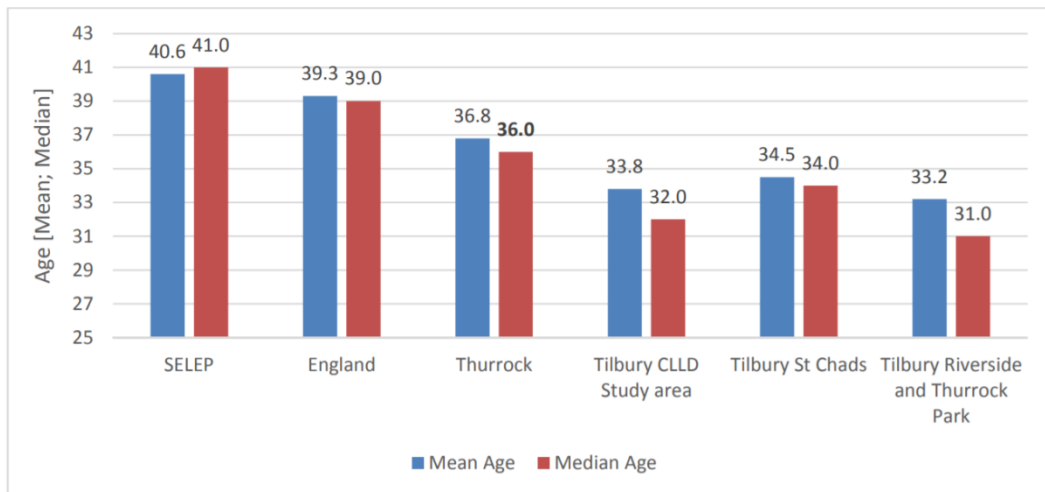
DEMOGRAPHICS

- 2.3 Tilbury is a small town in the borough of Thurrock, Essex. It has a population of around 13,000, representing 8% of Thurrock's population of around 158,000⁵. Geographically, Tilbury is situated on a small peninsula and between two other smaller settlements, East Tilbury and Chadwell St Mary, and south of Grays, Thurrock's largest town.
- 2.4 The population of Tilbury is both younger and more deprived than the national average. In Tilbury, 61% of residents live in the 20% most deprived areas of England. The median age among the Tilbury CLLD Study-area population is 4 years younger than the Thurrock average and 7 years younger than the national average.⁶

⁵ ONS, Census 2011

⁶ Thurrock Community-Led Local Development (CLLD) Strategy (2016).

Figure 1. Mean and median age structure of Tilbury Port area compared to local and national averages

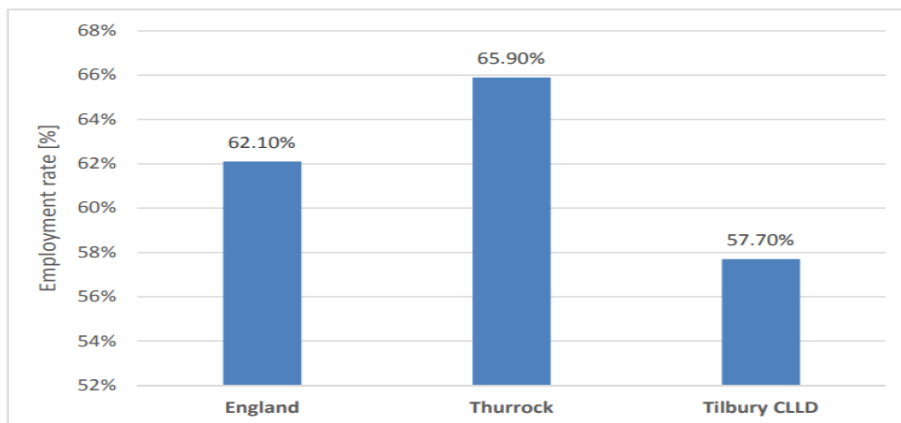


Source: Thurrock Community-Led Local Development (CLLD) Strategy (2016).

EMPLOYMENT

- 2.5 The local employment rate in Tilbury is significantly below Thurrock and national averages (see fig. 2). Moreover, the unemployment rate in Tilbury (9.2%) is almost double that of England (4.7%). Unemployment is particularly salient among men and young people from 16 to 24 years-old.

Figure 2. Employment rate in England Thurrock and Tilbury

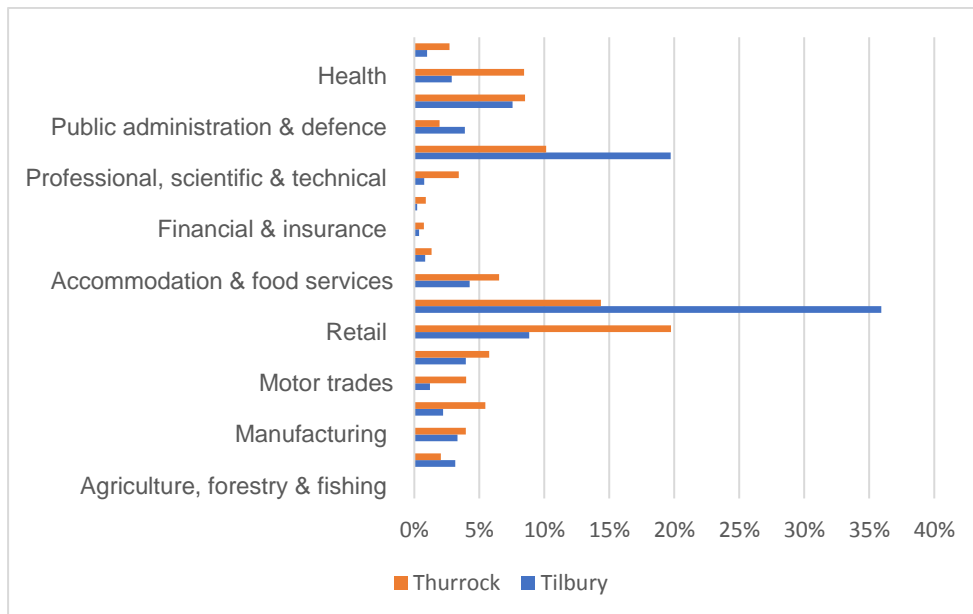


Source: Thurrock Community-Led Local Development (CLLD) Strategy (2016).

- 2.6 Thurrock CLLD Strategy underlines that in order for the employment rate in Tilbury to match the English employment level, an extra 402 people would need to access employment, based on current population levels. To reach the Thurrock level, 749 additional employment opportunities would need to be filled by Tilbury residents. In 2016, there were 787 more jobs than employed residents in Tilbury. This suggests that people living outside Tilbury fill a number of jobs linked with Port activities. This is very likely to be due to an inability for local residents to access those opportunities (figure 5).
- 2.7 This suggests that demand rather than supply factors explain the unemployment issue in Tilbury. There are opportunities created locally, but local residents face difficulties in accessing them.

- 2.8 Employment in Tilbury is nonetheless highly connected to the activity of the Port. Transport, storage and business support activities account for over half of all employment in the town. The third biggest sector in Tilbury is retail which accounts for around 9% of employment, far below the leading two sectors. There are low levels of employment across a range of other sectors including financial and insurance services, health services, education, and public administration (see fig. 3). These employment levels across Tilbury are reflective of the low skill and qualification levels amongst the study area population.
- 2.9 In Thurrock, the concentration of transport and storage, and business support employment are smaller, however these two sectors persist as two of the top three employment sectors in the region. They are responsible for 24% of all employment opportunities in Thurrock. This suggests that Tilbury is reflective of Thurrock generally, with port activity central to the employment vitality of both Tilbury and the broader region.

Figure 3. Sectors of Employment 2016



Source: ONS, Business Register and Employment Survey (2016).

SKILLS

- 2.10 Qualification levels in Tilbury are notably inferior to those across the other spatial scales. In Tilbury Town, 26% of the labour force has no qualifications compared with 21% in Thurrock, 19% in Essex and 18% in Kent.
- 2.11 Additionally, the percentage of the population who have obtained qualifications equivalent to higher education degrees or certificates (Level 4) are notably lower in Tilbury than the surrounding region. In Tilbury, 9% have achieved level 4 qualifications, whilst 14%, 19% and 20% have achieved this level of qualification in Thurrock, Essex and Kent respectively.

Figure 4. Tilbury education levels

Highest level of qualification	Tilbury Town (%)	Thurrock (%)	Gravesham (%)	Essex (%)	Kent (%)
No qualifications	25.9	20.7	24.4	19.4	18.1
Level 1 qualifications	13.9	14.2	16.4	13.1	11.8
Level 2 qualifications	11.8	13.7	17.0	14.0	13.6
Apprenticeship	1.9	2.7	4.3	3.1	3.1
Level 3 qualifications	6.5	8.5	11.1	9.4	9.9
Level 4 qualifications and above	9.3	13.6	20.0	18.7	19.9
Other qualifications	4.8	4.8	7.0	3.6	4.1

Source: ONS Census (2011)

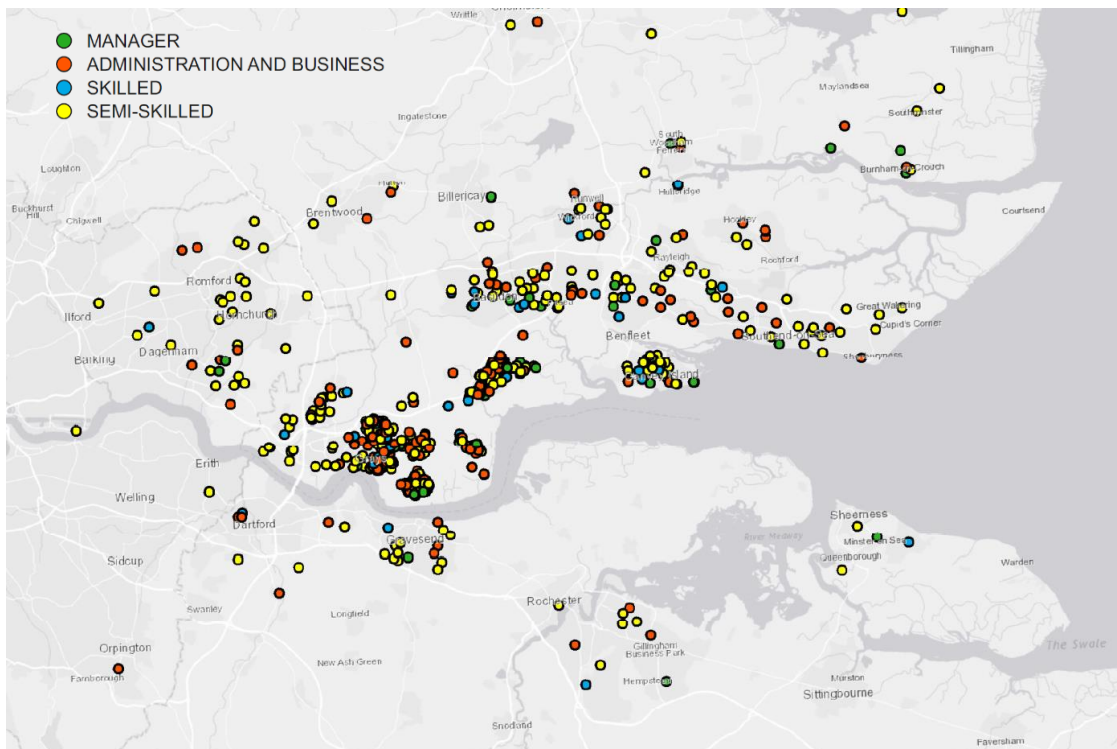
2.12 With respect to PoTLL direct employment at the Port of Tilbury (2017), which stands at around 649 Full Time Equivalents (FTE), the skill area breakdowns are as follows⁷:

- Managers – 10%
- Administration & Business roles – 30%
- Skilled roles – 7%
- Semi-skilled – 54%

2.13 These employees travel to work from a wide range of locations in Essex, London, and the South East more generally (figure 5).

⁷ PoTLL (2017)

Figure 5. PoTLL employees by grade and location of residence (2017)



Source: Arup, based on PoTLL data (2017)

CONCLUSION AND IMPLICATION FOR THE STRATEGY

- 2.14 The local employment market is marked by a skills mismatch, especially in Tilbury town. The Port generates many employment opportunities locally, but the local population might face difficulties in accessing them, partly due to its lower skill and qualification level.
- 2.15 Transport and storage is indeed the most important sector in Tilbury when looking at business employment statistics (figure 3), reflecting the importance of the Port economy. It is also the most growing sector locally, with one of the highest increases in its businesses base⁸.
- 2.16 This is why, as detailed in next chapter, PoTLL's past initiatives and local engagement have focused on increasing the chances of the local population to reach opportunities of this growing sector, notably through direct employment opportunities at the Port.
- 2.17 In the future, PoTLL's strategy will build upon successful past achievements and follow a similar direction. PoTLL is dedicated to maintain a similar positive level of impact as the Port expands, while targeting specific groups.
- 2.18 To main a high impact on local employment, PoTLL will have to adapt its skills and employment strategy to a changing employment market impacted by technological, demographic and economic trends. In the future, employing locally is likely to be constrained by the impact of technological change on reducing the demand for a certain type of skills and jobs. As people, including current PoTLL employees, tend to live and work longer, the workforce replacement rate is also likely to slow down.

⁸ Thurrock Community-Led Local Development (CLLD) Strategy (2016).

Finally, PoTLL will also have to deal with a growing pressure from the London employment market, which is attracting a number of Essex talents.

3.0 CURRENT EMPLOYMENT AND SKILLS INITIATIVES

- 3.1 PoTLL has always been active in maintaining a strong connection between the Port industry and the surrounding area. PoTLL strives to provide a stable employment base in Thurrock and continually meet the needs of their community, particularly those in positions of deprivation. To maintain this commitment, PoTLL relies on a clear local employment and skills strategy with a complementary approach focusing on opportunity, development and awareness.

APPROACH

- 3.2 PoTLL maintains a genuine commitment to embed itself as a vital part of the community of Tilbury, and to work as hard as possible to ensure that it delivers maximum benefit for the people of Tilbury and the wider borough. PoTLL particularly targets young people, those who face barriers in accessing work, and the long-term unemployed in the local area. To achieve these targets, PoTLL focuses on three key objectives: creating local employment opportunities, training and developing local skills, and developing a sense of local connection through community awareness programmes.
- 3.3 PoTLL also aims to increase the diversity of its workforce by paying specific attention to including women in its various initiatives and programs

Local employment opportunities

- 3.4 A primary commitment of PoTLL business is to provide meaningful employment for the local community. By targeting the marketing and acquisition of talent for apprenticeships, traineeships, internships and work placements towards the local community of Tilbury, PoTLL is able to employ a significant portion of its entry-level workforce locally across various sectors of its business.
- 3.5 While entry level employment opportunities are a key strategy for targeting youth and those who have endured long-term unemployment, it is important for PoTLL not to forget populations facing key barriers to employment in the local community.
- 3.6 PoTLL understands the important role it plays, in creating local employment opportunities, as both a direct employer as well as a connection between the community and a number of contractors who have long-term relations with PoTLL.

Figure 6. The Mayor of Thurrock, Councillor Tunde Ojetola, meets two members of the the Ports' Training Academy team, Nadine Wood (L) and Natalie McCarthy (R), at a Career Fair event hold in October 2017



Source: PoTLL

- 3.7 To provide an example of best practice for PoTLL partners to emulate, it is important that PoTLL continuously demonstrates and emphasises their commitment to local employment. As a result, PoTLL can encourage its contractors to follow similar strategies and engage with PoTLL in the effort to ensure a strong relationship between Tilbury Port and the surrounding area.

Skill development through education and training

- 3.8 PoTLL believes it is critical to encourage local recruitment into a diverse portfolio of opportunities for development and training based on the circumstances and existing knowledge of the candidate. Through graduate recruitment, apprenticeships, traineeships, internships and work placements, PoTLL can offer a range of opportunities to educate and develop local talent, from a variety of entry points.
- 3.9 One of the earliest points of interaction involves pre-employment outreach and training. PoTLL actively endeavours to work with the local community to develop job application skills and help students and unemployed adults become prepared for potential employment opportunities.
- 3.10 PoTLL also engages with local education authorities from school to colleges through a variety of initiatives to ensure programs taught locally open up to careers related to the Port industry and that students are aware of the role of the Port in the local economy, from their youngest age.

Community awareness and sense of connection

- 3.11 More than a mere employer, PoTLL understands its role in Thurrock as a community partner. Partnership involves maintaining an active connection and integration with its surrounding community. PoTLL understands the importance of projecting the work of Tilbury Port, its identity, and its opportunities out into the community. Moreover, PoTLL hopes to instil a sense of connection and local pride in Tilbury Port as a key component of the local neighbourhood.
- 3.12 Ensuring a strong connection with the community requires regular visibility across a range of platforms as well as active involvement in the educational and employment sectors. PoTLL cannot rely on its existing reputation in the community and must endeavour to continue to engage and improve its relationships with various stakeholders in its community.

WORK UNDERTAKEN TO DATE AND ONGOING

Apprenticeships, traineeships, internships and work placements

- 3.13 PoTLL is involved with multiple ongoing apprenticeship programmes, training over 150 apprentices since 2014. Apprenticeships cover various fields of work at the Port including operations; health and safety; civil, mechanical and electrical engineering; and cruise terminal operations. PoTLL Apprenticeship programmes are implemented in conjunction with educational institutions like the Logistics Academy of East England and South Essex College, and deliver logistics and supply chain apprentices to external partners like GlaxoSmithKlein (GSK), Fujitsu, and Lockheed Martin.

Figure 7. An apprentice is controlling the volume of grain flow from the Port silos



Source: PoTLL

- 3.14 In partnership with Thurrock Council, PoTLL supports the *Youth Employment Initiative (YEI)*, which focuses on targeting work experience placements for more

sensitive groups of young people facing educational and personal development difficulties. This work with Thurrock Council aims to minimise the local population not in education, employment or training.

- 3.15 A mentoring program has also been developed in partnership with Career Ready and the Career and Enterprise Company. PoTLL's mentoring programme connects four managerial employees from the Port with individuals in the local community, and allows them to work together. These programmes provide individualised support for four local students to help them develop skills, while maintaining a strong connection with Tilbury Port as a potential future place of work. Mentoring programmes also strive to enhance diversity at the Port, by providing specific support to young women interested in careers related to the Port industry.
- 3.16 In conjunction with the Department for Work and Pensions ("DWP") and Jobcentre Plus, PoTLL runs traineeship programmes including the *Access 2 Logistics*, available to not only young people but also adults of all ages, and specifically the long-term unemployed. *Access 2 Logistics* ran its first iteration in 2016-2017, involving 70 trainees in the programme. The PoTLL traineeship programme, is now in its fifth year, with 75+% success rates for all age participants that complete into long-term employment with training.⁹
- 3.17 Work experience placements and four-week long summer internship programmes also provide an opportunity to connect local school leavers and undergraduate students with the Port. Thanks to the recruitment of students through local schools and post-secondary institutions, PoTLL can provide individuals with meaningful work experience and in return create a future recruitment pool.
- 3.18 Finally, PoTLL also trains adults of all ages through their Pre-employment training scheme. This scheme developed in collaboration with the DWP and the HDS Labour supply company allowed adult job seekers claiming unemployment benefit to become work-ready for employment opportunities at the Port.
- 3.19 PoTLL makes the best use of social media to advertise its future programs and opportunities, and to be able to connect to the right audience.

School Engagement and Education Support

- 3.20 PoTLL has continuously maintained an eagerness and desire to interact with local educational institutions and, as a result, currently participates in a number of different engagement initiatives.
- 3.21 PoTLL employees are encouraged to become governors or trustees of local educational institutions, as well as to be directly involved with local schools by running Master Classes or Mock Interview Days. During Master Classes, employees hold a session with local students discussing their career and presenting various pathways. Mock Interview Days allow students to practice interviewing with a Port colleague to develop their skills and prepare for opportunities to gain future employment.
- 3.22 PoTLL maintains a specific active partnership with the Gateway Academy School in Tilbury, Essex. This partnership consists of a series of interventions including; bursaries, governorship, work experience placements, career guidance, resourcing and procurement services. The Gateway Academy School also provides specific incentives to PoTLL employees such as discounted memberships to the school gym

⁹ Thurrock Community-Led Local Development (CLLD) Strategy (2016).

facilities. This mutual relationship helps grow a stronger connection between the Tilbury community and the Port.

- 3.23 As an active employer in the community, PoTLL also participates in the 'Opportunity Thurrock' career fair for students, involving approximately 2,500 students from the surrounding area in 2017. PoTLL is committed to promoting their career opportunities locally through a variety of educational and community partners.
- 3.24 Understanding its role and responsibilities as an active member of the local community, PoTLL partners with Thurrock Council to sponsor educational awards recognising excellence in teaching practice.

Inviting in Community Members and Students

- 3.25 PoTLL actively arranges site visits for local student groups as well as other community organisations. These tours raise awareness of the Port sector and its importance to the local, regional and national economy.
- 3.26 Beyond regular tour visits, PoTLL facilitates diverse and tailored career, work experience placements, and student events at the Port. These events allow individuals under 16 years-old to learn more specifics about the Port of Tilbury, its operations, and potential pathways for their involvement in the future.
- 3.27 PoTLL actively promotes job opportunities in local schools, colleges and universities. PoTLL recognizes the importance of reaching out and engaging with the workforce of the future, not only about opportunities for their involvement but also about the importance of the local Port and Logistics industry for the strength of the community.
- 3.28 PoTLL is proud of the key role played in the local area and is eager to share its story. PoTLL seeks to interact with a diverse range of groups and individuals from across Tilbury and Thurrock region.

Impact and Recognition

- 3.29 PoTLL understands its commitment to the development of local skills and employment as a long-term investment for the benefit of its business and its community too.
- 3.30 PoTLL has been able to benefit both implicitly and explicitly from a strong relationship with its community. Employing a labour force strongly connected to the local area, investing in the development of local skills, and encouraging local awareness of the Port industry is highly valuable to PoTLL and its employees.
- 3.31 PoTLL has been able to invest in a broad range of individuals and initiatives, which have directly benefited the strength of its recruitment pool and the connectivity between its business and the local area.
- 3.32 PoTLL engagement has measurably benefitted its local community:
 - Nine employees are currently governors or trustee members of local schools
 - PoTLL has recruited three full time graduates from the local area
 - Over three years hired 50+ employees directly from the pre-employment training program

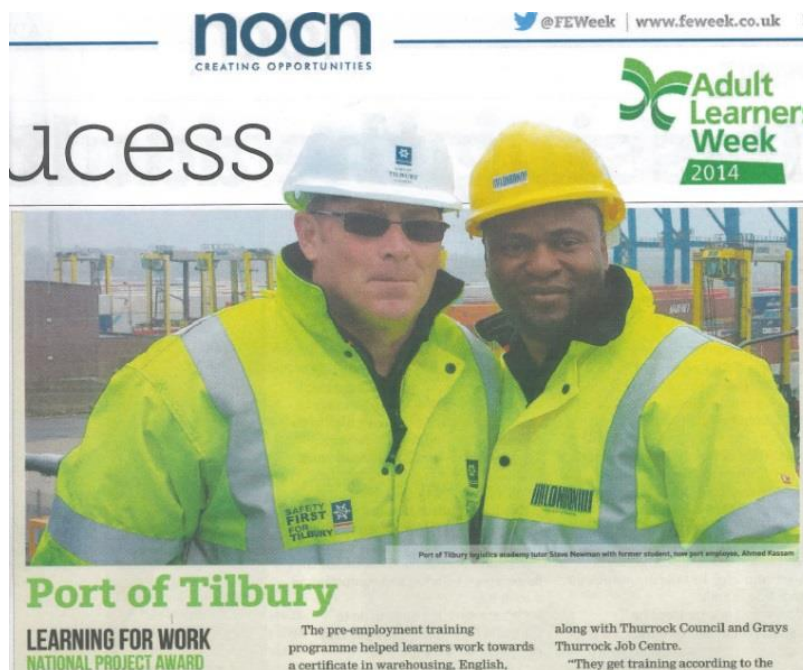
- 70 people undertook phase one of the *Access2Logistics* programme with 30 of them subsequently receiving employment
- PoTLL has managed over 100 apprenticeships since 2014
- 19 people have been employed throughout the traineeship program

3.33 As recognition for PoTLL investment in local employment & skills training and the resulting quantifiable benefits to its local community, PoTLL has received multiple recent awards.

3.34 PoTLL is proud of the awards received for its engagement in favour of training and skills development in the last couple of years:

- The Container Industry Award in 2015
Presented to PoTLL for its exemplar Corporate Social Responsibility.
- The Herbert Crow Memorial Award in 2015
The award, which recognises significant achievements, contributions and innovation of individuals, companies and the Armed Forces, was presented to PoTLL in recognition of the strength and success of the training academy established in 2014.¹⁰
- The 'Learning for Work, East of England Project Award' and 'Learning for Work, National Project Award' 2014¹¹
Presented in recognition of a Pre-Employment Training programme which strove to train work-ready individuals for employment opportunities at Tilbury Port.

Figure 8. POTLL 2014 *Learning for Work, National Project Award*



Source: nocn: feweek.co.uk

¹⁰ Tilbury Training Academy Wins Prestigious Award (2015)

<https://www.forthports.co.uk/media/releases/2563/Tilbury+Training+Academy+wins+prestigious+award/>

¹¹ Ixion and Port of Tilbury win National Adult Learners Week Award (2014).

<http://www.ixionholdings.com/news/article/ixion-and-port-of-tilbury-win-national-adult-learners-week-award>

4.0 EMPLOYMENT & SKILLS STRATEGY

- 4.1 The opening chapters of this strategy showed that the PoTLL is an anchor employer in the town, and already involved in a number of successful initiatives to employ and upskill the local labour force. Going forward, PoTLL is committed to remain as active and successful in its engagement in favour of the local population skills and employment opportunities, and to maintain such a high local impact with expansion at Tilbury2.
- 4.2 This chapter sets out the strategy associated with development at Tilbury2. Currently, the Port supports direct on-site employment of around 649 FTE staff. Including induced, indirect, and operator and tenant jobs, PoTLL supports more than 8,600 jobs in total.
- 4.3 PoTLL will continue to invest in ensuring higher levels of local employment¹² as the Port expands with Tilbury2.
- 4.4 In addition to past and present initiatives focused on providing job opportunities, developing local skills and growing the local awareness of the Port economy; PoTLL has developed a series of new additional actions and programs that will be implemented in the future.
- 4.5 In the future, skills required by the Port industry are likely to evolve as a result of the impact of technology in the larger industry. Many of the jobs that will exist in the future do not exist today, therefore PoTLL will have to adapt to technological change and provide flexible training programmes.
- 4.6 Future initiatives emphasize the long-term commitment of PoTLL to remain a key employer in the area and recognise the potential for more employment opportunities and programs that directly benefit the local population with expansion at Tilbury2. And this with a particular focus on Tilbury town, which has been highlighted as an area of deprivation and unemployment by Thurrock council in the 2016 Community Led Local Development (CLLD) strategy.

POTLL COMMITMENT FOR THE COMING YEARS

- 4.7 In the future, PoTLL will pursue, extend and diversify its efforts to enhance local employment and develop an enhanced skill base among the local population.
- 4.8 While ongoing schemes are described in 3.2, PoTLL is confident that its impact on skills and employment will grow thanks to its willingness and desire to collaborate with local authorities to maintain a strong relationship.
- 4.9 PoTLL's partnership with the local community is ongoing, and they maintain an active interest in building and developing this relationship moving forward. As a result, PoTLL is the main business partner in the Thurrock CLLD Strategy. The strategy seeks to acquire £3 million of funding from the European Structural and Investment Fund to support local development initiatives and the regeneration of Tilbury town over the coming decade. PoTLL commitment to collaborate with local council and

¹² 'local employment' for this purpose is defined as jobs taken up by people living in the district of Thurrock.

civic groups to develop the CLLD is representative of the long-term investment interest in the strength and prosperity of the surrounding community.

- 4.10 In 2018, PoTLL will coordinate with the Department of Trade and Industry to promote the *Year of the Engineer*. PoTLL will be sponsoring the *Year of the Engineer* through mentoring activities and publicity targeting 7 to 16 years-old. PoTLL aim to encourage more young people to engage with engineering principles and pursue engineering qualifications at school and college. Encouraging young people to view engineering as a viable career choice, is a generational investment that can bring transformational benefit to the local area over the coming decades.
- 4.11 Looking forward, PoTLL future aims are to provide support and awareness about the Port related employment opportunities to key identified groups. As part of PoTLL *Attention 2 Logistics* initiative phase two, which will launch in 2018 and continue through 2021, PoTLL will provide new training opportunities specifically for local military veterans and their families. This programme will provide military veterans and their families a better understanding of the Port economy, and open up opportunities for them to integrate and find employment. Partners involved include the Tilbury-on-Thames Trust, the Royal British Legion and the Armed Forces.
- 4.12 Having focussed outreach programmes for veterans and families allows PoTLL to ensure it is employing a diverse local workforce with representation from populations who may typically be met with increased barriers to work.
- 4.13 In the future, PoTLL will not only diversify and tailor its initiatives to new target populations, but also develop innovative ways to reach its existing areas of focus. With a particular interest in how PoTLL engage with local students. PoTLL is thinking innovatively about how it can best engage local schools and other social enterprises. In 2018, PoTLL wishes to promote the Port activities and jobs to local teachers and tutors so that they, on PoTLL's behalf, pass on useful information to their respective students.
- 4.14 From 2018 onwards, PoTLL will also launch simulator workshop sessions. PoTLL will collaborate with the Tilbury-on-Thames Trust and CM Labs to organise visits to the new *Learning Technology Centre* where students and local visitors can experience the Port's crane simulator. With this technology, PoTLL aims to broaden the local awareness of the Port environment, and the advanced equipment used to train people in the Port sector and promote the Logistics sector.

LOCAL EMPLOYMENT COMMITMENTS

- 4.15 As detailed in the OBC, PoTLL supports direct on-site employment of around 649 FTE staff. 8,600 jobs exist across the site in total, including tenant staff and on-site customers and contractors. About 57% of these employees currently live in Thurrock.
- 4.16 The expansion of Tilbury Port will create more jobs, and further embed PoTLL as a driver of economic growth and regeneration both locally and within the broader Thurrock region.

Operational employment commitments: Port of Tilbury London Ltd

- 4.17 The OBC shows that the Tilbury2 proposal could lead to 527 to 868 additional operational employment FTEs.¹³ PoTLL's objective is to maintain the proportion of direct, on-site employment going to local residents with the expansion. PoTLL therefore aims to employ about 300 to 495 additional employees from the local area during the operation phase of Tilbury2.
- 4.18 To do this, PoTLL will commit to:
- Work with Opportunity South Essex to establish a local jobs brokerage service through which all job vacancies will be advertised first before being advertised regionally or nationally
 - A guaranteed interview to any of the following groups that meet the minimum job requirements:
 - local job applicants;
 - applicants that self-identify as disabled under the Disability Discrimination Act.
 - Commitment to monitor and report performance against targets to Thurrock Council and to collate and report on progress made by tenants, contractors and suppliers.
 - Supporting the veteran community into employment and training

Construction employment and future capital work sub-contracting

- 4.19 The OBC shows that Tilbury2 proposal could produce 218 to 266 additional construction FTEs.¹⁴ PoTLL's objective is to maintain the proportion of direct, on-site employment going to local residents with the expansion. PoTLL therefore aims to employ 125 to 152 additional employees from the local area for the extension construction phase.
- 4.20 As the expansion project may require specialist and highly skilled civil engineering contractors, opportunities for new work entrants and apprenticeships may be limited. However, PoTLL will be seeking to engage with local schools, colleges and universities to use the Tilbury2 project as an opportunity for further connection and investment in the local community. Visits and sharing information on the ongoing expansion of Tilbury Port will provide an early opportunity to get local children and young people involved with and interested in the future of the Port.
- 4.21 PoTLL will work with contracting firms to help them align with the objectives of the local employment and skills strategy.
- 4.22 PoTLL will encourage the lead contractor to use credible evidence of previous successful delivery of local employment and apprenticeship opportunities as a

¹³ According to Tilbury2 Outline Business Case (27 September 2017) Tilbury2 is estimated to support an additional 527 FTE over Tilbury1 Max and Tilbury2 UK Plc is estimated to support an additional 868 FTE over Tilbury1 Max.

¹⁴ According to Tilbury2 Outline Business Case (27 September 2017) it is estimated that the Tilbury2 development proposal could sustain temporary construction employment equivalent to 266 FTE permanent jobs. The additional construction employment of 48 FTEs in the Tilbury2 UK plc scenario represents the employment that would come from outside of the South East, East of England, and London area to work on the development.

decision making factor in the procurement process. PoTLL will also require the lead contractor to monitor its own progress, and that of their sub-contractors, reporting (to POTLL) progress in achieving their own targets.

Tenants

- 4.23 For tenants of the Port, where the POTLL is not directly responsible for employment but the jobs are located within the Port's operational area, PoTLL will work with its customers to employ local people where possible, and help them to advertise job vacancies locally first via the social media platforms to be developed. PoTLL will also encourage tenants to participate where possible in PoTLL's local job brokerage scheme.

Suppliers

- 4.24 For PoTLL suppliers that involve direct employment on the Port premises, PoTLL will commit to ensuring contractors understand the local employment & skills strategy as a key component of the procurement process. PoTLL will also encourage suppliers to monitor and report progress in achieving their own targets.

5.0 APPENDIX: POTLL SKILLS AND EMPLOYMENT

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
1	Skills development	"Access2Logistics"	Awareness and training. Traineeships opening up to contract employment opportunities.	Develop local people's awareness of the Port and of Port operations with an opportunity to take on employment with contractor HDS (labour supply agency).	Local people incl. generational unemployment, people further from jobs market.	Three Programmes Jan 2016 - Mar 2017	Department for Work and Pensions (DWP) Jobcentre Plus	Approx. 70 people went through, and 30 of them subsequently got jobs, some on-port, some off-port.
2	Skills development	"Attention to Logistics" (Veterans)	Awareness and training for veterans and their families opening up to employment opportunities on and off the port.	Give opportunity to be aware of the port, to integrate into local civilian life, provide opportunity for employment.	Aimed at local military and emergency services families.	2018 - 2021	Tilbury-on-Thames Trust Royal British Legion Armed Forces	

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
3	Schools Strategy	Gateway Academy	Series of supporting interventions including Career Guidance, HR Support, Bursaries, Governorship, Work experience placements Etc.	To raise awareness of the Logistics industry and career opportunities		On-going	Gateway Academy School	Building and strengthening the relationship between the school and the port.
4	Skills development	Traineeships	12 week trainee programme	Develop functional and employability skills providing opportunities to work in the port.	Local young people (18 to 24 years old)	2014 - On-going	Department for Work and Pensions (DWP)	19 Employed throughout the port.
5	Skills development	Youth Employment Initiative (YEI)	Apprenticeships targeting more sensitive groups.	Open up work experience to award to reach young people i.e.; young people facing educational and personal development difficulties.	Local young people (18 to 24 years old)	On-going	Thurrock council	Supporting Thurrock council to minimise those not in Education Employment or Training.

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
6	Skills development	Apprenticeship Programmes	Port Operations, Civil, Mechanical and Electrical engineering, Health and Safety, Cruise apprenticeships .	Alternative route to employment whilst undertaking learning.	All age groups	On-going	Logistics Academy East of England (LAEE) Academy of Learning South Essex College	100 Apprentices since 2014 with further recruitment ongoing.
7	Skills development	LAEE Apprenticeships	Delivery of Supply Chain Apprenticeship to external organisations.	Supporting young people into Logistics careers.	Logistics sector organisations	On-going	Glaxo-Smith-Kline Fujitsu Mueller Wiseman Astra Zeneca Co-Op Retail Logistics Lockheed Martin	50 Learners successfully achieved their apprenticeship .
8	Skills development	Pre-employment training	Scheme encouraging local people to join education employability programme.	To provide work-ready people for employment opportunities at the Port.	Adult job seekers claiming unemployment benefit	2012 - 2014	Department for Work and Pensions (DWP) and HDS Labour supply company	National winners of the Learning for Work National Project Award 2014.

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
9	Awareness	Simulator Visits	Visit the new learning technology centre to experience the port's crane simulator.	Building communities' local awareness of the Port environment, and the technology used to train people in the Port sector.	Local communities	2018 - Onwards	Tilbury-on-Thames Trust CM Labs	Community engagement.
10	Awareness	Port visits & Tours	The Academy offers tours, events and presentations for schools, colleges and universities and other external organisations.	Raising awareness of the Port sector and its importance to the local, regional and national economy.	Schools, colleges, universities and other organisations	On-going	LAEE / Port of Tilbury	Providing educational visits.
11	Awareness	School Educational Visits	The academy welcomes under 16's for school tours, career events and presentations.	Raise awareness among local school pupils.	Local schools	On-going	LAEE / Port of Tilbury	Engaging a potential recruitment pool.

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
12	Skills development	Work experience placements	Work experience placement programme with local schools for non-operational areas.	To provide on-the-job work experience for young people.	Local students	On-going	Local schools	Raising aspirations and support POTLL community engagement.
13	Awareness	Career opportunities & promotion of the port	Promote job offers to schools, colleges, universities and local authorities.	To help resource the existing business and future potential using social media, local job sites, Job Centre Plus and other connections with the local and regional community networks.	Local and regional population	On-going	Local schools, colleges and universities Local and regional authorities Community interest groups Career Ready Etc.	Reaching out and engaging with potential workforce of the future.
14	Skills development	Summer internships programs	Four weeks long Ports and Logistics internships.	To provide work experience placements.	School leavers and undergraduates	On-going	Local schools and universities	Engaging a potential recruitment pool.

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
15	Skills development	Mentoring	Mentoring with Career Ready and the Career and Enterprise Company (Thurrock Council) to provide mentoring support for young people.	Supporting young people looking to make a career in the Port and Logistics sector.	Local students	On-going	Career ready Career and enterprise company and their network of schools.	Four managers currently mentoring four young people attending college.
16	Strategy	Community Led Local Development Strategy (CLLD)	Port is the main business partner in a local community grouping seeking funding for local initiatives.	To win £3m of funding to support CLLD initiative.	Local Tilbury people	2018 - 2021	local council Tilbury community groups	Support the regeneration of Tilbury Town.
17	Awareness	School master classes	Sending employees into schools to hold a session on career path that permit to engage with young people before they take their options.	Career guidance.	School pupils	On-going	local schools Career Ready	Engaging a potential recruitment pool.

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
18	Skills development	Mock interview days	Sending Port colleagues to schools to do mock interviews with students.	Provide employability skills.	School pupils	On-going	local schools	Helping young people gain employment.
19	Skills development	Sponsoring education awards	Recognising good teaching practice in Thurrock.	Supporting schools in the promotion of good practice.	Local schools	Oct / Nov 2017	Thurrock council	Linking business and schools together.
20	Awareness	Opportunity Thurrock	Schools careers fair run by local council hosted by London International Cruise Terminal.	Showcasing local business and education opportunities in the local area to approximately 2,500 people b.ussed into the Terminal	Local Authority	Annually	local council	2,500 Young people participated in 2017.
21	Awareness	School governors	Strategy across POTLL to encourage governors - development tool for managers.	Bringing schools and business together.	Port of Tilbury Employees	On-going	Local schools and colleges	Nine employees are currently governors or trustees of local schools and colleges.

	Initiative type	Initiative name	Description	Objective	People targeted	Timescale	Partners involved	Outcome / Impact
22	Awareness	Year of the Engineer	Sponsoring the Year of the Engineer through mentoring, publicity.	To encourage more young people to study for engineering qualifications at school / college with a view to engineering as a career of choice.	7 to 16 year-olds	2018	Department of Trade and industry	Growing the engineering population.
23	Awareness	School teacher engagement	Promotion of Port activities and jobs to local teachers and tutors, so that they can pass on useful information to students.	Influence the influencers.	School / College teachers / tutors.	2018	Career Ready Local Authorities	Influencing career choices.
24	Skills development	Graduate recruitment programs	Graduate opportunities in the Port and Logistics sector.	Recruit graduates to Forth Ports and the Port of Tilbury.	College / University graduates / Post Graduates.	On-going	Colleges and Universities	16 currently recruited since 2015 including three from local area.

PLANNING ACT 2008
INFRASTRUCTURE PLANNING
(APPLICATIONS: PRESCRIBED FORMS AND PROCEDURE) REGULATIONS
2009 REGULATION 5 (2) (q)

PROPOSED PORT TERMINAL AT
FORMER TILBURY POWER STATION

TILBURY2

TRO30003

VOLUME 6 5

APPENDIX B ACTIVE TRAVEL STUDY

DOCUMENT REF: 5.3 B



Atkins Job Number: 5153187	Document Reference: Tilbury 2 Active Travel Study - Final Report
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Printing	A3 or A4 Double Sided
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	Purpose Description	Originated	Checked	Reviewed	Authorised	Date
01	Draft 01 - Work in progress	CT	AR	JH	BC	12/05/2017
02	Issue 01 - Interim report for discussion	CT	AR	JH	JH	14/07/2017
03	Issue 02 - Final report	CT	AM	BC	SR	27/10/2017
04						

This document and its contents have been prepared and are intended solely for information and use in relation to the Tilbury 2 active travel study, which presents a high level review of existing conditions, a review of other proposals and potential future developments in Tilbury for consideration.

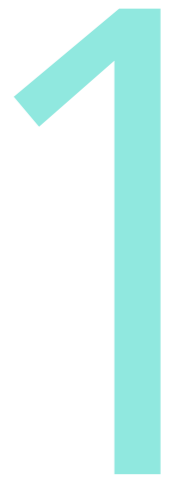
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Table of Contents

Background	4
Existing Conditions and Constraints	11
Review of existing proposals for active travel improvements	25
Issues and Opportunities	35
Package Development	51
Summary and Next Steps	60
Appendix : Bridge Optioneering	66

Background

This section of the report presents the background to the Tilbury Active Travel Study.



Background

Tilbury is a town in the borough of Thurrock with 13,055 residents (2011 Census). According to the Port of London Authority, the Port of Tilbury is the single largest port facility on the Thames, handling around 16 million tonnes of cargo a year. Tilbury is well-positioned to access a large population catchment via the UK national motorway network and direct freight rail connections.

The Port has proposals to expand through the construction of Tilbury2, a new port area with a Roll-on/Roll-off terminal, import & processing facilities and storage areas. The expansion will require associated road and rail infrastructure to facilitate access.

Based on a questionnaire distributed in paper and online, 138 respondents answered questions about their concerns around Tilbury2 port expansion. The key findings include:

- Around 50% of respondents support Tilbury Port expansion, while around 30% do not and 20% are undecided.
- More than 50% of respondents agree that the expansion will increase job opportunities, that Tilbury2 is proposed to be in an appropriate location and that the road and rail link are necessary. This represents some positive public 'buy-in'.
- Alongside support, there are also some general concerns: 97% of respondents see that it is important to minimise impacts on Tilbury Fort.
- 76% of respondents had environmental concerns related to expansion. The areas of concern highest on the list were mainly pollution (noise, air, light), the impact on roads/traffic, and the impact on ecology and the environment.

It is critical to the development of Tilbury2 that the needs of local people are considered during expansion with a view to enhancing the local area. One opportunity presented by the development of Tilbury2, therefore, is improvements to walking and cycling routes between the town of Tilbury, the Port of Tilbury, Tilbury Fort & waterfront and wider connectivity to regional and national cycling routes, including the Thames Estuary Path.

In response, a feasibility study has been commissioned by the Port of Tilbury that will aim to present the key opportunities and constraints in terms of delivery of walking and cycling routes in the area.

The study will identify a number of potential walking and cycling routes to assess the potential to improve connectivity in light of the constraints presented by the existing railway line and Tilbury2 rail and road links. The development of new routes and improvements of existing routes would seek to overcome these new barriers through delivery of new infrastructure or improvements to existing infrastructure, such as footways, pathways, green routes and railway crossings.

This report presents the findings of the active travel study; assessing existing conditions, identifying key issues and opportunities for walking and cycling. It comprises the following key elements:

- **Background:** This section presents an overview of the local context as well as summarising relevant local policies and strategies to demonstrate how walking and cycling improvements are aligned to wider aspirations. It also presents existing commuter patterns and current walking and cycling facilities.
- **Issues, Constraints and Opportunities:** This section presents key opportunities and constraints in the area, primarily identified through on-site observations and a review of desktop-information.
- **Route identification and optioneering:** In this section a number of different route options are presented alongside their respective issues and opportunities.
- **Next steps:** this section presents issues that will be more appropriately addressed as the project progresses into more detailed phases, following stakeholder feedback.

Local Context

Figure 1 outlines the study area, development sites, key population data and the surroundings around Tilbury.

Tilbury is a mix of residential, commercial and industrial land use with a historically significant waterfront area. A key feature of the waterfront is Tilbury Fort; a historic artillery fort on the north bank of the river Thames which was originally constructed in the 16th Century to protect London from attack, which was ultimately in use as a military facility until around 1950.

The Port of Tilbury is currently the largest employer in area; the site is currently 950 acres with plans to expand. The direct employment at the Port is 750-800 people, but 4,500 people can be employed at full capacity.

In addition to the expansion of the Port of Tilbury (Tilbury2), key wider developments in the area include:

- London Distribution Park, being developed immediately adjacent to the port.
- NFT logistics warehouse - a unique logistics centre for chilled food distribution specialist completed in 2015. The centre has a capacity for 25,000 pallets within its 213,000 sq ft space and is able to handle a throughput in excess of 2.5 million cases per week.
- London Construction Link, a partnership with S. Walsh & Sons. The partnership is promoting greater consolidation of construction materials and onward movement by water to building sites near the Thames, cutting carbon emissions, road traffic and improving community safety.

East Tilbury Station serves the wider area with its' immediate surroundings being mainly residential. Many homes here were built to house the growing workforce when the, now closed, Bata shoe factory opened in 1991.

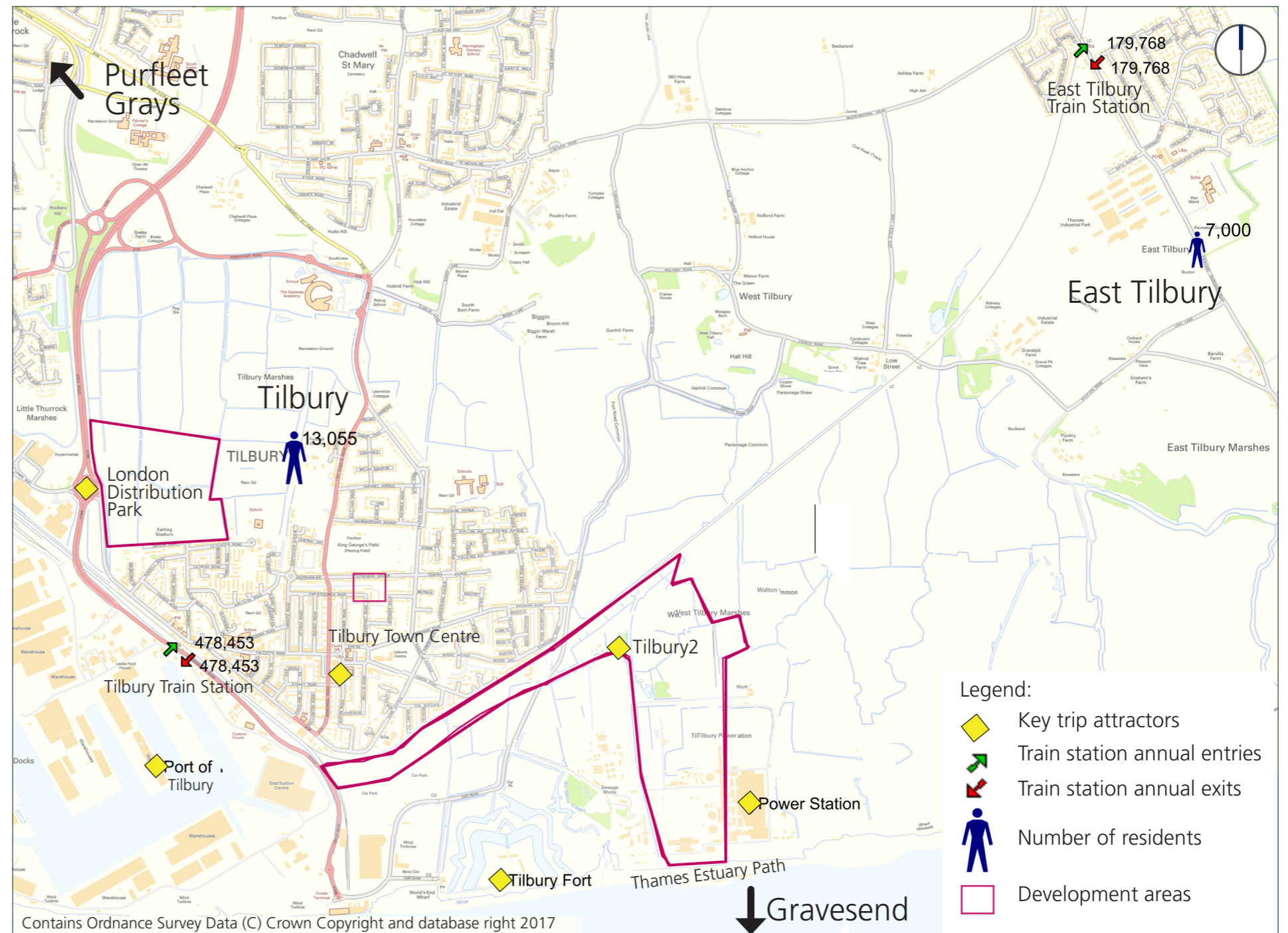


Figure 1: Study area highlighting key areas, population figures and annual railway station usage statistics - Source: OS Opendata, ONS, ORR

Project Scope

Alongside the Tilbury Port Development, the expansion includes a new rail/road corridor that could increase severance in the area for pedestrians and cyclists if not considered sufficiently.

This study aims to assess the potential to enhance pedestrian and cyclist connectivity in and around Tilbury as a result of the opportunities presented by the expansion of the Port of Tilbury, through the development of Tilbury2.

To achieve this, four areas have been identified:

- The link between the town centre of Tilbury to the waterfront area, with a potential new bridge crossing over the new 'Tilbury2' transport corridor;
- The link between Tilbury station to the port, fort and waterfront areas;
- The Thames Estuary Path public right of way, primarily focussed on the area between the Tilbury waterfront and the Tilbury2 expansion area; and
- General walking and cycling connectivity in the area including local and national (NCN) cycle routes.

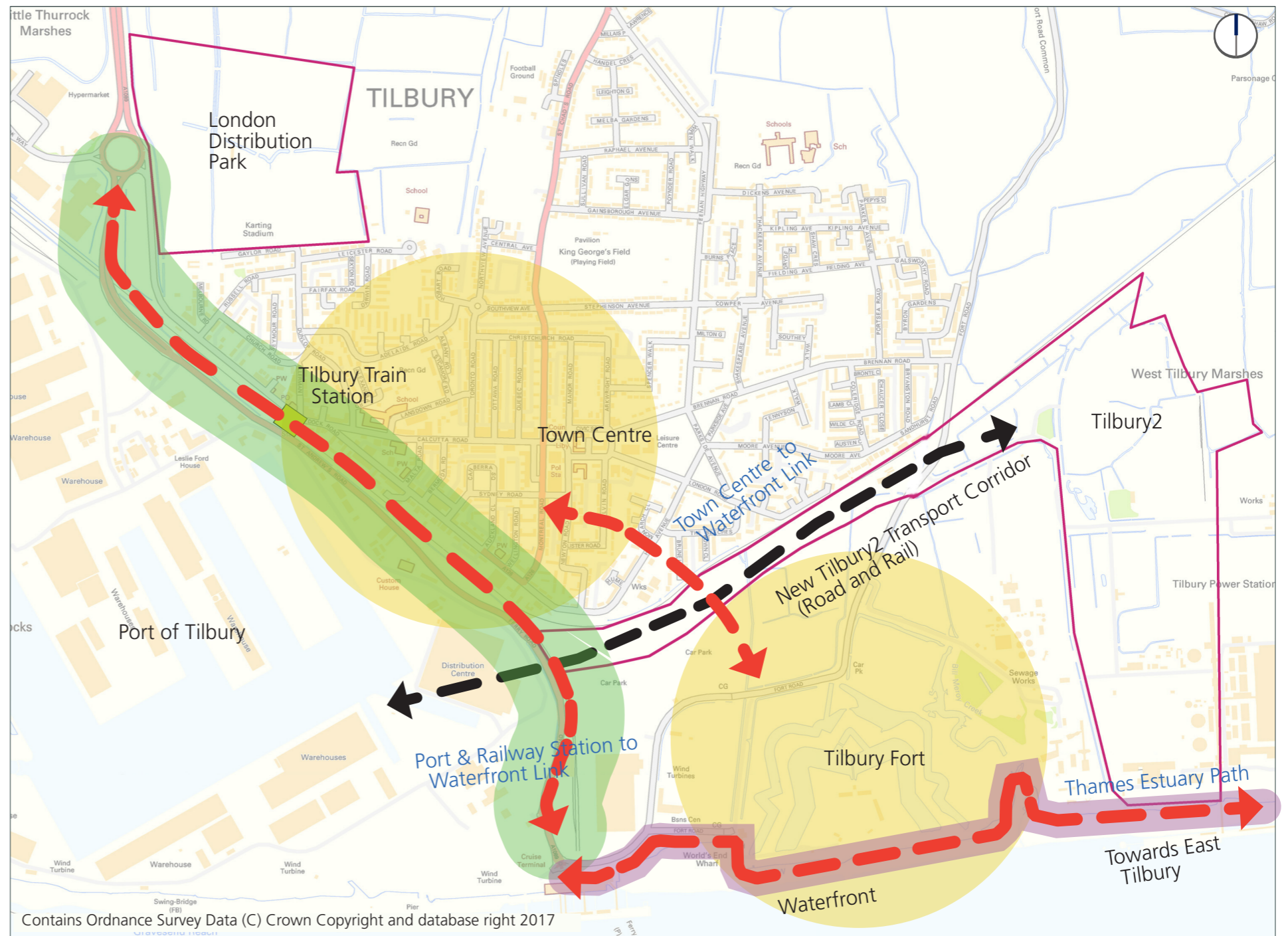


Figure 2: Project Scope - Key locations Source OS Opendata

Local Policies and Strategies

An understanding of local policy is important in order to understand the wider issues and development aspirations in the local area. This section presents some of the key local policies centred around planning, the economy, growth and transport.

It is also important to note the synergies between active travel and the wider impact that active modes can have in achieving a range of policy objectives:

- Walking and cycling are both associated with health benefits with potential to reduce the incidence of certain chronic illnesses, including heart disease and obesity, with associated positive benefits to personal wellbeing, employers and the healthcare system.
- Walking and cycling are both efficient modes of transport and offer the opportunity to reduce the reliance on the private vehicle. This has clear social and environmental benefit, as well as offering a potential mechanism to reduce current levels of congestion.
- Increased levels of walking and cycling offer opportunities to improve access to business and local amenities, supporting local growth.

Thurrock Economic Growth Strategy

The Thurrock Economic Development Strategy (EDS) 2007-2021 was developed to provide strategic guidance to support the borough's economy. The development of the Economic Growth Strategy 2016-2021 signifies a shift towards enhancing growth potential to shape the economy of Thurrock. The report highlights the important role that sectors such as ports, logistics and retail play in Thurrock's economy. The main development growth areas of Purfleet, Lakeside/West Thurrock, Grays, Tilbury, London Gateway, and Thames Enterprise Park reflect the importance of these sectors.

Future proposed developments to transform Thurrock include regeneration of Tilbury's town centre and Civic Square through growth of primary care facilities and wider business opportunities. This is highlighted by the port expansion to reduce levels of inequality and support job creation. Expansion of the Port of Tilbury is recognised to be key to growing the port's already successful distribution capability and securing Tilbury as the leading logistics and distribution hub.

More importantly, the port expansion provides an opportunity for the green linking of land between Tilbury and the riverside. The river front can be enjoyed for recreation, while improvements in transport links will provide access to the area. This will be in conjunction with the improvement of the area surrounding Tilbury Fort.

Thurrock Transport Plan 2013 - 2026

The delivery of the local growth agenda in Thurrock's transport plan focuses on the growth of five major hubs including Tilbury. The document highlights the following:

- Tilbury Port expansion resulting in up to 4,000 additional jobs.
- Increasing walking and cycling, especially for the journey to work and education, with priority given to deprived areas where obesity is an issue, such as Tilbury.
- Improving connections between modes and enhancing the public realm at transport interchanges / rail stations to aid access to Thurrock's key strategic economic hubs in particular.
- Transforming Tilbury Town Centre to an eco-quarter and an expanded Port of Tilbury and London Gateway Port will be amongst the UK's leading ports, providing employment, investment and facilities that benefit Thurrock as well as the sub-region.
- Improving the core cycling routes including the riverside (including National Cycle Route 13).

Opportunities presented by Tilbury2

- Tilbury is a key location for employment and growth in the Borough of Thurrock and could provide between 1,600 and 3,800 additional jobs in logistics, port and riverside industries;
- Opportunities to improve walking and cycling infrastructure could encourage more people to walk and cycle for commuting, business and leisure purposes, with associated health benefits.
- Improved access to the Tilbury riverside area could increase levels of utilisation.

Thurrock Cycle Strategy 2007

This Cycle Strategy was produced in response to the Government's requirement for each local transport authority to produce a cycling strategy as part of their Local Transport Plan (LTP).

Through extensive consultation, it has identified key cycling issues and developed them into opportunities, these include:

- Safety: Planning and delivering safer routes and reducing cycle related accidents
- Accessibility: Increasing access to routes
- Funding: Maximising potential sources of funding
- Integration: Improving routes to key locations
- Obstructions: Enforcing regulations and law, and preventing and deterring obstructions
- Cycle parking: Providing safe and secure cycle parking
- Signing and Information: Improving route signing and information
- Education: Increasing the percentage of school children cycling to school
- Promotion: Increasing awareness of cycling opportunities and benefits
- Maintenance: Ensuring cycle facilities are maintained for safe and effective use
- Security: Improving cycle security and preventing unwanted and unlawful use of cycle routes

In addition to the LTP and the Cycle Strategy, the Green Grid Strategy also tackles access and movement themes. The Strategy is promoted by the Green Grid Partnership and funded by the Office of the Deputy Prime Minister's (ODPM) Sustainable Communities Plan put forward in 2003 for delivering growth in the Thames Gateway. Thames Gateway South Essex sits within the Thames Gateway which is a national government priority for regeneration and development.

Thurrock Council Priorities	Local Transport Plan	Green Grid Strategy
Delivering excellence and achieving value for money	Tackling Congestion <ul style="list-style-type: none"> • Effectively manage the demand for travel by encouraging sustainable development patterns and use of public transport, walking and cycling. Facilitating Regeneration <ul style="list-style-type: none"> • Deliver a transport network that will ensure better opportunities for residents & employees. 	<ul style="list-style-type: none"> • Create open space that meets the needs and aspirations of existing & future communities. • Conserve & enhance existing wildlife. • Enhance Thurrock's important heritage, with the creation and enhancement of green infrastructure.
Safer Environment	Safer Roads <ul style="list-style-type: none"> • Achieve a reduction in the number of casualties on the transport network. 	<ul style="list-style-type: none"> • Provide a network of accessible, child friendly, inspiring and multi-functional open spaces.
Children, young people and lifelong learning	Safer Roads <ul style="list-style-type: none"> • Achieve a reduction in the number of casualties on the transport network. 	<ul style="list-style-type: none"> • Create an accessible and vibrant river frontage.
Including People	Delivering Accessibility <ul style="list-style-type: none"> • Better access to employment and education opportunities, particularly for those in disadvantaged groups or areas. 	<ul style="list-style-type: none"> • Create an inclusive network that can be enjoyed by all members of the community.
Cleaner & Greener Environment	Better Air Quality <ul style="list-style-type: none"> • Improve air quality in the borough 	<ul style="list-style-type: none"> • Promote a network of footpaths, cycle paths & green transport options that encourage healthier living.

Figure 3: Key themes and linkages to LTP and Green Grid Strategy.

Opportunities presented by Tilbury2

- Development of walking and cycling facilities in Tilbury to link Tilbury Town to Tilbury Fort is consistent with the Thurrock Cycle Strategy.

Chapter Summary

Tilbury is a mix of residential, commercial and industrial land use with a historically significant waterfront area. The Port of Tilbury is the single largest port facility on the Thames, handling around 16 million tonnes of cargo a year and is a very important development in Tilbury. The Port has proposals to expand through the construction of Tilbury2, a new port area with a Roll-on/Roll-off terminal, import & processing facilities and storage areas. The expansion will require associated road and rail infrastructure to facilitate access. This chapter reviewed some local policies that relate to encouraging active travel around Tilbury:

- Thurrock Economic Growth Strategy identifies Tilbury port expansion as a main development growth area. The port expansion provides an opportunity for the green linking of land between Tilbury and the riverside with improvements in transport. This will be in conjunction with the improvement of the area surrounding Tilbury Fort.
- Thurrock Transport Plan 2013-2026 also highlights the importance of the expansion. The document stresses the importance of increasing walking and cycling, improving connection between modes, and enhancing the core cycling routes.
- Thurrock Cycle Strategy 2007 has identified key cycling issues and developed them into opportunities that relate to safety, accessibility, integration, obstruction, parking, education, promotion, funding, maintenance and security.

This study aims to assess the potential to enhance pedestrian and cyclist connectivity in and around Tilbury as a result of the opportunities presented by the expansion of the Port of Tilbury.

Existing Conditions and Constraints

This section of the report presents the existing conditions in terms of existing demand, current infrastructure and key constraints in and around Tilbury.



Current travel patterns

It is important to understand the current travel patterns in Tilbury as the levels of current demand can help inform design. Traffic patterns presented here are useful in identifying predominant modes and routes as well as travel patterns that differ during the weekday

and weekend. In this section, Automatic Traffic Count (ATC) data on Dock Road, St Andrew's Road, and Fort Road is presented as an all-day average for the weekday and weekend. The counts are categorised into cyclists, motorcyclists, cars and heavy vehicles (which include buses, trucks, and trailers).

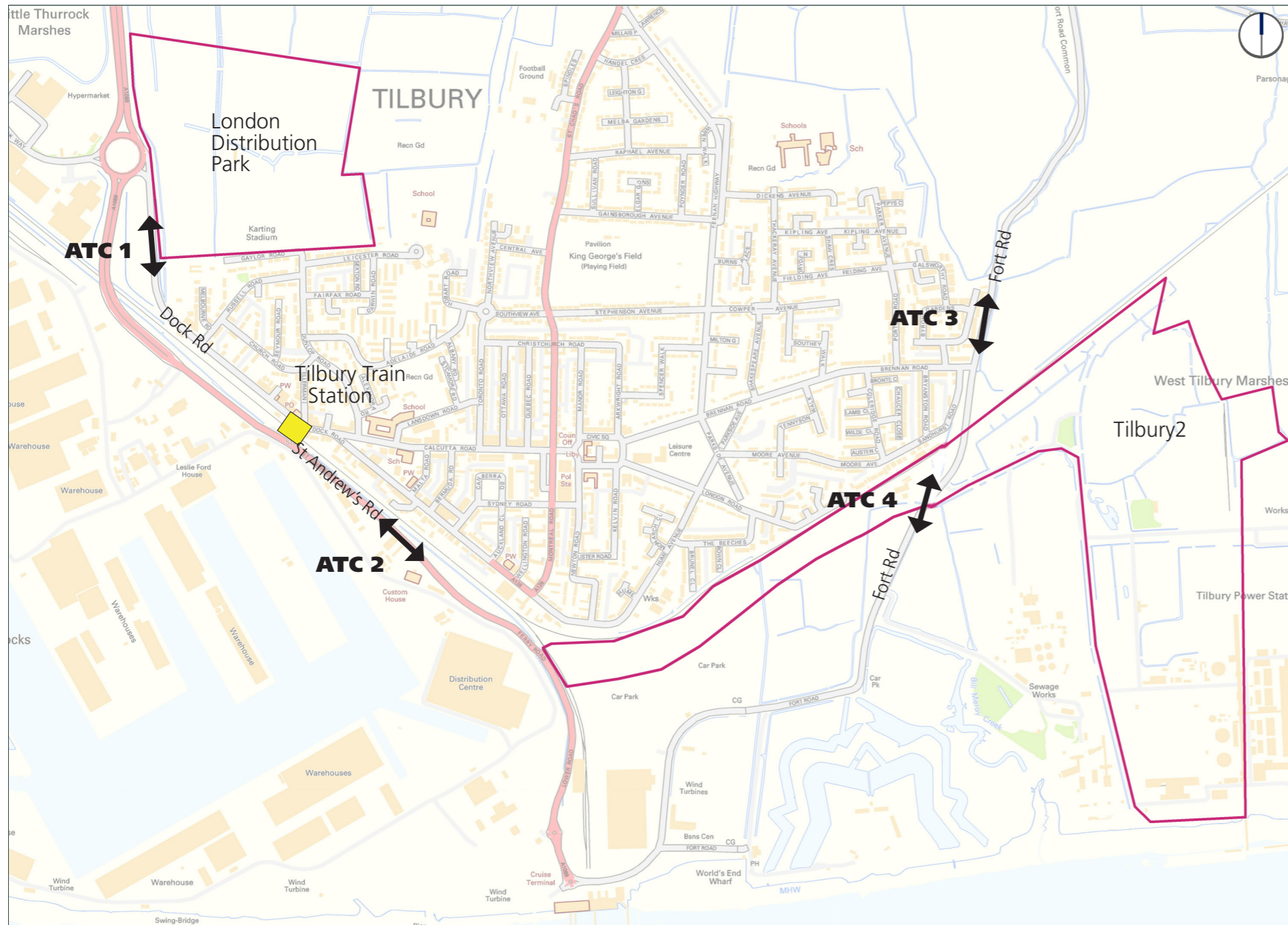


Figure 4: ATC Locations - Map source OS OpenData

Cyclists and Motorcyclists

The ATC survey was undertaken between September and October 2016 on all the days of the week and the weekend for all locations. The data was collected for 24 hours each day and daily averages calculated.

All ATC locations show very low levels of cycling during both the weekend and weekday. Motorcycle flows are highest on Dock Rd throughout the survey period.

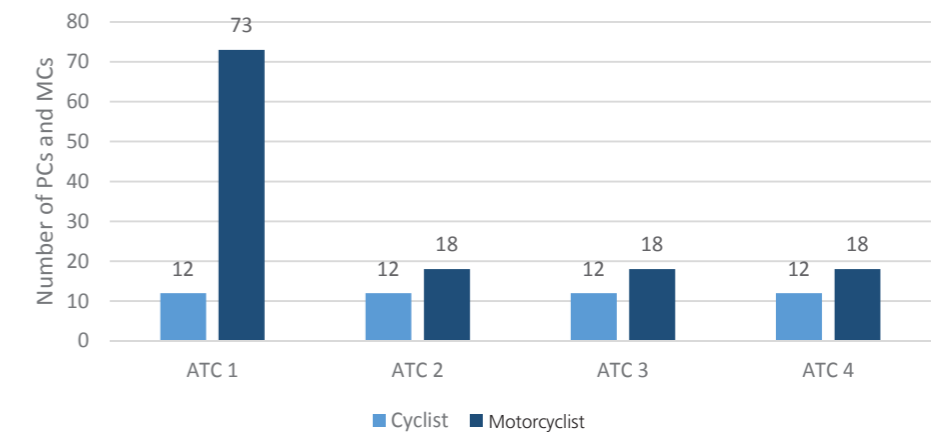


Figure 5: Average weekday cycle and motorcycle ATC data (24hr flow)

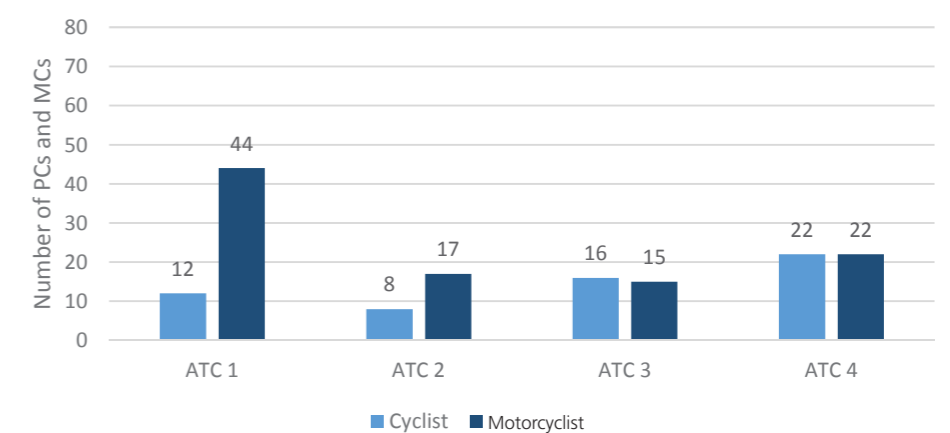


Figure 6: Average weekend day cycle and motorcycle ATC data (24hr flow)

Sign-posted speed limit on Dock Road (ATC 1) is 30mph and it was found that during the survey week, more than 87% exceed this speed limit with an average speed of 36mph. St Andrew's Road and Fort Road have higher speed limits, 40mph and 60mph respectively, with 30% exceeding speed limit on St. Andrew's Road

and 1% exceeding speed limit on Fort Road. Average speeds on St Andrew's Road are the highest, with an average of 38mph, and around 33mph on Fort Road. This should be taken into account when considering pedestrian and cyclist routes.

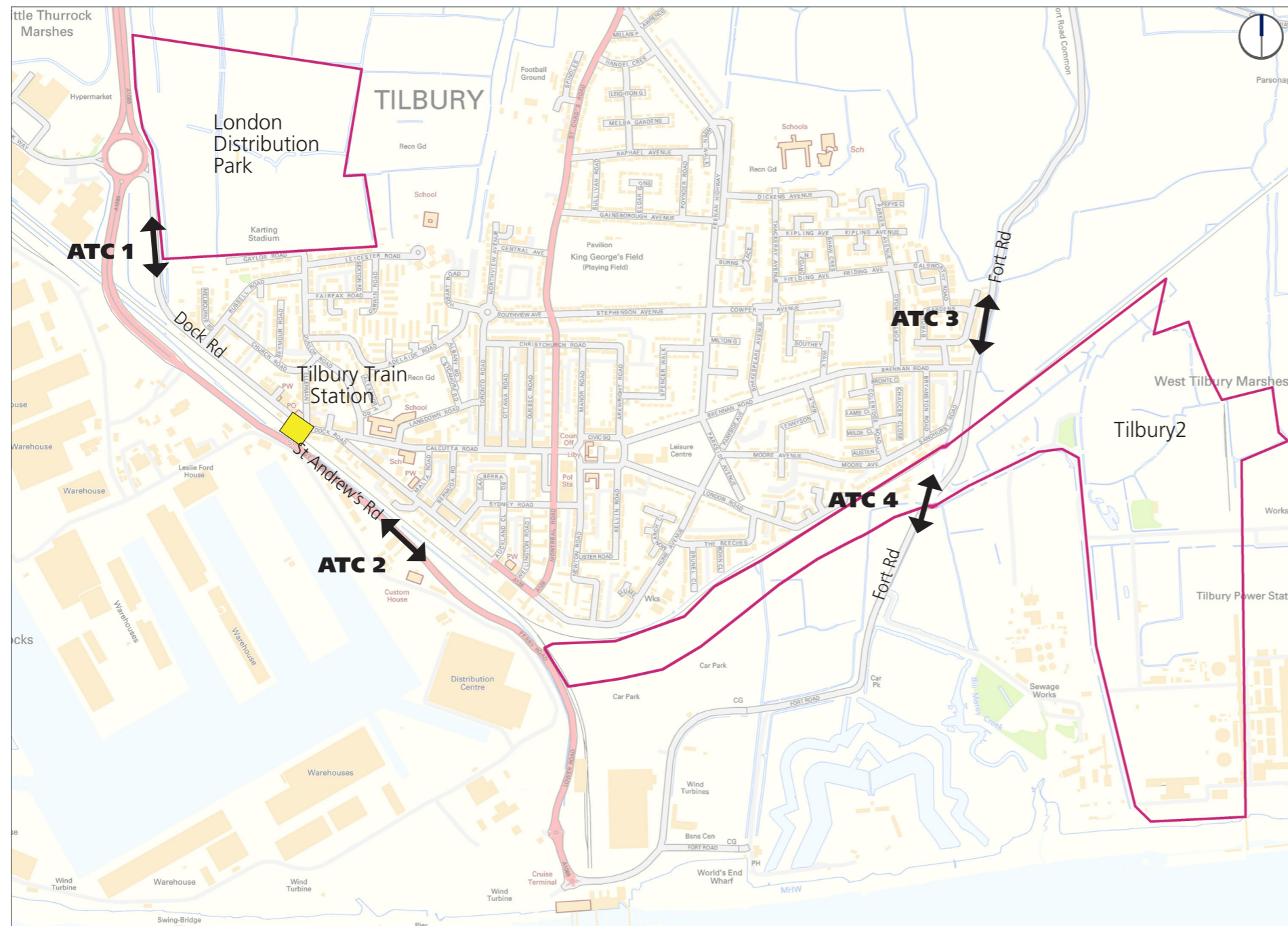


Figure 7: ATC Locations - Map source OS OpenData

Cars and Goods Vehicles

Compared to cyclist and motorcyclist flows, heavy vehicle and specifically car flows are significantly higher. This is consistent with the nature of the area.

Heavy vehicle flows in the area are high, consistent with the nature of the area. It is important to consider the high levels of large vehicles in the development of any local walking and cycling improvements, to ensure that appropriate infrastructure measures are implemented, such as footways, paths, shared use surfaces, cycle lanes and segregation.

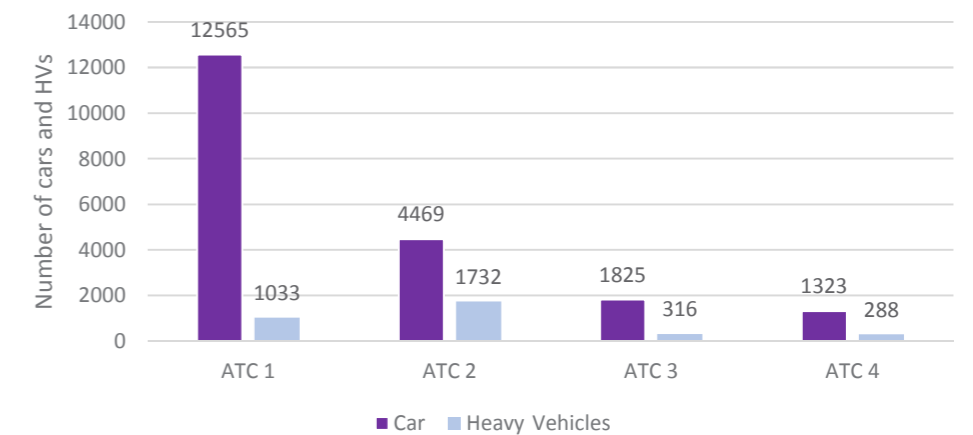


Figure 8: Average weekday car and Heavy Vehicle ATC data (24hr flow)

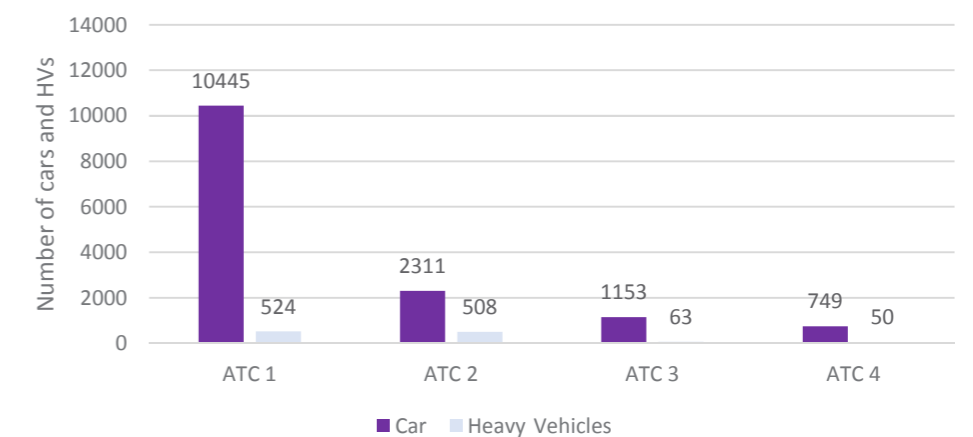


Figure 9: Average weekend car and Heavy Vehicle ATC data (24hr flow)

Current commuting patterns

To explore the commuting patterns to/from Tilbury, 2011 Census data has been consulted using "DataShine Commute". Travel to Work Modes are displayed in each map showing the proportion of trips by mode to key locations. The analysis helps to identify the main modes

for travel to work purposes and whether there are opportunities to increase the proportion of active mode trips compared to private car.

Commute to/From Tilbury: Public Transport and Car

The adjacent figures summarise travel to work trips based on the 2011 Census and assists in identifying key commuting patterns in the area around Tilbury. They report the main mode of the travel to work journey (and so a rail or bus/coach trip, for example, could also include walking, cycling and other public transport modes that are not reported, as they are secondary modes).

The majority of rail trips are to and from Tilbury to London. A number of people travel to and from destinations to the East of Tilbury, including East Tilbury, Southend and Basildon.

Most bus/coach trips are between local destinations to Tilbury, including Purfleet and Grays.

The largest proportion of travel to work trips are by car with Purfleet being the largest commuter destination (n=497). Other key areas include East London, East Ham, Romford, Brentwood, and Basildon. Trips by car as a driver to Tilbury are mainly from Purfleet, South Ockendon, Basildon, Benfleet, and from the east of Tilbury. Within Tilbury itself, there is a significant amount of local commuting (n=452) and it is possible that improvements in walking and cycling infrastructure could result in increases in the number of people choosing an active travel mode to travel to and from work.

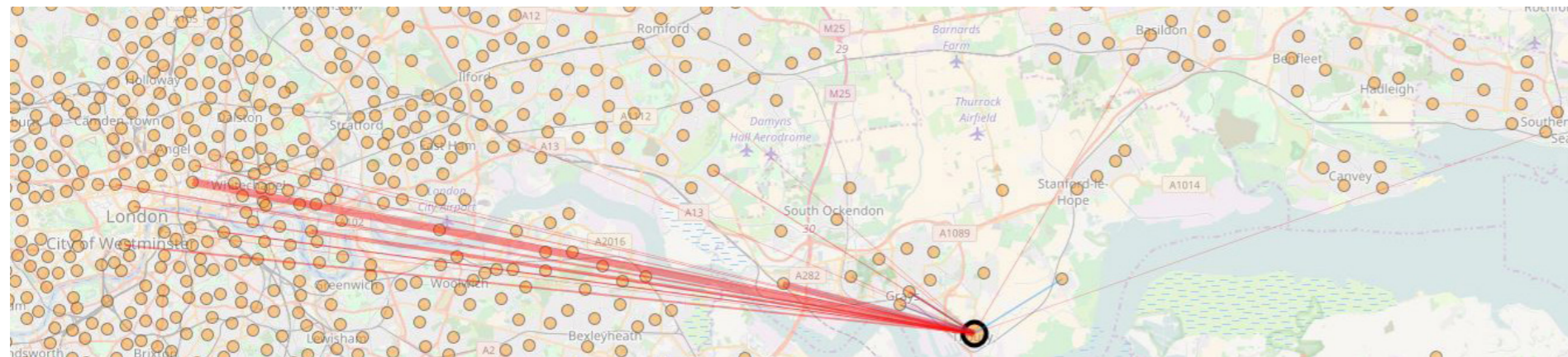


Figure 11: Train commuting patterns. Source: DataShine Commute, based on ONS Census 2011 data.

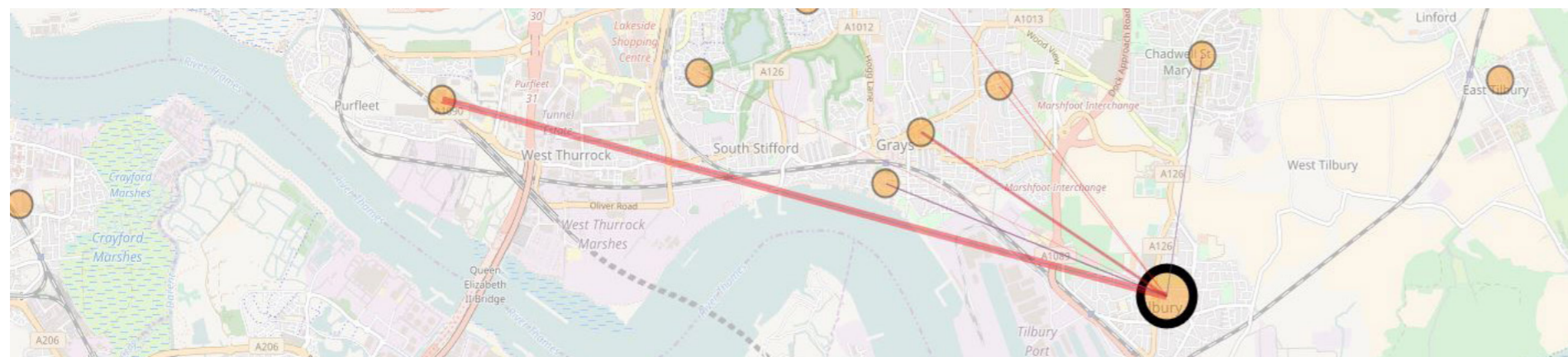


Figure 10: Bus commuting patterns. Source: DataShine Commute, based on ONS Census 2011 data.

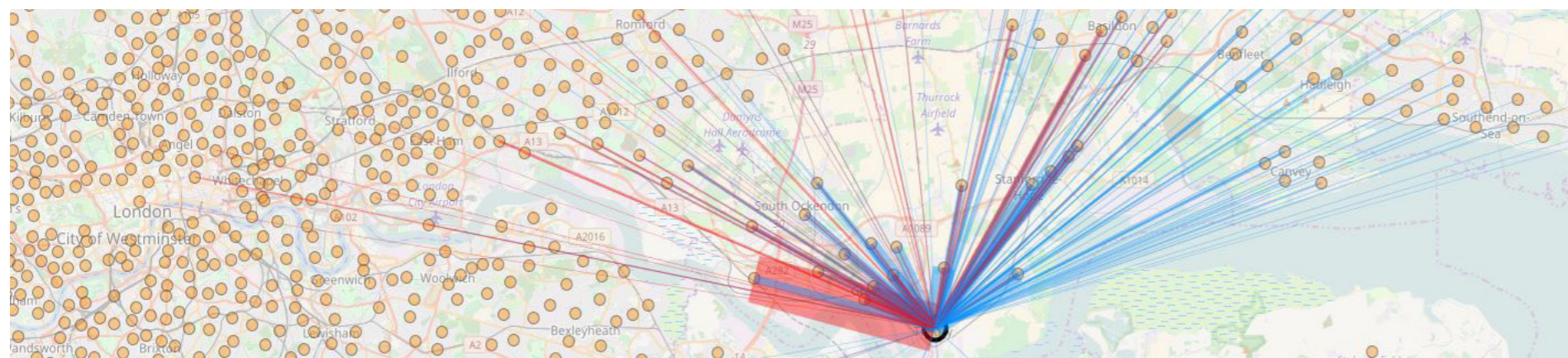


Figure 12: Car (driver) commuting patterns. Source: DataShine Commute, based on ONS Census 2011 data.

Opportunities presented by Tilbury2:

- Improvements in walking and cycling infrastructure could encourage increased uptake of active modes for travel to and from work reducing the reliance on the private car, particularly for local trips.
- There may be opportunities to improve active travel options for rail commuters

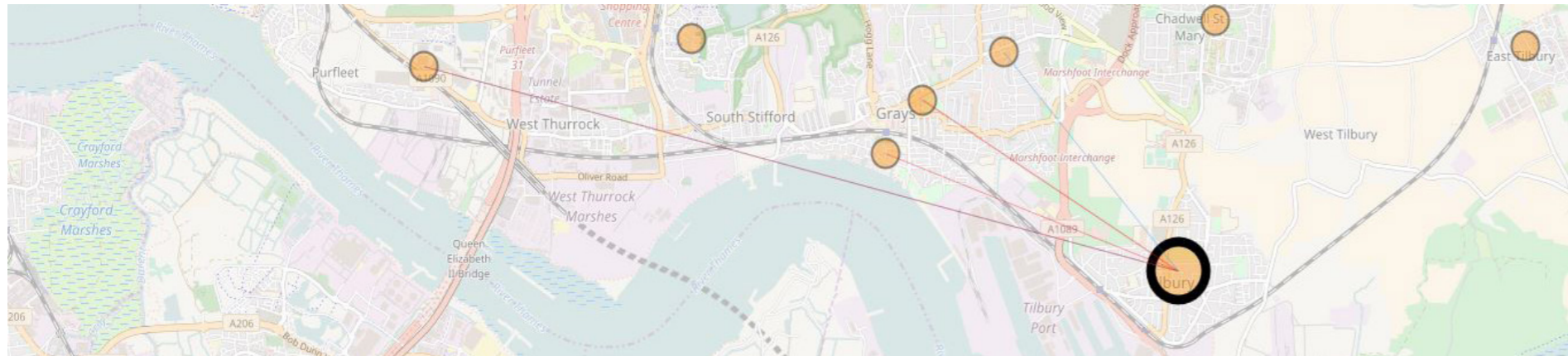


Figure 13: Walking commuting patterns. Source: DataShine Commute, based on ONS Census 2011 data.

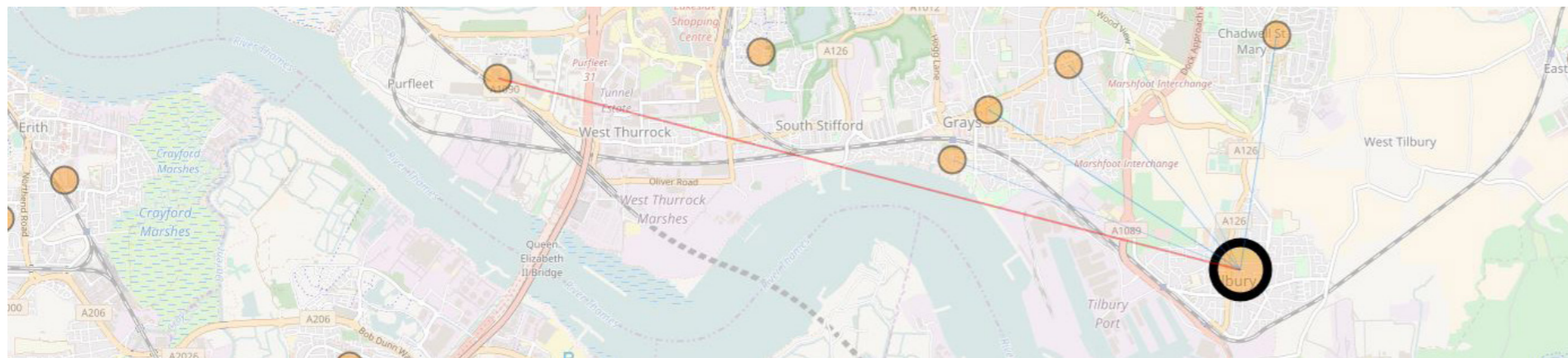


Figure 14: Cycling commuting patterns. Source: DataShine Commute, based on ONS Census 2011 data.

Commute to/From Tilbury: Active Modes

There are low levels of walking and cycling for travel to work trips in Tilbury reported in the 2011 Census.

Trips made by foot are primarily within Tilbury (n=267) and to a much lesser extent between Purfleet / Grays and Tilbury.

Trips made by bicycle are also primarily within Tilbury (n=53) and to a lesser extent between Tilbury and Purfleet and surrounding destinations.

Existing Issues

- Uptake of active modes for travel to work is low compared to the private car, especially for trips within Tilbury.
- This may be due to connectivity issues or barriers to cycling travel between Tilbury and the surrounding area.

Opportunities presented by Tilbury2:

- Improvements in walking and cycling infrastructure could encourage increased uptake of active modes for travel to and from work reducing the reliance on the private car, particularly for local trips.

Potential to walk and cycle to employment

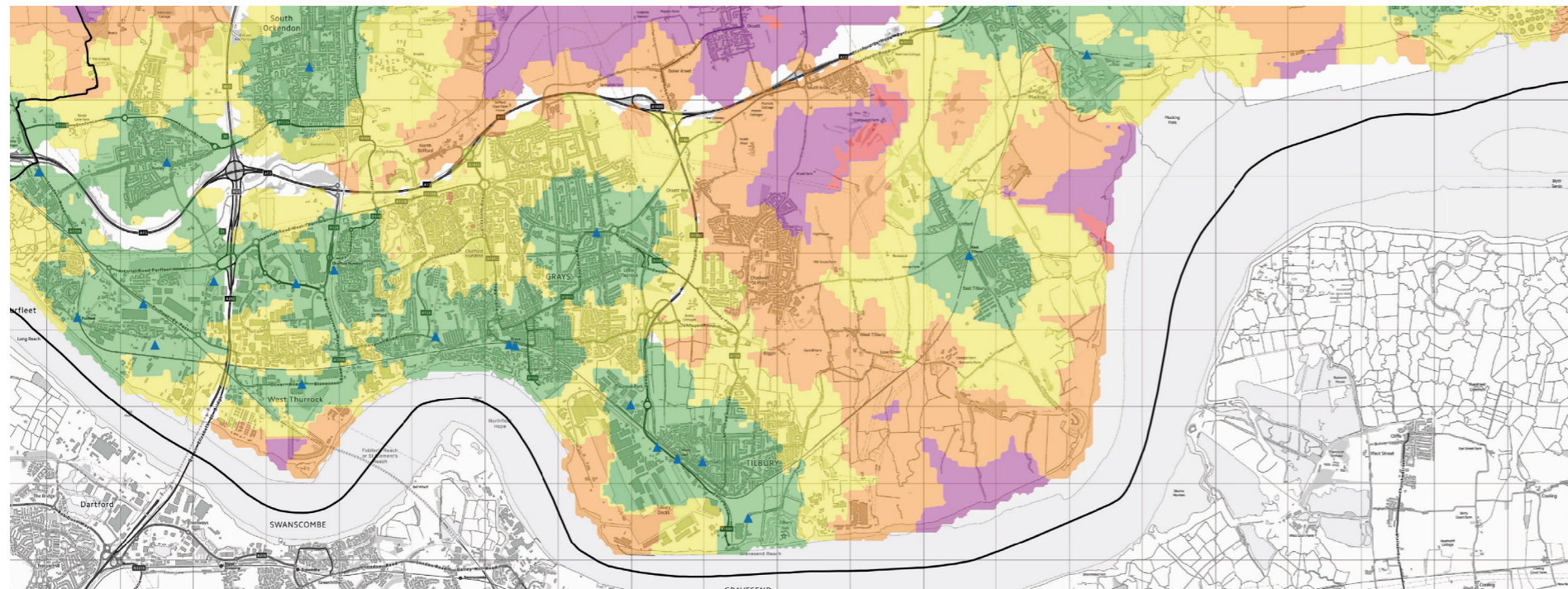


Figure 15: Level of walking accessibility to employment

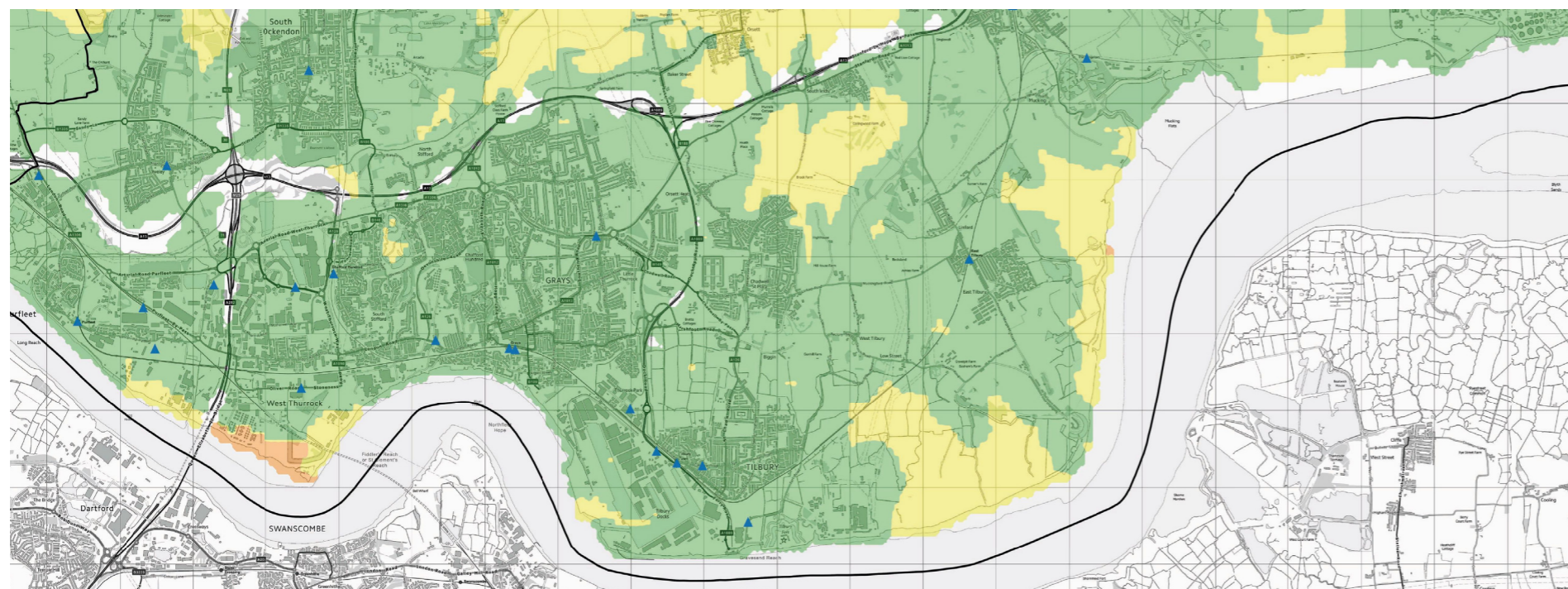


Figure 16: Level of cycling accessibility to employment

A study of journey distances and travel times in and around Thurrock was undertaken in April 2016 to ascertain which parts of the borough have greatest access to services and facilities, and where there might be access issues.

Travel calculations were undertaken by Basemap Ltd who used the 'TRACC' computer programme to calculate journey times to different services and facilities (including GPs, retailers, schools, areas of employment, local centres, and public transport) by mode.

Green shading indicates areas that are considered to have high levels of employment accessibility by the respective mode, indicating a journey less than 15 minutes.

Yellow shading indicates journeys of 15-30 minutes,

Orange shading indicates journeys from 30 to 45 minutes,

Purple shading indicates journeys between 45-60 minutes,

Red shading indicates journeys greater than 60 minutes to get to employment.

From the maps shown in figures 15 and 16, employment generally has high accessibility by walking and cycling within Tilbury, yet this is not reflected in travel to work census data.

This indicated that there are barriers to walking and cycling that could be addressed by Tilbury2.

Opportunities presented by Tilbury2:

- Improvements in walking and cycling infrastructure could encourage increased uptake of active modes

Existing local walking and cycling routes

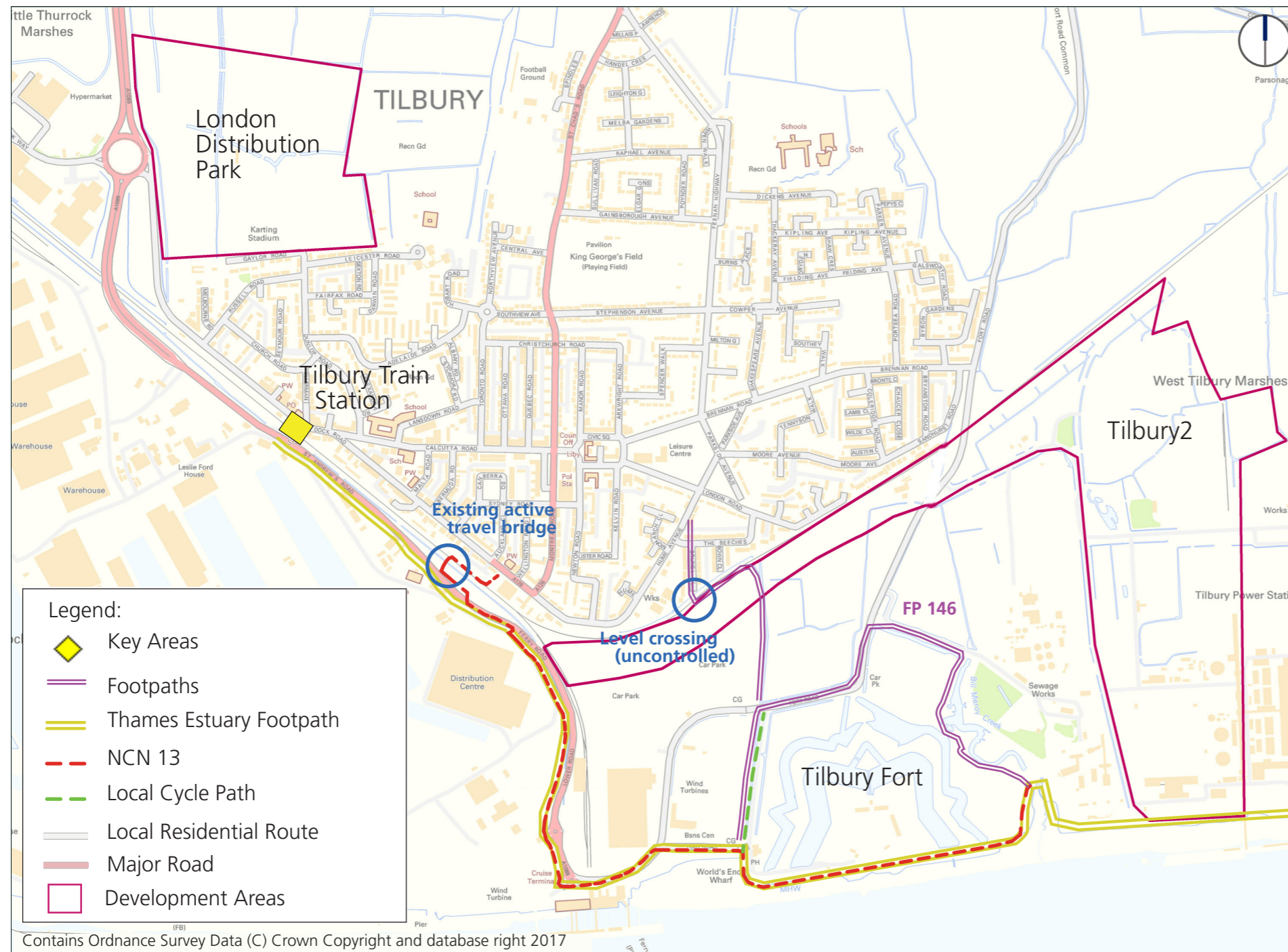


Figure 17: Existing Cyclist and Pedestrian Provision - Map source OS Opendata

Key Routes

Figures 17 and 18 show the active travel routes and infrastructure corridors within and adjacent to Tilbury.

National Cycle Network Route (NCN) 13 crosses the railway line via a pedestrian/cycle bridge and continues on the riverside. NCN 13 is currently not continuous and requires improvements to facilitate an uninterrupted cyclist flow.

The key pedestrian routes include the Thames Estuary Footpath which runs from Tilbury Train station towards the fort along the riverside. This is a scenic route that takes advantage of the Thames riverside's natural features. Footpath 144 includes an at-grade crossing across the railway line, while Footpath 146 offers a route across green space to Tilbury Fort.

The at-grade railway crossing is uncontrolled, requiring pedestrians and cyclists to stop, look and listen for trains before crossing. There are high levels of perceived and actual safety issues with this type of crossing, and Network Rail have aspirations to phase-out this type of crossing where connectivity will not be significantly impacted.

Within Tilbury town itself, there is a network of standard footways and limited use of shared use footways and other cycle infrastructure. The on-carriageway cycling infrastructure is limited in nature and requires maintenance.

Opportunities presented by Tilbury2:

- Significant opportunity to replace the at-grade railway crossing with improved walking and cycling infrastructure.
- Opportunity to improve the connectivity of existing walking and cycling infrastructure

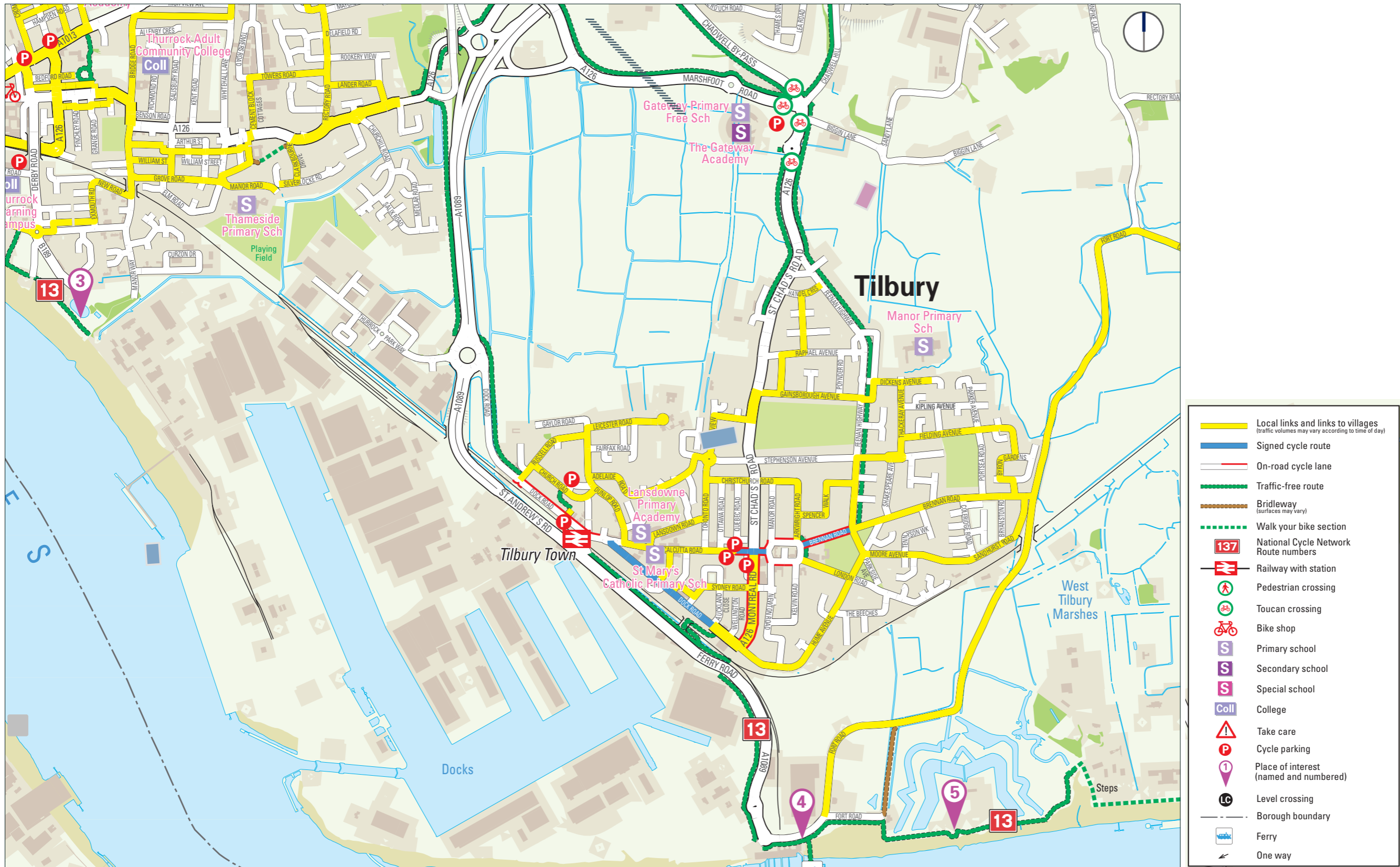


Figure 18: Local Cycling map. Source: Thurrock Cycle Map (2014). Cartography © FourPoint Mapping for Thurrock Council.

The Thames Estuary Path



The Thames Estuary Path goes from Tilbury Town to Leigh-on-Sea through the South Essex Marshes. It's a 29 mile path that covers a diverse industrial and natural landscape.

In Tilbury, the key route starts in Tilbury Town and ends in East Tilbury, with the major points of interest being Tilbury Fort and Coalhouse Fort.

Opportunities presented by Tilbury2:

- Potential to improve the Thames Estuary Path adjacent to the Tilbury2 development.

Figure 19: Local Cycling map. Source: Thurrock Cycle Map (2014). Cartography © FourPoint Mapping for Thurrock Council.

Future cycle demand

The Propensity to Cycle tool (PCT) is a standardised assessment that allows for comparison between the percentage of current cycle to work trips, based on 2011 census data, with more

optimistic scenarios based on various levels of investment in cycle infrastructure. Although high-level, the analysis is a useful indicator of the possible direction of the future uptake in cycling, if investment increases.

For the whole of Essex (Figure 22), the proportion of people who cycled as their main mode of travel to work (2011 Census data) was 2.3%, compared to the national average of 3.2%. The table also shows the variability in cycling percentages according to different scenarios, namely government target, gender equality, Go Dutch, and Ebikes.

Routes: Figures 20 and 21 show the fastest (purple) and quietest (green) routes from Tilbury to nearby zones. 'Fast and quiet routes' show the fast and the recommended 'quieter' routes that 'Cyclestreets' define.

Figure 22 shows the potential increase in cycling in Essex based on increased levels of public investment.

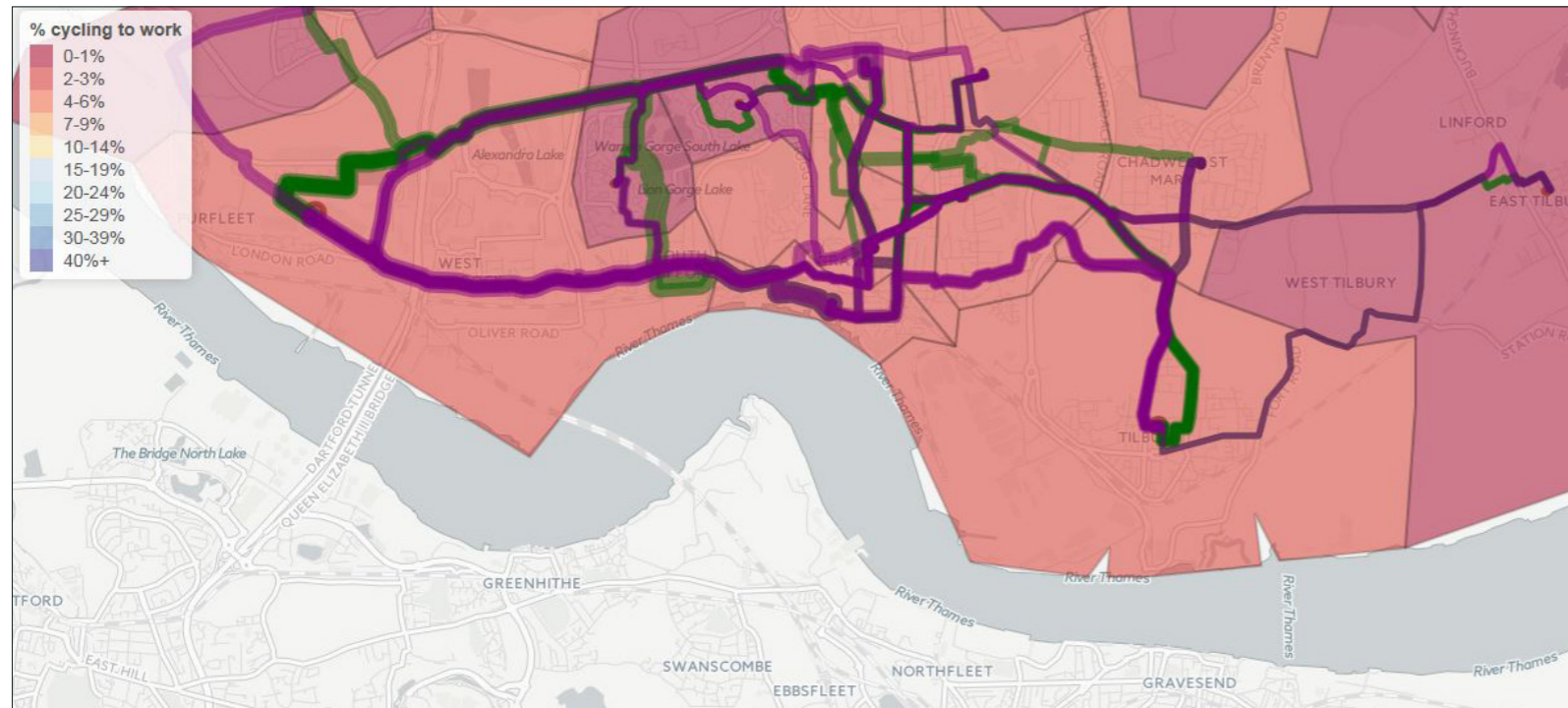


Figure 20: Propensity to Cycle based on 2011 census data

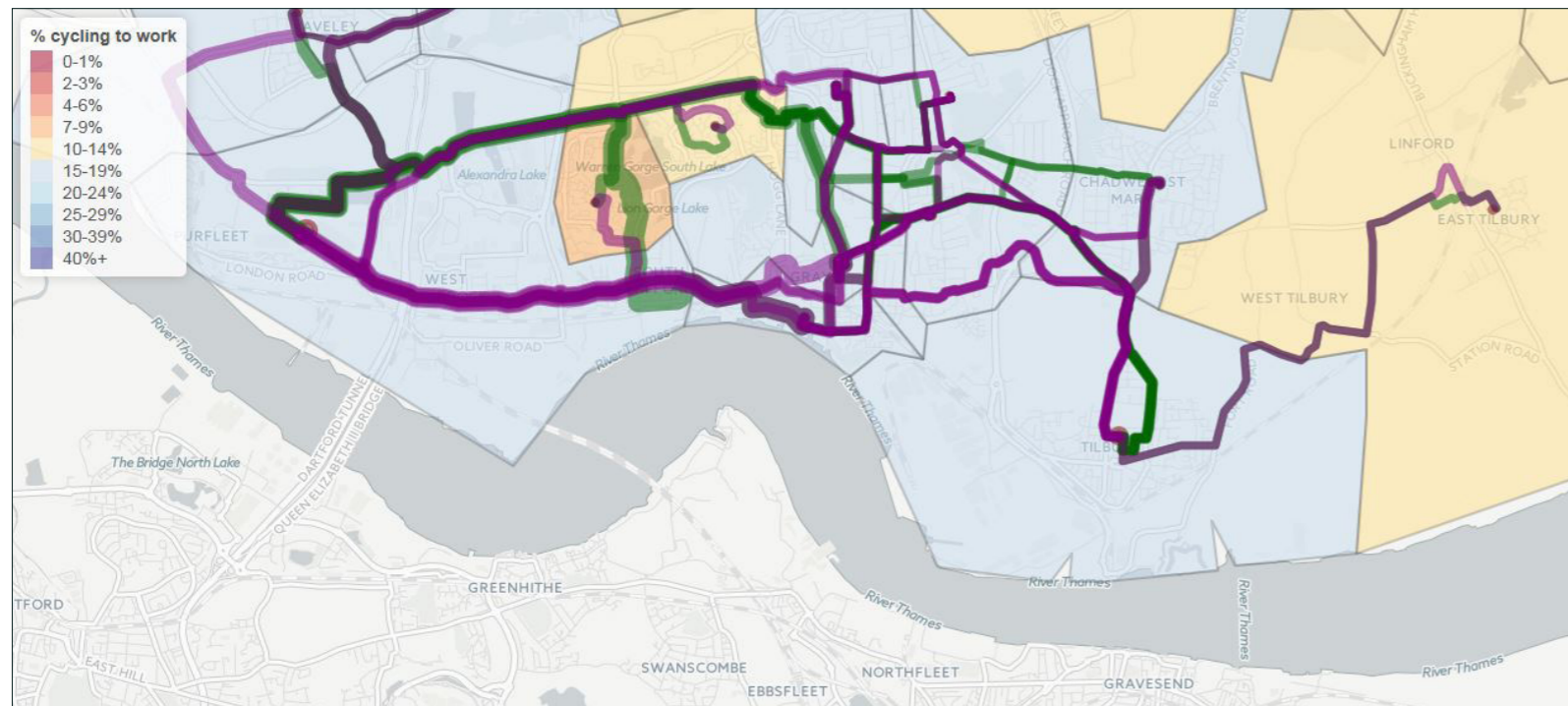


Figure 21: Propensity to Cycle based on significant government investment in infrastructure

Scenario	% cyclists	% walking	% car drivers	% all other modes
Census 2011	2.3 %	9.5 %	62.6 %	25.6 %
Government Target	5.1 %	9.0 %	60.8 %	25.1 %
Gender Equity	3.8 %	9.2 %	61.6 %	25.4 %
Go Dutch	16.8 %	6.6 %	53.5 %	23.1 %
Ebikes	22.7 %	6.0 %	49.3 %	22.0 %

Level of investment ↓

Figure 22: Mode split according to different scenarios in Essex

Although the level of cycling increase shown here is considered aspirational, it does indicate that there is high potential to increase the levels of cycling in the area in the future.

Physical constraints

This section examines some of the physical constraints that affect the area such as natural risks and utilities that might require service diversions or influence the location of future cycling infrastructure. It presents constraints considered at this early phase of work, and further consideration would be required at the stages of route design development.

Flood Risk

Tilbury is a Flood Zone Type 3 meaning it has medium to high probability of annual river flooding. As shown in Figure 37, the area benefits from flood defences. Current flood defences in Thurrock and along the River Thames significantly reduce the likelihood of flooding from river and tidal sources. These cannot completely remove the risk of floods in the future, however. A flooding assessment may be required at the next stage of design.

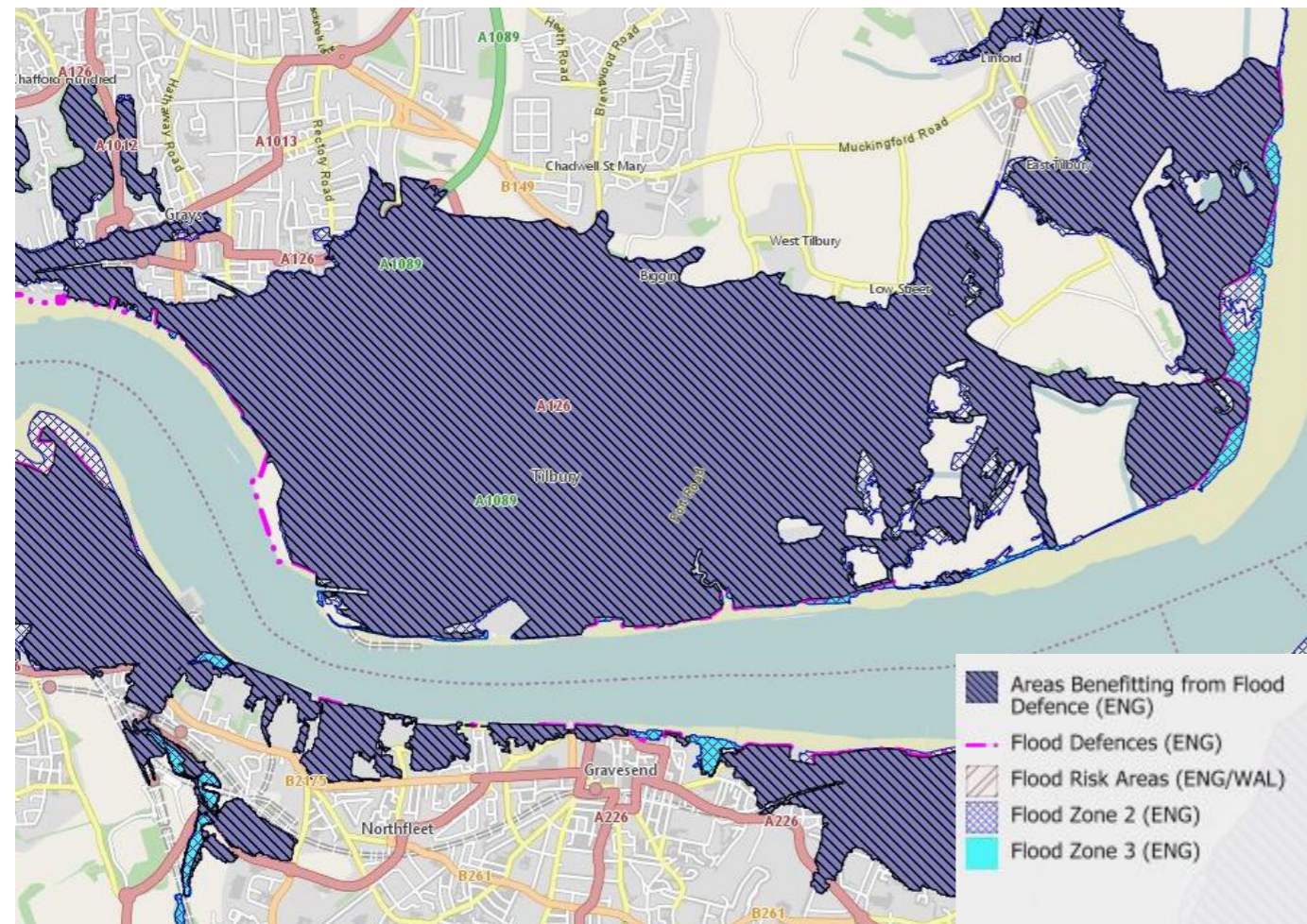


Figure 23: Flood risk and defence

Utilities and Heritage Assets

Tilbury has its heritage assets along its riverside, namely Tilbury Fort. The Officers Barracks and Riverside Station are Grade II* listed buildings while the Worlds End Inn is a Grade II listed building.

There are many utilities to the east of the fort south of the railway. There is the power station which includes electricity sub stations and underground electrical cables. There are also transmission towers and overhead lines. Further consideration of utilities and heritage assets will be required at the next stage of design.



Figure 24: Utilities and Heritage Assets

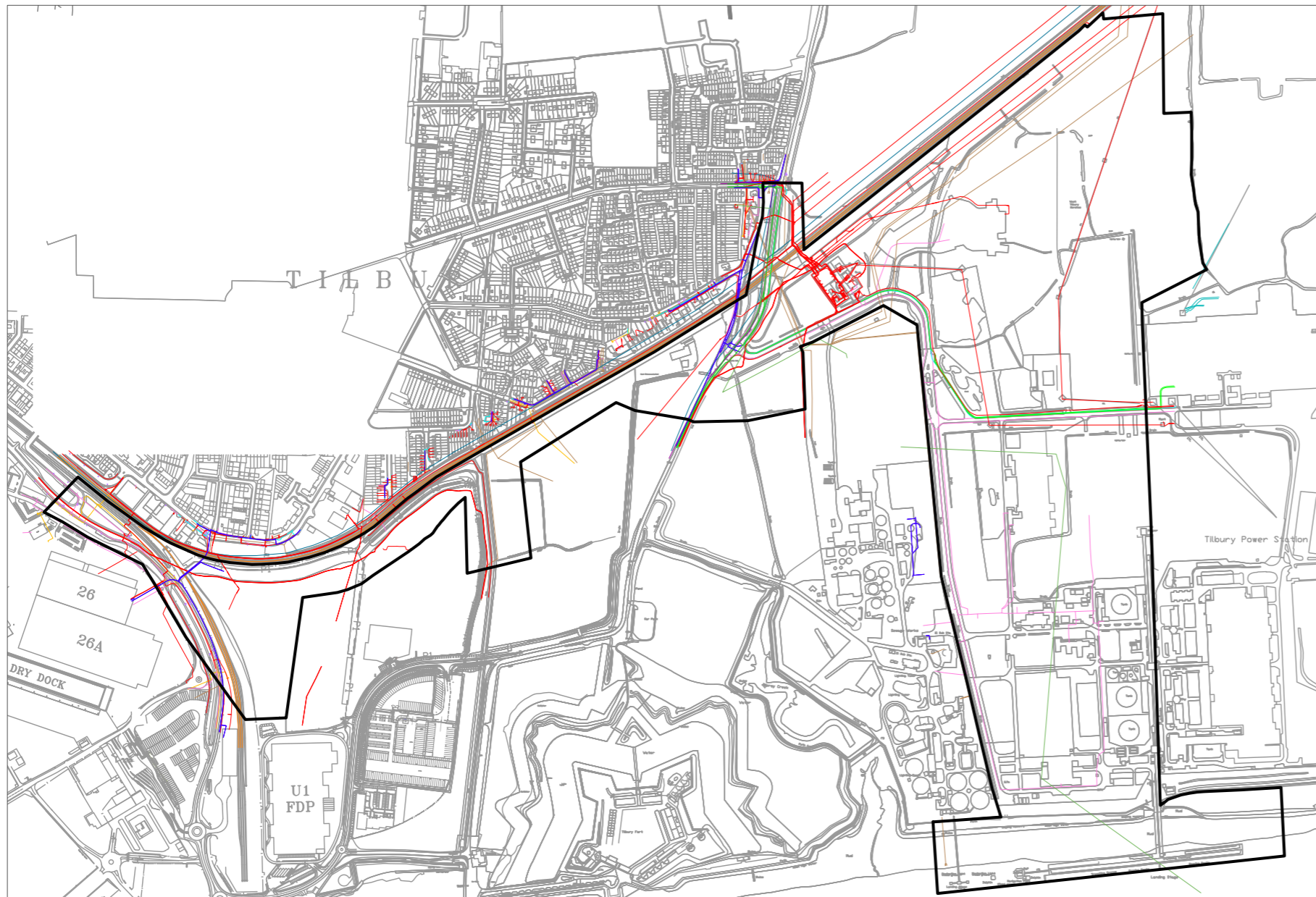


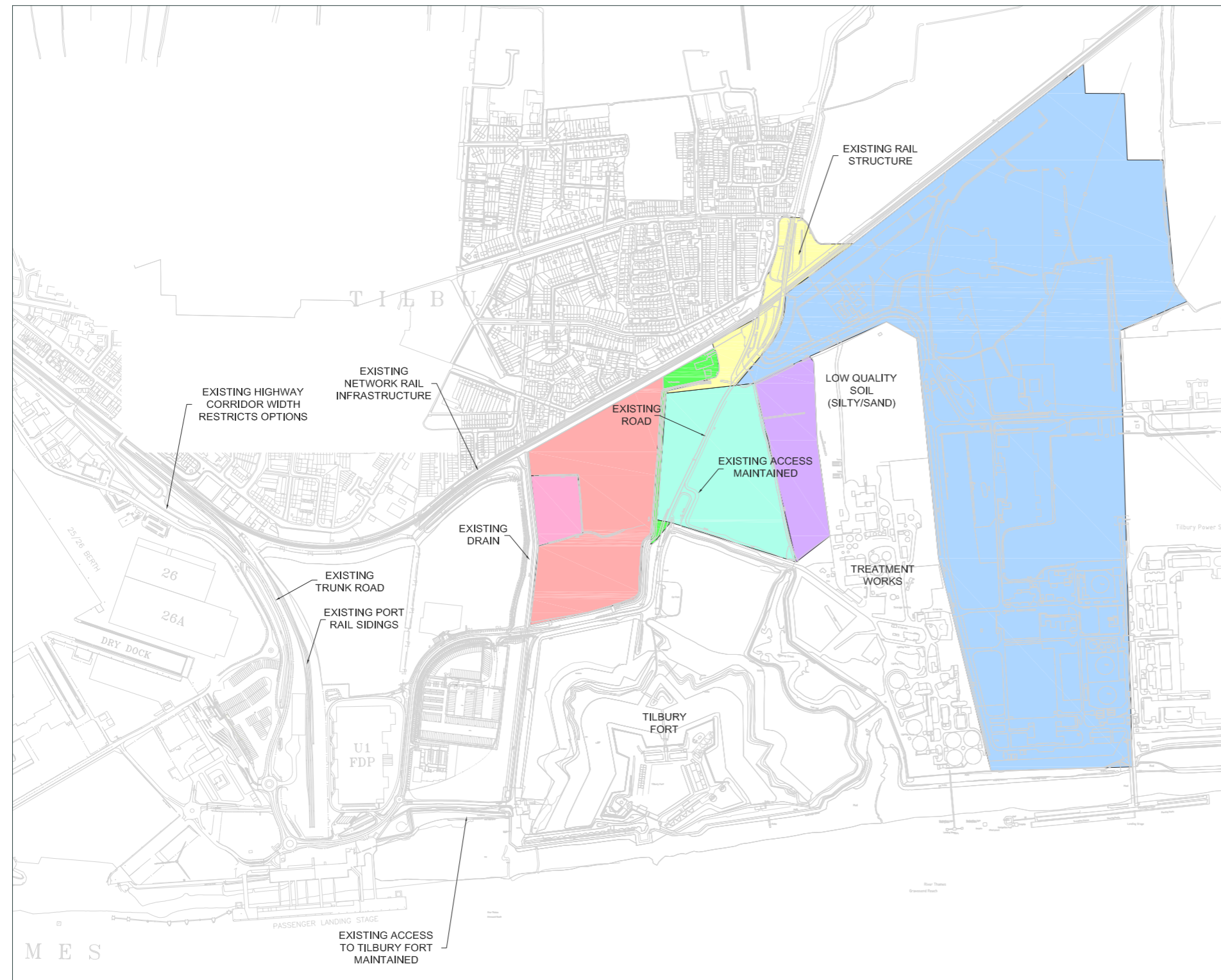
Figure 25: Utilities Maps. Source: Ready to Dig.

— Anglian Water – Sewer	— UK Power Networks
— Essex & Suffolk Water – Water	— Virgin Media
— Instalcom	— Vodafone
— McNicholas – [KPN International]	— Zayo Group UK Ltd
— National Grid Gas	
— National Grid Electricity Transmission	
— Network Rail	
— Openreach – [British Telecommunications]	
— Plancast – [Interoute]	
— Thurrock Borough Council	

Utilities

Figure 25 shows a combined existing utilities map which shows the indicative location of existing utilities lines.

NOTE: These utility overview maps are indicative only. Neither utility companies, Atkins or 'Ready to Dig' take liability for the indicated locations of services. Further work to ascertain the location of services and impact on design and service diversions is required at later stages of design.



Other Physical Constraints

Figure 26 shows other physical constraints that need to be considered in the development of any future active travel corridor between Tilbury Town and Tilbury Fort, such as ground conditions, structures, roads, drains etc.

Further assessment of certain constraints will be required during the design development phase of any infrastructure progressed to implementation, including ground and drainage assessments.

Figure 26: Internal constraints map

Chapter Summary

To understand the existing conditions and constraints in the area, a review of the current travel patterns, future potential for active modes, as well as a review of existing infrastructure and constraints is conducted.

Vehicle usage on St Andrew's Road and Fort Road, which are two major roads in Tilbury, is assessed. The ATC locations along those roads show very low levels of cycling during both the weekend and weekday. Heavy Vehicle flows are high, consistent with the nature of the area with more than 87% exceeding the speed limit with an average speed of 36mph. This reflects the nature of these two roads which are dominated by goods vehicles travelling at higher than sign-posted speed limits and are less appealing to motorcycles and cycles.

Based on travel to work 2011 Census data, the largest proportion of travel to work trips from Tilbury are by car with Purfleet being the largest commuter destination. Within Tilbury itself, there is a significant amount of local commuting by car. There are low levels of walking and cycling for travel to work trips reported in the 2011 Census. This comes in contrast with the findings that employment generally has high accessibility by walking and cycling within Tilbury. This is not reflected in travel to work census data but demonstrates a potential for active modes. Moreover the Propensity to Cycle tool shows aspirational levels of cycling in future scenarios also indicating that there is high potential to increase the levels of cycling in the area in the future.

As for the infrastructure, the NCN 13 is the main cycle route which crosses the railway line via a pedestrian/cycle bridge and continues on to the riverside. NCN 13 is currently not continuous. The key pedestrian routes include the Thames Estuary Footpath which runs from Tilbury Train station towards the fort along the riverside. Within Tilbury town itself, there is a network of standard footways and limited use of shared use footways and other cycle infrastructure.

Some physical constraints which may impact the development of walking and cycling infrastructure include flood risk, and some utilities south of the railway which include transmission towers. These may need to be further assessed during the design development phase.

Review of existing proposals for active travel improvements

This section provides an overview of proposed, but as yet not implemented or formally planned, proposals for active travel improvements in Tilbury.

3

Proposed Thurrock Council Cycle Network Improvements in Tilbury

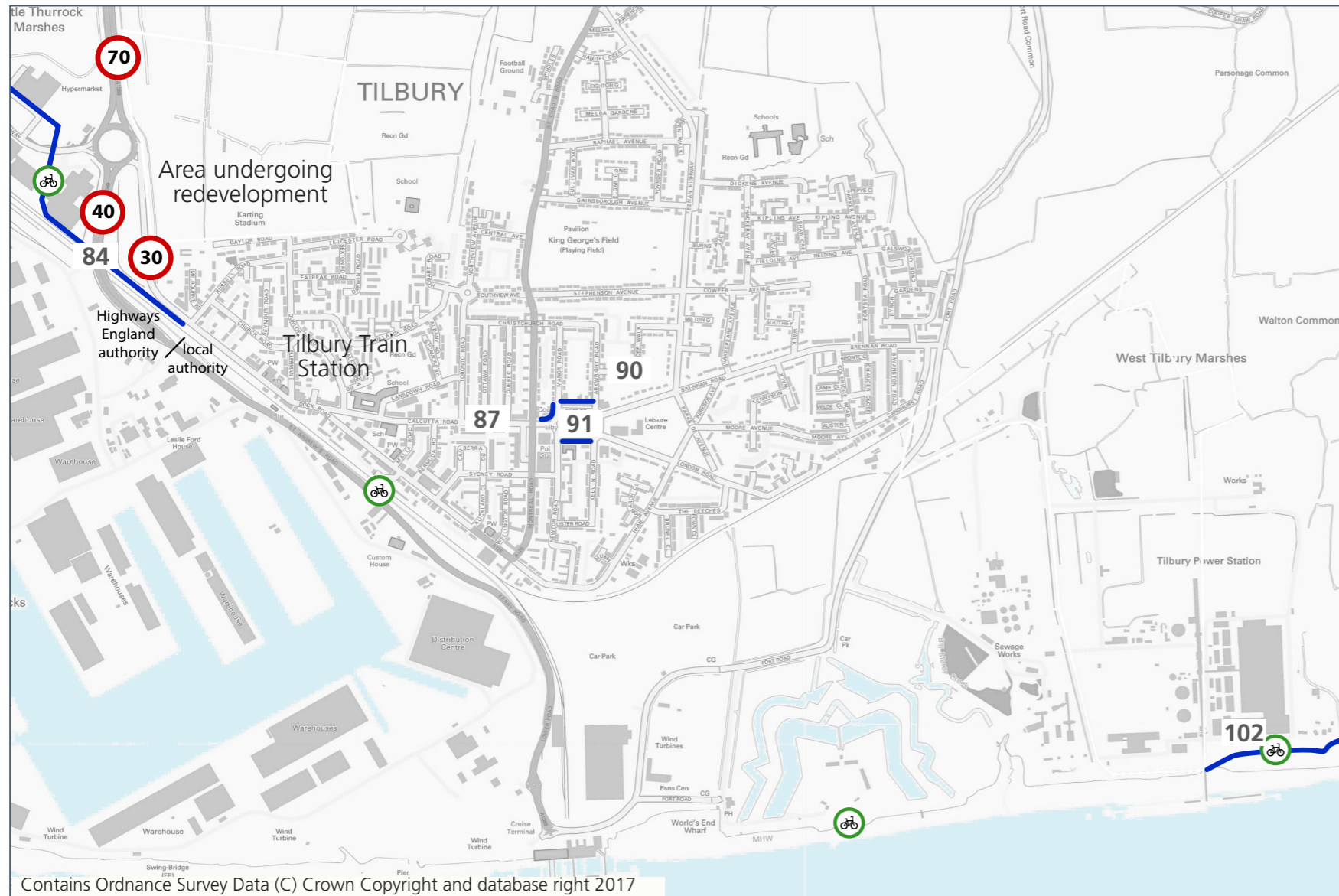




Figure 27: Proposed cycle network improvements

Legend:

- Proposed cycle schemes
-  off-street facility
-  speed limit

Background

Thurrock Council is working to deliver a reduction in traffic levels and increased accessibility of employment and educational opportunities, which includes the delivery of core walking and cycling routes, the introduction of 20mph zones and the promotion of behavioural change. The following cycling infrastructure schemes have been developed in order to facilitate this objective:

Scheme 84: creates a new off-road link between Tilbury and Grays, providing a safe alternative for new or unconfident cyclists.

Scheme 87: involves footway widening along Calcutta Road and conversion into shared use. Improves cycle access to nearby schools and Tilbury Rail Station.

Scheme 90: involves the widening of existing cycle lanes along Brennan Road.

Scheme 91: involves the widening and realigning of existing cycle lanes around Civic Square and the installation of speed calming measures.

Scheme 102: converts an existing footpath into a shared use path for recreational cyclists and pedestrians.

There is an opportunity to support development of the planned Thurrock scheme through the delivery of Tilbury2. The following pages review the proposals in detail.

Opportunities presented by Tilbury2:

- Development of T2 can enhance the delivery of planned cycling infrastructure
- Increasing levels of walking and cycling through accessible infrastructure, especially where health benefits would be greater

Proposed Thurrock Council Cycle Network Improvements in Tilbury

Scheme 84 Overview

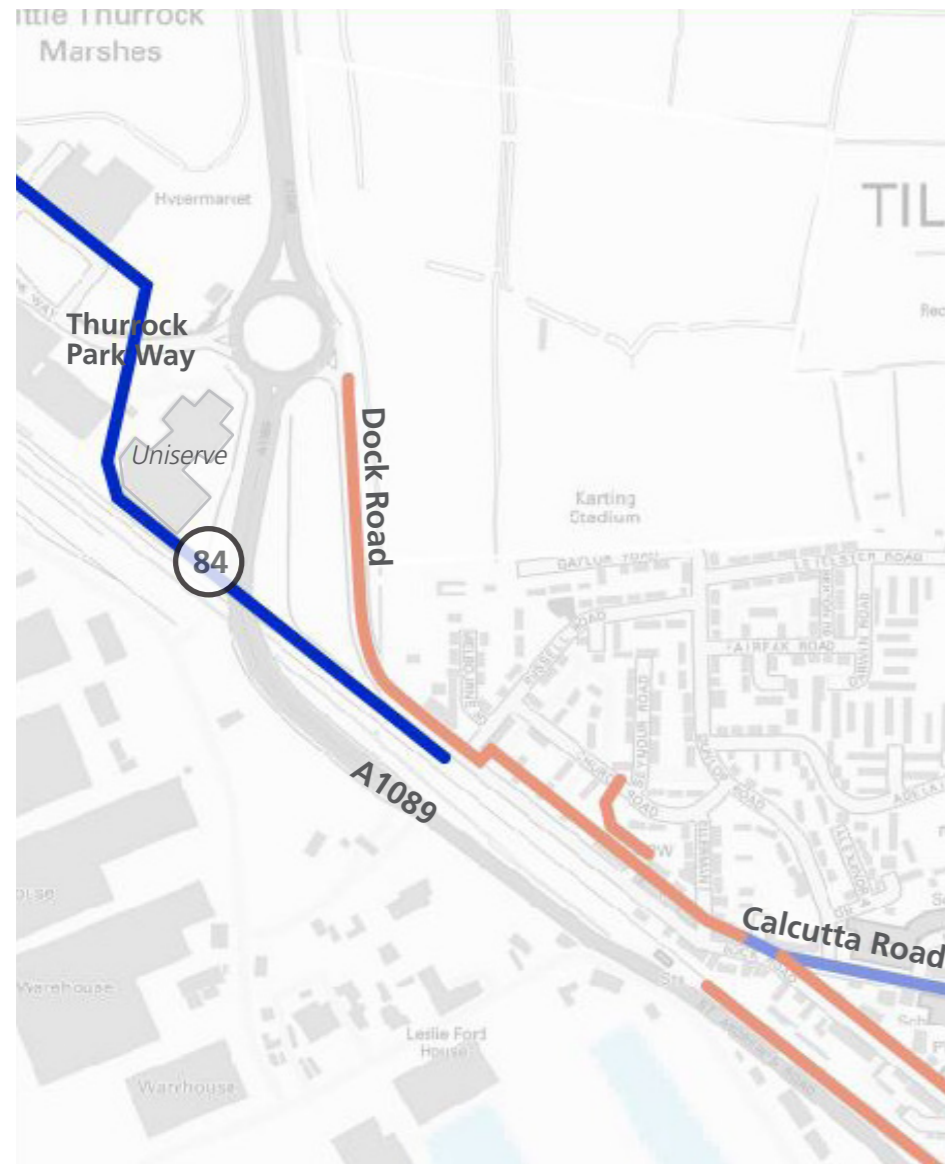


Figure 28: Proposed cycle network improvements, Scheme 84

Legend:

- Existing cycle facility
- Proposed cycle facility

Proposal: The proposal would provide a new off-road link from Dock Road under the A1089 Rail Bridge, alongside Uniserve to Thurrock Park Way. At this point a shared use facility would extend westwards along Thurrock Park Way where it would meet the proposed off-road path to Manor Road via the marsh area, which is being funded via a Section 106 agreement. The overall facility would create a more direct and convenient route for cyclists between Grays and Tilbury.

Existing infrastructure: The existing route has few dedicated cycle facilities and involves a much longer route via East Thurrock Road and the existing off-road facility along the A1089, before travelling westbound along the A126. It is not of suitable quality to encourage new or unconfident cyclists.

Delivery: The proposal would pose a number of challenges, largely due to the requirement for construction of a completely new path across the marsh area, and crossing of a drainage dyke. Third party land ownership under the A1089 rail bridge would also need to be investigated as well as land and access arrangements alongside the Uniserve building.

Further and more detailed site investigation work is required during the next stage of design in order to fully understand the construction challenges.

Evaluation: The proposal creates an entirely new route between Tilbury and Grays, providing a safe and convenient alternative to the busy A1089. The facility would provide sustainable access to a range of retail, employment and education facilities in the adjoining areas.



Figure 29: Existing sub-standard infrastructure along Dock Road



Figure 30: Pedestrian infrastructure on the Asda Roundabout

Proposed Thurrock Council Cycle Network Improvements in Tilbury

Scheme 87 Overview

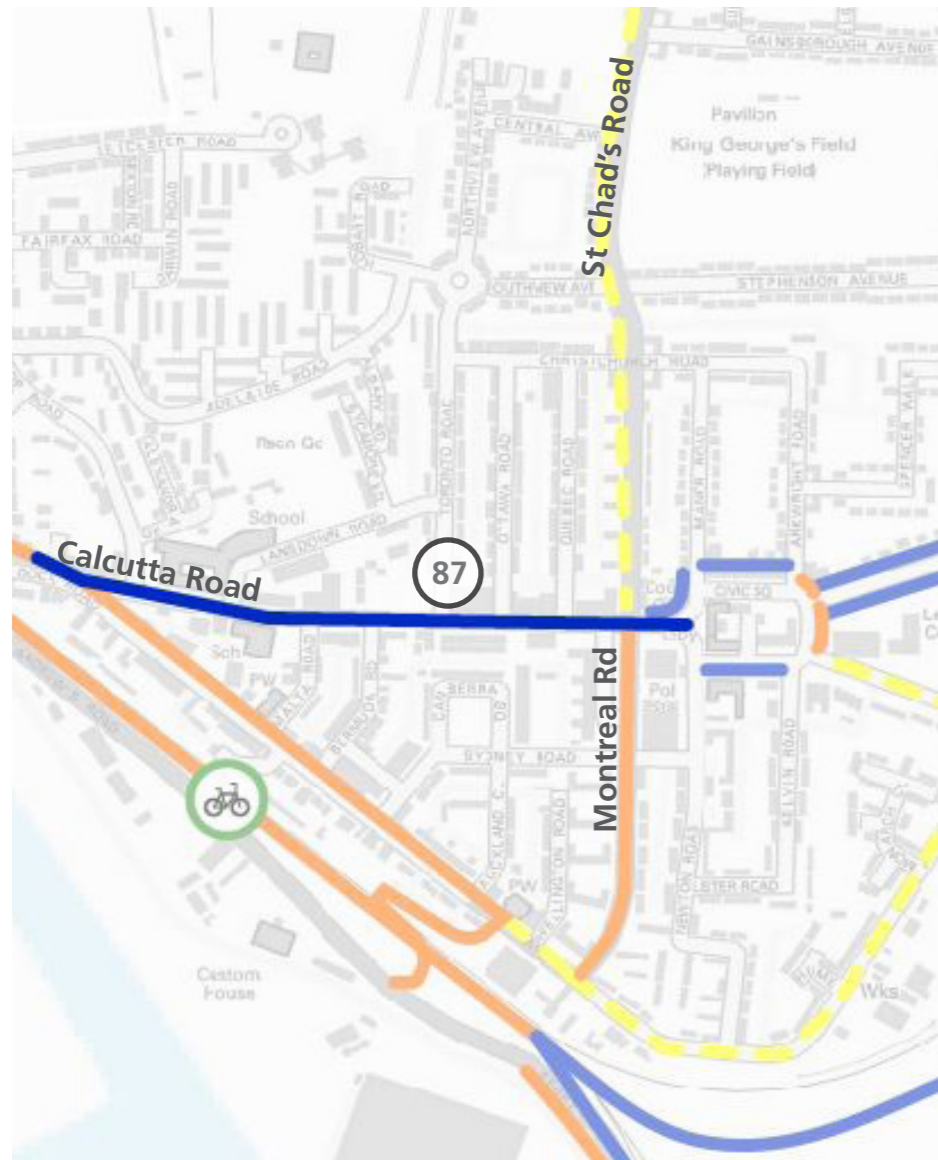


Figure 31: Proposed cycle network improvements, Scheme 87

Legend:

- Existing cycle facility
- Proposed cycle facility
- Potential connectivity improvements not addressed by current proposals

Proposal: The proposal recommends widening the existing northern footway on Calcutta Road and converting it to shared use between its junctions with the A126 to the west and Montreal Road to the east. The advisory lanes should be a minimum of 1.5m wide throughout.

Existing infrastructure: There is currently no provision for cycling along Calcutta Road (see figure 28) and cyclists are expected to use the carriageway. The on-street conditions are reasonably comfortable, however there is significant demand for kerbside access from neighbouring shops, restaurants and a school; all of which generates kerbside activity that conflicts with cycle activity.

Delivery: The proposal recommends widening the existing northern footway on Calcutta Road and converting it to shared use between its junctions with the A126 to the west and Montreal Road to the east. The advisory lanes should be a minimum of 1.5m wide throughout.

Evaluation: The scheme addresses a missing link in the existing cycle network between Dock Road and Montreal Road. The scheme would also result in improved cycle access to local retail facilities, two nearby schools and Tilbury Rail Station.

Additional feedback includes extending the route to directly access Tilbury Rail Station and to connect the Civic Square to other important trip generators.



Figure 32: Lack of cycling infrastructure on Calcutta Road

Proposed Thurrock Council Cycle Network Improvements in Tilbury

Scheme 90 Overview

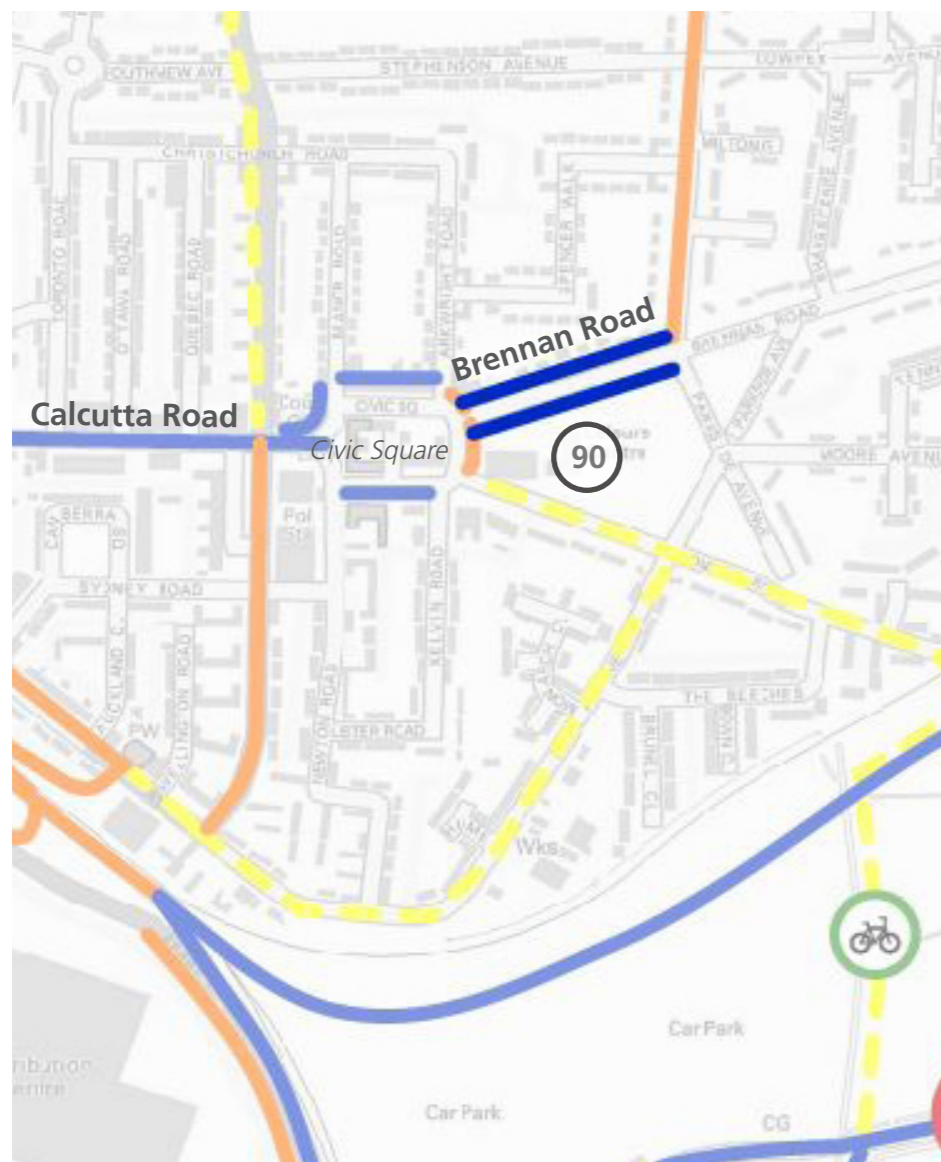


Figure 33: Proposed cycle network improvements, Scheme 90

Legend:

- Existing cycle facility
- Proposed cycle facility
- Potential connectivity improvements not addressed by current proposals

Proposal: The proposal would seek to widen the existing cycle lanes on Brennan Road between Civic Square and Fort Road, and would also remove the centre line markings to further highlight the presence of the widened cycle lanes.

Existing Infrastructure: There are currently advisory cycle lanes on some sections of Brennan Road, however these lanes are relatively narrow and also frequently overrun by parked vehicles. The result is that it is more comfortable for cyclists to adopt the primary position on the carriageway, rather than use the cycle lane and cycle around obstructions.

Delivery: The proposal should be reasonably easy to deliver as it will not require any physical changes to the streetscape.

Evaluation: The proposal would improve the local cycling network in Tilbury and connect into other proposed schemes and it would be reasonably cheap to deliver as it would only require changes to road markings.



Figure 34: Looking west along Brennan Rod with parking on the inside of cycle lanes

Proposed Thurrock Council Cycle Network Improvements in Tilbury

Scheme 91 Overview

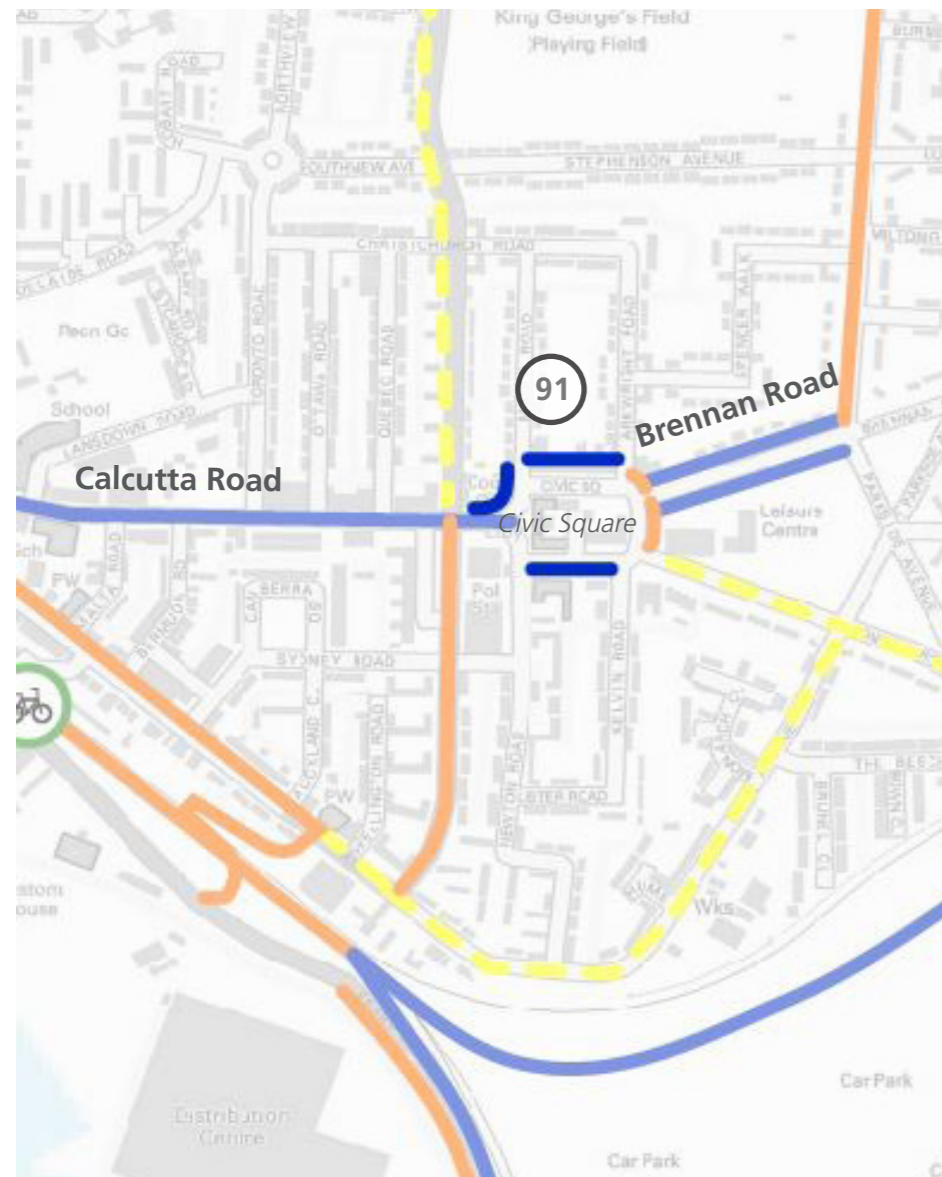


Figure 35: Proposed cycle network improvements, scheme 91

Legend:

- Existing cycle facility
- Proposed cycle facility
- - Potential connectivity improvements not addressed by current proposals

Proposal: This proposal would widen and re-align the existing cycle lanes through Civic Square so that cycles would be on a more natural desire line, and the increased width would also improve the overall prominence of the cycle lanes. It is also recommended that splitter islands are installed on all arms of Civic Square to improve lane discipline and to reduce vehicles' speeds when entering/exiting the square.

Existing Infrastructure: The existing advisory cycle lanes around Civic Square feel unsafe to use because they are too narrow, conflict with kerbside activity, and most importantly put cyclists in vulnerable positions at junctions adjoining the square. There is also no provision for cyclists on the eastern side of the square between the junctions of Arkwright Road and Kelvin Road.

Delivery: The carriageway appears sufficiently wide to accommodate widened cycle lanes, however the arrangement of existing parking bays and bus stops within the square will require further consideration to ensure the cycle lanes are not compromised by kerbside activity. Vehicle swept paths will also require further investigation during the next stage of design.

A Traffic Regulation Order (TRO) would be required for any proposed changes to waiting and loading restrictions.

Evaluation: This proposal would increase the overall provision for cyclists around the square, and help address a very acute gap in the network on the eastern side of the square.

Additional improvements could involve making signage and markings clearer.



Figure 36: Cycling infrastructure markings around Civic Square

Proposed Thurrock Council Cycle Network Improvements in Tilbury

Route 102 Overview



Proposal: The proposal would convert Footpath 146 to shared use to enable to cyclists to share the route with pedestrians between Coalhouse Fort and Tilbury Fort. Sections of the existing path would also be re-surfaced.

Existing Infrastructure: The existing footpath runs from Tilbury Fort up to Coalhouse Fort and is a popular recreational route along the riverside. Currently, the route is only open to pedestrians, and there are no alternative/ comparable routes for cyclists.

Delivery: The initial review of the existing path suggests much of it is suitable for use as a shared facility. It is recommended that detailed on-site review of the existing footpath is undertaken during the next stage of design to confirm and design any localised interventions that will be required to ensure cyclists safety and comfort.

Evaluation: This proposal has significant benefits for the local cycling network, and creates a new attractive and comfortable route for cyclists. It would also connect into popular leisure facilities at Coalhouse Fort and Tilbury Fort as well as improving cycling infrastructure along the riverside.



Figure 37: Proposed cycle network improvements, scheme 102

Figure 38: Poor path conditions not suitable for cycling

Figure 39: Looking south along the existing seawall close to sewage works

Legend:

- Proposed cycle facility
- Potential connectivity improvements

Thames Estuary Path - Section 21 Two Forts Way West

To deliver The Thames Path City to Sea, The Department of Communities and Local Government developed a detailed survey in association with Sustrans which includes information about:

- the current condition of the waterfront path;
- costs for developing the path into one continuous route for walkers and cyclists;
- options for link paths; and
- solutions to path blockages.

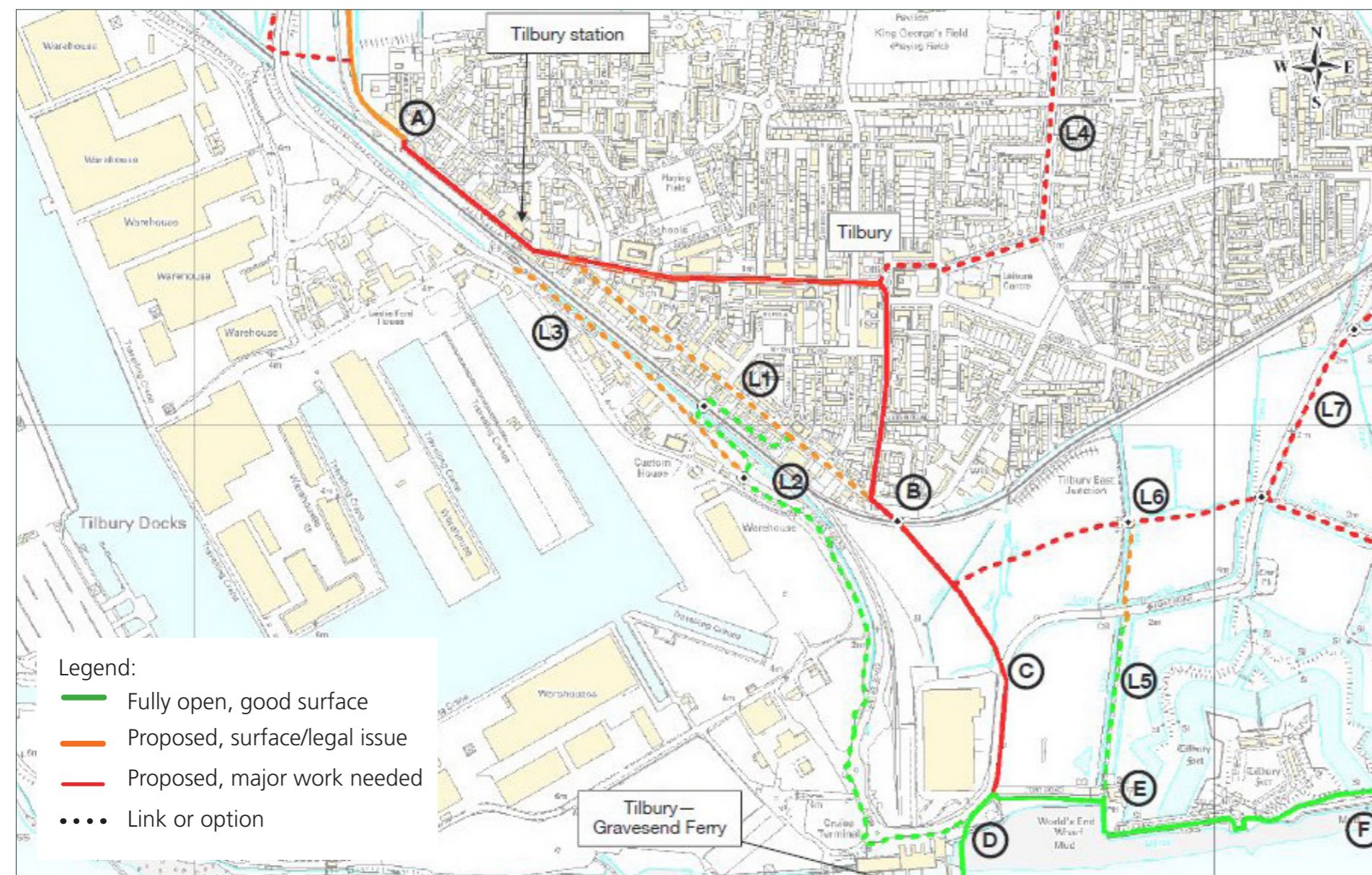


Figure 40: Thames Estuary Path around Tilbury

This survey overlaps our study area and recommends a new bridge and upgrades to the infrastructure around Tilbury.

The document suggests the need for a new bridge over the railway in location B. A number of option paths are identified around Tilbury Fort and Tilbury Power Station as the riverside path can flood at high tide (L6 and L7). It should be noted that L6 traverses private land occupied by Fortland parking storage. Improvements are recommended for the routes and sections.

Improvements identified in the Sustrans report:

- A-B: Improvements to the streetscape
- B: Proposed location of new bridge
- B-C and C-D: Shared use path
- E-F: Upon checking of legal status, can be upgraded to shared use
- L3: Widen footway to establish shared use path to Tilbury Station
- L6: Create a new path

These recommendations on improvements will be fed through into the findings of this active travel study where appropriate.

Compatibility with new Tilbury2 Proposals:

A route via Dock Road to the riverside via a new footbridge at location B is recommended. This is subject to improvements on Dock Road and creation of a new path. There are key issues with this recommendation as location B will be the widest section of the Tilbury2 Infrastructure Corridor and will require a very long span and ramps. The other problem is that south of the rail line there is a private car storage area which cannot be traversed. A location further east (less wide) from location B recommended will be assessed within our options to explore this path. However another route will be explored (not traversing the car storage area).

Another route identified is the route along the port which is mostly in good condition except for the need for some improvements on the north of St. Andrew's Road. This will further be examined in Chapters 4 and 5.

Thames Estuary Path - Section 21 Two Forts Way West (continued)



Figure 41: Thames Estuary Path around Tilbury

- Legend:
- Fully open, good surface
 - Proposed, surface/legal issue
 - Proposed, major work needed
 - Link or option

This section of the Thames Estuary Path follows the route of an existing public footpath along Tilbury Power Station and across flood defences. It is mentioned in the report that “it has the potential to be one of the most memorable and surprising sections of the waterfront path, clearly marked out by the two dramatic forts that protected this part of the estuary”.

Improvements identified in report:

- A-B: Crushed stone surface upgraded to sealed surface
- B-C Option 1: Path along the concrete apron at the foot of the flood defences. A new ramped bridge is needed at Bill Meroy Creek, which needs to be carefully detailed so as to have no impact on flood defences. The existing riverside path is mostly on the concrete apron, but is also unsurfaced in part and needs surfacing throughout. The biggest challenge is in dealing with the regular influx of tidal debris and the fact that the path is below the high tide mark in places. The erection of barriers should help with tidal debris, but regular cleaning is also needed.
- B-C Option 2: Path inside flood defences. In places there is plenty of space for a path inside the flood defences, but there are a number of difficult locations and security issues that would need to be overcome.
- B-C Option 3: Behind power station. This will need to be developed in agreement with a number of landowners including English Heritage and Tilbury Power Station addressing security and any other concerns.
- L1: Shared use path needed to link with Tilbury and potential development site

These recommendations on improvements will be fed through into the findings of this active travel study where appropriate.

It is recommended that feasibility work on the three options (B-C) at Tilbury Power Station including an alternative route should be conducted.

Chapter Summary

Thurrock Council is working to deliver a reduction in traffic levels and increased accessibility of employment and educational opportunities, which includes the delivery of core walking and cycling routes, the introduction of 20mph zones and the promotion of behavioural change. Their proposed schemes are reviewed in this chapter:

Scheme 84 creates an entirely new off-road route between Tilbury and Grays, providing a safe and convenient alternative to the busy A1089. The facility would provide sustainable access to a range of retail, employment and education facilities in the adjoining areas.

Scheme 87, 90 and 91 aim to create a continuous route around the town centre. They involve footway widening along Calcutta Road and conversion into shared use, the widening of existing cycle lanes along Brennan Road, and widening and realigning of existing cycle lanes around Civic Square and the installation of speed calming measures.

Scheme 87 addresses the missing link in the existing cycle network between Dock Road and Montreal Road. The proposal would improve the local cycling network in Tilbury and connect into other proposed schemes and it would be reasonably cheap to deliver as it would only require changes to road markings. It would also increase the overall provision for cyclists around Civic Square, and help address a very acute gap in the network on the eastern side of the square.

Scheme 102 converts an existing Footpath 146 (TEP) into a shared use path for recreational cyclists and pedestrians, however there would be a gap in this proposed infrastructure adjacent to the new Tilbury2 development area.

To deliver The Thames Path City to Sea, The Department of Communities and Local Government developed a detailed survey in association with Sustrans. This document was also reviewed as part of this study.

Both these proposal documents are taken into account of this active travel study where appropriate. It is the intention that new infrastructure proposed will be in addition to that suggested by the council in order to further enhance the active travel network in the area.

Issues and Opportunities

This section provides an overview of issues and opportunities in terms of active travel in and around Tilbury, based on site visits. The review can be used to inform future developments to the active travel network in Tilbury. Potential elements of a future active travel network in Tilbury are proposed.



Connectivity between the town centre, train station and waterfront

On site visits undertaken on the February 22nd and April 4th 2017, key observations have been noted around the train station, town centre, and the route towards the waterfront. This section details these observations and presents key issues and opportunities. These observations have been used to assist with option identification and to identify future improvements.

The map below identifies observation locations, which are presented in more detail in the remainder of this section.

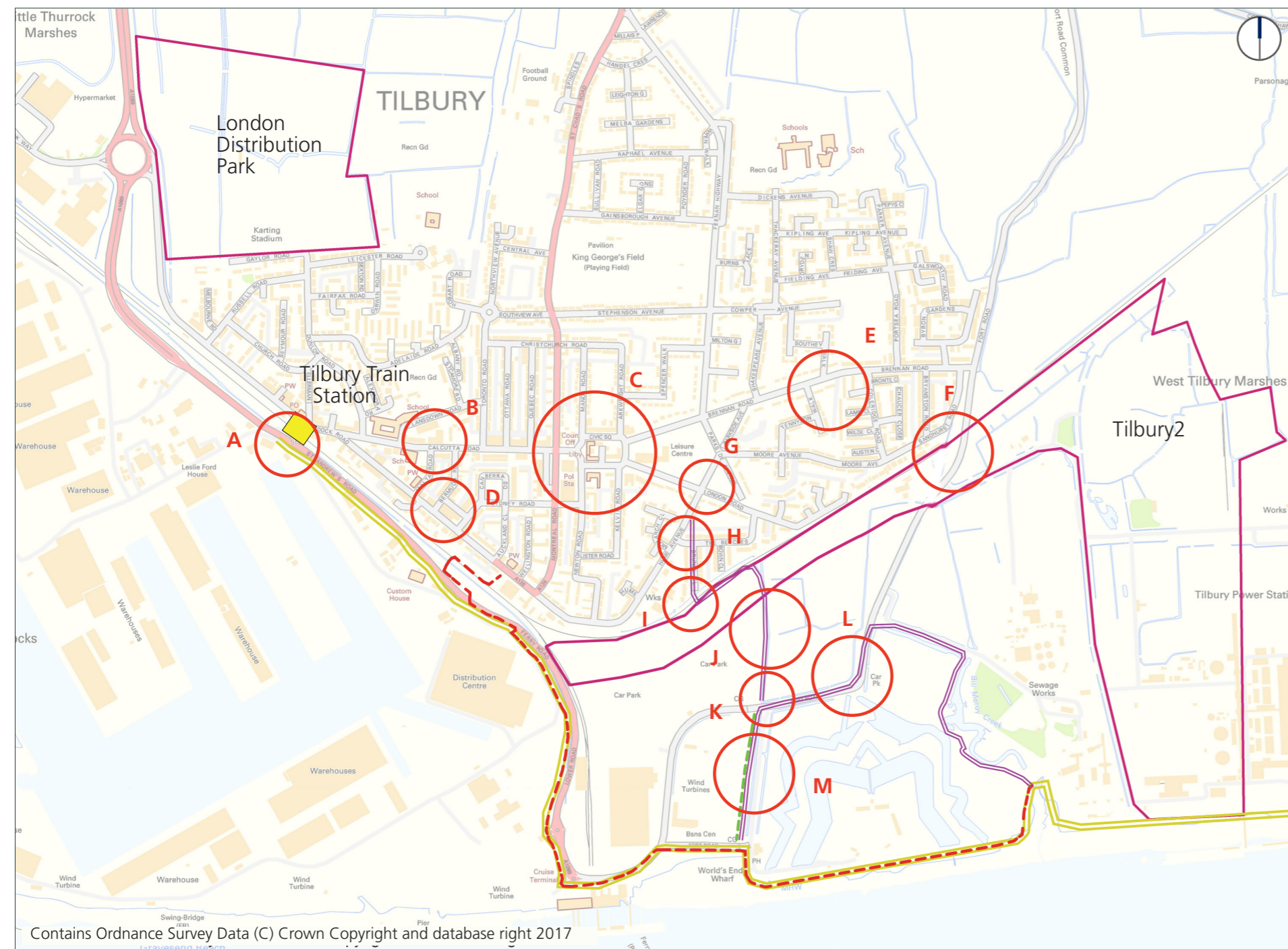


Figure 42: Observation Locations - Map source OS Opendata

Train Station

A1



A2



A1: The eastern and western sides of Tilbury station are connected via a pedestrian footbridge. The footbridge has stairs but it can also be accessed by mobility impaired users using a lift. Cyclists would be required to dismount to use the bridge, although it does facilitate a crossing between Dock Road and St. Andrew's Road.

- **Issues** There is no heads-up orientation wayfinding outside the station, which would orientate visitors on arrival to Tilbury. This is particularly important given the relatively indirect accessibility to the waterfront.
- **Opportunities:** Improvements to wayfinding at the station, that continues to key destinations in Tilbury and the surrounding area.

A2: Dock road, adjacent to the railway station, is a relatively low-traffic area lined with parked cars and commercial establishments.

- **Issues:** Although the requirement for cycle infrastructure in a low traffic environment is limited, there is a need to ensure visibility of cyclists and to ensure that cycling routes are legible.
- **Opportunities:** Improvements to cycling infrastructure, route legibility and wayfinding.

A3/A4: There is existing shared use provision to the north east of the station, and cycle parking located in a high natural surveillance area of the train station.

A5: There is a mixture of temporary NCN cycle wayfinding signage and standard TSRGD signage.

- **Issues:** Route legibility may not be clear for new visitors.

- **Opportunities:** Improvements to cycle route signage and wayfinding.

A6: The west of the train station is linked with a shared use surface.

- **Issues:** The pedestrian/cyclist environment on the west of the station is less attractive to walk and cycle on compared to the east (town centre) as there are high levels of HGV traffic. The area is secluded and does not provide formal or informal surveillance. The area does not provide lower level lighting for pedestrians and cyclists and has poor permeability.
- **Opportunities:** Improvements to lighting, crossing facilities, alternative bridge crossing opportunities for pedestrians and cyclists to provide more direct link between the town and fort area.

Town Centre

B1



C1



B1/C1: There is generally good/average provision for pedestrians throughout the core area of Tilbury Town, however provision for cyclists is variable.

- **Issues:** The route from the station to the town centre shows some evidence of lack of maintenance issues. Civic Square has faded cycle paths around it, which are poorly connected and may present a safety risk to cyclists due to their current configuration. There are a number of leisure facilities in the area which could be enhanced through better inter-connectivity.
- **Opportunities:** General walking and cycling improvements. Improvements to lighting, crossing facilities, route legibility, wayfinding and alternative bridge crossing opportunities for pedestrians and cyclists to provide a more direct link between the town and fort area.

Dock Road

D1



D2



D1/D2: Dock road is characterised by housing, industrial businesses and some derelict buildings. It is a generally low traffic route and is lined by parked cars.

- **Issues:** Some industrial units appear to reduce access to the footways. General lack of maintenance issues and poor route legibility and wayfinding. Parked cars can cause issues for cyclists.
- **Opportunities:** General improvements to the public realm and wayfinding. The path offers an opportunity to connect the Fort area with the train station via an existing or new pedestrian and cycling bridge.

D3



D4



D3/D4: There is an existing active travel footbridge connecting Dock Road with St. Andrew's Road.

- **Issues:** The bridge connects to Dock Road but there is no signage to indicate that the crossing is possible, before reaching the bridge. The bridge does not offer the most direct route for pedestrians and cyclists wishing to access the fort area, however is a viable crossing.
- **Opportunities:** The generally residential area offers a route from both the town and station towards the Port, Fort and waterfront area. There is a clear opportunity to improve the legibility of the route and to make some general walking and cycling improvements on the corridor.

Brennan Road/Fort Road



London Road



Footpaths



E1/F1: Brennan Road connects Civic Square to Fort Road and towards the waterfront by a bridge. It is a residential area and has good quality footways towards the town centre.

- **Issues:** Parked cars decrease the clear width of the footways. On Fort Road the footways are relatively narrow and terminate just south of the bridge. Pedestrians and cyclists are in close proximity to high speed HGVs.
- **Opportunities:** The area would benefit from general improvements to pedestrian and cycle infrastructure, parking management measures and appropriate speed limits and reduction measures. From an active travel perspective there is limited route legibility and there is significant opportunity to enhance connectivity and infrastructure south of the bridge.

G1/G2: London Road is residential with wide and pleasant footways which are separated from the road by greenery.

- **Issues:** There is lack of wayfinding on London Road which leads to a lack of route legibility in the area.
- **Opportunities:** The route offers a link from the Town Centre to the railway line, where there may be sufficient verge space to facilitate the installation of a new bridge crossing. This would need to be accompanied by appropriate walking and cycling infrastructure.

H1/H2: A footpath links Hume Avenue / The Beaches with the waterfront via path 144

- **Issues:** Path 144 is not very well signposted. It is a narrow path that is poorly maintained and is not lit. The path is secluded and doesn't allow for informal surveillance and this increases the likelihood of antisocial behaviour. The path connects to an uncontrolled railway level crossing, which presents real and perceived safety risks to both pedestrians and cyclists.
- **Opportunities:** Opportunity to close the level crossing and associated pathway to be replaced with a more convenient and accessible route, via a new bridge. The existing path could be maintained or closed, with associated wayfinding improvements.



I1: An at-grade uncontrolled railway crossing facilitates movement across the railway.

- **Issues:** The uncontrolled crossing presents significant real and perceived safety risks for cyclists and pedestrians. The area is not well-maintained and is also secluded.
- **Opportunities:** Opportunity to close the level crossing and associated pathway to be replaced with a more convenient and accessible route, via a bridge.



J1/K1: Footpath 144 continues past the Port of Tilbury vehicle storage area, giving access for pedestrians across Fort Road. The opposite footpath is shared use.

- **Issues:** The crossing is uncontrolled with a lack of route legibility. There is inconsistent signage and a number of chicane measures to prevent movement of livestock and deter motorbikes using footpaths.
- **Opportunities:** The route connects to Footpath 146 towards the waterfront, which is and offers wider connectivity options for a route that connects the town centre to the waterfront. There is an opportunity to rationalise signage and livestock management measures.



L1/L2: Footpath 146 facilitates access to the Fort area by a greenfield route.

- **Issues:** The path has poor accessibility from Fort Road, where there is not a continuous footway. The footpath is not suitable for mobility impaired users. There is a stile which bans motorbikes but creates an obstacle for pedestrians and cyclists to traverse. This is a bespoke structure that presents potential safety issues.
- **Opportunities:** Improve access to the footpath, improve wayfinding and adjust the motorbike deterrents / stile. Alternative routes for mobility impaired users should be provided.



Connectivity around the port

On site visits undertaken on the February 22nd and April 4th 2017, key observations have been noted around the port area, from the waterfront towards Asda roundabout. This section details these observations and presents further issues and opportunities. These observations have been used to assist with option identification and to determine future improvements.

The map below identifies observation locations, which are presented in more detail in the remainder of this section.

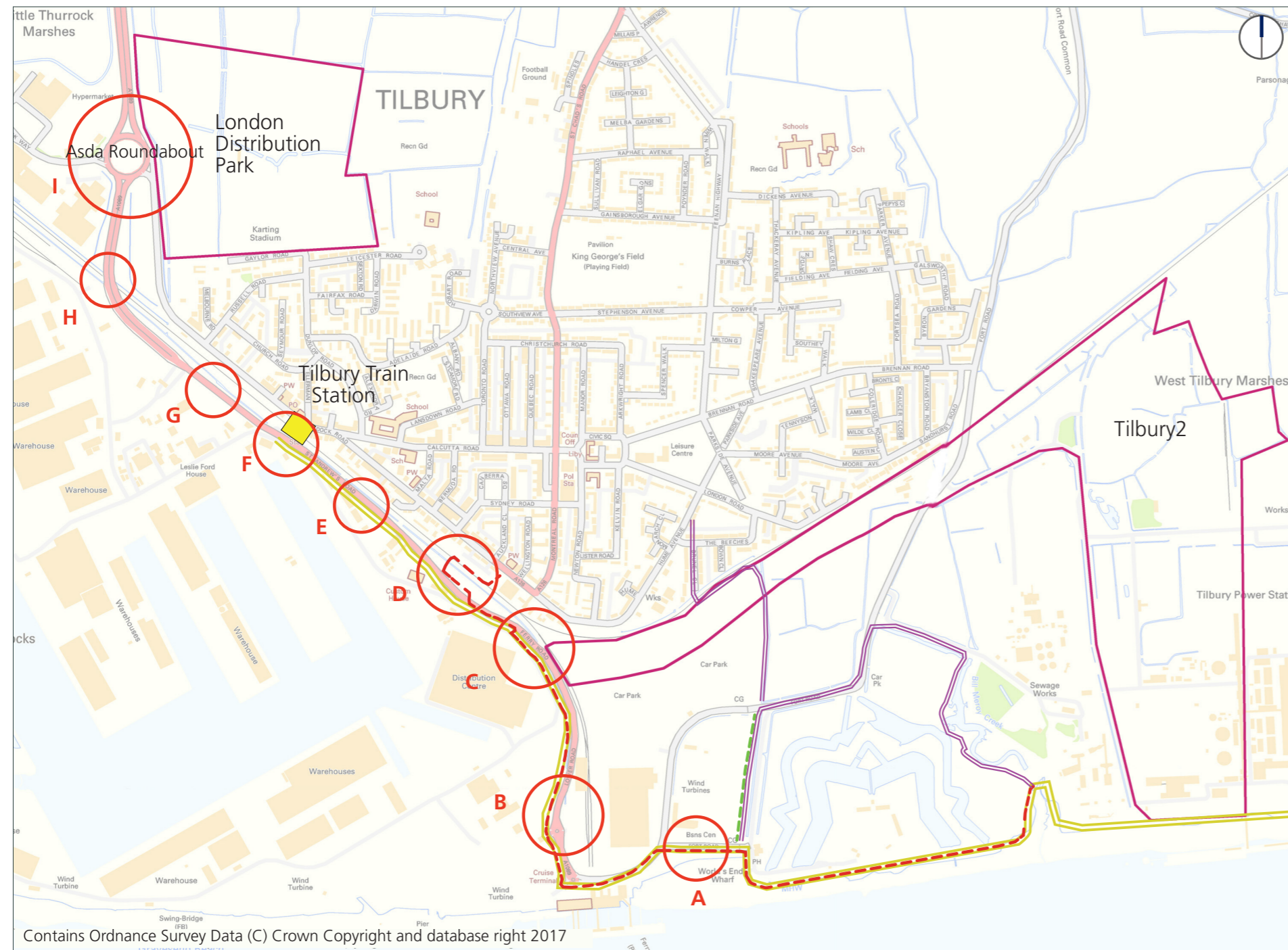


Figure 43: Observation Locations - Map source OS Opendata

Waterfront

A1



A2



A1/A2: The path along the waterfront is well-maintained and is shared between pedestrians (Thames Estuary Path) and cyclists (NCN 13) It is good quality and is well-sign posted. The path offers an opportunity to connect the Fort area with the train station for both pedestrians and cyclists.

- **Issues:** The route legibility from the Town centre is variable and depending on route choice, requires the use of an uncontrolled level crossing over the railway.
- **Opportunities:** Opportunities to improve connections to and from the waterfront area.

St Andrew's Road

B1



B2



B1/B2: St Andrew's Road connects the Port of Tilbury with Fort Road to the south and onward destinations to the north.

- **Issues:** The permeability on the A1089 is low with uncontrolled crossing not aligned with pedestrian desire lines. The footway is relatively wide and is currently shared use.
- **Opportunities:** Improvements to crossing facilities and dropped kerbs can create more comfortable crossing opportunities for pedestrians and cyclists to provide more direct link between the train station and fort area.

C1



C2



C1/C2: A section of the shared use footway deviates onto a shared use surface, adjacent to St Andrew's Road.

- **Issues:** The section of footway is relatively secluded as it is bordered by the port frontage and an island of greenery. There is thus no formal or informal surveillance, but the footway provides a direct route from the riverside to the station.
- **Opportunities:** This is a pleasant area to walk and cycle on as it is relatively wide and separated from the high speed HGV traffic.



D1: An uncontrolled crossing facilitates movement from the eastern shared use footway to the western footway and access to the bridge.

- **Issues:** There is an uncontrolled crossing with dropped kerbs to the south of Hairpin footbridge but it is located on a blind bend. The crossing joins up the shared path route. There is no sign-posting prior to reaching the bridge indicating its presence.
- **Opportunities:** The crossing can potentially be moved to a better location. Sign-posting the bridge can create more opportunity to using it by pedestrians and cyclists as they can plan their route to cross St. Andrew's Road before abruptly reaching it.

D2/D3: A pedestrian / cycle bridge facilitates crossing over the railway line for access to the town centre from the port.

- **Issues:** The footbridge to the south of the station may not be in accordance with Equality Act (EA) requirements for both gradient, landings and entry/exit. The footbridge does increase permeability in the area and is accessible for cyclists (although may exceed recommended ramp gradients). The bridge is decorated to discourage unsocial behaviour and graffiti. The bridge does not offer the most direct route for pedestrians and cyclists wishing to access the fort area from the Town Centre, although this is a viable route.
- **Opportunities:** Improvements to the existing bridge, accesses and wayfinding and / or an alternative bridge crossing for pedestrians and cyclists to provide more direct link between the town and fort area.

E1/F1: Footways towards the railway station.

- **Issues:** The footway north of Hairpin bridge degrades in quality compared to south of the bridge. There is some wayfinding and onward information outside the station on St. Andrew's Road
- **Opportunities:** The footway can potentially be re-surfaced and maintained. There can be more information available for users exiting the rail station about the route to the fort (distance and time).



G1/G2: The footway continues on the west of St Andrew's Road through the port and towards Asda Roundabout

- **Issues:** The route towards the roundabout is relatively narrower so pedestrians are closer to the high speed traffic (which includes a big percentage of HGVs). Permeability between the eastern and western footways is low as well as permeability crossing north on the Port of Tilbury for example where there are HGVs accessing and exiting.
- **Opportunities:** General improvements to the environment, including lighting. The path offers an opportunity to connect the train station to developing areas of employment to the north.

H1/I1: A bridge on St Andrew's Road facilitates movement between the port and Asda Roundabout

- **Issues:** The footway on the bridge on St. Andrew's Road is narrow. It is not a pleasant route as pedestrians are close to high speed traffic (which includes a large percentage of HGVs). Permeability is an issue around Asda roundabout where there is limited crossing opportunity
- **Opportunities:** Enhancements to the footways and creation of more frequent formal crossing opportunities. This will provide better connections to the north and to new development areas.

H1/I1: A bridge on St Andrew's Road facilitates movement between the port and Asda Roundabout

- **Issues:** The footways are not maintained around the roundabout and there is some conflicting signage at times.
- **Opportunities:** Improvements to footways, crossing facilities, and signage for pedestrians and cyclists to provide more direct link between the roundabout and the station.

Thames Estuary Path

On site visits undertaken on the February 22nd and April 4th 2017, key observations have been noted around The Thames Estuary Path. This section details these observations and presents further issues and opportunities. These observations have been used to assist with option identification and to identify future improvements.

The map below identifies observation locations, which are presented in more detail in the remainder of this section.

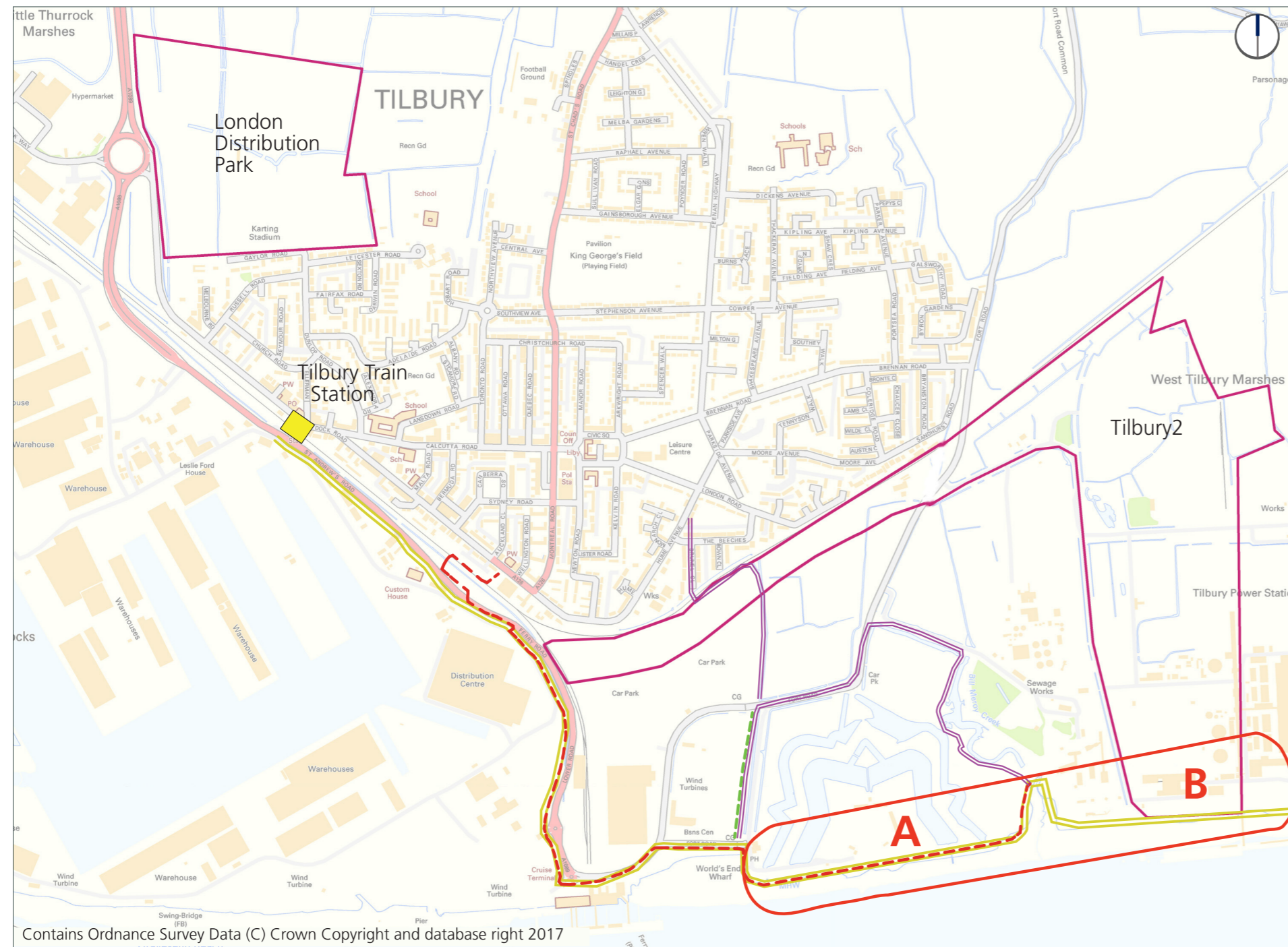


Figure 44: Observation Locations - Map source OS Opendata

Tilbury Fort Waterfront



A1/A2: The Thames Estuary Path along Tilbury Fort Waterfront is a good quality infrastructure and provides a scenic view. It is well-maintained.

- **Issues:** The path then reaches a gate that stops bikes from going through and continues to steps which lead to the continuation of the TEP. These steps accommodate bicycles to cross over as well.
- **Opportunities:** Enhancing other sections of the TEP and connecting improved infrastructure with this section of the path will lead to connected and direct links for pedestrians to the Waterfront and even towards East Tilbury.

Tilbury2 Waterfront



B1/B2: The Thames Estuary Path continues over the sea defence and progresses along the shoreline.

- **Issues:** The next section of the TEP is sign-posted with a warning sign about the high tide. This sign has been vandalised and it is not clear how much risk is associated with using the path at or close to high tide. Ladders at regular intervals would allow users to cross behind the sea defences.
- **Opportunities:** There could be potential to move the Path behind the sea defence, however this would completely alter the nature of the Thames Estuary Path. General improvements could be made, including surface treatments and signage.



B3/B4: Bridges cross the Thames Estuary Path in order to facilitate access to jetties

- **Issues:** Low bridges may require cyclists to dismount, however there is limited signage relating to headroom.
- **Opportunities:** Improved signage and improvements to lighting and security in the area are key to encourage pedestrians and cyclists to use this path.



B3/B4: The surface condition of the Thames Estuary Path presents a barrier to cyclists and mobility impaired users.

- **Issues:** The surface is wide enough to accommodate pedestrians and cyclists but has issues in some sections and is not consistent as the surface of the waterfront of Tilbury Fort.
- **Opportunities:** Opportunity to enhance the surface along the route to make it more even and potentially maintain it from high-tide residue. Moreover, improvements to lighting and security for pedestrians and cyclists will provide a more safe environment.

B7/B8/B9: There is space adjacent to the flood defence which could be used to improve walking and cycling provision

- **Issues:** There would be significant barriers to using this space and there could be large environmental impact in terms of vegetation clearance.

Summary of active travel issues and opportunities

A review of background information and site visits to ascertain the condition and provision of localised active travel infrastructure indicates a number of key issues and opportunities in the area.

- The existing uncontrolled level crossing (which facilitates the most direct north-south link from the Town Centre across the railway line) has both real and perceived safety issues. Combined with a rolling programme of level crossing closures administered by Network Rail, this facility becomes increasingly undesirable.
- Access to the existing uncontrolled level crossing from the centre is via a poorly maintained footpath, with limited natural surveillance. This leads to the route having increased personal safety risks and increased likelihood of antisocial behaviour.
- The legibility of current routes to and from the town centre is poor, especially for visitors to the area who do not possess local knowledge. This results in under utilisation of key infrastructure assets and may discourage walking and cycling.
- Although signposted in places, the legibility of routes to the town centre and waterfront is poor and improving legibility, for example through wayfinding or public realm improvements, could improve utilisation of routes.
- There are a number of poorly maintained cycle lanes and poorly maintained cycle infrastructure.
- A number of footways have poor or misaligned dropped kerb / crossing provision and there are a number of footways that are not continuous.

In addition to existing issues, the development of Tilbury2 could result in a number of changes to the active travel environment:

- North-south links are likely to be severed to an extent, which presents an opportunity to maintain or improve provision, either through new infrastructure, or increasing utilisation of existing infrastructure.
- East-west links, south of the railway line, are likely to be improved through the provision of a new shared use footway.
- HGV traffic is likely to be routed predominantly on the Tilbury2 Highway corridor, presenting an opportunity for a much quieter roadside environment adjacent to the waterfront area.

There are a number of types of improvements that could be used to improve active travel connectivity, based on current issues and potential future changes to the active travel network:

- Consideration of closure of the Network Rail uncontrolled at-grade crossing (providing provision is improved elsewhere).
- Potential introduction of a new north-south route and potential bridge over the existing railway corridor and new Tilbury2 transport corridor, dependent on the likely value for money.
- General improvements to active travel connectivity that complete current 'gaps' in the network.
- Consideration of speed limit alterations, to improve the active travel environment.
- Improved wayfinding to ensure that current assets are utilised appropriately.

The figure overleaf, presents potential locations for such schemes.

Potential active travel improvements

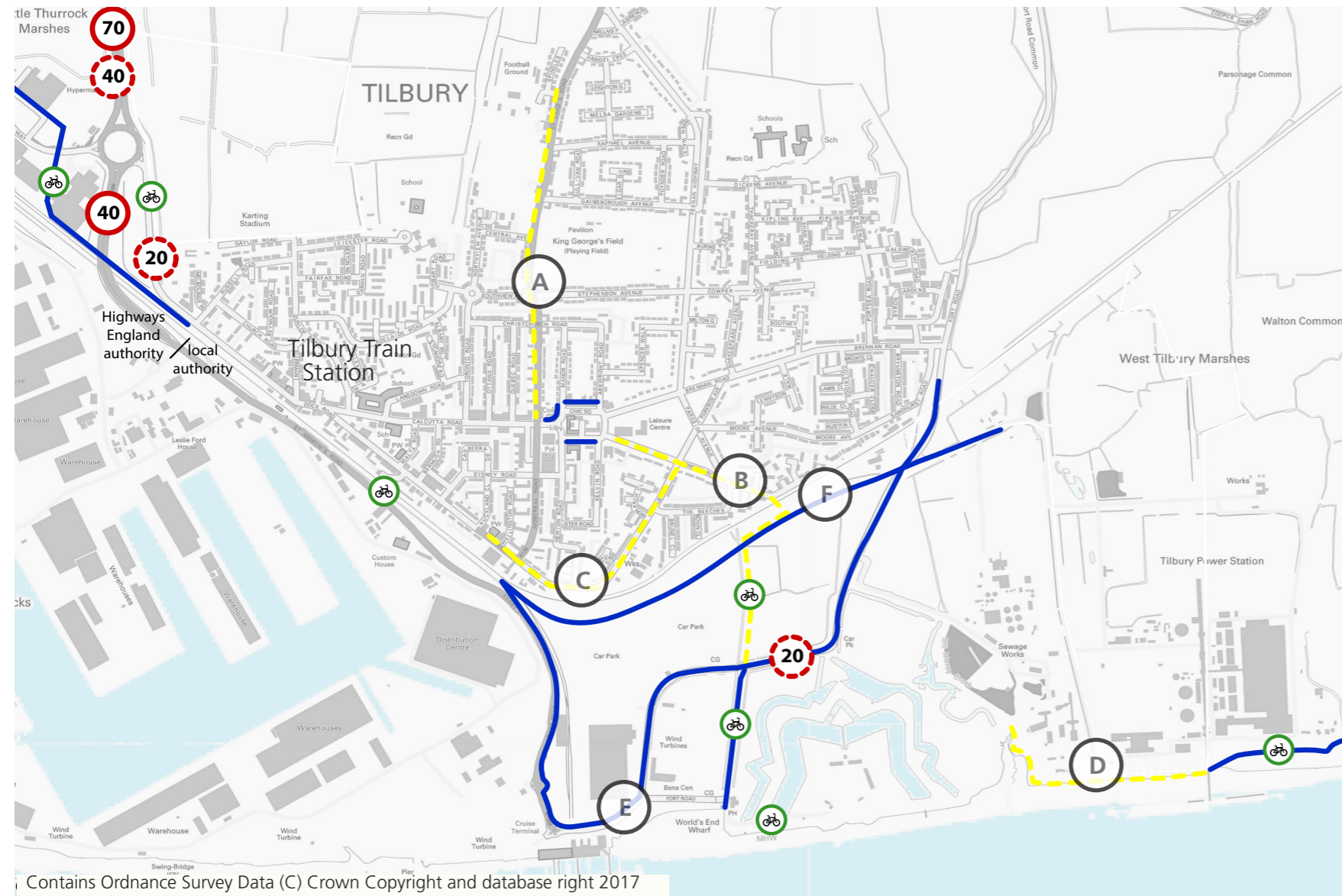


Figure 45: Proposed cycle network improvements

Legend:

- Existing cycle facility
- Proposed cycle schemes
- - proposals for consideration
- off-street facility
- speed limit
- potential revised speed limit

Further schemes have been put forward in order to complete 'gaps' in the active travel network, potentially in addition to the implementation of proposed improvements described in Chapter 3.

A: Creates a new link between Tilbury and Chadwell, providing the missing connection with existing infrastructure.

B: Footway widening along Calcutta Road and conversion into shared use. Improves walking and cycle access to nearby schools and Tilbury Rail Station.

- Installation of a new bridge and closure of the at-grade crossing.
- Civic Square to bridge (via London Road): Improved cycle lanes.
- Improved infrastructure south of the railway line.

C: involves the widening of existing cycle lanes along Brennan Road, potentially extending to Hume Avenue.

D: TEP towards East Tilbury : Improvements to facilitate cycling

E: The creation of a new quietway with HGVs routed on the Tilbury2 Highway Corridor.

F: Improved east-west links facilitated by the Tilbury2 highway corridor.

General wider improvements:

- Closure of the at-grade uncontrolled railway crossing
- Improvements to wayfinding
- General infrastructure maintenance improvements.
- Speed limit alterations.
- Cycle hire scheme.

These various options are discussed in more detail in the remainder of the report.

Chapter Summary

An overview of issues and opportunities in terms of active travel in and around Tilbury, based on site visits have been presented in this chapter.

There are issues and therefore opportunities to improve infrastructure in the following areas:

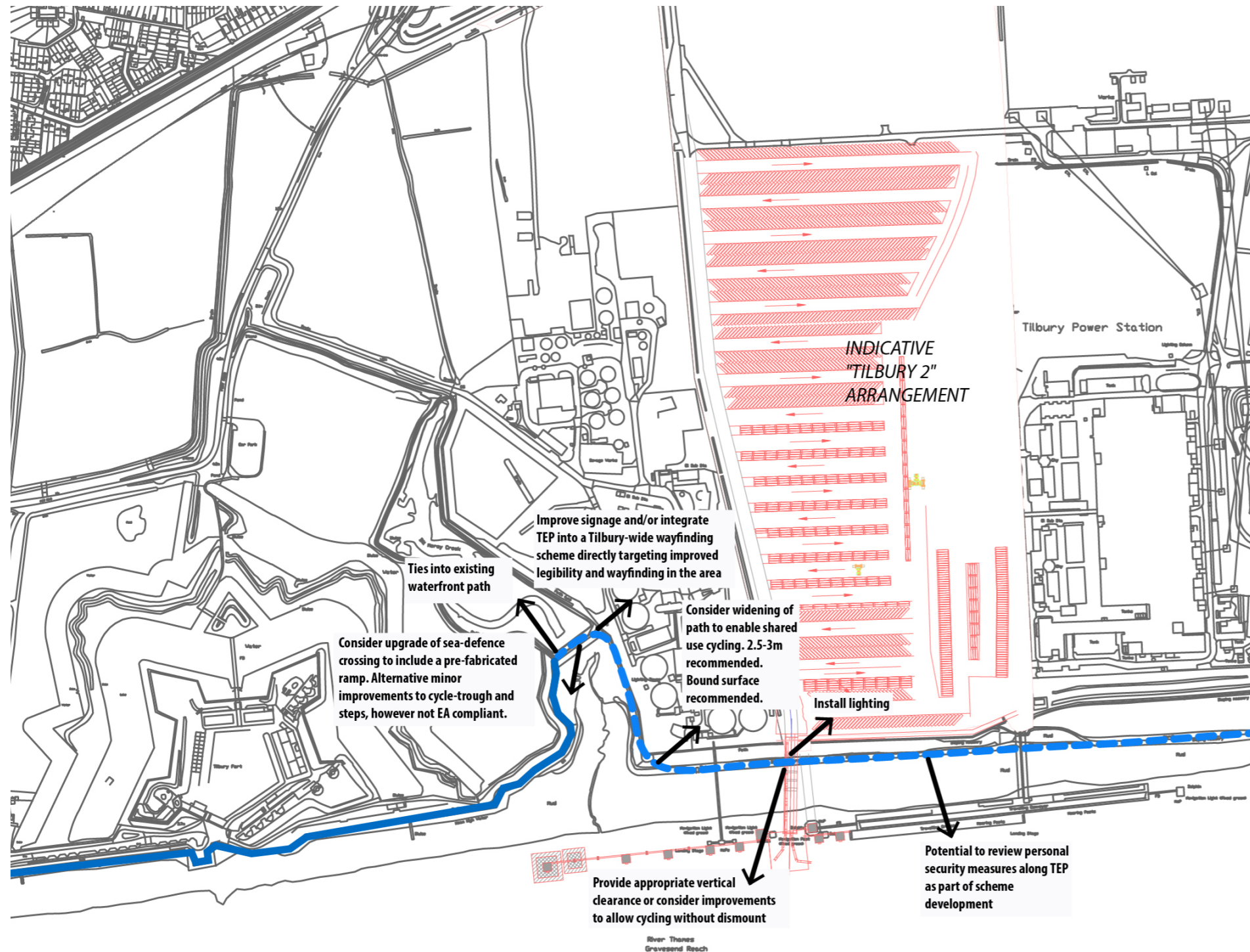
- **Connectivity between the town centre, train station and waterfront:**
- **Connectivity around the port**
- **Thames Estuary Path**

Package Development

This section presents wider active travel options that can be considered to enhance the active travel network in Tilbury. Options are aimed at improving provision, legibility, connectivity and safety for pedestrians and cyclists and could be used as a basis for stakeholder consultation.

5

Package 1: Improving the Thames Estuary Path adjacent to Tilbury2



The adjacent figure presents potential proposals for improving the Thames Estuary path adjacent to the Tilbury2 scheme. When combined with proposed improvements being taken forward by Thurrock, these improvements could facilitate a shared use facility to East Tilbury, in particular for leisure users.

It would be possible to develop an Equality Act compliant ramp that facilitates access for all users, however, due to current flooding issues (whereby emergency exit from the path is provided by ladders), this is likely to present significant personal safety issues in the event of flooding.

The Tilbury2 development will result in a new RoRo ramp being installed over the Thames Estuary path and potential clearance mitigations are discussed overleaf.

Figure 46: Package 1- Improvements to Thames Estuary Path

Low bridge Mitigation (goes with TEP option)

In order to assess the suitability and impact of the RoRo bridge construction on the Thames Estuary Path, existing design guidance from Sustrans and the Highways Agency was investigated, and the following requirements were found for the proposed options:

- the recommended width should be 4m (3m for light use) for an unsegregated path for pedestrians and cyclists
- Minimum headroom should be 2.4 metres
- daylight penetration should be utilised wherever possible. Routes outside built-up areas used primarily for recreation would not normally need to be artificially lit, except where there are road safety concerns

While there is some flexibility regarding the extension of cyclist and pedestrian paths under existing bridges, even those with substandard headroom (under 2.4m), new construction should meet existing standards where possible, according to the Highways Agency Standards. However, Sustrans considers it preferable to have "substandard" clearance than either a blockage, a dangerous road crossing, or the disruption of a greenway. Where a strict adherence to the 2.4m clearance would mean having no route, it is preferred to give appropriate warnings and keep the continuity of the path.

There are instances of paths passing under bridges with a headrooms as low as 1.5m whilst still being a safe and popular routes.



Figure 47: Coppermill Lane in the Lee Valley (1.5m headroom)

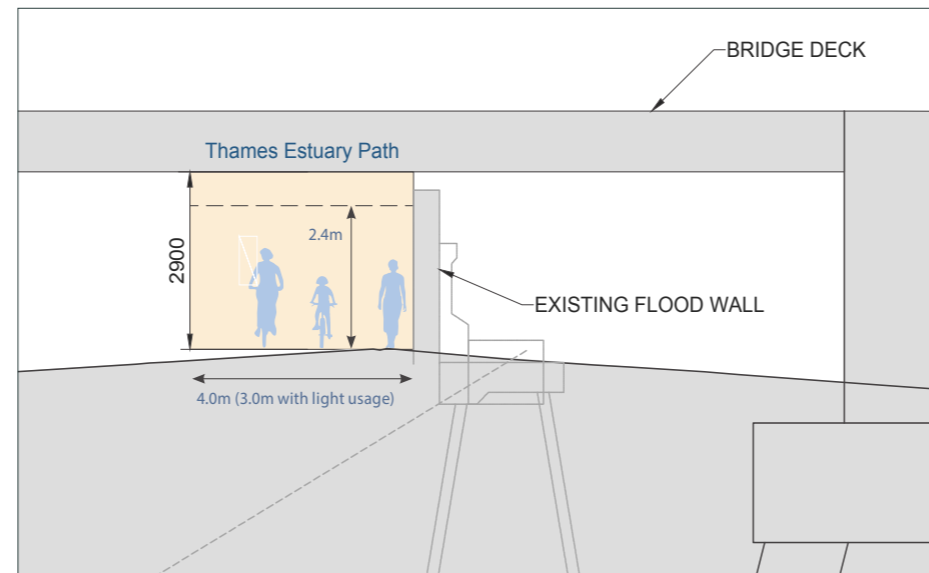


Figure 48: RoRo Access Bridge Option 2 with appropriate clearance

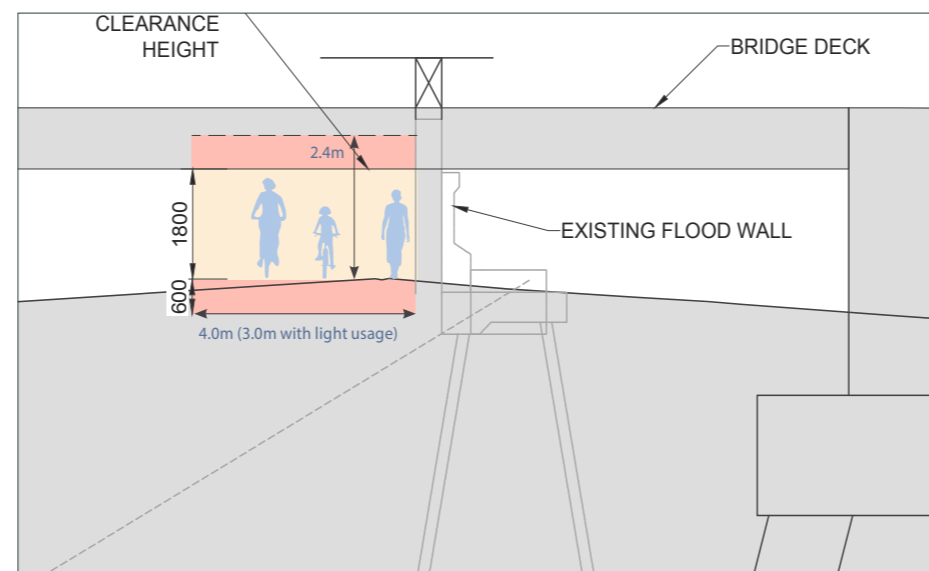


Figure 50: RoRo Access Bridge Option 1

References:

Sustrans Design Manual. Chapter 8 Bridges and other structures, 108. Bristol: 2015.
 Department for Transport. Traffic Signs Manual. Chapter 4 Warning Signs, London: 2013
 Sustrans Design Manual. Handbook for cycle-friendly design. Bristol: 2014.
 Department for Transport. Local Transport Note 2/08. Cycle Infrastructure Design. London: 2008.

Mitigating substandard clearance

- The use of black and yellow hazard markings helps to make the vulnerable parts of the structure more conspicuous (see Figure 40)
- Blister paving can help make cyclists aware of upcoming hazard
- "SLOW" road markings ahead of hazard to reduce speeds
- Extra headroom can be found by lowering the path (even to below water level)
- Ramps leading to the bridge underpass should be between 3%-5% (20metres or 12 metres long respectively)
- Flooding warning signs should be provided if path is likely to collect water during high tide
- Appropriate drainage should be provided
- Cyclist dismount signs are not recommended

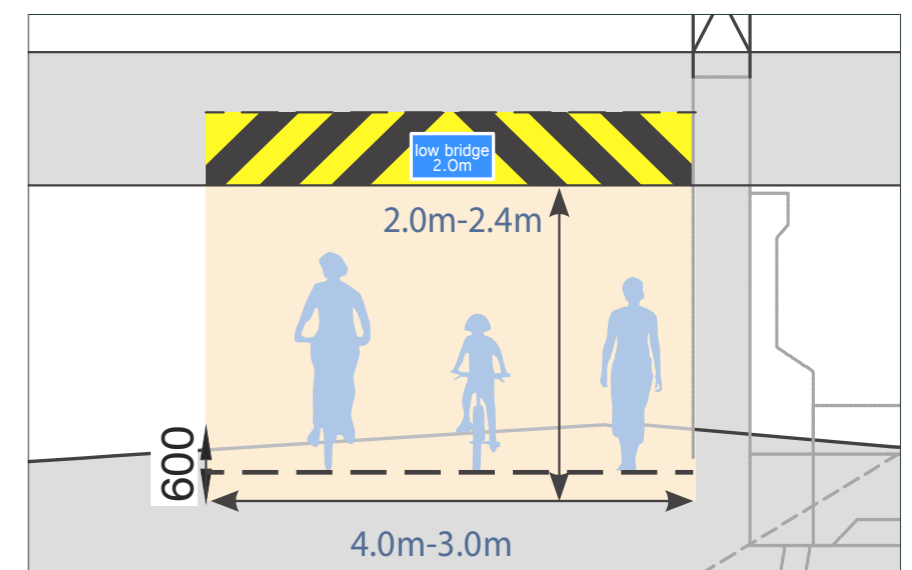
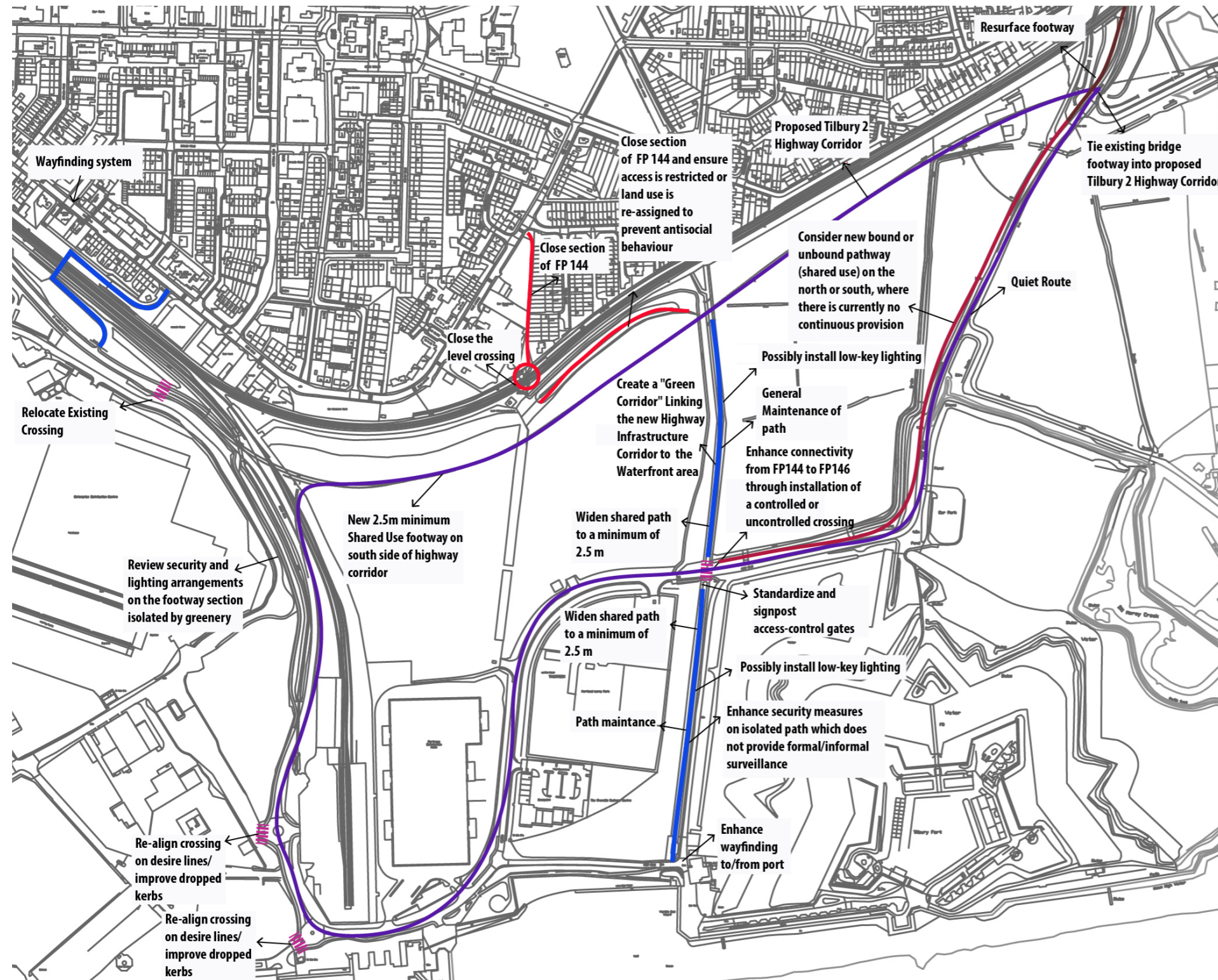


Figure 49: A proposed path configuration for Option 1 (substandard clearance)

Package 2: Improving connectivity around the waterfront

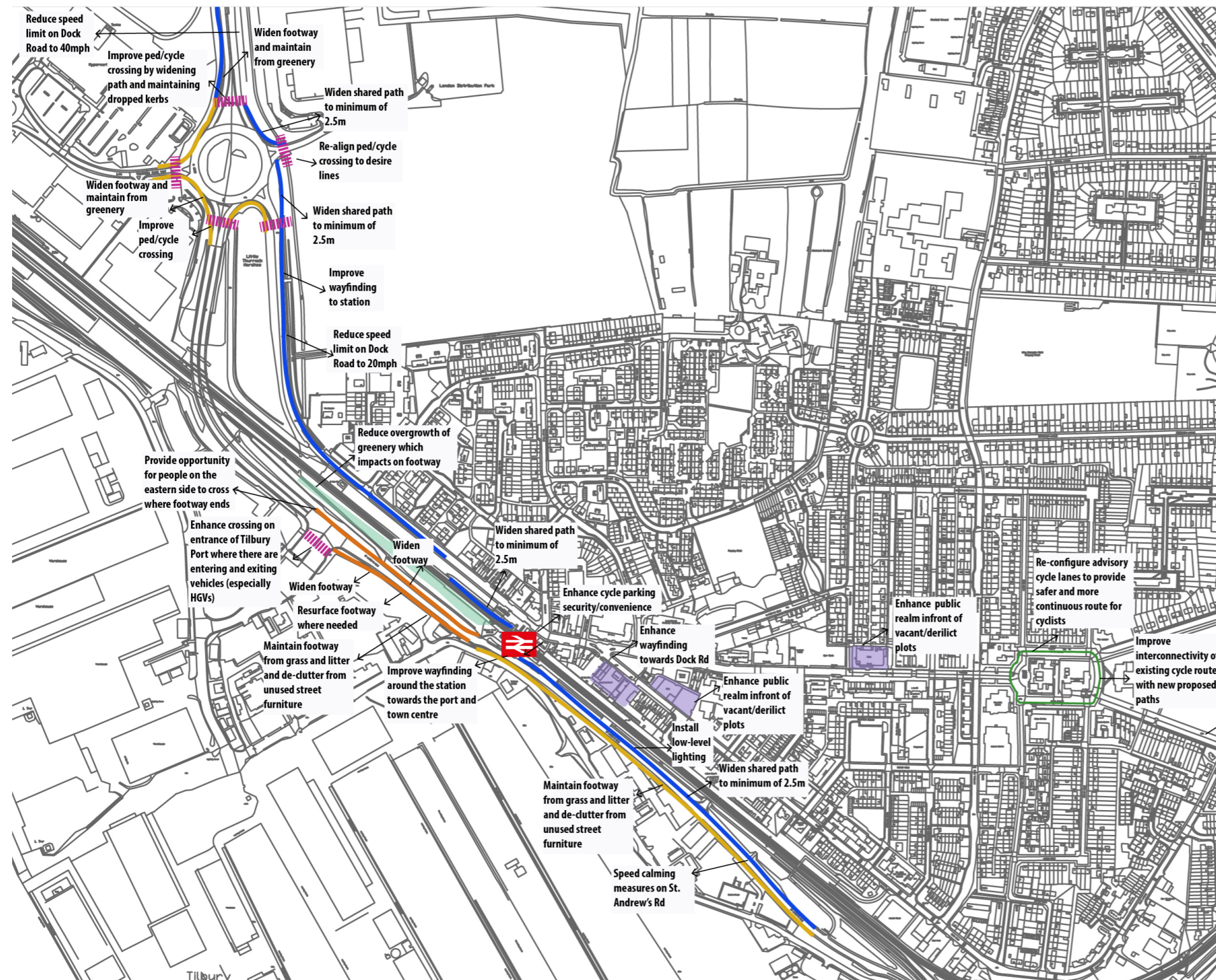


The adjacent figure presents a potential package of measures to improve connectivity around the waterfront area.

Existing footway widths are to be retained where there is a space limitation.

Figure 51: Package 2 - Improve connectivity between the port, town and waterfront

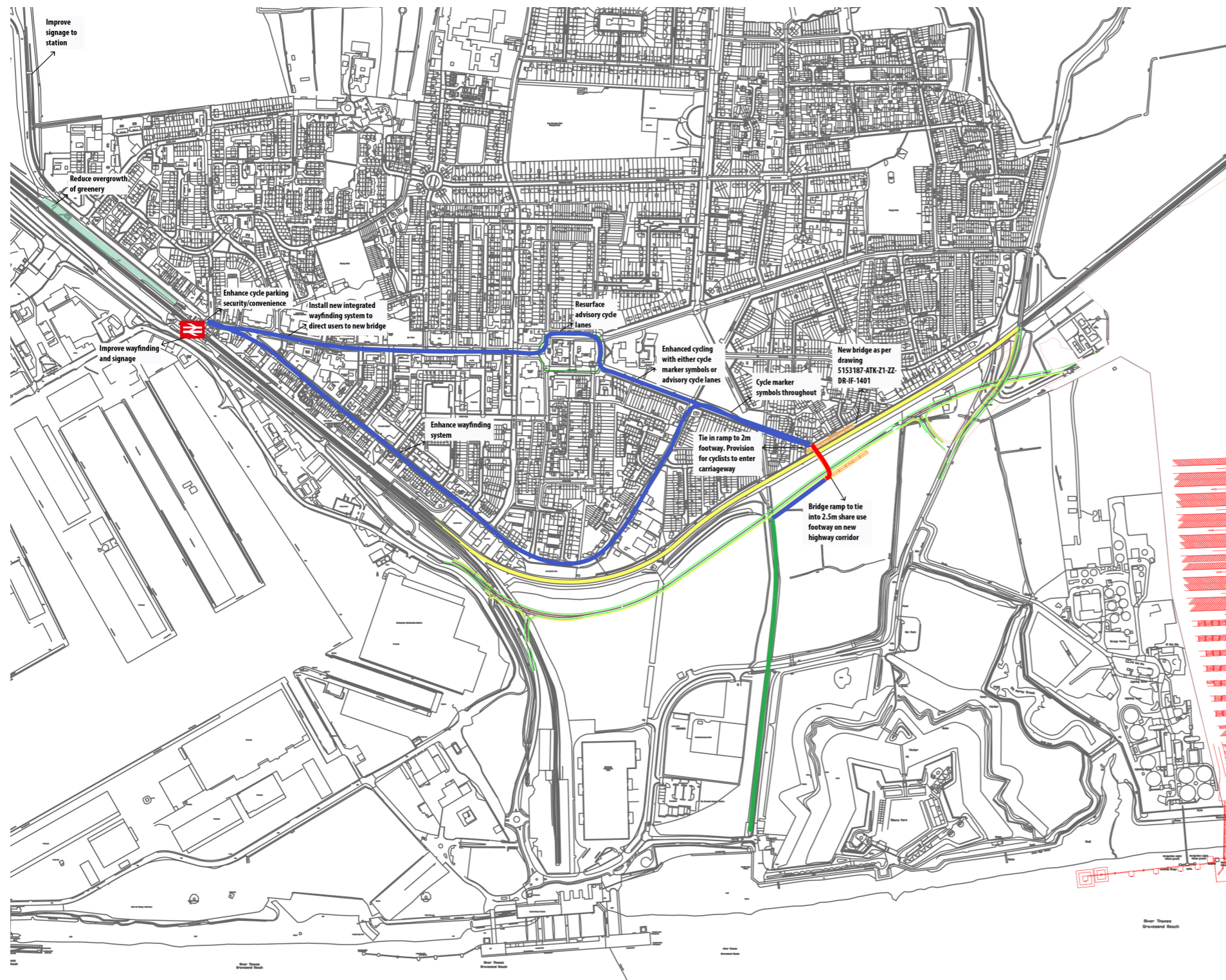
Package 3: Improving wider connectivity



The adjacent figure presents a package of potential measures for improving wider connectivity.

Figure 52: Package 3- Improvements to connecting Grays routes

Package 4: Installation of a new bridge



A new bridge was considered, as presented in Appendix B. Due to cost and potential barriers to delivery, this was not taken forward as an option.

The adjacent figure presents the potential route and additional infrastructure required to facilitate any bridge crossing.

Figure 53: Package 4-Cycling network improvements

Additional option: Wayfinding scheme

Tilbury suffers from poor route legibility, especially from key arrival locations such as the train station. The area would benefit from a comprehensive wayfinding scheme around the station, town centre, and the waterfront that enables users to locate their destination and key routes.

Wayfinding schemes put distances and routes into perspective for pedestrians and cyclists and highlight key destinations via designated footpaths and cycle paths.

Importantly, wayfinding schemes also contribute to enhancing the image of the town by creating signage with a local identity. In Tilbury, for example, the design of a wayfinding scheme may build upon the historic nature of the area and its' industrial significance.

Key aspirations of a scheme for Tilbury would be to improve the image, identity and user experience of the area for the benefit of residents, businesses and visitors alike.

A number of key steps are required to deliver a wayfinding scheme. Fixed costs include the development of the overall scheme design and base map, with the remainder of the costs influenced by the type and extent of wayfinding infrastructure installed. For Tilbury key initial focus areas should be the Town Centre, Train Station, Port, Waterfront, Thames Estuary Path and routes to and from the town.

The adjacent figure presents the design for the Southampton Legible City wayfinding scheme, which builds upon the maritime heritage of the area to give the scheme an identity and makes use of "heads up" mapping to improve the legibility of routes and increase utilisation of under used walking and cycling assets.



Figure 54: Southampton Legible City

Additional option: Potential bike share / hire scheme

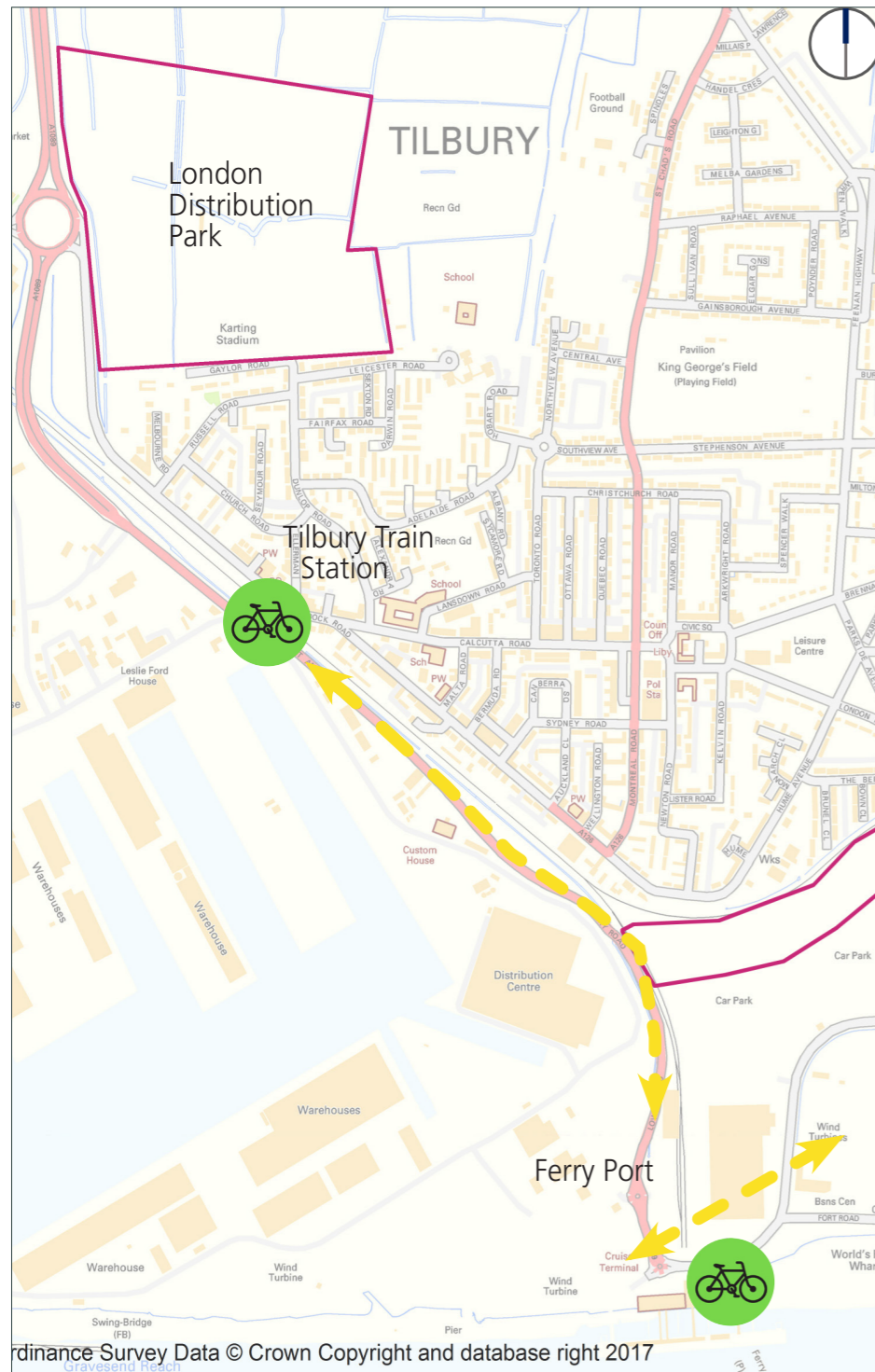


Figure 55: Bike Share - Map source OS Opendata

Bike share as defined by 'Bikeplus' is "any setting where cycles are pooled for multiple users." Subject to sufficient demand and levels of stakeholder support, there is potential for a bike share scheme in Tilbury which could initially have docking stations in Tilbury Train Station and the ferry port.

Docks could be provided at local business such as the Port of Tilbury, distribution warehouses and commercial establishments. In theory this could facilitate travel between the ferry, train station and local businesses for those that travel to work on public transport and would consider using a bike for the 'last mile'.

In addition bikes could be hired for leisure purposes in order to explore the local surroundings, including the waterfront area and fort (which additional docking stations placed at key locations). Consideration would need to be taken to ascertain the suitability of people using hire bikes on the Thames Estuary Path.

There are a number of potential benefits of bike share schemes, according to 'Bikeplus':

- Improves health and well-being by increasing the number of cycle trips.
- Supports public transport.
- Reduces car miles driven.
- Provides improved access to jobs, education and amenities with "first / last mile" connectivity issues and pay-as-you-go cycling.
- Develops tourism by offering an enjoyable way to link city leisure facilities.
- Improves road safety by increasing visibility of cyclists.

Bike share schemes do, however, come with associated risks and there are several considerations when designing a bike sharing scheme:

- Consider the **business model** to finance the scheme. There are three general business models which are 100% publicly managed, 100% private, and a partnership approach. This depends if there is adequate public funding for the scheme, whether the risks can be managed by

the public sector, and if there is appetite from private operators with sponsorship/advertisement potential. Marketing and maintenance are crucial for the success of the scheme.

- **Number of bikes** will be related to the latent demand. This can be increased incrementally based on usage when the scheme is functional. According to the ITDP Bike Share Planning guidance, an ideal station density is approximately ten to sixteen stations per square km, the bike to population ratio should be large enough to meet demand, but not so large as to have too few uses per bike, and having more docking spaces than there are bikes is critical to ensure that there will be parking space for a bike at multiple locations.
- **Docking stations** should be well-integrated within the public realm. They can have electrical supply or use solar power.
- **Bikes should be well-designed** with features such as luggage carriage, seat adjustment, lights and gears. They can also be potentially used as advertising space. There could be potential to introduce electric bikes to the scheme.
- **The registration and hire interface** should be made simple and efficient as the scheme should cater for commuters and tourists. It should be inclusive with the choice to register in variety of ways and should allow for the option of registering without internet access.
- The **pricing** structure should be designed to encourage short local trips.

New generation bike hire schemes can minimise the level of capital investment through the use of "smart locks" and apps, which reduce the need for formal docking stations, however there is a level of annual operational expenditure required to run and maintain any scheme and this varies in proportion to the size of scheme and model adopted.

Chapter Summary

In this chapter, improvements are presented within packages that address the issues and build on the opportunities:

- Package 1: Improving the Thames Estuary Path adjacent to Tilbury2 building on the proposed improvements being taken forward by Thurrock, these improvements could facilitate a shared use facility to East Tilbury, in particular for leisure users.
- Package 2: Improving connectivity around the waterfront through some site specific improvements generally relating to enhancing wayfinding, closing the level crossing and sections of FP 144 and maintaining alternative routes to connect to the waterfront.
- Package 3: Improving wider connectivity around the station through some site specific improvements relating to improving pedestrian and cyclist crossings and paths as well as wayfinding to the station.
- Package 4: A new bridge was considered but this was not taken forward as an option.
- Wayfinding scheme: Wayfinding schemes put distances and routes into perspective for pedestrians and cyclists and highlight key destinations via designated footpaths and cycle paths.
- Additional option: Potential bike share/hire scheme: Docks could be provided at local businesses such as the Port of Tilbury, distribution warehouses and commercial establishments. In theory this could facilitate travel between the ferry, train station and local businesses for those that travel to work on public transport and would consider using a bike for the 'last mile'.

Summary and Next Steps

6

Summary

This interim report has presented a number of key options for consideration as potential walking and cycling connectivity improvements.

Improvements to the Thames Estuary adjacent to Tilbury2 to facilitate a continuous waterfront shared use path, in combination with Thurrock Council measures.

Advantages:

- Significantly improves connectivity.

Disadvantages:

- Route unlikely to be EA compliant due to stepped access and the flood-defence ladders.
- Potential deliverability issues could increase costs, however the section is relatively short and works could be combined with the Tilbury2 development programme.

General improvements in the waterfront area to improve the nature of the area for active travel, including a quiet route, improvements to east-west connectivity, and improvements to ensure better utilisation of the current 'hairpin' bridge crossing.

Advantages:

- Improves connectivity and continuity of infrastructure over a relatively wide area, that could benefit a range of users, especially leisure users.
- East-west shared use path can be delivered with the Tilbury2 highway corridor.

Disadvantages:

- Introduction of a 20mph speed limit will increase travel time for motor vehicles (however, this is a significant advantage for active travel users).

Wider improvements to walking and cycling infrastructure in Tilbury to improve the walking environment and to improve the continuity of cycling infrastructure.

Advantages:

- General improvements to walking and cycling infrastructure can offer connectivity improvements to a wider range of users.
- Lower cost and can easily be combined with other packages and phased.

Disadvantages:

- Unlikely to offer a 'step-change' in provision unless combined with other options.

A cycle hire scheme which could facilitate 'last mile' commuter connectivity between the ferry, railway station and places of work. This could also be used for leisure cyclists wishing to view historical and industrial attractions in the area.

Advantages:

- Could encourage further uptake of public transport modes for commuting, if cycling the 'last mile' is attractive.
- May encourage more leisure activity on the waterfront.

Disadvantages:

- Potential operational issues.
- Operational costs.

A comprehensive wayfinding scheme to improve legibility of current routes and give Tilbury a unique identity for both residents and visitors.

Advantages:

- Improves the legibility of current routes to improve utilisation.
- Can create a unique identity, especially for those arriving in Tilbury as visitors.

Disadvantages:

- Fixed cost elements regardless of scheme size.

Closure of the uncontrolled at-grade level crossing to improve actual and perceived safety.

Advantages:

- Removes both a potential safety risk and offers the potential to close an under-maintained footpath that could attract antisocial behaviour.

Disadvantages:

- Severs a north-south connection so should be combined with improvements elsewhere. Could include re-assigning the associated pathway as a community garden.

A new active travel bridge to improve connectivity between the town and waterfront (See Appendix).

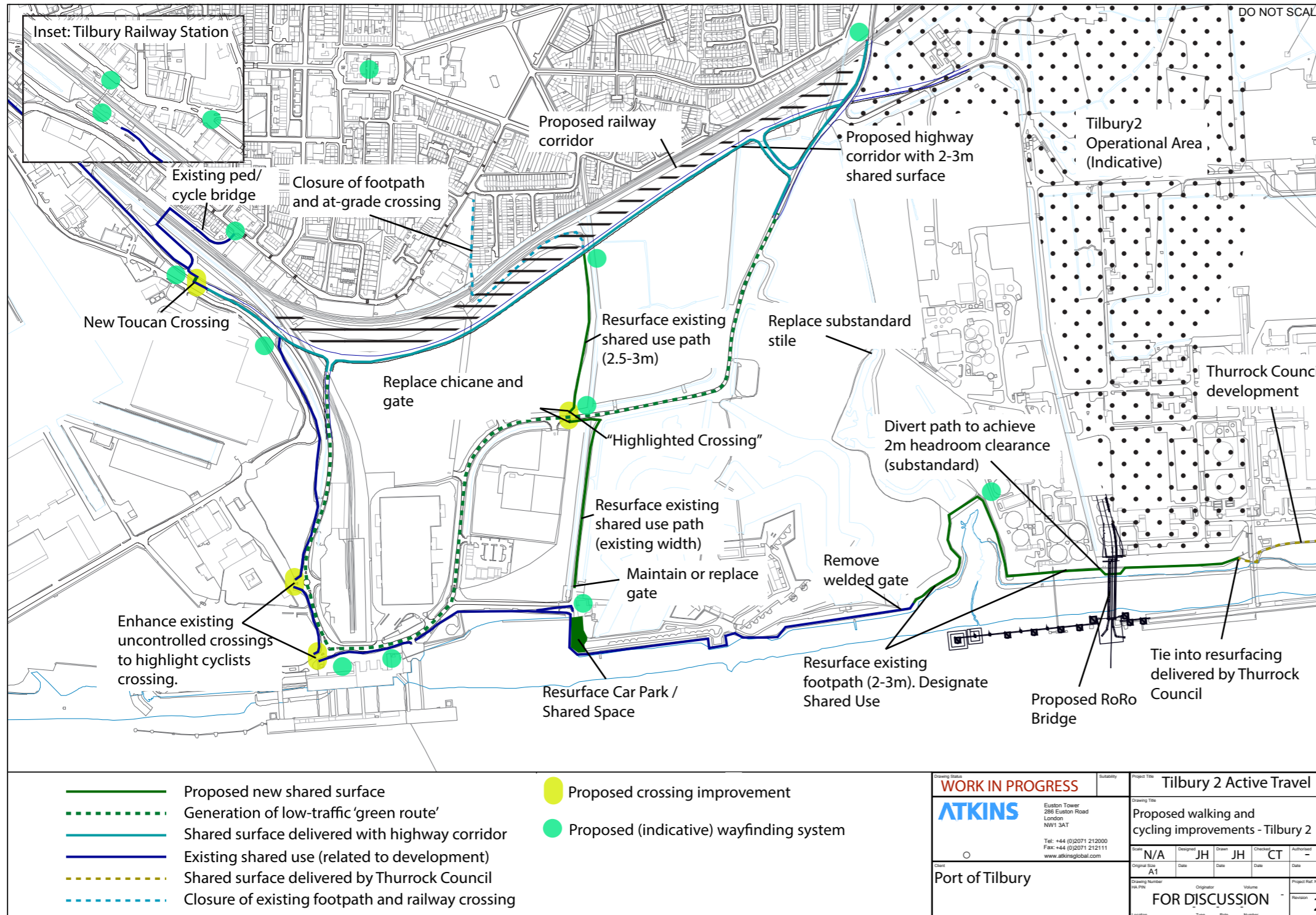
Advantages:

- Improves connectivity between the town and waterfront.
- Reduces severance caused by the Tilbury2 transport corridor.

Disadvantages:

- Likely low levels of demand (based on observations of existing hairpin bridge and uncontrolled crossing usage).
- Very high costs.
- Likely low value for money, compared to other investments that could benefit a large number of active travel users.

Initial Active travel improvements for discussion



Next Steps

The initial high level proposals presented in this report are subject to further development and a number of key steps need to take place to identify preferred options. Although some interventions should be prioritised, it is not possible at this stage to recommend a single preferred option.

Key steps should include:

Engagement with key walking and cycling groups

- Key to this stage is to engage with groups, such as Sustrans, in order to assess the level of support for various intervention options.

Engagement with local stakeholders

- This is a key stage to enable local residents and business groups to engage with the design process. Not only should stakeholders be given the opportunity to review ideas, they should also be given the opportunity to adapt them and generate their own.
- Key to this will be to ascertain the appetite for various options, in particular any that can be considered controversial.
- In terms of an active travel bridge, preference should be sought in terms of whether it is more appropriate to develop a more balanced option.

Engagement with wider stakeholders

- The appetite for all options should be considered through engagement with local authorities, Highways England, network rail and other relevant third parties including Historic England.

Confirmation of design approach

Consultation with stakeholders, and in particular elected members, developers and land owners, is needed to ascertain the appetite for allowing any provision of land to be given over to walking and cycling infrastructure improvements. This will require additional level of service analyses to highlight the extent of improvements provided for walking and cycling. There may also be further opportunities for private developers to deliver sections of walking and cycling infrastructure as part of future planning agreements.

Further design development

The drawings in this report are presented as outline concepts and further development will be required following confirmation of the design approach. This will likely require consultation and input from a number of stakeholders, local residents and cycling groups, in order to work towards a configuration which satisfies ambitions for all users.

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Appendix : Bridge Optioneering

Given that the closure of the level crossing could be recommended on safety grounds, this section reviews the potential for a new bridge to replace the proposed closure of the level crossing. However, following discussion with stakeholders, this option will not be progressed. Alternatives to installing a bridge include improving provision and legibility for remaining north-south connections or keeping the existing crossing at the risk of continued safety issues.

Bridge Feasibility

There are a very limited number of potential transport corridor bridge crossing locations that could facilitate an improved north-south route between the Town and waterfront.

Crossing options to the west of the existing pedestrian / cycle bridge and to the east of London Road have not been considered as these do not offer sufficiently direct routes for a new north-south connection and as such would likely have very limited use. In addition, tunnel or underpass options have not been considered due to a potential lack of natural surveillance and increased risk of antisocial behaviour.

Potential crossing options are identified in Figure 56, Option A, B, C and D. The options were developed based on:

- A review of aerial imagery and available topographic data to determine areas with potential landing space;
- A review of existing crossing locations;
- A review of current residential development location and house orientation;
- A review of routes to and from the bridge; and
- Liaison with the client.

Key issues and opportunities are identified for each of the bridge location options presented in this section.

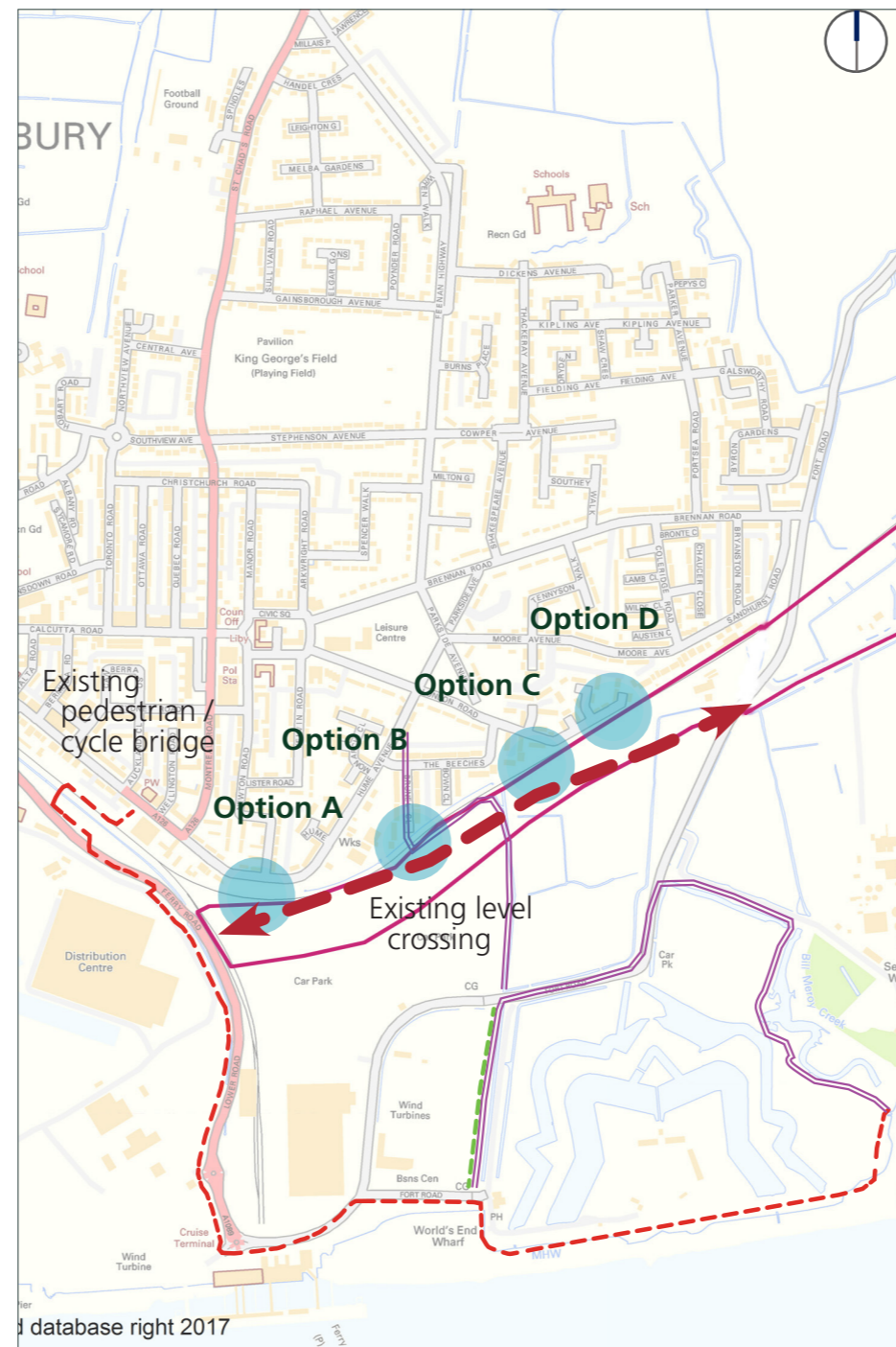


Figure 56: Bridge Location Options - Map source OS OpenData



Bridge Location Option A

In Option A, the bridge would be located adjacent to Hume Ave where the area is predominantly residential on the northern side. There is space for a bridge to be built, however this is currently privately owned land in the form of local businesses. This location is also adjacent to the widest section of the Tilbury2 transport corridor and as such would require significant span lengths to facilitate a crossing.

On the southern side, there is currently a storage car park. In order to facilitate connections to the waterfront new dedicated infrastructure for pedestrians/cyclists would be required.

A bridge in this location, however, will connect the northern and southern areas at a strategic location: south of Civic Square. The Footpath 144 to the south of the bridge will be able to be part of the route towards the riverside. Once the footpath is improved and enhanced with security measures it will provide a direct connection to the riverside. The existing path would also require improvements.

Issues	Opportunities
Land purchase required. Private business	Well-connected to railway and Civic Square
Poor approach infrastructure	Potential to tie into existing infrastructure on the south
Significant span requirement	



Bridge Location Option B

In Option B, the bridge would replace the existing at-grade crossing. There is currently little space available to facilitate bridge landings and access and egress and a large amount of land acquisition could be required.

This is, however, an existing location where people currently have the opportunity to cross from north south to the riverside. A new bridge here could offer a direct replacement of the level crossing. A bridge here would also facilitate direct connections to Footpath 144 to the south of the bridge. Again the path would need to be improved and enhanced with security measures and it could provide a direct connection to the waterfront. The approach path would also need to be improved to be able to cater for cyclists as well as pedestrians.

Issues	Opportunities
Very poor approach infrastructure	Existing crossing location
Insufficient space	Potential to tie into existing infrastructure on the south



Bridge Location Option C

In Option C, the bridge would be located on London Rd. It will connect to the southern side on common land and connect to the existing footpath either along the Tilbury2 transport corridor or through new dedicated walking and cycling infrastructure.

In this location the building frontages are not facing the railway lines and will thus not be overlooking the bridge. The verge is wider at this location than towards the east of London road.

Issues	Opportunities
Some infrastructure upgrades required	Potential to tie into existing infrastructure on the south
Potential significant span length	Sufficient (or almost sufficient) land for ramps
Adjacent to residences (although at Location C these do not face the verge)	Wider verge at this site
Longer footpath required	



Bridge Location Option D

In Option D, the bridge would be located on London Rd. In this location the building frontages are towards the railway lines and will thus be overlooking the bridge. The bridge will connect to the southern side on common land and either tie into the Tilbury2 corridor or dedicated walking and cycling infrastructure.

Issues	Opportunities
Some infrastructure upgrades required	Potential to tie into existing infrastructure on the south
Potential significant span length	Sufficient (or almost sufficient) land for ramps
Adjacent to residences that will face bridge	
Longer footpath required	

Route development

In order to assess the relative desirability of bridge crossing locations from the perspective of active travel users (rather than just engineering feasibility) the following section considers the theoretical route of a visitor to the area. It is assumed that they would arrive at Tilbury Train Station and walk or cycle to the town centre before continuing their journey to the waterfront by each of the proposed crossing locations.

This type of assessment is important as it is likely to indicate routes which would be less convenient to use, thereby reducing the attractiveness of a bridge location.

In addition the assessment indicates, at a high level, where new infrastructure would be required and where significant improvements to existing infrastructure would be required. In any case it is assumed that wider walking and cycling improvements are likely to be required on the approach to any bridge crossing.

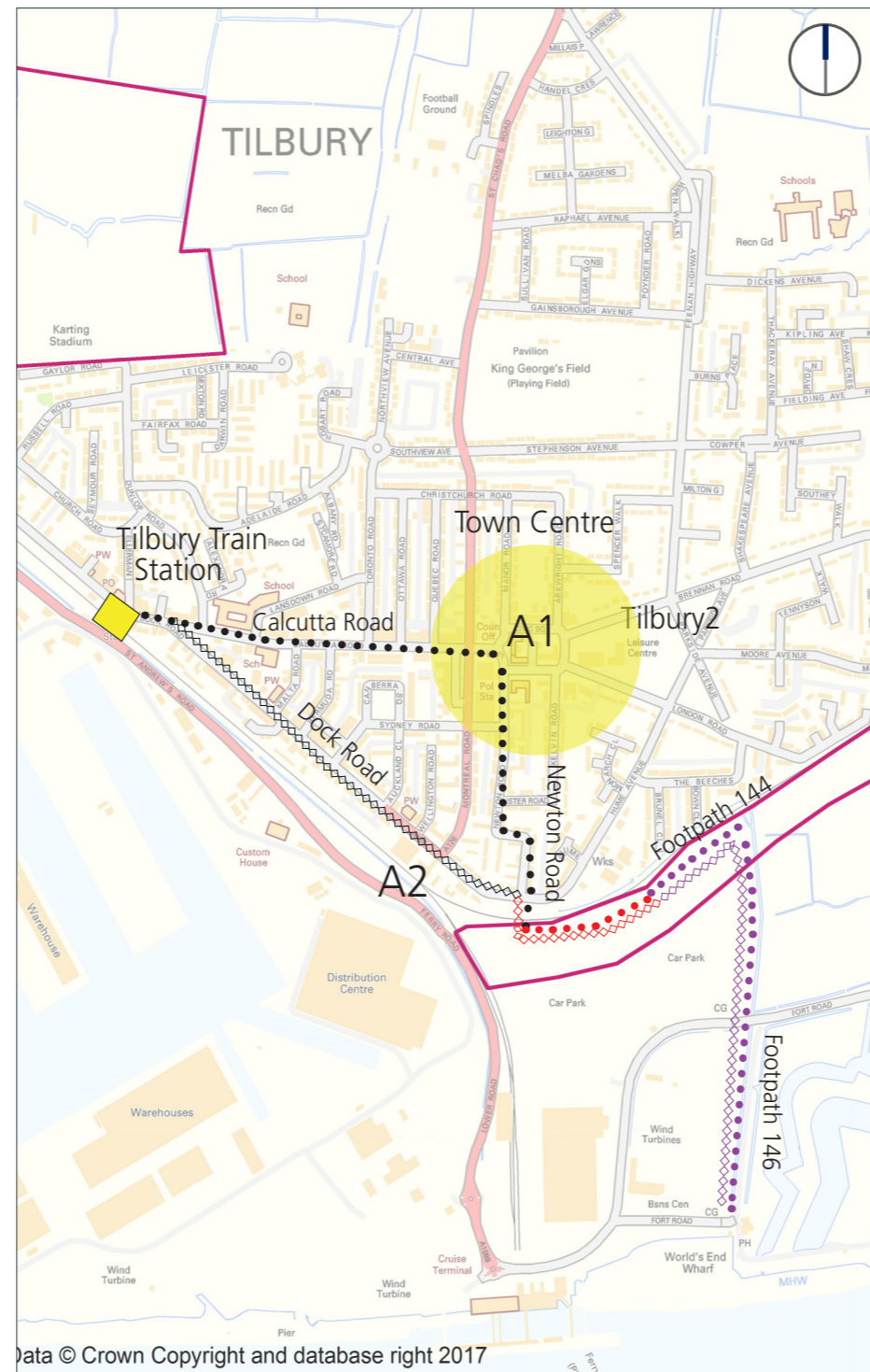


Figure 57: Option A - Map source OS Opendata

Walking / cycling routes for a bridge at location Option A

Route A1: The bridge option through Hume Ave can potentially start with a straight route on Calcutta Road from the train station towards Civic Square. Calcutta Road contains a mixture of residential and commercial land use and is attractive to pedestrians. The route then continues onto Newton Road which is a residential and quiet route. The bridge will be located on Hume Ave and will connect to Footpath 144 on the southern side. However a new path will be needed from the bridge to Footpath 144. On the southern side there is a car park and Footpath 144 is not very well maintained. This will need to be improved and enhanced with security measures. This will then connect straight down to the riverside and connect with Footpath 146.

Route length: 2.4km via town centre




Passes through: Calcutta Road, Civic Square, Newton Road, Footpath 144, Footpath 146

Route A2: The alternative route is straight down from the train station on Dock Rd then new infrastructure will be needed to connect the bridge on the southern side to Footpath 144.

Route length: 2.1km via Dock Rd

Passes through: Dock Road, Footpath 144, Footpath 146

Legend:

-  Existing infrastructure
-  New Infrastructure
-  Infrastructure to be upgraded

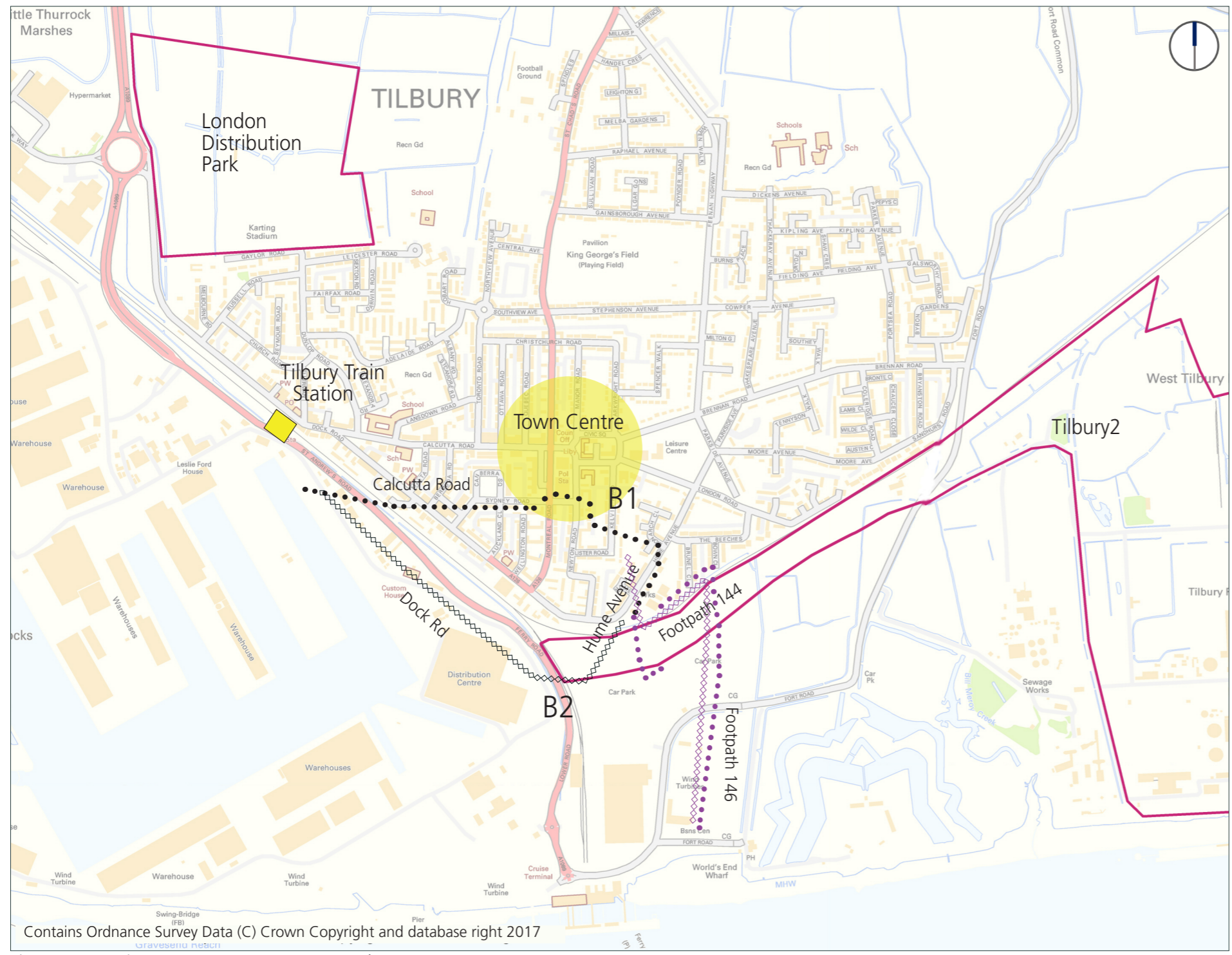


Figure 58: Option B - Map source OS Opendata

Walking / cycling routes for a bridge at location Option B

Route B1: The bridge option through the existing at-grade rail crossing can potentially start with a straight route on Calcutta Road from the train station towards Civic Square. Then it can continue on Hume Avenue which is a residential and quiet route. The bridge will be located on the site of the existing at-grade rail crossing and will connect to the southern side, it will follow Footpath 144. On the southern side there is the car park and the path is not very well maintained. This will need to be improved and enhanced with security measures. This will then connect straight down to the riverside.

Route length: 2.4km via town centre

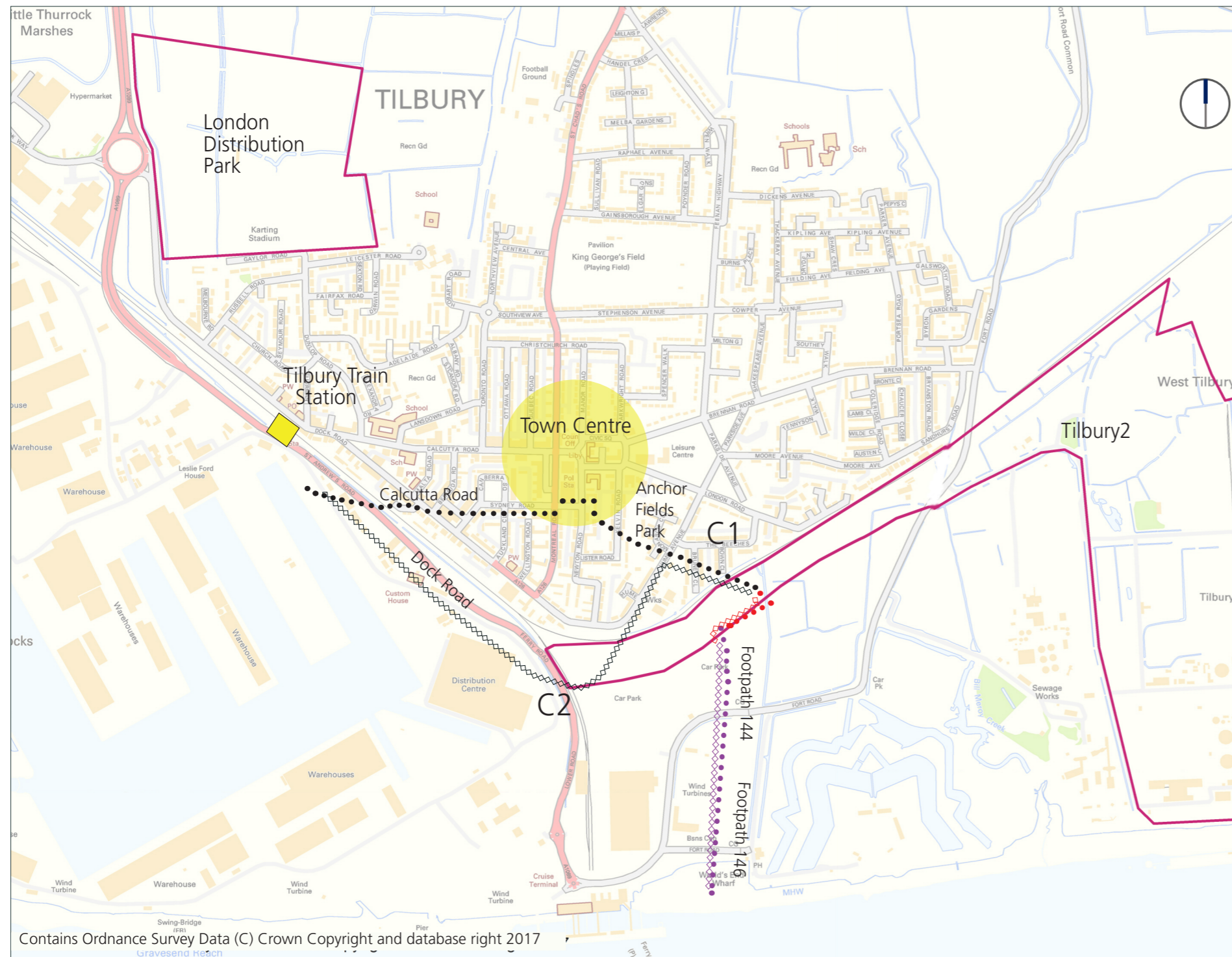
Passes through: Calcutta Road, Civic Square, Hume Avenue, Footpath 144, Footpath 146

Route B2: The alternative route is straight down from the station on Dock Road then on Hume Avenue to connect to existing Footpath 144.

Route length: 2.1km via Dock Road

Passes through: Dock Road, Footpath 144, Footpath 146

- Legend:
- Existing infrastructure
 - New Infrastructure
 - Infrastructure to be upgraded



Walking / cycling routes for a bridge at location Option C

Route C1: The bridge option through London Road can potentially start with a straight route on Calcutta Road from the train station towards Civic Square. Then it can continue south of Anchor Field Park on London Road. The bridge will be located on London Road and will connect to the southern side where there already exists Footpath 144. However a new path will be needed from the bridge to Footpath 144. Footpath 144 will need to be improved and enhanced with security measures. This will then connect straight down to the riverside.

Route length: 2.3km via town centre

Passes through: Calcutta Road, Civic Square, Anchor Fields Park, London Road, Footpath 144, Footpath 146

Route C1: The alternative route is straight down from the station on Dock Road then on Hume Avenue to connect to existing Footpath 144.

Route length: 2.5km via Dock Road

Passes through: Dock Road, Hume Avenue, Footpath 144, Footpath 146

- Legend:
- Existing infrastructure
 - New Infrastructure
 - Infrastructure to be upgraded

Figure 59: Option C - Map source OS Opendata

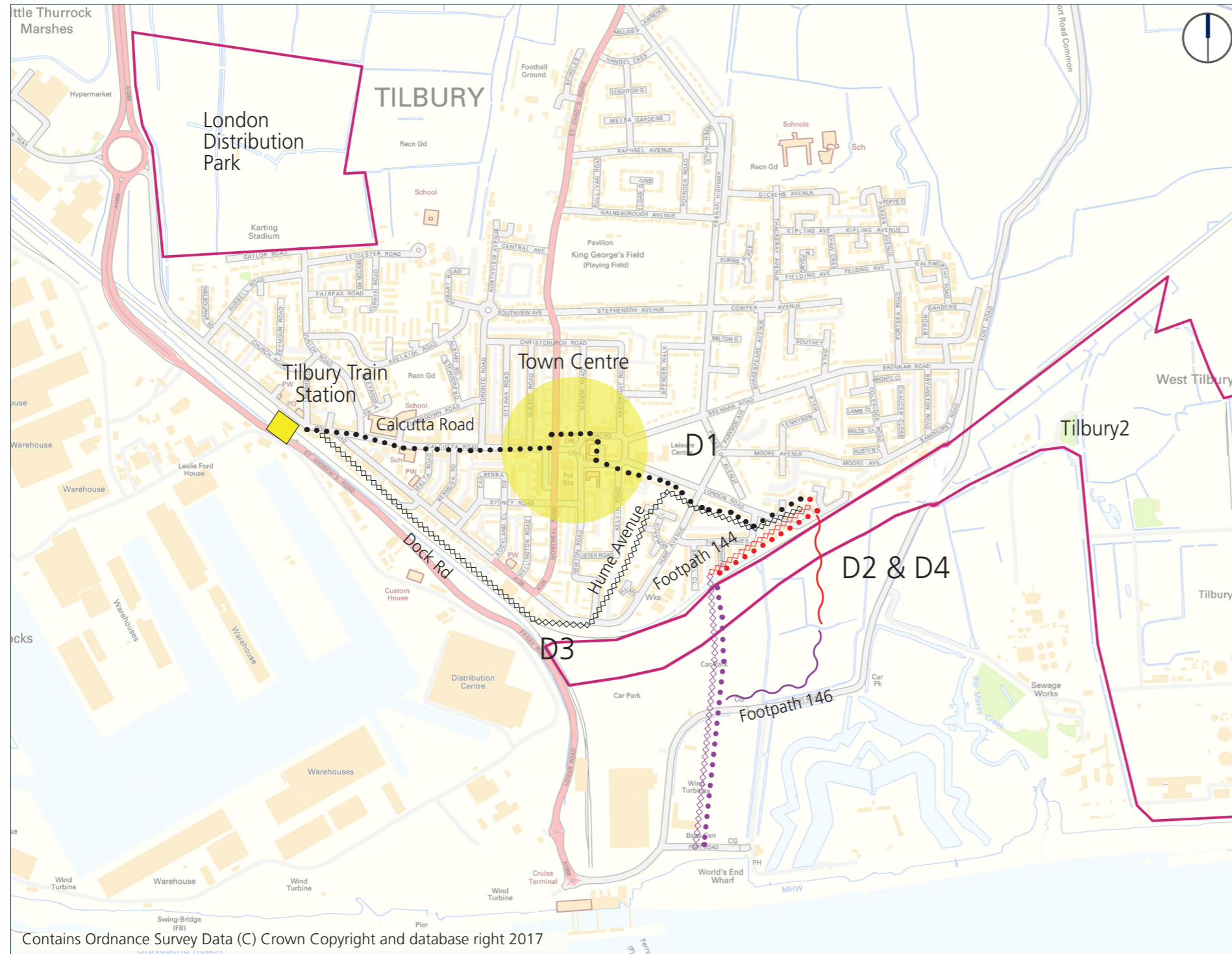


Figure 60: Option D - Map source OS Opendata

Walking / cycling routes for a bridge at location Option D

Route D1: The bridge option through London Road can potentially start with a straight route on Calcutta Road from the train station towards Civic Square. Then it can continue south of Anchor Field Park on London Road. The bridge will be located on London Road and will connect to the southern side where there already exists Footpath 144. However a new path will be needed from the bridge to Footpath 144. Footpath 144 will need to be improved and enhanced with security measures. This will then connect straight down to the riverside.

Route D2: Alternatively, the route can continue straight down from the bridge and connect with Footpath 146 rather than 144.

Route D1 Length: 2.5km via town centre

Route D2 Length: 2.6km via town centre

D1&D2 Pass through: Calcutta Road, Civic Square, Anchor Fields Park, London Road, Footpath 144, Footpath 146

Route D3: The alternative route is straight down from the station on Dock Rd then on Hume Avenue to connect to existing Footpath 144.

Route D4: Similar to D2, the route can continue straight down from the bridge and connect with Footpath 146 rather than 144.

Routes D3 & D4 length: 2.8km

D3&D4 Pass through: Dock Road, Hume Avenue, Footpath 144, Footpath 146

Legend:

- ◊◊◊◊ Existing infrastructure
- Existing infrastructure
- ◊◊◊◊ New Infrastructure
- New Infrastructure
- ◊◊◊◊ Infrastructure to be upgraded
- Infrastructure to be upgraded

Assessment of bridge location and route preference

A number of key objectives have been developed for a potential new north-south active travel route, related back to key local plans and strategies which this scheme also addresses. These were developed in conjunction with the Port of Tilbury, based on initial feedback with regards to severance issues caused by the Tilbury2 travel corridor.

To identify a preferred bridge location, two assessments have to be carried out. A route assessment which looks at the routes from the train station and town centre to the waterfront, as well as a bridge location assessment which accounts for key constraints.

The assessments grade several criteria with a score from -3 to 3, 3 being the best score, 0 being a neutral score, and -3 being a score for negative impacts. These result in an overall score for each of the routes and locations and consequently a preferred option for each. Finally the preferred bridge location is identified. The route assessment criteria are:

- Directness/distance: based on the route distance and whether it requires a diversion from an otherwise straight route.
- Safety perceptions: based on existing infrastructure conditions, specifically Footpath 144 and 146.
- Qualitative review of public realm: based on existing infrastructure conditions, specifically Calcutta Road and Dock Road.
- Potential requirement for improvement of existing walking/cycling infrastructure: based on existing infrastructure conditions, specifically Footpath 144 and 146.
- Associated walking and cycling infrastructure requirement to facilitate connectivity: based on whether the route requires no new infrastructure or infrastructure to connect to an existing path.

The bridge location assessment criteria are:

- Physical Constraints: the location of utilities, (especially drainage visible from aerial photography) and housing.
- Land Availability: whether the location is close to houses or surrounded by trees and bushes.
- Potential for private land purchase: for the bridge ramp
- Potential requirement for highway changes/ realignment to facilitate bridge installation

Scheme objectives

Overarching Objective: Improve walking and cycling connectivity between Tilbury Town station and Tilbury Town Centre with the Waterfront area

Compatibility with key local plans and strategies:

- **Thurrock Transport Plan Objective:** Increasing walking and cycling, especially for the journey to work and education, with priority given to deprived areas where obesity is an issue, such as Tilbury
- **Thurrock Transport Plan Objective:** Improving connections between modes and enhancing the public realm at transport interchanges / rail stations to aid access to Thurrock's key strategic economic hubs in particular
- **Thurrock Transport Plan Objective:** Transforming Tilbury Town Centre to an eco-quarter
- **Thurrock Transport Plan Objective:** Improving the core cycling routes including the riverside (including National Cycle Route 13)
- **Thurrock Cycle Strategy Objective:** Development of walking and cycling facilities in Tilbury to link Tilbury Town to Tilbury Fort to be consistent with the Thurrock Cycle Strategy opportunities.

Route Assessment Criteria

1. Directness/distance
2. Safety perceptions
3. Qualitative review of public realm
4. Potential requirement for improvement of existing walking/cycling infrastructure
5. Associated walking and cycling infrastructure requirement to facilitate connectivity

Bridge Location Assessment Criteria

1. Physical Constraints
2. Land Availability
3. Potential for private land purchase
4. Potential requirement for highway changes/ realignment to facilitate bridge installation

Preferred bridge location and potential route preference

Route Assessment

Routes			Safety Perceptions	Qualitative review of public realm	Requires improvement on existing infrastructure	Requires new infrastructure to facilitate connectivity	Score
Route A1	1	2.4km	-1	1	0	-1	0
Route A2	3	2.1km	-1	0	0	-1	-0.2
Route B1	1	2.4km	-2	1	-1	0	-0.2
Route B2	1	2.3km	-2	0	-1	0	-0.4
Route C1	2	2.3km	-1	1	0	-1	0.2
Route C2	0	2.5km	-1	0	0	-1	-0.4
Route D1	1	2.5km	-1	1	0	-2	-0.2
Route D2	0	2.6km	-1	1	0	-2	-0.4
Route D3	-2	2.8km	-1	0	0	-1	-0.8
Route D4	-2	2.8km	-1	0	0	-2	-1
Hairpin Bridge	1	2.2km	-1	0	0	0	0
Train Station Bridge	2	2km	-2	0	0	0	0
Fort Road Bridge	-3	3.2km	-3	-1	-1	-2	-2

Figure 61: Route Assessment scoring

The routes assessment scores each of the routes based on the mentioned criteria. The three existing crossings ('Hairpin' walking and cycling bridge, Train station bridge and Fort Road bridge) were also assessed based on the criteria, for comparison.

For distance/directness, the distances of the respective routes was measured using MapInfo (GIS software). The shortest route is 2km, this route scores 3, and the longest route is 3.2km, this scores -3. The distances in between carry a relative score.

All routes are scored as at least -1 for **safety perceptions** as this criteria relates to the existing conditions of Footpaths 144 and 146 which are not well-maintained, are secluded, and are not lit. The routes which also go through Footpath 144 (between the houses) are scored as -2 as this route includes a very narrow path with trees overhanging.

It is evident that existing routes are likely to facilitate a north-south connection with a similar level of desirability, unless significant improvements are made to infrastructure on new routes.

Bridge Location Assessment

Locations	Physical constraints	Land availability	Private land purchase	Highway changes	Score
Option A	The bridge will be located near residential houses 2	The bridge will be located near residential houses 2	Private land would need to be purchased -3	Would require footway widening -1	0
Option B	No access other than narrow FP 144 -3	There will be less space as the houses are too close to the bridge location 0	Would use existing land (including highway verge) that is owned by Thurrock council	No highway access (construction and emergency vehicle issues) -3	-1
Option C	The bridge will be located near residential houses 2	The bridge will be located near residential houses 1		Potential footway widening and shuttle working required -2	0.75
Option D	The bridge will be located near residential houses 2	The bridge will be located near residential houses 1		-2	0.75
Hairpin Bridge	0 Existing	0 Existing	0 Existing	0 Existing	0
Train Station Bridge	0 Existing	0 Existing	0 Existing	0 Existing	0
Fort Road Bridge	0 Existing	0 Existing	0 Existing	0 Existing	0

Figure 62: Bridge Location Assessment scoring

The location of any potential bridge has also been assessed. The three existing crossings, Hairpin Bridge Train station bridge and Fort Road bridge were also added to the assessment with a score of 0 (neutral) as they are all existing.

For **physical constraints**, the surroundings of the locations were taken into consideration. Options A, C and D are surrounded by houses so they score 2. Location B is constrained by the proximity of the houses and the small access which will negatively impact construction logistics this results in a score of -3.

Land availability is scored based on the likely available land for the ramps. Options A will score 2 as it has the most land space available while options C and D score 1 as there is less space as houses are closer. Option B is too close to the houses from the north and might not allow for enough space.

Only option A will require **potential land purchase** from a private steel works owner so this scores as -3 for location A. In the other options, land can potentially be acquired from the council so these score a 2.

Because of the land availability in option A, the **highway changes** would be footway widening while options C and D may require shuttle working. Options B does not connect to the highway and this would have construction and emergency vehicle issues and score -3.

Final Assessment

Routes Assessment		Locations Assessment		Preferred Bridge Location	
Routes A	0.1	Option A	0	Option A	0.05
Routes B	-0.3	Option B	-1	Option B	-0.65
Routes C	-0.1	Option C	0.75	Option C	0.325
Routes D	-0.6	Option D	0.75	Option D	0.075
Hairpin Bridge	0	Hairpin Bridge	0	Hairpin Bridge	0
Train Station Bridge	0	Train Station Bridge	0	Train Station Bridge	0
Fort Road Bridge	-2	Fort Road Bridge	0	Fort Road Bridge	-1

Figure 63: Full Assessment

An overall average score has been calculated to identify a preferred bridge location.

Option C is the preferred location based primarily on potential engineering feasibility, however existing crossing options still provide an attractive opportunity due to their increased route legibility and reduced perceptions of personal safety risks.

Feasibility and recommendations

The feasibility of a bridge "Option C" has been considered further in order to ascertain the engineering feasibility and potential cost of such a scheme.

Full details are presented in the Feasibility Study for DDA Compliant Access Footbridge, Linking the Town of Tilbury with the Waterfront Technical Note and there are a number of key findings:

- Although at an early stage of design, it appears that in terms of engineering feasibility it would be possible to develop and install a bridge from London Road to connect with the Tilbury2 infrastructure corridor.
- The bridge would be a significant structure and is likely to have significant visual impacts for surrounding residences.
- The nature of a fully EA compliant bridge would result in significant costs, which are not likely to be compatible with the levels of current or likely future pedestrian and cycle demand.

Feedback from stakeholders has indicated that focusing resources on a series of measures to address current connectivity issues in Tilbury may be more appropriate at this stage of design development. As such, the bridge option has not been progressed further than this feasibility design.

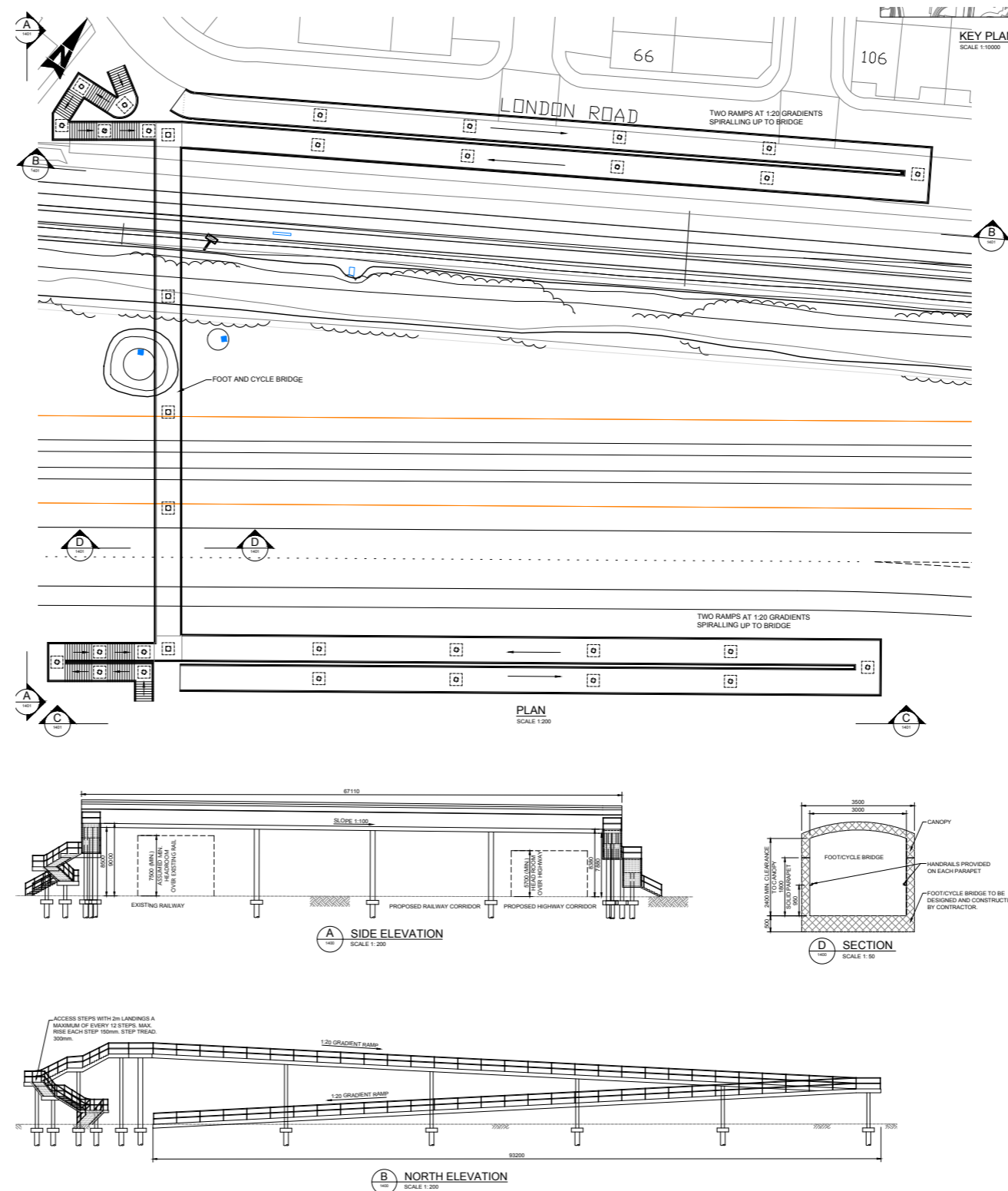


Figure 64: Technical Drawings of a potential the DDA compliant bridge option

