

Thames Estuary Path – Major Barriers

Major existing man-made barriers preventing access to the waterfront for more than 500 metres

Map	Location	Description	Notes
1 & 2	Royal Albert Dock	Vacant brownfield site	Existing path but no access
1 & 2	Thameside Industrial Estate	Active commercial site with wharves	Feasibility work needed
3	Beckton STW	Sewage treatment works	Existing path but no access
3 & 4	Creekmouth Industrial Estate	Active commercial site with wharves	Feasibility work needed
5 & 6	Ford Motor Company Works	Major industrial plant and car storage	Long term barrier
7	Frog Island	Active commercial site with wharves	Feasibility work needed
9	Westminster Industrial Estate	Active commercial site with wharves	Feasibility work needed
14	Erith South – Manor Road	Active commercial site with wharves	Feasibility work needed
19 & 20	Tilbury Docks	International port	Long term barrier
25, 26 & 27	London Gateway	International port	Development planned
31 & 32	Shell Haven	Oil refinery	Long term barrier
45 & 46	Swanscombe Peninsula East	Active commercial site with wharves	Some development planned
46	Northfleet Embankment	Mainly brownfield site	Development planned
47	North East Gravesend	Active commercial site with wharves	Some development planned
57 & 58	Yantlet Demolition Range	Military range	Feasibility work needed
60	Grain Power Station & Thamesport	Power Station & International port	Some development planned
-	Kingsnorth Power Station	Power Station	Some development planned
-	Chatham Ness	Active commercial site with wharves	Some development planned
-	Chatham Docks	Historic dockyard	Feasibility work needed
63 & 64	Sheerness Port	International port	Some development planned
66, 67 & 68	Minster Cliffs to Warden	Caravan Parks & farmland	Feasibility work needed

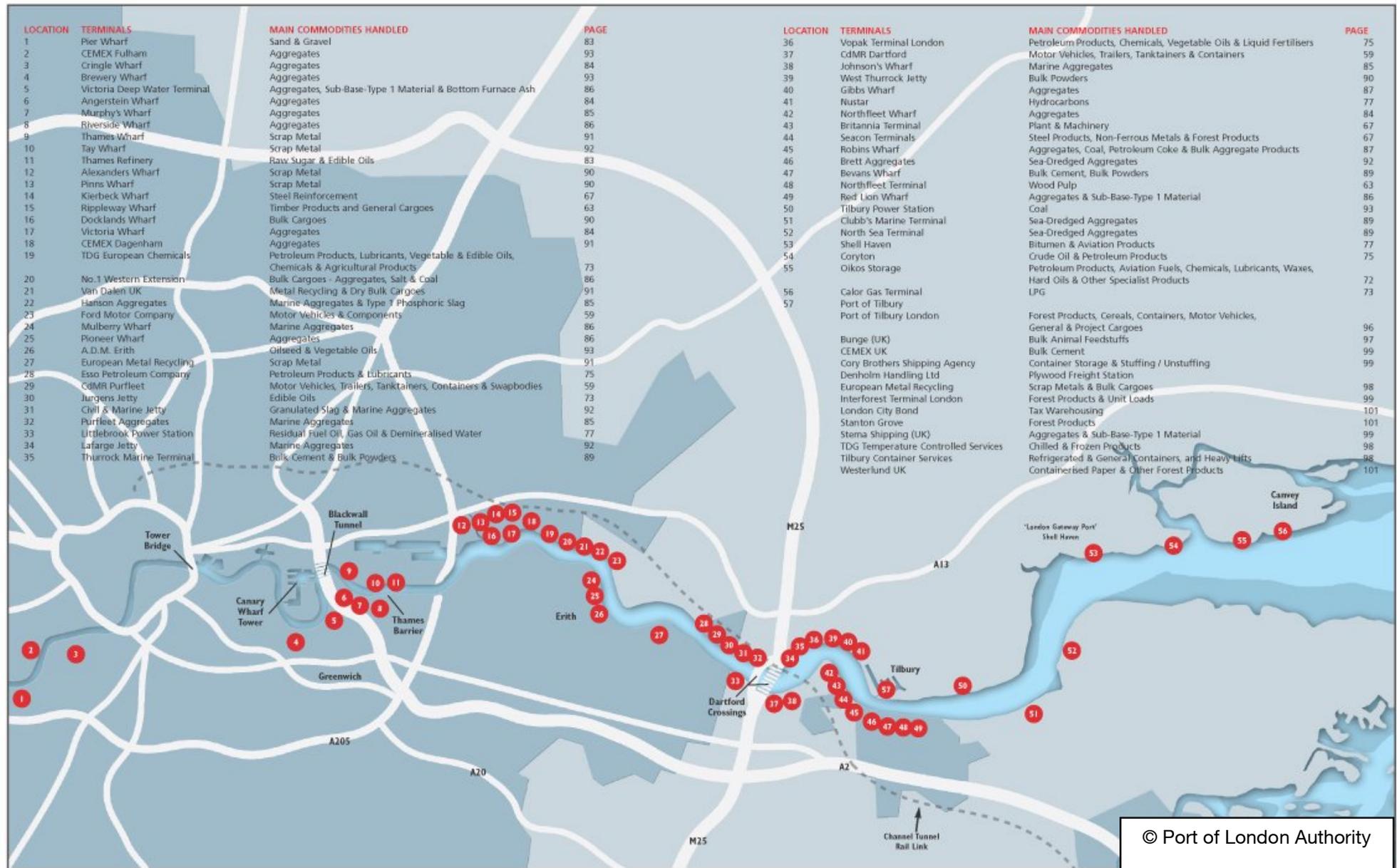
Opportunities may arise through planned development to increase public access to the Thames and Medway waterfront, despite the presence of active commercial wharves. There are certainly operational, security and health and safety issues to be overcome and in some cases full access may not be possible. Feasibility work must be undertaken with the Port of London Authority and operators at an early stage.

There are numerous locations along the river where commercial operations already co-exist with public access. A good example is Pioneer Wharf at Erith, where million of tonnes of aggregates pass over

the heads of Thames Path users every year. In 2007, total imports through Port of London terminals were 44.3 million tonnes, while exports amounted to 8.4 million tonnes⁵.

Early engagement with the PLA and terminal operators is required where proposals cross active wharves. All the proposed crossings of tidal creeks will also require the consent of the PLA as navigation authority.

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Thames Estuary Path – Major Barriers

Major natural barriers preventing continuous access to the waterfront

Map	Location	Description	Inland diversion	Notes
3	Barking Creek	EA flood barrier	2.9 miles	Feasibility work needed
15 & 42	Dartford Creek	EA flood barrier	4.9 miles	LB Bexley feasibility study 2007
16	Mar Dyke	EA sluice	0.5 miles	Feasibility study 2008
25	Mucking Creek	EA sluice	2.9 miles	Feasibility work needed
31	Vange Creek	EA flood barrier	7.3 miles	Feasibility work needed
31	East Haven Creek	EA sluice with vehicle access	4.1 miles	Feasibility work needed
57	Yantlet Creek	Can be crossed at low tide	2.7 miles	Special Protection Area
60	River Medway	Ferry used to run to Sheerness	29 miles ¹	Feasibility work needed
66, 67 & 68	Sheppey Cliffs	Major erosion of clay cliffs	0.5 miles ²	Feasibility work needed

¹Distance from Grain Light to Sheppey Crossing via Rochester Bridge ²Average distance of alternative route from cliff top

There are a number of potential locations identified by the Environment Agency for intertidal habitat creation over the next 30 years, where modifications to existing flood defences would be necessary. Four high priority locations are:

- West Canvey Marshes Groundworks commencing 2015
- St Mary's Marsh Groundworks commencing 2015
- Grain Marsh Groundworks commencing 2026
- All Hallows Marsh Groundworks commencing 2039

The Environment Agency will need to work closely with project partners to develop and implement these schemes. Future modifications to existing flood defences provide opportunities to improve accessibility to the Thames riverside.

Most of these locations are within or close to Special Protection Areas (SPAs). These are strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds, which came into force in April 1979. They are classified for rare and vulnerable birds and for regularly occurring migratory species⁶⁰.

We have not shown SPAs on our seven overview maps, since they are all contained within the Site of Special Scientific Interest (SSSI) designation.

Advice from Natural England

The most sensitive areas are those immediately adjacent to or within the National and International designated sites.

Designers must demonstrate that the process is taking consideration of disturbance, noise, movement and trampling disturbance to plants, invertebrates and birds. Sea walls with dog-walkers and cyclists are already causing disturbance but a new, promoted path will inevitably increase the level of disturbance (especially if also accompanied by new housing or industrial development).

As a rule of thumb, NE advocates a precautionary approach. In general, NE would support a path to the landward side of the flood defences or sea wall, subject to the exact location.

1. Introduction

Sustrans has 30 years experience of building traffic-free paths on disused railway lines, canal towpaths and river banks throughout the UK. We have produced detailed technical guidance for the development of the National Cycle Network. The main reference documents are Making Ways for the Bicycle⁶¹, Guidelines and Practical Details⁶² and most recently the Connect2 and Greenway Design Guide⁶³.

Other useful guidance includes the London Cycling Design Standards⁶⁴ and Cycling England's excellent website www.cyclingengland.co.uk which includes a large number of case studies with examples from around the country. The engineering and planning pages are organised around the following themes:

- Infrastructure for Cyclists
- Design Checklist & Guidance
- Design Principles
- Integration within Policy & Strategy
- Highway Improvements & Maintenance Opportunities
- Development Planning Opportunities

Within the Infrastructure for Cyclists section, there are reports available on "Cycling in Pedestrian Areas" and "Cycling on Sea Fronts / Promenades"

As well as providing a high quality traffic-free route, the Thames Estuary Path should also deliver environmental benefits. It is recommended that for all projects, assessments are carried out to identify potential environmental impacts, particularly in relation to the ecological features of the river corridor, and opportunities for environmental enhancements. This would be good practice for all waterfront projects, not just those associated with national and international wildlife sites.

Ove Arup & Partners have prepared guidance for the Environment Agency – "Meeting the EA's objectives of Creating a Better Place through Environmental Enhancement Measures".⁶⁵ The guidance has been designed as a tool kit for use by engineers and consultants in the development of environmental enhancement measures for flood risk management. The report identifies typical flood risk situations and provides best practice ideas that can be integrated for flood risk management. A series of 3D illustrations have been included to portray the changing character of the river through urban London and into the more rural areas of the Thames Estuary.

We strongly recommend that path designers refer to this guidance in order that an holistic approach including flood defence and environmental enhancement can be adopted at the design stage. As the guidance suggests, "innovative thinking is required to realise a scenario where flood risk management is achieved in harmony with the surrounding landscape and townscape context resulting in positive schemes that 'create a better place'".

In the following pages, we describe recommended solutions for different situations – urban, urban fringe and rural. These classifications largely coincide with the *Thames Path City to Sea* typologies of grey, light green and dark green routes. We also provide guidance on path construction materials, construction on flood defences, path life cycle costs, access controls and shared use routes.

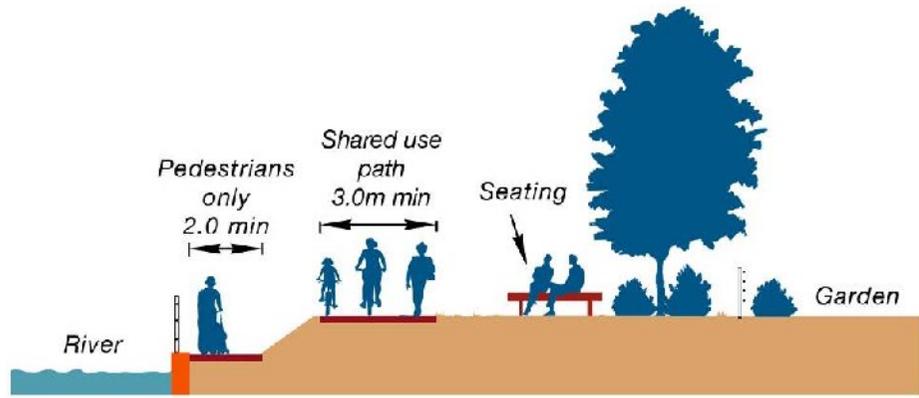
Although we recommend a sealed surface throughout in order to maximise usage and longevity of the path, in some places an alternative material may be more appropriate. In areas where nature designations exist (SSSI, SPA, SAC) an Appropriate Assessment as part of the Habitats Regulations may have to take place to avoid unnecessary impact on European designated sites.

Thames Estuary Path - Technical Specification

2. Urban routes

Very urban in character, where the predominant users are walkers and cyclists. In commuting hours and on sunny weekends high levels of usage of the path can be expected, therefore sufficient width is essential. Pathside handrails, fences and walls reduce the effective width of the path by at least 0.5m (1m if people lean over a handrail to gaze at a river). Benches, plants or signs should not be placed within the main path corridor so as not to obstruct pedestrian and cycle flows.

The minimum clear path width should be 3m, but this needs to be wider in areas where many tourists and leisure walkers are expected, where benches or other areas where people might congregate are sited, or where there are points of interest.



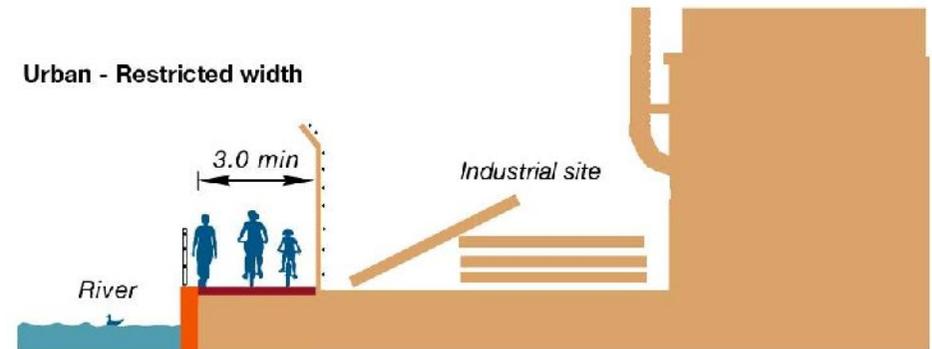
Urban - unrestricted width shared or segregated, pref 4.0m for segregated

For new construction in areas of high usage, where there are no existing width restrictions, a wider path is recommended. For example, the specification in the London Borough of Greenwich is a minimum width of 6 metres, segregated into two parallel 3 metre paths for pedestrians and cyclists

The path surface must be a low maintenance high capacity surface. The ideal surface material is bituminous macadam, machine laid to give a level and smooth riding surface. Surface dressings with locally won stone and pigmented bitmacs may be used as required to fit in with the overall pathscape design. Good drainage is very important.

The pathscape should be well designed and fit in well with the surroundings. Benches can be sited to benefit from scenic views, plants can be used, and lighting and path surface colour and texture shall be well designed. Historic design elements may be picked up; however uneven path surface materials (e.g. cobbles or some paving slabs) must be avoided.

Clear signing of the route and the links to and from it is essential, and should follow the standard blue cycle / pedestrian direction signs set out in the Traffic Signs Regulation and General Directions 2002 and the London Cycling Design Standards. Signs would be fixed to signposts, or to existing posts to minimise clutter.



To make the path accessible to wheelchairs and cyclists, link routes to the riverside path must be carefully planned, kerbs made flush and cycle routes well signed and demarcated. Gradients for the main path, all links and access points should be 1 in 20 (min. 1:15).

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Path lighting is likely to be required, and will create an attractive area for promenading in summer evenings, and safe commuter cycling in the colder seasons. Lighting will be located and designed to avoid light spillage in the river corridor, minimising impact on night-time river habitats and associated wildlife.

Access controls are not likely to be required to any great extent, as high levels of path occupancy and occasional police surveillance will make user restrictions self-enforcing.

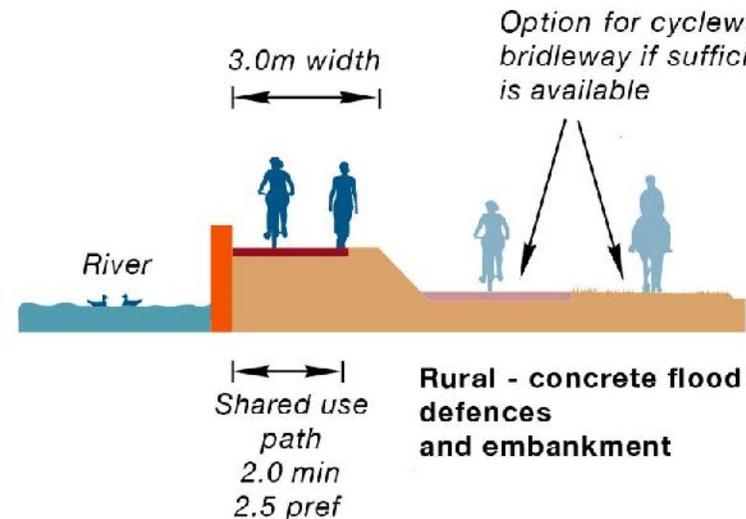
Path costings for urban routes			
	Overall cost	Cost per lin. metre	Cost per km
Overall construction	£50/m ² + ancillaries (lighting / benches / riverside handrails etc).		
Cost of 4m wide path		£400-£500	£400,000-£500,000
Maintenance cost	£8/lin. m p.a.		
Maintenance cost over 50-year lifecycle*	*will need to be completely overhauled once.	£400-500	£400,000 - £500,000

3. Urban fringe routes

These sections are within a short distance of existing or planned urban communities, but pass through green spaces such as urban parks. These routes are likely to carry some commuter cycle traffic, regular walkers, joggers, dog walkers and also leisure users.

These sections form important traffic-free connections between riverside settlements and industry, and should therefore be designed to suit higher volumes of use.

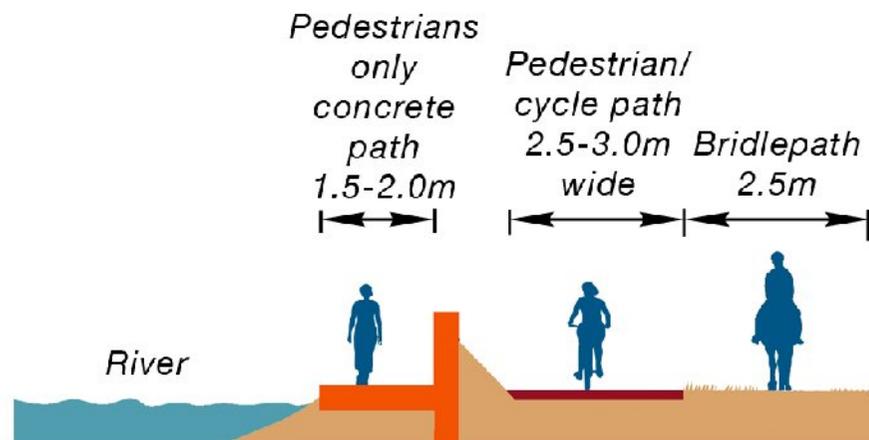
The path surface material should be bituminous macadam, machine laid to give a level and smooth riding and walking surface. The route should be lined with grassed areas, and therefore path edgings are not necessarily required. The inherent grey bitmac colour is acceptable in the surroundings (partially industrial, partially urban, partially in green areas close to urban settlements).



Thames Estuary Path - Technical Specification

Clear signing of the route and links is essential, and should follow the standard blue cycle / pedestrian direction sign system set out in the Traffic Signs Regulations and General Directions 2002 and London Cycling Design Standards. Signs can be fixed to less intrusive fingerposts, or existing walls or structures.

Path lighting is required where commuting is to be expected (e.g the more urban areas around Southend-on-Sea), but may be avoided on quieter sections of the path. Path furniture (benches, handrails etc) shall be hardwearing, simple designs.



Rural - concrete flood defences and no embankment

The typical path width would be 3m. Close to benches and next to handrails/ fences / walls this needs to be widened to give a clear effective space of 3m to pass through. In areas where there are very high flows, a width of 4m or 5m may be more appropriate.

Path costings for urban fringe routes			
	Overall cost	Cost per lin. metre	Cost per km
Overall construction	£30/m ² + ancillaries (lighting / benches / riverside handrails etc).		
Cost of 3m wide path		£100-£300	£100,000-£300,000
Maintenance cost	£8/lin. m p.a., possibly £3-£4/lin. m p.a. in rural areas		
Maintenance cost over 50-year lifecycle*	*will need to be completely overhauled once.	£50-£200	£50,000 - £200,000

4. Rural routes

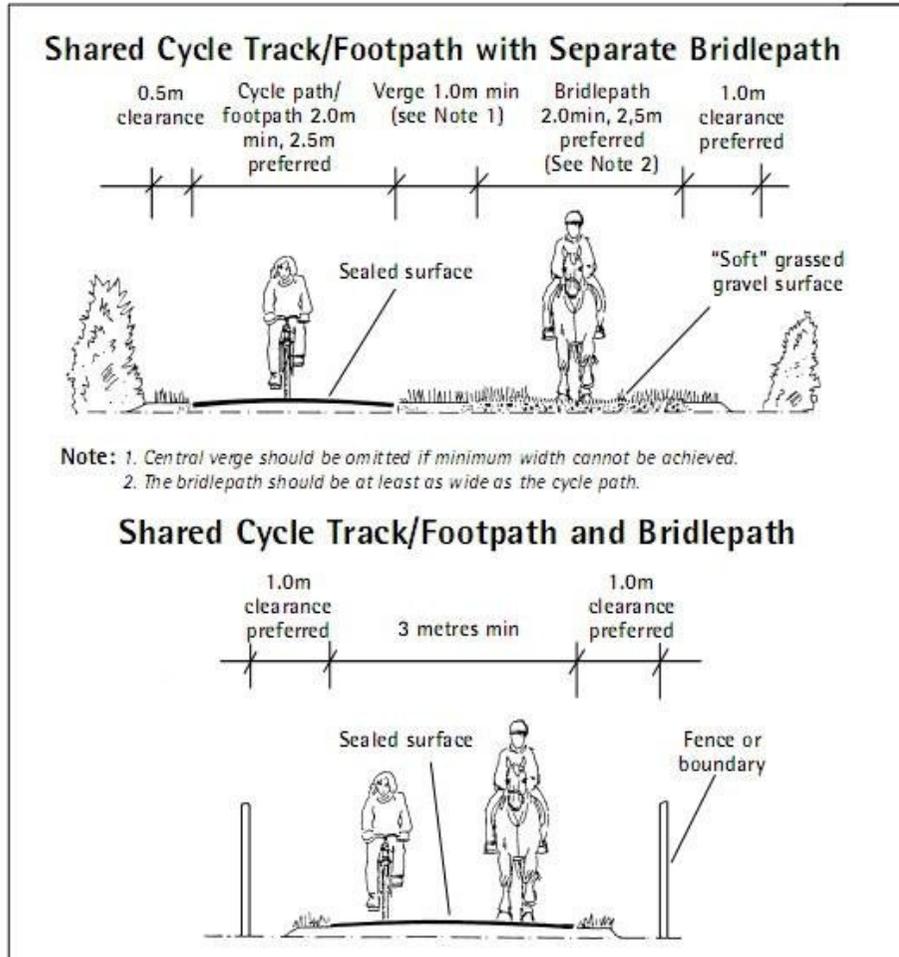
These routes traverse protected nature areas, country parks and marshland. Mostly, they are away from urban areas and are likely to see usage mainly by leisure cyclists, leisure walkers and horseriders.

Horse riding routes should be carefully laid out, and would typically be circular routes originating from horse stables, grazing areas or other equestrian facilities. Where the riverside path and the equestrian routes coincide, there should be sufficient space for safe passage of all users.

Typical path widths would be 2.5m bound surface for walkers and cyclists next to a 1m wide verge next to a 2.5m soft (grassed) bridlepath (see below). Equestrian and walking / cycling users should not normally be using the same path surface.

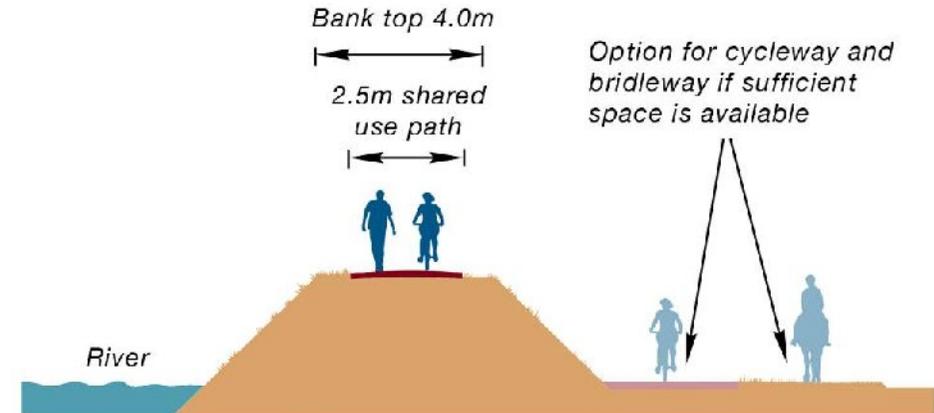
In areas where usage is likely to be low, a shared surface for all users may be appropriate. A minimum width of 3 metres is recommended, although for safety reasons on top of flood defence embankments a minimum width of 5 metres is needed for equestrians.

Thames Estuary Path - Technical Specification



This diagram is taken from Sustrans Information Sheet FF27, Ways Through the Countryside, December 1999.

<http://www.sustrans.org.uk/webfiles/Info%20sheets/ff27.pdf>



Rural - grass embankment

The walking / cycling surface would be bituminous macadam. Where required, clear binders and coloured aggregate can be used to create a path surface colour that fits in better with the local environment. Self-binding path materials may be used for secondary paths, where an alternative bituminous path exists that is better suited to all weather use.

In some marshland sections elevated walking / cycleways might be required. These can be made of hardwood timber or recycled plastic materials, and should be equipped with non-slip surfaces.

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Plastic elevated walkway in Sutton Coldfield

Bridlepaths should be grassed areas set on a suitable foundation where necessary, to minimise damage by the impact of horses.

Lighting is not required on rural routes. Path furniture will be occasional benches, signposts (low-level timber posts) and information boards. Path sections should be developed to create interesting destinations for walking and cycling leisure trips, e.g. viewpoints, artwork features, rest areas etc. Signing of the routes should incorporate provision for circular leisure routes as well as direction signs that can be used for longer distance trips.

Path costings for rural routes			
	Overall cost	Cost per lin. metre	Cost per km
Overall construction	£30/m ² + ancillaries (lighting / benches / riverside handrails etc). Additional £15/m ² for bridlepath		
Cost of 2.5m wide path		£80-£150	£80,000-£150,000
Cost of combined cycle/pedestrian /equestrian		£125-£200	£125,000-£200,000
Maintenance cost	£6/lin. m p.a., possibly down to £2-£3/lin. m		
Maintenance cost over 50-year lifecycle*	*will need to be completely overhauled once.	£25-£200	£25,000 - £200,000

5. Path construction materials (general)

Much use should be made of recycled path materials, in particular incorporating locally available materials. This might include crushed concrete, railway ballast or road planings instead of quarried aggregate. Tyre chippings may be mixed in as foundation material to bridle routes. It is unlikely that significant amounts of high quality fresh quarried material will be required, as path loads for walking and cycling routes are generally less significant.

Vegetable binders may be used as alternative to bituminous binders for macadam paths.

Thames Estuary Path - Technical Specification

6. Flood defences

It is particularly important that flood defences are not damaged by new path construction. For paths built on the crown of flood defences, path surfaces should be no lower than the current embankment levels, and tie in neatly with the existing embankment protection.

Paths should be constructed so that there is no pathway for water to seep under the path at a lower level than the flood defence crown.

Paths may be added to the side of flood defences, provided that material is added to the flood defence rather than carved out to create a flat path cross-section. There should be a flat area next to the path forming an overrun area rather than using handrails on the downhill side of the embankment.

Development of the Thames Estuary Path will need to ensure access to flood defences for inspection and maintenance.

Sustrans has built long sections of cycle and walking route on flood defences in Lincolnshire without any detrimental impact to the flood protection.

7. Path life cycle costs

Sustrans initially surfaced many off-road sections of the National Cycle Network with unbound limestone or granite dust surfaces, which were considered most economic and more environmentally friendly at the time. Experience over the last 15-20 years or so has shown however that already significant path sections have suffered erosion, rutting, ponding or other damage that make these paths very unattractive and unusable in very wet weather conditions. Annual maintenance requirements for unbound surfaces are generally higher than for bound surfaces.

Path construction (rural routes) for bound surface - £30/m² without ancillaries. Path surface lasts 25–30 years, then repairs and additional wearing course required (approx £15/m²). Annual maintenance cost £1-2/m²/year.

Therefore total cost for 50 year life-cycle per m² of path construction (at current cost):

Initial construction	£30
Repair after 25 yrs	£15
Annual maint. (50 x £1.50)	£75
TOTAL	£120

Comparable construction with limestone dust - £25/m² without ancillaries. Path surface lasts 12 years, then requires thorough repair / resurfacing (approx £15/m²). Annual maintenance costs are higher than for bound surfaces, around £ 2/m²/year.

Therefore total cost for 50 year life-cycle per m² of path construction (at current cost):

Initial construction	£25
Repairs after 12, 25 & 37yrs	£45
Annual maint. (50 x £2)	£100
TOTAL	£170

Similar comparisons could be demonstrated for urban fringe and urban routes. Where paths are more heavily used, unbound surfaces require proportionally more repair and maintenance than in the above example.

Bulk material consumption for the initial path construction is similar for unbound and bound surfaces; however over a 50 year life-cycle unbound surfaces will require more additional aggregate for repair than bound surfaces.

Based on construction costs and material consumption bound surfaces are therefore more sustainable than unbound surfaces.

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8. Access controls

Anything more obstructive than bollards is inconvenient to ordinary cyclists and may be totally impassable for those with trailers for shopping or children, tandems, especially if loaded, recumbents and any other non-conventional bike.

Access controls frequently inhibit the use of a path by many disabled people especially those using any form of wheeled vehicle apart from a conventional pushed wheelchair. Indeed, in the words of one path manager, 'Access controls stop the very people we want to use paths the most'.

Most of those who manage shared paths find that illegal use by motorcyclists is often a persistent problem which access barriers may do nothing to solve. Shared paths are generally used by motorcyclists who fit into one or more of the following categories:

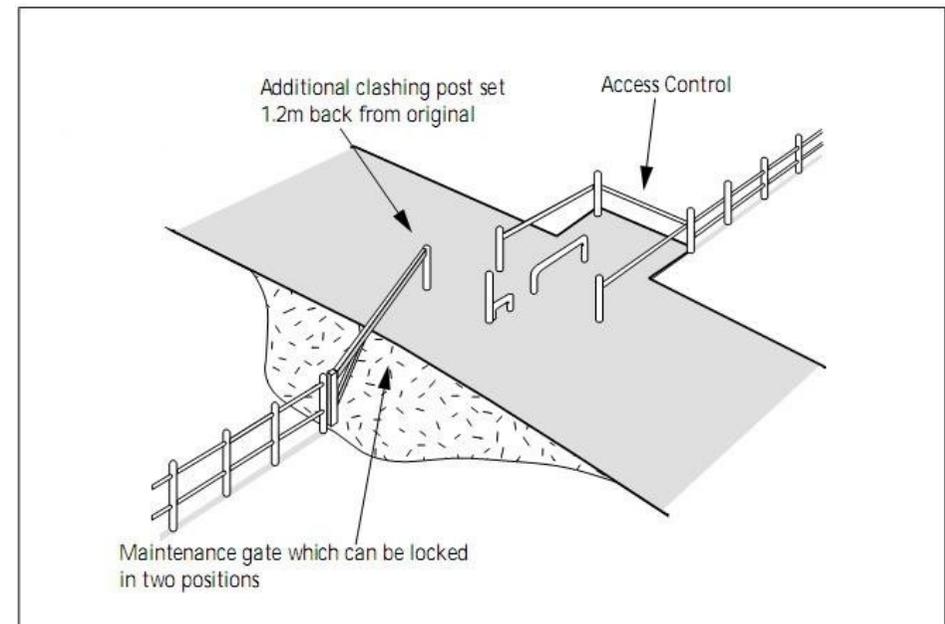
- a. they are too young to drive on the road;
- b. they have no tax or insurance;
- c. the motorbike is stolen.

Those who can legally use a motorbike on the roads prefer to do so and the rest may find their way onto shared paths by trespassing across private land regardless of access barriers. In other words, while barriers may be an inconvenience, as a way of stopping illegal use by motorcyclists they frequently do not work. Consequently, in order to attract as many legitimate users as possible, Sustrans advocates the removal of access barriers wherever possible.

Under the terms of the 1995 Disability Discrimination Act, service providers are expected to 'take reasonable steps to remove or alter a feature...that makes it unreasonably difficult or impossible for a disabled person to use the service'. Physical adjustments are required to existing barriers to give access to those with disabilities. Initially this could be a simple matter of fitting RADAR locks to access gates but given that RADAR locks are unpopular, often difficult to use and take away the independence of many disabled people, Sustrans advocates

the removal of barriers. While there is the caveat that the removal of physical barriers may not be required if there are genuine safety issues, if motorcyclists are obtaining access to shared paths regardless of barriers, then removing them is unlikely to appreciably increase the risk.

Prior to the opening of a new path, the problem of illegal use by motorcyclists is often one of perception on the part of landowners, planning authorities and others rather than a proven reality. In this case it is better to install only part of the full barrier in the first instance, narrowing the access, in order to see if the motorbike problem is a real one. If it proves to be the case, then the rest of the control can easily be added. Alternatively, a gate can be provided adjacent to the barrier which can initially be kept locked closed, but which can subsequently be locked in the open position.



9. Shared use routes

Shared use routes are those that are used by pedestrians and cyclists together, where the full space of the path is used by both. Adjacent use, where the different users are clearly separated from each other, may be appropriate in areas where particular constraints apply. However, we recommend shared use as the preferred solution for the Thames Estuary Path and other Greenways. This position is supported by a review of current research, guidance and other relevant documents on shared use routes.

We have examined the brief, methodology and key findings from the following documents:

Research documents

- How people interact on off-road routes, Countryside Agency, 2001
- Kensington Gardens Shared Use Trial, Atkins/Royal Parks, 2002.
- How people interact on off-road routes, Countryside Agency, 2003
- Cycling in Vehicle Restricted Areas, TRL, 2004.
- Shared Surface Street Design Research Project, Guide Dogs, undated.
- Testing proposed delineators to demarcate pedestrian paths in a shared space environment, UCL/ Guide Dogs, 2008.
- Cycle Review at The Regent's Park, Peter Brett Associates for The Royal Parks, 2008

Design guidance & policy documents

- Shared Use Routes, Sustrans, 1999.
- Disabled people and the National Cycle Network, Sustrans, 1998.
- Adjacent and Shared Use Facilities for Cyclists and Walkers, DfT, 2004.
- London Cycling Design Standards, TfL, 2005.
- Shared space, safe space, Ramboll Nyvig for Guide Dogs, 2006.

Conclusions from the literature review

- Conflicts on shared routes are very infrequent and tend to be minor. Actual collisions or aggression, in particular, are extremely rare.
- The majority of shared path users do not perceive any problem with pedestrians and cyclists sharing paths.
- Recalled experiences of conflict tend to be worse, both in terms of frequency and severity, than actual experience.
- Good design, particularly in terms of sight lines and path widths, can mitigate against potential conflicts (at least in part)
- Some vulnerable users state a strong dislike for shared routes and shared surfaces and generally a preference for segregated/adjacent paths over shared is stated by all users.
- Most of the design guidance suggests that segregated routes should be the standard in urban areas.



Shared use, Kensington Gardens

Adjacent use, Hyde Park

Thames Estuary Path – Legal and Ownership Issues

Public footpaths

Much of the existing riverside path is public footpath, which is great for pedestrian access, but conveys no right of access for cycling. Various options are available to permit cycling as set out below. The preferred solution where space is available is conversion of the public footpath to public bridleway, which then permits use by pedestrians, cyclists and equestrians. Where horses can be accommodated this is a good solution, but we do not recommend this on flood defence embankments less than 5 metres wide.

There are many places where the public footpath runs along the top of the flood bank, but there is plenty of space on the landward side for a separate path for cyclists and equestrians. In this situation a permissive agreement with landowners may be preferable to the creation of parallel public rights of way.

Public footpaths are defined as highways over which there is a right of way by foot and with an invalid carriage only, so cycling is not allowed by right on footpaths. In many instances a permissive agreement may be sought from the landowner to allow cycle access. Such agreements do not change the legal status of the public footpath and consultation should take place beforehand with interested parties. If the footpath is to be converted to a cycle track, the Cycle Tracks Act 1984 must be used by the local highway authority. Any conversion of a path over agricultural land requires the consent of the landowner.

There are two anomalies in the Act, one “perceptual”, the other technical. The term cycle track sounds to some like the creation of a “race track” with the exclusion of pedestrians. This is not the case. The Act is normally used to convert a footpath into a cycle track over which pedestrians have a right of way. However, Sustrans prefers to use the term shared use (or multiuse) path, as this more accurately describes the type of facility created, for use by pedestrians, cyclists and wheelchair users.

More problematic is the fact that conversion to a cycle track will mean following a legal procedure which may result in the removal of a footpath from the definitive rights of way map. This is an unacceptable anomaly and Sustrans supports the need to change the law and record all such cycle tracks on definitive maps. There is currently an agreement with Ordnance Survey whereby Sustrans, after consultation with Local Authorities and the CTC (Cyclists Touring Club), gathers information on all traffic-free cycle paths or National Cycle Network routes and passes it on to Ordnance Survey for inclusion on their 1:50,000 Landranger series maps.

In the meantime there are three possible ways around this:

1. Create a new permissive path for cyclists parallel to the footpath (this may require a dividing strip) thereby retaining the footpath and avoiding using the Cycle Tracks Act altogether.
2. Divide the footpath in half longitudinally, where width permits, and use the Cycle Tracks Act to convert one half to a cycle track while the remainder stays as a footpath. This will rarely be possible because footpaths will generally be too narrow.
3. Convert the footpath to a public bridleway (the preferred method subject to width), which will still require a legal procedure, but which would extend the rights of access to horse riders, and which would maintain the right of way on the definitive map. This is only really possible if the path is wide enough, or could be widened, as shared use with horses can render a narrow path impassable to walkers and cyclists.

Careful examination of each local situation is necessary. Consultation and site meetings with landowners, the local authority and others, such as the Ramblers Association and groups representing those with disabilities, to examine the options and to discuss problems should ensure that the issues can be understood by everyone and agreement can be reached⁶⁶.

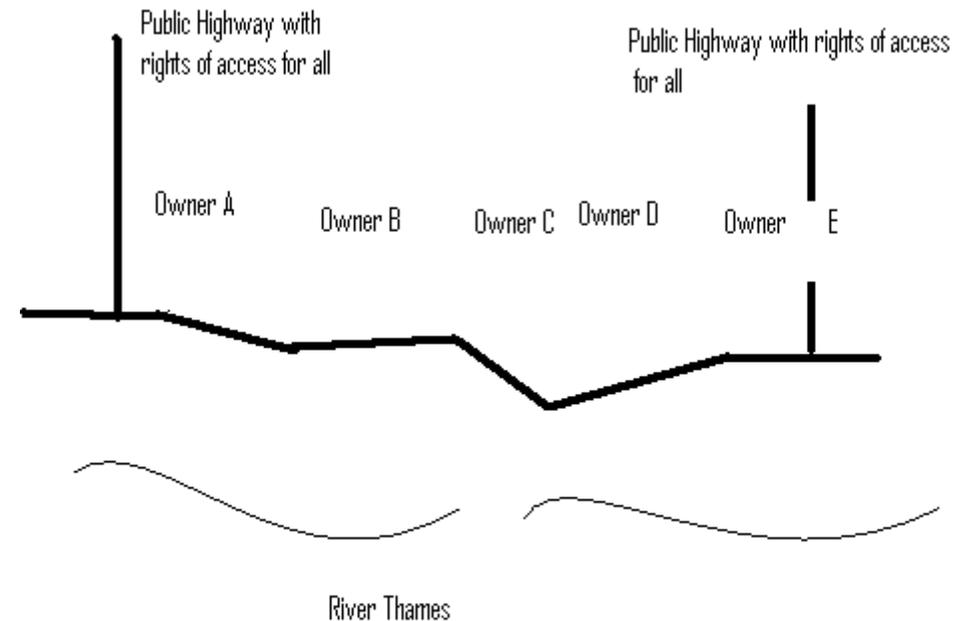
Thames Estuary Path – Legal and Ownership Issues

Negotiations with landowners

Many people will have a clear vision of the Thames Estuary Path, perhaps associated with the section of the estuary riverbank that they know best. This is likely to be a vision of wide open spaces, good views and good continuous access, with the concept of the waterfront as public open space. However the current reality is very different. The proposed route of the Thames Estuary Path is not available for the public in many places at present or may only be available as a public footpath, perhaps with steps or other barriers. The land for the path is in multiple ownership and of variable status and this means that land assembly is one of the greatest challenges for the Thames Estuary path.

Local Authorities along the Thames Estuary have recognised the importance of the path for many years and have sought to develop it, but the approach has been fragmented and has lacked the clear vision needed to assemble a complete route along the waterfront. The challenges are indicated by the sketch of a typical section of the riverbank. In order to have a complete route along this section rights of access are needed for walkers, cyclists and any other chosen users. These rights of access will need to be accompanied by agreement on responsibilities for maintenance, liabilities etc. Thus in order to complete the path between the two sections of public highway indicated below, agreement is needed with all five landowners A to E.

This type of situation is one that is quite familiar to highways engineers or others involved in road building or public transport development, who have traditionally used compulsory purchase powers or more recently the Transport and Works Act to assemble all the land needed. This is however an approach that has very rarely been used for walking or cycling routes, but it is one that could usefully be used to secure early completion of the Thames Estuary Path.



Sustrans is also very familiar with this type of situation when developing the National Cycle Network, such as routes along disused railways or river corridors and Sustrans has a history of approaching landowners and seeking to obtain rights for access along strips of land. This approach has been highly successful, even if it can take many years, but works best when there is some flexibility about the exact route. The approach has however mainly been used for rural routes or on urban fringes, where the cost of land is likely to be within the range that Sustrans can afford.

For the hypothetical situation of landowners A to E outlined previously there are a number of possible ways to get agreement for the establishment of the Thames Estuary Path with clear rights and responsibilities:

Thames Estuary Path – Legal and Ownership Issues

Option	Advantages	Disadvantages
1. Await developments from all five landowners and seek planning gain	With the large amount of development along the waterfront most landowners are likely to be seeking planning permission for works at some stage and this can be taken advantage of.	Agreements likely to take some years and not guaranteed. A body will need to take responsibility for the land in the transition period between agreements with individual owners and route construction.
2. Seek individual agreements with all five landowners	Should help to create consensus with all landowners. A low-key approach.	As above.
3. Bridleway Creation Order	Should guarantee complete route without change of ownership. Opposition from user groups unlikely.	In many places, introduction of horses will not be appropriate.
4. Cycle Tracks Order	Should guarantee complete route without change of ownership.	Time and cost for Local Authorities, who have to process the Orders. Possible antagonism of landowners. Potential opposition from some user groups.
5. Compulsory Purchase or Transport and Works Act	Would allow route to be completed all at the same time and should guarantee a complete route.	Time and cost for Local Authorities, who have to process the Orders. Possible antagonism of landowners. Local Authorities will have to take on ownership and maintenance of land for path.

Local Authorities have the powers to pursue Option 3, 4 or 5, but are generally reluctant to use them. It may be that as a result of Local Authorities formally agreeing to use the powers available to them reluctant landowners become much more cooperative knowing that they are likely to be able to secure better agreements through negotiation, rather than what might be imposed on them. However to date the approach by Local Authorities has generally focused on Option 1. As an example of the difficulties that can occur with this approach consider the following case referring to the five landowners:

Year 1 - Landowner C (currently industrial) seeks planning permission for an expansion of the existing operation. The Local Authority seeks a financial contribution to the enhancement and development of the Thames Estuary Path.

Year 2 – Landowner A (currently brownfield land) seeks planning permission for a major housing development. The Local Authority seeks a financial contribution to the enhancement and development of the Thames Estuary Path and asks the developer to construct the path on their own land.

Year 3 – Landowner D (currently industrial) seeks planning permission for an expansion of the existing operation. The Local Authority seeks a financial contribution to the enhancement and development of the Thames Estuary path.

Year 4 - Landowner E (currently housing) seeks planning permission for additional housing. The Local Authority seeks a financial contribution to the enhancement and development of the Thames Estuary Path and asks the developer to construct the path on their own land.

Year 5 – Landowner B (currently industrial) seeks planning permission for an expansion of the existing operation. The Local Authority seeks a financial contribution to the enhancement and development of the Thames Estuary Path.

Thames Estuary Path – Legal and Ownership Issues

This optimistic timetable should allow for completion of the Thames Estuary Path in five years, but unless the planning authority has been able to secure the correct agreements the reality will be that only a partial route will be completed and it is quite likely that this section will not have permanent rights of access for all desired users. This has been the typical situation to date for a number of reasons:

- Often developers such as landowners A and E are not expected to construct the new riverside path until fairly late in their development – which may result in many years of delay.
- Planning Authorities have not established a mechanism to secure permanent rights on the Thames Estuary Path, when the developments are coming forward at different times.

In order to address this, a number of changes are needed namely:

- The early completion of the Thames Estuary Path on the developers land should be a requirement for all major developments along the Thames waterfront.
- All developments along the waterfront should make a financial contribution to the path and must enter into a legal agreement with an appropriate body to secure permanent rights for the Thames Estuary Path on that developers land.

The obvious body to enter into a legal agreement with the developers would be the relevant Local Authority, but in the past Local Authorities have been unwilling to do this for fear of taking on additional maintenance liabilities. This is a legitimate concern, because the Local Authority may acquire land from developers with responsibilities and the possibility that the path may not be completed for a number of years. This is however a major barrier to delivery of the Thames Estuary Path and it is therefore essential that if maximum gain is to be made from developments along the waterfront mechanisms are established to secure permanent rights along the Thames Estuary Path. This will almost certainly have to include a commuted sum towards maintenance and management of the land for the body who takes on responsibility from the developers.

Negotiating permissive agreements

Where a public footpath already exists on the waterfront and there is sufficient space to develop the path for use by cyclists without acquiring additional land, obtaining permissive agreements with individual landowners can be an attractive option. The timetable below sets out the various stages involved and approximate timescales. It can take up to 12 months to conclude all the agreements, or longer if there are special circumstances.

Establish land ownership	4 weeks
Initial telephone/email contact	4 weeks
Formal meetings and presentations	4 weeks
Negotiations - landowners agreement in principle	8 weeks
Referred to landowners legal teams	12 weeks
Obtain permissions from private landowners	8 weeks

At the same time, consultations can take place with key stakeholders including the Environment Agency, Natural England and the Port of London Authority to agree the technical details of path construction. In most cases, a planning application will be required if the nature of the surface is to change significantly.

The Local Authority has a duty to maintain a public footpath, but only for pedestrian use. If the surface is improved following a permissive agreement, the Local Authority may be reluctant to accept the additional maintenance responsibility. This will need to be clarified by an exchange of letters at an early stage.

Sustrans maintains hundreds of miles of greenways as part of the National Cycle Network at its own expense, but does not have additional resources to take on new permissive sections of the Thames Estuary Path. We have long argued that a national agency, perhaps modelled on the Highways Agency, is needed to maintain the existing National Cycle Network routes, let alone any new construction.

Measuring Cycling Activity in the Thames Gateway

Sustrans is pleased to submit this proposal outlining how an appropriate programme to monitor cycling activity might be implemented. This brief proposal outlines our recommended approach. An expanded proposal describing in detail the rationale, essential tasks, scheduling and costs associated with the programme will be produced if this initial proposal is favourably received.

The option exists for the Thames Gateway stakeholders to select particular parts of the recommended programme, and reject others, to construct a tailored programme. However, it should be noted that the exclusion of any part of the recommended programme may result in a reduction of the holistic integrity of the recommended programme.

Consideration of monitoring options

The monitoring of cycle use is challenging because of low cycle traffic volumes. The consequence of this is the risk that the impacts of schemes and initiatives may be undetected if an overly simple monitoring regime is used. This is evidenced by the difficulty of detecting statistically significant changes in cycle usage in national data sets and other local data sets, despite the anecdotal documentation of such changes and regular detection of increased cycle use on a project-by-project basis.

Consideration of distribution of centres, workplaces, schools, and transport interchanges, plus the cycle network availability, nature of the available network, and distribution of relevant facilities is very important in planning monitoring. One implication of these considerations is a strong likelihood that growth in cycle usage may not be even across the whole Thames Gateway area. Therefore, a single-method-based approach to monitoring is not considered to be an adequate means of addressing the question of measurement. A multi-method approach is preferred, by which means better determination of the impact can be achieved through assessment of an array of indicators. Data pooling will enable the generation of a simpler expression of the impact of schemes and initiatives.

The overall level of change in cycle use, the indication of the propensity for cycle use in the Thames Gateway, and the extent of the capacity for such schemes to deliver additional cycling activity, will become most apparent through amalgamation of data from automated counts, manual counts, and a range of surveys. This will provide the most effective means by which the overall patterns of behaviour can be deduced.

Summary of monitoring approach

A core of data collection to be delivered in each area will include manual and automated cycle counts, a population level household survey, and a diarised record of interventions. Modular components will be selected according to project focus and perceived need. The modules to be offered as 'standard' will include:

School Travel	Pupil-level annual school census, children and young people survey, hands-up surveys, counts of parked bikes
Workplace travel	Workplace travel surveys, counts of parked bikes
Leisure journeys	Tourist or leisure destination survey, user intercept survey
Focus on access	Surveys at key locations, counts of parked bikes, additional traffic counts at key locations
Focus on behaviour and attitudes	Small panel or other surveys (on-line or intercept), surveying of participants in cycling activities such as training and hire schemes
Physical activity focus	On route or at-destination surveys, surveying of participants in activities such as bicycle training and hire schemes
Cycle user survey	Travel survey administered to cyclists or cycling groups based on LTS guidance
Data from other projects	Collect data from and work together with other relevant programmes

Measuring Cycling Activity in the Thames Gateway

A preliminary phase will be to work with the local authorities responsible for intervention delivery to identify precisely their needs, and clearly to define the course of the monitoring project over the course of the programme. Ongoing support will be a major feature of the monitoring project. This will include a detailed dissemination programme within and beyond the immediate area.

Analysis and evaluation will be informed by the need to meet the strategic requirements of the commissioners, and by the integration of the programme with all relevant research and evaluation programmes from which good practice and novel approaches can be adopted and shared.

Proposed monitoring programme

This proposal divides the cycle monitoring programme into two components, a Monitoring Regime and Data Analysis.

The Monitoring Regime will commence with a Review of existing bicycle, transport and other monitoring data and activities. Arising from this, Monitoring Plan Development takes place. It is anticipated that the implementation of the Monitoring Plan will involve the management of Automatic Cycle Counts and Manual Cycle Counts. Other data acquisition tasks as part of the Monitoring Plan will comprise School Travel Surveys, Workplace Travel Surveys, User and Non-User Surveys and Cycle Parking Counts.

Data Analysis

This will involve the acquisition of survey data from the stakeholders and analysis to defined and consistent protocols. Analysis of Existing Data is offered as an option to give some sense of an historical perspective to the monitoring results. It is envisaged that this may involve analysis of automatic cycle count data and manual cycle count data, and analysis of any relevant survey data.

Analysis undertaken on an annual basis will cover data collected from the automatic traffic counters, manual traffic count data, workplace travel surveys, school travel surveys, the user and non-user surveys, and the cycle parking counts. The interim annual reports will be principally descriptive and will summarise the data from the surveys and counts.

Final analysis and reporting

The final analysis will draw together the descriptive analyses and provide a commentary on the overall changes in cycle usage that have occurred in the monitoring period. Time series analysis will help to disentangle underlying trends from seasonal effects and interventions, such as new infrastructure or promotion campaigns. This analysis will be used to make inferences about the value of different types of intervention that have been adopted in the Thames Gateway. The results will be used to draw conclusions concerning the value of different approaches to cycle promotion and the whole analysis, results and conclusion will be presented in a unified final report.

Sustrans is the UK's leading exponent of monitoring cycling activity. Sustrans' expertise in the use of cycle counting equipment is very considerable, being based on a wide application and an extended period of activity in this field. Sustrans also has a sound working knowledge of survey work in terms of destination-based surveys, user-focussed surveys, and household surveys. Sustrans' practical understanding of monitoring cycling is uniquely comprehensive, and includes local authority and Department for Transport commissions.

Proposal prepared by Sustrans' Research and Monitoring Unit
monitoring@sustrans.org.uk

Measuring Cycling Activity in the Thames Gateway

Research and Monitoring Unit - Supportive Information/Data

This section pulls together available data collected by Sustrans' Research and Monitoring Unit for the Thames Gateway project area. The report also outlines data collected from similar sites, providing insight into the patterns and levels of usage likely to be attributed to the project gained from experiences elsewhere on the National Cycle Network or other walking and cycling routes.

Sustrans' Route User Survey

The data presented in the following sections of this report has been gathered through Sustrans' Route User Survey procedure.

Sustrans' Research and Monitoring Unit have been conducting surveys of route users for almost a decade. Sustrans' Route User Survey has been widely applied around the UK, both on the National Cycle Network and other cycling and walking routes. The approach consists of four 12-hour survey periods, during which interviews are conducted with all legitimate route users over the age of sixteen years, intercepted at a site (cyclists, pedestrians and other users such as joggers, horse riders, skateboarders, etc.). The survey gathers demographic information (age, gender, ethnicity), trip information (origin, destination), and also data on attitude and perception (safety, physical activity, etc.).

The survey periods run from 0700-1900 on one weekday in term time, one weekend day in term time, one weekday in holiday time, and one weekend day in holiday time. Data analysis is conducted using Microsoft Excel and SPSS. Estimates of annual usage are produced and a weighting mechanism is applied to the survey data.

Project Area Surveys

The following table lists the sites which have been identified as being relevant to the proposed project area:

2004	2005	2006*	2008
Thames Cycle Route, Richmond Upon Thames	Tilbury, Essex	Blackfriars Bridge, Southwark	Cutty Sark, Greenwich**
	Purfleet, Essex	London Bridge, Southwark	Palace Chapel, Greenwich**
	New Kent Road, Southwark	Tower Bridge, Southwark	
	Southwark Bridge, Southwark	Southwark Bridge, Southwark	
	Portland Street, Southwark	Tooley Street, Southwark	
	Dulwich Village, Southwark		

*In 2006, Sustrans began to apply a weighting mechanism to the data, allowing for the production of an annual usage estimate for the movements at the survey site

**Preliminary results available, not for publication until approved

Thames Cycle Route, Richmond upon Thames - This is an attractive and popular shared use path for walkers and cyclists alongside the River Thames in the London Borough of Richmond upon Thames. The path is signed as part of National Cycle Route 4.

Tilbury, Essex - The survey site was situated near a shared use bridge between Tilbury centre and Tilbury Docks. The route links residential and employment areas, as well as providing a link to the Gravesend Ferry. The route is part of the Thames Gateway South Essex Green Grid.

Purfleet, Essex - The survey site was situated on the bank of the Thames near the point where the Mardyke meets the River. The site links new and old housing with the RSPB reserve and visitor centre. The route is part of the Thames Gateway South Essex Green Grid.

New Kent Road, Southwark - The survey site at New Kent Road is on a section of the Elephant and Castle Cycle Bypass.

Southwark Bridge, Southwark - The Bridge is one of the most central of the London Bridges.

Measuring Cycling Activity in the Thames Gateway

Portland Street, Southwark - The site surveyed at Portland Street is on a section of the London Cycle Network which avoids busy local roads.

Dulwich Village, Southwark - The survey site was situated on an intersection of two London Cycle Network Plus routes.

Blackfriars Bridge, Southwark - The survey site was on Blackfriars Bridge in Southwark.

London Bridge, Southwark - The survey site was on London Bridge.

Tower Bridge, Southwark - The survey site was at Tower Bridge.

Tooley Street, Southwark - The survey site was in Tooley Street in Southwark.

Cutty Sark and Palace Chapel, Greenwich - The surveys at the Cutty Sark and Palace Chapel were conducted in the summer and autumn of 2008.

Survey site	Total users	Users as % of total			Trip purpose				Cyclists self-rating Novices	Choice of travel mode Choosing cycle over car
		Cyclists	Pedestrians	Others	Leisure	Commuting	Shopping	Other		
Richmond	7,577	35	40	25	13			13		
Tilbury	231	33	65	2	61	26	9		N/A	N/A
Purfleet	428	20	79	1	89	0	0	11	63	16
New Kent Road	14,712	26	72	2	23	41	36	0		36
Southwark Bridge	16,611	21	76	2	32	57	0	11	29	36
Portland Street, Southwark	4,009	11	86	3	31	33	23	13	20	N/A
Dulwich Village, Southwark	11,592	10	82	8	59	20	0	11	25	69
Blackfriars Bridge	38,006	12	88	0	63	28	0	6	N/A	27
London Bridge	57,140	4	96	0	22	63	0	15	N/A	25
Tower Bridge	32,823	N/A	N/A	N/A	53	37	0	10	N/A	41
Tooley Street, Southwark	73,164	N/A	N/A	N/A	29	55	7	9	N/A	59
Cutty Sark, Greenwich	12,764	5	93	2	68	7	0	25	N/A	N/A
Palace Chapel, Greenwich	11,195	8	90	2	64	12	13	11	N/A	N/A

Thames Estuary Path – Stakeholder consultation

Stakeholder meeting 1 October 2008

The following people were invited to a stakeholder event in Greenwich to discuss the draft proposals, but not all were able to attend. All 140 pages of maps and text were displayed around the room and made available to download from the internet. Many stakeholders commented that there was insufficient time to respond.

A lively discussion ensued and attendees were invited to recommend their priorities for investment in round table workshop groups, from a nominal budget of £10 million. Comments made at the event and subsequent submissions have been incorporated into the report.

Jenny Scholfield	EA Thames Estuary
Nathalie Simon	EA
Siraj Tahir	EA
Dann Jessen	EAST urban design rep Design for London
Jim Trimmer	Port of London Authority
Colin Woodward	EA recreation officer
Adrian Gascoyne	Essex County Council Historic environment
Alex Rook	Walk London/TfL rep
Colin Finch	Kent County Council
Peter Slaughter	Kent County Council
Adam Jenkins	Essex County Council Public Rights of Way
David Kang Gil	TFL Cycling Centre of Excellence
Tony Phillips	Dartford Council
Alfredo Mendes	Dartford Council
Dave Standen	Gravesham Council
Geoff Baker	Gravesham Council
Tony Chadwick	Gravesham Council
Francis Wallis	Swale Forward
Laurence Tricker	Kent Thameside Green Grid
John Meehan	Groundwork Thames Gateway South Essex
Tony Wilson	Groundwork Thames Gateway South Essex
Emma Ventham	Groundwork Kent and Medway
Simon Green	Groundwork Kent and Medway

Steve Gilbert	RSPB
Briony Coulson	RSPB Essex
Greg Hitchcock	Kent Wildlife Trust
Claire Cadman	Essex Wildlife Trust
Emily Brennan	London Wildlife Trust
Michael Cullen	Ramblers Association Essex Footpath sec
Mr Potter	Ramblers Association Kent Footpath sec
Simon Pile	Land Restoration Trust
Jane Thomas	Natural England
David Hobbs	EA Essex
Dave Bissenden	Thurrock Council Planning
M Kiely	Thurrock Council
Nick Bruce	RSPB
Paul Fisher	RSPB
David Hedges	RSPB
Adam Keating	Basildon Council
Rosemary Welch	Essex CC
Martin Wakelin	Essex CC
Tim Olley	Essex CC
Chris Stevenson	Essex CC
A Raffaelli	Castlepoint Borough Council
Giles Tofield	Renaissance Southend
Patrica Crosby	Natural England
Paul Mathieson	Southend Council
Nick Harris	Southend Council
Louise Martin	Castlepoint Borough Council
Donald Anyiam	Greenwich Council
Roger Warhurst	Greenwich Council
Tammy Adams	Barking and Dagenham
David Harley	Barking and Dagenham
Brian Dalton	Bexley Council
Denise Mulligan	Newham Council
Peter Finch	River Thames Society
Levent Kerimol	Design for London
Tobias Govert	Design for London

Thames Estuary Path – Stakeholder consultation

Question and Answer Session

1. Expand £10 million - by building narrower paths - Holland quoted as good example.
A. Half the width does not mean half the cost and path needs to be appropriate for the location.
2. Public enquiry to convert a path to a cycle track. Painful experience. Need to be aware of process and current standards. 2.5 metres accepted as minimum width by inspector.
A. Recent meeting for Dartford Riverside section - public footpath on flood defences and constraints of width if bridleway. Permissive agreements suggested as best way round this.
3. Will the report conclude a preferred route? This route has ambiguous status.
A. Agree there is no point identifying a route where land is unavailable for some years. The best option is needed. The main route which is possible in the short term and related to NE coastal audit running at present. This message needs to go back to CLG - who signs this off.
4. London Walking Forum identified ideal route and short term options. Crossing Roding needs that big funding from big projects such as DLR. Long term planning is essential.
A. Agreed. Yantlett MOD Range a case in point.
5. Short turn around for consultation and report - how will this be expressed as no time to give this local knowledge now - how can we support this at present?
A. Where obvious gaps in flood defences, we will identify where more work is needed at the local level.
6. So what is best design guidance? How can we work together on this in the future?
A. Sustrans are having those meetings. Refer to EA design guidance coming out.
7. PLA have concerns about the short timetable?
A. Sustrans have 15 days to complete report.
8. Can we see another draft?
A. No - not enough time. Sustrans has taken on board comments today, but not all comments will go in.
9. Consultation time for NE is inadequate to make sufficiently detailed responses to this work although we support the Thames Estuary Path in principle.
A. Brian McDonald has been consulted and feels will complement points he has made. Sensitive sites will be identified in the overlay maps.
10. Worth thinking ahead and identifying likely blocks - maintenance, liability. LAs will need to endorse this work at a senior level. Need to think carefully about the next steps. Rights of way legislation may also need reforming.
A. Maintenance comes up time and time again and must be built in. It has been ignored in the past but some paths have gone in despite this.
11. Important that CLG understand economic benefit this project may have. It needs to be said in this report.
A. Rhine, Danube data being collated now to go into this report as support for benefits.
12. Comment that disposable income higher to spend by cyclists than car drivers as less cost to get there and need to stay and eat locally.
13. Tourism - transport related - can local transport plan funding supports some of this? Short to medium trips, interchanges information, report needs to mention these.
A. No examples of planned investment in riverside path within Kent.
14. Archaeological impacts of coastal access? What reference will the path make to these sites being identified?
A. 15 days too short but point well made for future work.
15. Ownership of Thames Path - need a full study to clarify this. Compulsory purchase needs to be taken to Members - this should have most appropriate options not just this one.
A. 5 different people wrote these sections - still in draft and can be amended.
16. CPO may blight land and needs toning down. Options better to list.
A. Not heard of many examples where this has been used. Sustrans will be setting out a timetable in the report to emphasise that it is impossible to build a path straight away without these legal permissions in place.
17. Will CLG finance the path if permissive agreements are in place?
18. Designation - will it be deemed a National Trail? Several options which may or may not be appropriate.
A. Talked to NE about this - coastal access now being looked at.
19. How will this be delivered?
A. Thames Estuary Path Manager one suggestion.
20. How would this person be accountable? There needs to be a proper project structure in place - multi disciplinary would be best way to get buy in from all partners - cost effective way if done to go across political boundaries.
A. This needs to be reported back to client - could this come back for next round of Parklands but CLG clear that 100% funding will never be on offer. North bank is largest area with gaps at present.
21. Short time for this report?
A. Sustrans have worked for some years with partners so have identified what they have developed with partners so far. Feel start small with some deliverable projects as priorities to enable larger works later if supported by CLG.

Thames Estuary Path – Route status

Distances in kilometres	Total	Route status				
		0	1	2	3	4
Newham London Boro	7.2	1.7	1.2	2.2	1.7	0.4
Barking and Dagenham London Boro	5.5	3.8	0.4	1.3		
Havering London Boro	8.4	2.8	0.6		0.2	4.8
Greenwich London Boro	8.8	0.3		1.1	1.3	6.1
Bexley London Boro	9.8	1.7		2.5	0.5	5.1
London totals	39.7	10.3	2.2	7.1	3.7	16.4
Thurrock	34.8	20.0	0.6	7.5	5.6	1.1
Basildon District	0.6	0.6				
Castle Point District	20.5	2.4		17.0	1.1	
Southend-on-Sea	14.5	7.1		1.9	5.5	
South Essex totals	70.4	30.1	0.6	26.4	12.2	1.1
Dartford District	8.5	4.3		3.0	1.2	
Gravesham District	13.1	7.0		1.4	2.2	2.5
Medway	30.8	16.7		11.9	2.2	
Swale District	46.5	30.4	0.7	6.9	8.4	0.1
North Kent totals	98.9	58.4	0.7	23.2	14.0	2.6
Grand Totals	209.0	98.8	3.5	56.7	29.9	20.1

This data is derived from the Sustrans GIS database and refers to the main route only (solid line on the maps). Data is also available for link routes, but has not been analysed. The information from the survey has been recorded as follows:

Red	0 = no surfaced path, major work needed
Orange	1 = good surfaced path, legal work needed
Orange	2 = poor surfaced path, some work needed
Green	3 = good surfaced path, fully open and available for use
Green	4 = good surfaced path, fully open and promoted

Where the waterfront is not currently accessible, the route has been coded as 0, although there may be some infrastructure in place.

Data for Medway ends at the Grain Power Station. The additional distance via Rochester Bridge is estimated at 47 km.

The figure for Swale includes the south side of the Isle of Sheppey, although this may not be appropriate for bicycles.

Thames Estuary Path – Priorities for development

The following pages give estimated costs for the key recommendations arising out of this study. Each of the 70 map descriptions give a number of recommendations for further work, ranging from the replacement of restrictive access barriers to the construction of new bridges. The tables give a reference number in the left-hand column, which relates to the recommendations from each section. These have been grouped into a number of sub-headings:

- Path Construction Projects
- Bridges
- Highways Works
- Feasibility studies
- Planning/developer agreements
- Negotiate access
- Modify barriers
- Improvements to links

We have not provided costs estimates for links as they have not been surveyed in as much detail as the main route. A global estimate of cost is provided, subject to more detailed assessment. Links are important as there is clearly little point in creating a high quality waterfront path if it cannot be accessed from local communities.

Each element has been given a priority status in the right-hand column, which relates to deliverability and our recommendations for coherent packages of works, where

- 1 = within 3 years
- 2 = 3 to 6 years
- 3 = 6 to 10 years

We have given “negotiate access” and “feasibility studies” a high priority in most cases as this is clearly the first stage in any programme of development work. This work will need to be combined with efforts to identify sources of funding. An early appointment of a Thames Estuary Path Manager is advocated by stakeholders and this person would be able to co-ordinate this essential development work.

While some of the major projects will take time to deliver, other elements are not time-limited and could take place at any time. For example, the removal of all physical barriers on existing public footpaths would be a huge benefit for existing users and (with one or two exceptions) the investment is modest.

The last two pages of tables summarise the Priority One, Priority Two and Priority Three projects and give an estimate of the level of investment required over 10 years to implement the Thames Estuary Path.

We have not attempted to quantify the sections of waterfront path that are being provided by private developers, but these will be substantial. Over the next 10 years, it is likely that significant lengths will be provided by developments in Barking Riverside, Thurrock and Kent Thameside. The value of the private sector investment is difficult to estimate, but is likely to run into tens of millions. For example, the sustainable transport infrastructure at “The Bridge” in Dartford cost around £23 million.

There will be opportunities to work with the Environment Agency as they implement managed realignment schemes at West Canvey Marshes, St Mary’s Marsh, Grain Marsh and All Hallows Marsh. Conversely, there is little point in proposing major investment in these areas until the future position of the flood defences is certain.

Some elements are at an advanced stage and match funding has already been identified. Others have no funds allocated, but we would expect substantial match funding to be available as projects progress. It is clear that central Government will not provide 100% of the funding for the Thames Estuary Path. We would anticipate a three-way split between the private sector, central Government and local sources, with an overall project cost of around £50 million.

We believe this is a very modest investment to achieve a high quality continuous path from the Thames Barrier to Shoeburyness and the Isle of Sheppey for around 60 miles on both banks.

Thames Estuary Path – Priorities for development

Path Construction Projects

Ref	Description	Length	Width	Rate/sq.m.	Cost	Notes	P
5	New paths at Dagenham Breach	950	3.0	80	228,000		2
7.3	New path at Tilda Rice	800	2.5	70	140,000		2
9.1	Westminster Industrial Estate	310		item	1,500,000		2
10.3	Woolwich gas works	120		item	125,000	CRISP 2007	1
11.1	New path surface at Thamesmead	1300		item	225,000	CRISP 2007	1
12.1	Crossness sewage works	550	3.0	80	132,000		1
17.1	Path improvements at Purfleet	1400	3.0	70	294,000		2
18.1	New path at West Thurrock Marshes	1700	3.0	70	357,000		2
19.1	Complete Grays waterfront	50	3.0	100	15,000		1
20.3	Complete Tilbury waterfront	290	2.5	20	14,500		2
21, 22	Path improvements Two Forts Way	4800	2.5	item	696,000	Parklands bid	1
23.1	New path at East Tilbury Marshes	2540	2.5	60	381,000		2
24, 25	New path at Thurrock Thameside	3850	2.5	60	577,500		2
31.3	New path at Oozedam Farm	1830	2.5	60	274,500		2
32-34	Path improvements Canvey Island south	10510	2.5	40	1,051,000		2
35, 36	Path improvements Benfleet Creek	4575	2.5	40	457,500		1
36	Benfleet Creek crossing and station	530	3.0	130	206,700		2
37.2	Path improvements Benfleet to Leigh	5150	2.5	40	515,000		1
38.1	Path improvements Leigh to Chalkwell			item	10,000,000		1
39.2	Widen promenade in Southend	2800	4.0	100	1,120,000		2
42-44	Dartford Creek to Greenhithe	4900	2.5	40	490,000	Parklands bid	1
45.2	Path improvements Swanscombe	1350	2.5	20	67,000		1
48-50	Path improvements Gravesend to Cliffe	4650	2.5	50	581,250		3
51	Cliffe Fort	2300	2.5	50	287,500		2
52.1	Minor works Cliffe Marshes	8400	2.5	10	210,000		3
54.2	Path improvements St Mary's Marshes	5350	2.5	40	535,000	EA intertidal habitat creation	3
56.3	Repairs to sea wall Allhallows			item	100,000		1
61.1	New path at Rushenden Marshes	3200	2.5	40	320,000		1
68.4	New path at Warden Bay	1060	3.0	80	254,400		1
70.1	Path improvements Shellness	1800	2.5	50	225,000		2
	Total				£21,379,850		

Thames Estuary Path – Priorities for development

Bridges

Ref	Location	Cost estimate	P
3.1	New bridge over Barking Creek	3,500,000	2
15, 42	New bridge over Dartford Creek	1,400,000	1
16.1	New bridge over Mar Dyke	370,000	1
25.2	New bridge over Mucking Creek	180,000	2
29.1	Two new bridges at Wat Tyler Park ¹	1,000,000	3
31.1	New bridge at Vange Creek	1,000,000	2
31.2	New bridge at East Haven Creek	400,000	2
	Total	£7,850,000	

¹Higher priority if no bridge provided at Vange Creek or East Haven Creek

Highways works

Ref	Location	Cost estimate	P
10.4	Toucan crossing at Woolwich Ferry ¹	75,000	1
19.3	Toucan crossing of A1098 Dock Road ²	200,000	1
20.1	Improve streetscape through Tilbury ³	1,264,000	2
24.3	Traffic calming Linford-Stanford	20,000	2
26.3	Crossing of The Manorway	50,000	2
45.3	Traffic calming Lower Road	20,000	2
45.4	Galley Hill Road footway widening	230,000	1
64.2	Contraflow cycling Blue Town	10,000	2
65.1	Toucan crossing at Barton's Point	50,000	2
67, 68	Traffic calming Warden Road	20,000	2
69.3	Parking restrictions Shellness Road	5,000	2
	Total	£1,944,000	

¹Estimate from CRISP 2007

²Trunk Road crossing (Highways Agency)

³Part of major public realm scheme



Thames Estuary Path – Priorities for development

Feasibility studies

Ref	Location	P
6.1	Courier Road to Old Man's Head	1
9.1	Westminster Industrial Estate	1
13.1	Erith steep footbridge	1
14.1	Manor Road industrial area	1
14.3	Erith High Street	1
18.1	West Thurrock Marshes	1
21.1	Tilbury Power Station	1
31.1	Fobbing Sluice & East Haven Creek	1
44.4	Greenhithe	1
47.3	Gravesend Town Pier	1
50, 51	Cliffe Fort	1
56.1	Dagnam Saltings	2
57, 58	Allhallows to Grain ¹	2
60.1	Medway Ferry	1
63.2	Queenborough Walls	1
66, 67, 68	Sheppey Cliffs	1
70.3	Harty Ferry	1

¹Identified by EA as potential location for intertidal habitat creation
Estimated cost of feasibility studies over 5 years = £400,000

Planning/developer agreement

16.4	New path at George Wimpey site	
18.2	Railway crossings West Thurrock	
19.4	Paths and bridges at Grays	
21, 22	Two Forts Way	
25.3	Railway crossing London Gateway	
41.1	New path at Gunners Park	
44.3	Path upgrade at Greenhithe Superstore	
46.1	New path at Northfleet Embankment	
47.1	New path at Northeast Gravesend	
47.2	Path improvements at Feabrex	
62.2	New path at Queenborough	

Negotiate access

Ref	Location	P
2.1	Royal Albert Dock	1
2.2	Royal Quay	1
2.3	Gallions Reach	1
3.2	Beckton STW	1
7.1	Ford Motor Works	2
7.2	Frog Island East	2
19.2	Little Thurrock Marshes	2
27, 28	Fobbing Marshes	1
29.2	Marsh House	1
29.3	Vange Marshes	1
30.1	Bowers Marshes	1
38, 39, 40	Southend Promenade	1
39.3	Southend Pier	1
45.1	Swanscombe Peninsula	1
46.2	Northfleet Cement Works	1
55.3	St Mary Hoo	2
56.2	Allhallows Leisure Park	1
57.3	Allhallows Branch Line	2
57, 58	Yantlet Demolition Range	2
62.1	Rushenden	1
63.3	Sheerness Docks	2
65.2	Minster Promenade	1
66.3	Sea Cliff Holiday Park	1
66.4	Footpath ZS4	1
67.4	Palm Trees Holiday Park	1
69.2	Sheppey Beach	1
70.2	Eastchurch Marshes	1

Estimated revenue cost of negotiations over 5 years = £100,000

Thames Estuary Path – Priorities for development

Modify barriers

Ref	Location	Cost estimate	P
5.1	Dagenham Dock station steps	200,000	2
8.1	Rainham Marshes A-frames	1,000	1
8.1	Rainham Marshes jetty access	1,000	1
9.2	Antelope Close steps	10,000	3
12.3	Thamesmead (link)	5,000	1
13.2	Belvedere Industrial Estate	1,000	1
15.3	Dartford Creek	1,000	1
17.2	Purfleet Deep Wharf ¹	1,300,000	2
17.3	Foster Yeoman steps	5,000	1
32.3	Hole Haven steps	20,000	2
33.3	Thorney Bay steps	20,000	2
43.2	QEII Bridge	20,000	2
44.2	Freightliner jetty	10,000	1
44.5	Ingress Park	1,000	1
48.2	Gravesend Ship & Lobster x 2	20,000	2
51.4	Cliffe Pools	1,000	2
52.2	Cliffe Marshes	1,000	2
53.2	Cooling Marshes x 3	3,000	2
54.3	Egypt Bay x 5	5,000	2
55.2	St Mary's Marshes x 5	5,000	2
63.1	Queenborough Wall steps	20,000	1
64.4	Sheppey Cottages steps	5,000	1
	Total	£1,655,000	

¹Estimate by Royal Haskoning for constructing a subway - alternatives dependent on future commercial development

Linking routes have not been investigated in detail, but we estimate their total cost over 10 years at £3,500,000.

Improvements to links

1.1	ExCel diversion	
1.2	Canning Town links	
2.4	Woolwich Manor Way	
4.2	Choats Road	
10.2	Europe Road	
11.2	Defence Close	
12.2	Crossness Engines Museum	
13.3	Manorway link	
13.4	Norman Road link	
15.2	Slade Green link	
15.4	Darent Industrial Estate	
16.2	Purfleet	
16.3	Purfleet Heritage Museum	
20.2	Tilbury South	
24.2	East Tilbury	
26.1	Stanford-le-Hope	
30.2	Benfleet	
34.3	Canvey Heights	
35, 36, 37	Hadleigh Country Park	
41.2	Shoeburyness	
49.2	Higham Common	
59.1	Smithfield Road	

Summary of cost estimates

Path Construction Projects	21,379,850
Bridges	7,850,000
Highways works	1,944,000
Feasibility studies	400,000
Negotiate access	100,000
Modify barriers	1,655,000
Improvements to links	3,500,000
Grand Total	£36,828,850

Thames Estuary Path – Priorities for development

Priority One Projects

Ref	Location	Cost est.
	Negotiate access	50,000
	Feasibility studies	300,000
	Modify barriers	50,000
	General works sub-total	400,000
10.4	Toucan crossing at Woolwich Ferry	75,000
10.3	Woolwich gas works	125,000
11.1	New path surface at Thamesmead	225,000
12.1	Crossness sewage works	132,000
	Improvements to links	500,000
	London sub-total	1,057,000
16.1	New bridge over Mar Dyke	370,000
19.3	Toucan crossing of A1098 Dock Road	200,000
19.1	Complete Grays waterfront	15,000
21, 22	Path improvements Two Forts Way	696,000
35, 36	Path improvements Benfleet Creek	457,500
37.2	Path improvements Benfleet to Leigh	515,000
38.1	Path improvements Leigh to Chalkwell	10,000,000
	Improvements to links	500,000
	South Essex sub-total	12,753,500
15, 42	New bridge over Dartford Creek	1,400,000
45.3	Traffic calming Lower Road	20,000
45.4	Galley Hill Road footway widening	230,000
42-44	Dartford Creek to Greenhithe	490,000
45.2	Path improvements Swanscombe Peninsula	67,000
56.3	Repairs to sea wall Allhallows	100,000
61.1	New path at Rushenden Marshes	320,000
68.4	New path at Warden Bay	254,400
	Improvements to links	500,000
	North Kent sub-total	3,381,400
	Grand Total	17,591,900

Priority Two Projects

Ref	Location	Cost est.
	Negotiate access	50,000
	Feasibility studies	100,000
	Modify barriers	1,595,000
	General works sub-total	1,745,000
3.1	New bridge over Barking Creek	3,500,000
5	New paths at Dagenham Breach	228,000
7.3	New path at Tilda Rice	140,000
9.1	Westminster Industrial Estate	1,500,000
	Improvements to links	500,000
	London sub-total	5,868,000
25.2	New bridge over Mucking Creek	180,000
31.1	New bridge at Vange Creek	1,000,000
31.2	New bridge at East Haven Creek	400,000
20.1	Improve streetscape through Tilbury	1,264,000
24.3	Traffic calming Linford-Stanford	20,000
26.3	Crossing of The Manorway	50,000
17.1	Path improvements at Purfleet	294,000
18.1	New path at West Thurrock Marshes	357,000
20.3	Complete Tilbury waterfront	14,500
23.1	New path at East Tilbury Marshes	381,000
24, 25	New path at Thurrock Thameside Nature Park	577,500
31.3	New path at Oozedam Farm	274,500
32-34	Path improvements Canvey Island south	1,051,000
36	Benfleet Creek crossing and station area	206,700
39.2	Widen promenade in Southend	1,120,000
	Improvements to links	500,000
	South Essex sub-total	7,690,200
64.2	Contraflow cycling Blue Town	10,000
65.1	Toucan crossing at Barton's Point	50,000
67, 68	Traffic calming Warden Road	20,000

Thames Estuary Path – Priorities for development

69.3	Parking restrictions Shellness Road	5,000
51	Cliffe Fort	287,500
70.1	Path improvements Shellness	225,000
	Improvements to links	500,000
	North Kent sub-total	1,097,500
	Grand Total	16,400,700

Priority Three Projects

Ref	Location	Cost est.
29.1	Two new bridges at Wat Tyler Park	1,000,000
9.2	Antelope Close steps	10,000
48-50	Path improvements Gravesend to Cliffe	581,250
52.1	Minor works Cliffe Marshes	210,000
54.2	Path improvements St Mary's Marshes	535,000
	Improvements to links	500,000
	Grand Total	£2,836,250

Summary of Priorities

Priority One

General works sub-total	400,000
London sub-total	1,057,000
South Essex sub-total	12,753,500
North Kent sub-total	3,381,400
Priority One Total	17,591,900

Priority Two

General works sub-total	1,745,000
London sub-total	5,868,000
South Essex sub-total	7,690,200
North Kent sub-total	1,097,500
Priority Two Total	16,400,700

Priority Three Total 2,836,250

Grand Total **£36,828,850**

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