

# **The Economic Benefits of the proposed KenEx Tram (Thames Gateway Tramlink)**

**A Full Circle Economics report for Thames Gateway Tramlink Ltd**

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## Executive Summary

KenEx Tram (officially known as the Thames Gateway Tramlink) is a sustainable public transport proposal that is situated in the heart of the Thames Estuary. The first phase of the tram proposal would connect Ebbsfleet International and Grays, supporting the creation of a significantly more integrated local economy, with benefits to be realised by communities either side of the Thames.

Good progress has already been made. The Outline Business Case proposal has been reviewed by the UKTram Centre of Excellence on behalf of the Department for Transport (DfT) and now there is a need for further funding to move things to a Full Business Case (FBC) stage before construction can begin. This report provides a summary of the case for change. **This report is also a request for support for funding to take this proposal through to the next phase of appraisal.**

Thus far, KenEx has benefited from the support of successful local businesspeople and investors who attest to the attractiveness of the potential investment package. It also has support from leaders of Local Councils and businesses who see the tram as an important solution to local needs. This transport scheme deserves FBC funding as it has the potential to transform connectivity and accessibility in the Thames Estuary region, in a way that is also kind to the environment.

KenEx will provide an accessible and sustainable public transport link between North Kent and South Essex and thereby generate significant economic benefits to the area whilst also tackling increasing levels of road congestion. Furthermore, the project supports the increasing pressure for sustainable “Net Zero” transport solutions to combat high pollution levels.

### Key Benefits of trams

- Tram networks benefit individuals by improving their accessibility to a wide range of destinations including work & recreation.
- The biggest beneficiaries are those who previously were unable to use other modes of transport.
- Trams cause less pollution and fewer road accidents.
- Trams free up road space for walking or cycling and reduces the need for town centre car parking requirements.

## Introduction

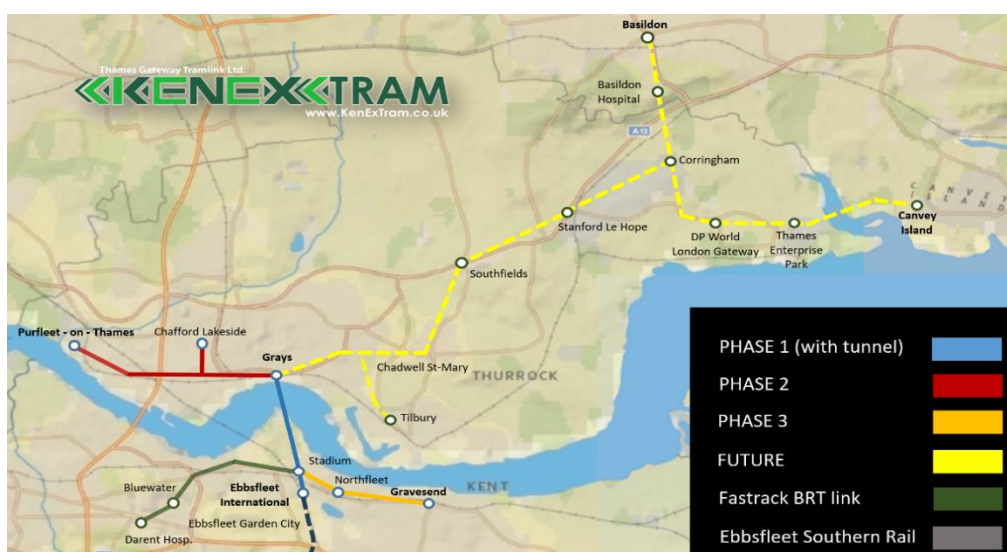
This report is for the Labour Members of Parliament for Thurrock (Jen Craft), Gravesham (Lauren Sullivan) and Dartford (Jim Dickson). It summarises the Economic Case for a new Tramline – KenEx – that would connect South Essex and North Kent via a tunnel under the Thames. There is a need for funding to develop a Full Business Case, which will then need to be considered for investment by the Department for Transport and the new government administration. This funding is required as a key next step to be able to develop the scheme by 2030. It is a transport scheme that can help increase connectivity in the Thames Estuary region and thereby boost productivity, whilst lowering air pollution and carbon emissions, and enhance access to education, health as well as jobs.

**We are here seeking your support for funding to take this proposal through to the next phase of appraisal.**

## What is the KenEx tram proposal?

Phase 1 of the KenEx tramway is set to operate between Grays in South Essex to Ebbsfleet International passing the Ebbsfleet Stadium in North Kent. This will allow commuters to overcome the primary barrier obstructing intra Thames Estuary travel: the River Thames. It would provide a sustainable form of transport that would support both residential and commercial property developments whilst also enhancing the connectivity of workers to places of work, recreation, retail and health facilities. As such, it would support economic growth, development and regeneration across the region. The map below shows the proposed phases of development of KenEx tram.

### Map 1: The phases of development



## **Business Case – context and next steps**

Having established demand and an Outline Business Case, one core route has been determined, covering a distance of around 18km. Key to the proposal is a 1.2km immersed tunnel running under the Thames. This provides a transport solution for local people who have no access to a car, cannot drive or who prefer to use a sustainable means of transport. There is an important connection to establish because currently there is little provision to meet cross Thames travel within the Thames Estuary area, especially for those who either do not have cars or who would prefer not to use cars.

So far, the Outline Business Case has been approved. There is therefore a need for KenEx Full Business Case funding. This transport scheme could potentially be an example of an infrastructure project that is delivered swiftly. The Full Business Case is an opportunity to more fully make a case for KenEx to the DfT, whilst displaying it as an example of a new piece of transport infrastructure that can be delivered rapidly and for a relatively small budget.

## **Why a tram?**

Trams are a popular form of transport around the globe. Around 20 new tram systems around the world opened in 2019 alone with many other systems being extended or enhanced. A tram would be a fast, clean and affordable transport for local communities within the Thames Estuary. Around the world, and in particular the UK over recent decades, the tram has been utilised as an efficient and sustainable method of transport that is both cost-effective and kind to the environment. They capture many of the best elements of buses and trains and have been used to enhance the image of cities and towns. By reducing the use of cars, they serve to lessen harmful impacts of road traffic due to the health damages caused by air pollution. For example, the area around the Dartford Crossing is particularly affected by congestion and has some of the highest levels of pollution in the UK, resulting in detrimental impacts to local health. The KenEx tram would be able to alleviate significant amounts of pollution in the area as it would shift traffic away from the Dartford Crossing and local roads and thereby lower the levels of air pollution.

## **Existing crossings and alternative proposals**

The Dartford Tunnel and the QE II Bridge have long been insufficient to adequately cater for the demand to cross the Thames in the Thames Estuary region. The Dartford Crossing is now often heavily congested and forms a major contributor to poor air quality in the local area. Local surveys support the need for an efficient local transport solution to enable the movement of people for work, education, health and leisure.

KenEx has the potential to play a key role in the solution for the need for cross-river transport. More than other existing and proposed crossings, it would do so in a way that delivers health benefits for local communities and focused benefits to the local economy. A tram solution meets the expected current and increasing demand from the local area for an environmentally sound solution that helps towards the goal of “Net Zero” emissions by 2050. Trams are also popular due to their relatively cost-effectiveness. With an estimated at £900 million, it is about 10 percent of the estimated cost of the proposed Lower Thames Crossing Project. Moreover, KenEx is anticipated to remove 10 percent of local traffic from the local road network.

## **Review of Labour’s strategy and consistency with KenEx**

The Labour manifesto emphasises the role that improvements to transport infrastructure can have on the British economy. There is an opportunity for KenEx to be a part of Labour’s forthcoming ten-year infrastructure strategy, which is to be aligned with the Labour industrial strategy and regional development priorities. Whilst the Labour party supports the transition to electric vehicles, Trams provide a similar move to electrified transport that supports the more general move to Net Zero.

KenEx contributes to two key themes in Manifesto:

- 1) Kickstarting economic growth
- 2) Breaking down barriers to opportunity

The Labour party also plans to give mayors the power to create unified and integrated transport systems, allowing for more seamless journeys, and to promote active travel networks. KenEx could form a key element of an integrated transport plan for the Thames Estuary region.

There is also a need to focus on less expensive infrastructure that can be developed at pace. For instance, Labour plans overhaul the planning system to help it “forge ahead with new roads, railways, reservoirs and other nationally significant infrastructure”. There is a hope of lower cost future projects; with this being achievable by slashing red tape. KenEx provides an opportunity to demonstrate this by delivering transport infrastructure that meets local needs, whilst being consistent with fiscal responsibility.

## **Local Economic profile and Strategic Economic Vision**

Good transport infrastructure can support modal shift by moving people away from cars and onto public transport. This can serve to improve the environment by lowering emissions of  $CO_2$  and polluting particulates that lower air quality and damage health. It can also help to improve the distribution of wealth within the economy by supporting the regeneration and development of less well-off regions.

Much of the Thames Estuary region is undergoing rapid change with unprecedented levels of investment to deliver regeneration, enhanced connections and the provision of economic infrastructure. For instance, the Thames Estuary 2050 Growth Commission was set up in recognition of this potential and the need to work proactively and strategically to maximise this opportunity.

The economic potential of the Thames Estuary is significant. The Thames Estuary 2050 Growth Commission report published in 2018<sup>1</sup> set out a vision for the Thames Estuary to become “a tapestry of productive places along a global river” with the potential to deliver 1.3m new jobs, £190bn additional GVA and at least one million new homes by 2050. Sadiq Khan has stated his ambition is to create “the world’s largest creative production corridor; creating a landmark corridor along the Estuary, powering skills opportunities and new jobs”.

For instance, there are new jobs that are due to be created in South Essex. These include over 21,000 to be created by the Thames Freeport<sup>2</sup> and up to 5,500 in the Thames Enterprise Park<sup>3</sup>. Other developments include the circa 7,000 apartments in Ebbsfleet at Northfleet Harbourside and Ebbsfleet Central (with only one parking space for every two properties, thereby requiring enhanced public transport provision).

### Transport and connectivity

The Thames Estuary region currently benefits from extensive rail connectivity, boasting a dense rail network. For instance, the North Kent Coast benefits from High Speed 1 and connects to Europe via the Eurostar. The region also has several important road networks (including the M25) that connect it to the rest of the country and it is connected to the rest of the world via City Airport and London Southend Airport. There also exist proposals to extend Crossrail from Abbey Wood to Ebbsfleet, as well as the new Lower Thames Crossing to relieve the M25 at Dartford.

The Estuary has access to one of the largest and most mobile workforces in the world. For instance, the local labour force represents an important resource for the Thames Estuary Production Corridor. However, the Thames represents a key barrier to connectivity between South Essex and North Kent.

## Local Economic Benefits of KenEx

### Increased connectivity and lower journey times

There are good East-West rail services in the Thames Estuary and a good High Speed rail connection to Europe and access to an international airport. However, there is very little

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<sup>1</sup> <https://www.gov.uk/government/publications/thames-estuary-2050-growth-commission-report>

<sup>2</sup> <https://thamesfreeport.com/>

<sup>3</sup> <https://thamesenterprise.com/local-benefits/>

existing cross river public transport provision. This leads to unnecessary reliance on cars, resulting in road congestion. By improving connectivity, KenEx will lower journey times for those moving between south Essex and north Kent. These lower journey times are valuable because people value their time.

## Health Benefits

Within areas of higher deprivation within the Thames Estuary region, there is also a tendency for a higher prevalence of health risk behaviours such as smoking, poorer diets and low levels of physical activity. These are associated with higher rates of long-term health conditions, which often co-exist alongside poorer mental health outcomes.

These inequalities in health status and life expectancy are not just between socioeconomic groups. There is also variation between different ethnicities, between people living with physical or learning disabilities and people with long term serious mental illness, compared to the general population.

KenEx can improve accessibility for those who need to move between South Essex and North Kent to go to appointments at the right hospitals and clinics for their needs.

## Environmental benefits

Trams makes no pollution at the point of use and so provides similar environmental benefits as electric vehicles. For instance, in a similar way to other electric systems, it can be powered from renewable sources. Moreover, it uses energy more efficiently than buses or cars, and so has a smaller carbon footprint. This means that introducing this form of light rail to the region will not only support efforts tackle climate change but will also improve air quality through the reduced use fossil fuels.

Light rail is also quiet in operation and so lowers noise pollution, whilst enhancing the urban landscape, making city centres more attractive places to live and work.

Thurrock, for instance, is at particular health risk due to levels of local pollution from the existing Dartford Crossing and major roads including the M25 and A13. The KenEx project could remove ten percent of the traffic from the Dartford crossing by providing an effective opportunity for modal shift which currently does not exist.

## Employment benefits and agglomeration

Improved public transport usage tends to lead to a concentration of economic activity in core areas served by its stops or stations. This concentration of economic activity is known as agglomeration, and this has been demonstrated to be a key driver of economic

development and innovation in accordance with economic cluster theory. Concentrated economic activity can lead to an enhanced image of an area and thereby lead to increased investment.

An example of an emerging economic cluster in the region is the Thames Estuary Production Corridor, which is a vision to unite East London, the North Kent Coast and South Essex to create a world-class centre for creative and cultural production. The Thames Estuary Production Corridor has the potential to double the size of the Estuary's creative and cultural production sector creating the largest concentration of production activity in the UK with 50,000 additional jobs, and over £3.7 billion additional GVA per annum.<sup>4</sup>

### Dependent housing and developments

There are a range of developments both in South Essex and North Kent that are dependent on sufficient transport to be able to be fully utilised. For instance, Ebbfleet Central has a range of developments proposed that will be built on site. Moreover, the proposed Ebsfleet stadium can also only function at 75 percent capacity without further transport facilities. KenEx will provide sufficient transport infrastructure to open up the remaining 25 percent. There are also residential properties in South Essex that do not have much space for car parking. KenEx would be important for these sorts of residents that either do not have a car or may feel less compelled to obtain a car with enhanced public sector transport provision.

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<sup>4</sup> <https://www.london.gov.uk/programmes-strategies/arts-and-culture/current-culture-projects/thames-estuary-production-corridor>



## Annex A: Local Economic profile

### Thames Estuary

The ONS Levelling Up Data Atlas highlights a number of areas where the Thames Estuary performs worse than the England average. For example, across the Estuary there is a higher percentage of working age people without any qualifications and a higher percentage claiming government support. Furthermore, relatively more children are in poverty than across England and more of the population have common mental health disorders. House prices relative to resident earnings are also much less affordable.

### Social Disparity across the Thames Estuary region

Social disparity across and within the Estuary is significant, with seven of the twenty local authority areas across the Estuary having been identified as priority locations for levelling up investment. There is a need for future growth that caters to all parts of local communities. It is also necessary to create jobs and improve general well-being.

Key statistics about the Thames Estuary<sup>5</sup>

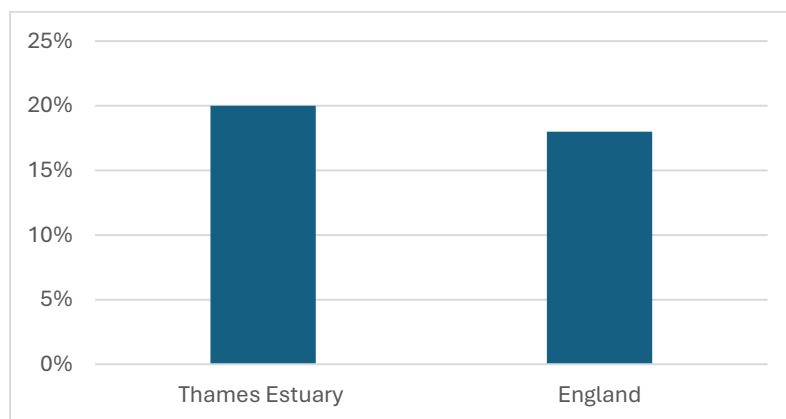
- **Deprivation**: 36 percent of LSOAs in the Thames Estuary are in the top 30 percent most deprived.
- **Children in poverty**: Child poverty: a higher proportion of children live in low-income households in the Thames Estuary (20 percent) than England average (18 percent). Almost 12,700 children would need to be lifted out of poverty across the Estuary to meet the England average. See Chart 1 below.
- **Housing affordability**: house prices across the Estuary are less affordable (9.6 times the average resident earnings) than the England average (7.8 times).
- **Claimant count**: the Thames Estuary has a notably higher claimant rate (eight percent of working age) than the England average (six percent).
- **Qualifications**: Eight percent of the working age population in the Thames Estuary have no qualifications. This means over 29,000 people would need to gain qualifications in the Thames Estuary to reach the England average (seven percent). Gravesham is the 14th lowest performing local authority in the country, with a higher percentage than other high priority areas such as Liverpool and Newcastle.
- **Health outcomes**: a higher proportion of the 16+ population have common mental health disorders in the Thames Estuary (19 percent) than the England average (17 percent). To reach the England average, over 57,000 people in the Thames Estuary would need to be supported to overcome mental health disorders. Newham,

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<sup>5</sup> Levelling Up Data Atlas

Tower Hamlets and Barking & Dagenham are some of the worst performing nationally (2nd, 3rd and 6th highest in England, respectively)

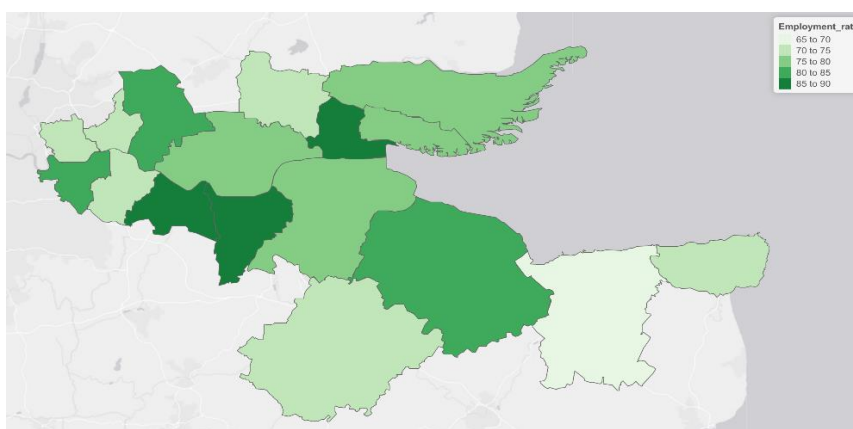
**Chart 1: Rate of child Poverty**



Source: ONS

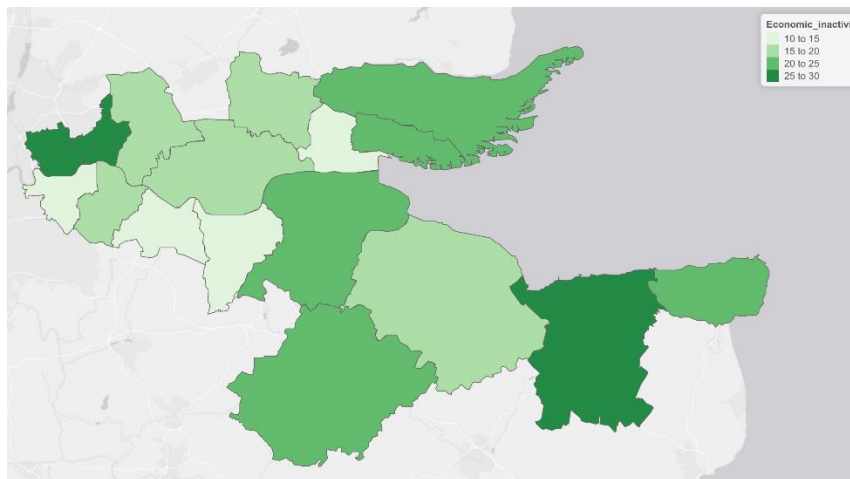
The two maps below show that both employment rates and levels of economic inactivity vary significantly within the Thames Estuary region. As is expected, areas of high rates of employment are generally associated with lower rates of economic inactivity. The variation of employment rates and rates of economic inactivity suggest scope to use increased connectivity to facilitate more mobility between local labour markets. Economic theory suggests that this can boost overall productivity as employees can be better matched with suitable jobs, thereby boosting overall economic performance.

**Map 2: Employment rate**



Source: ONS

### Map 3: Economic Inactivity



Source: ONS

#### Dartford

Between the 2011 and 2021 Census the population of Dartford Borough increased by 20 percent, which was the second highest increase in the country and in contrast the population growth of Gravesham was only five percent over this same period.

Related to this, Dartford has seen significant residential and commercial growth in recent years, especially in its northern areas. For instance, the north of Dartford Town has witnessed significant development along with development at or near Ebbsfleet Garden City. As the local economy has grown, this has seen more people travelling to the Borough to work. There are more people that come into the borough to work than those who leave to work elsewhere i.e., a net inflow of commuters.

Whilst the borough has major national and international connections via the strategic road network and rail services, including HS1 from Ebbsfleet International Station, there remains significant challenges at the local level. For instance, the Dartford Crossing and the arterial A2 London-Dover routes have high traffic volumes that lead to high carbon emissions. The high levels of mobility also mean a need for increased provision of public transport to help tackle congestion and the associated high levels of pollution.

Whilst it has a sizable labour force, with a high employment rate, there are a limited choice of local high order/ professional local job opportunities.

#### Gravesham

Gravesham has plans for more residential and entertainment developments. For instance, there are plans for 3,500 residential units and also an 8,000-seater football stadium, with 20,000 square meters of floorspace for a hotel.

However, these developments are dependent on the provision of complementary public transport infrastructure. For instance, the football stadium must initially operate within a capacity of 75 percent (6,000 persons) until sufficient provisions made need necessary mitigations have been provided.

There are also proposed high density developments to be established at Ebbsfleet International station. This is to be combined with the development of 15,000 new homes at the Ebbsfleet Garden City by 2035.

Similar to other regions in the Thames Estuary, there are some strong regional and sub-regional transport connections, such as five rail stations and Ebbsfleet international.

However, there are several transport challenges:

- a. Congestion on roads, which causes noise pollution and lower air quality.
- b. Poor public transport provision and lack of investment in bus network outside of Fastrack Corridor.
- c. Recent closure of the Gravesend to Tilbury ferry, which provided limited travel across the Thames.
- d. Limited access to services, jobs, and educational opportunities.

## Thurrock

Thurrock is part of Thames Gateway national growth areas and a top priority for social and economic regeneration. There have been long term efforts to add thousands of new homes<sup>6</sup>. However, there are relatively low skill levels which limit the ability of residents to access high quality jobs. Multiple derivation is also high compared to the wider region.

Whilst there are high employment rates, there are low numbers of professional and knowledge-based jobs. Nonetheless, the DP World London Gateway - Thames Freeport has and will continue to provide new jobs.

There are also a number of transport challenges, with high numbers of HGVs and higher traffic flows on strategic roads adversely impacting local air quality, elevating  $CO_2$  emissions and causing road congestion, which leads to respiratory problems.

Whilst there is generally good accessibility by public transport and walking to services, this does not include good access to further education and hospitals.

## Comparisons of economic statistics

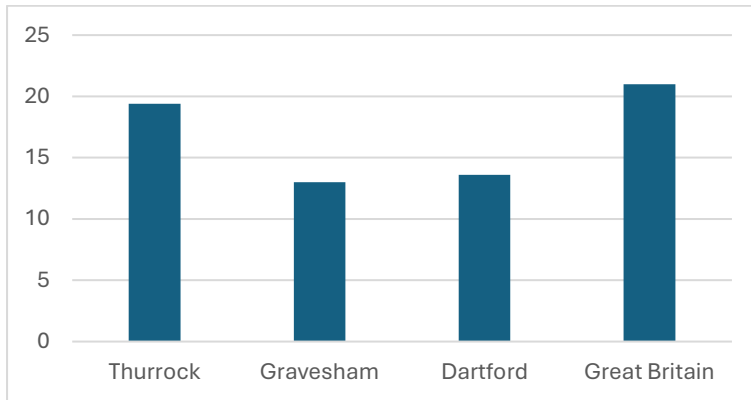
The charts below indicate that Gravesham and Dartford, in North Kent, have particularly low rates of economic inactivity and high rates of employment. This chimes well with anecdotal evidence that there is a surplus of workers in North Kent that are in search of

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<sup>6</sup> Between 2001- 2026 the local development plan has required an additional 23,250 new homes

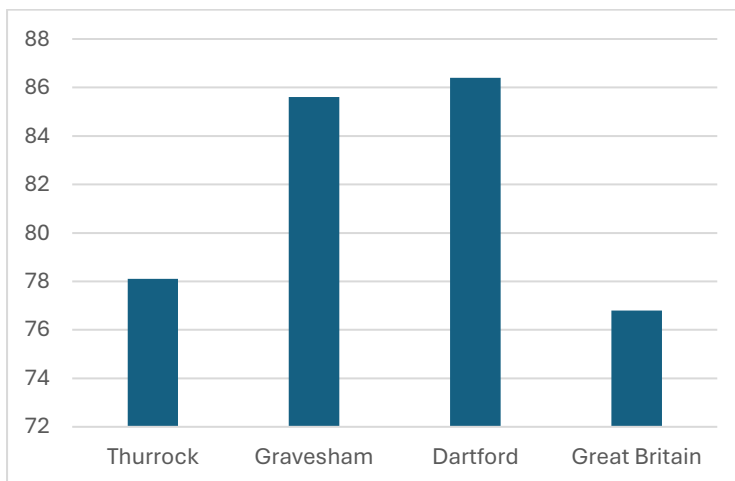
jobs; many of which are in South Essex. For example, Thurrock has much higher rates of economic inactivity in comparison to Gravesham and Dartford, and a relatively low employment rate.

**Chart 2: Economic inactivity (%)**



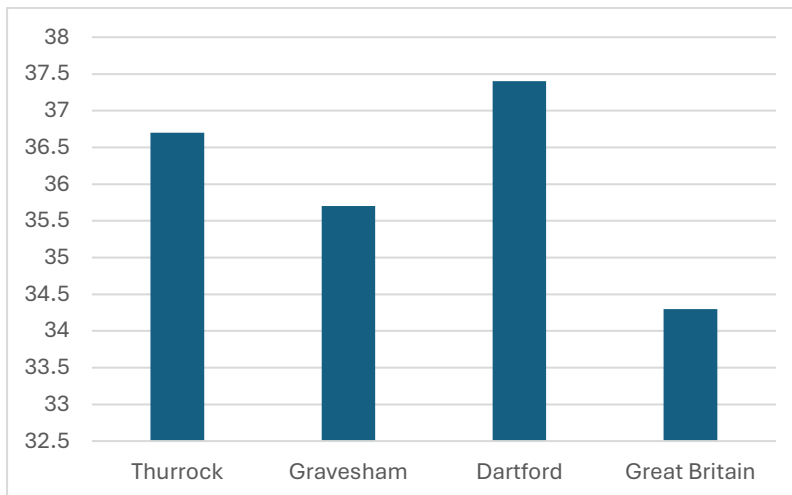
Source: ONS

**Chart 3: Employment rate (%)**



Source: ONS

In contrast, the levels of productivity are more evenly distributed as shown in Chart 4 below.

**Chart 4: Gross value added per hours worked (£)**

Source: ONS

According to the 2021 Census, both Gravesham and Dartford had a net inflow of about 32 and 24 thousand commuters respectively. In comparison, Thurrock had a net outflow of about 3,600 commuters. Thurrock has a relatively low employment rate compared to Gravesham and Dartford (but similar to the average across Great Britain). This is compounded by the net outflow of commuters, including about 17 percent of commuters resident in Thurrock working in London boroughs. These factors combine to make it relatively difficult to fill jobs within Thurrock.

### Common transport objectives

KenEx has the potential to help Thurrock, Gravesham and Dartford achieve a range of shared transport related objectives, that also reflect common problems faced:

- a. Delivery of new infrastructure for travel, which helps to reduce road congestion, lower carbon emissions and improve air quality.
- b. New developments, such as housing, require increased complementary public transport provision.
- c. Inclusive, integrated, accessible and sustainable transport – with better access to employment, educational and health services.

## Appendix B: The benefits of Trams - national and international evidence

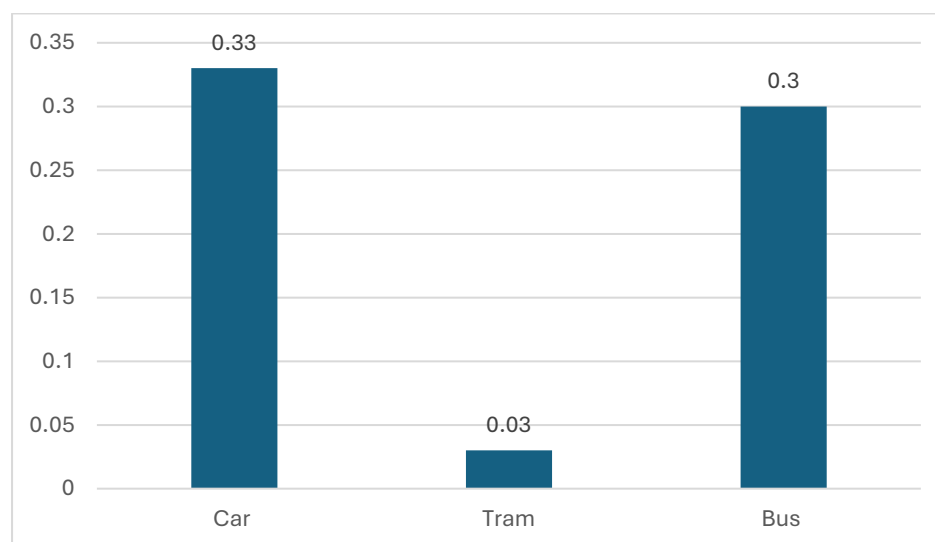
Trams have developed in both the UK in recent decades but are well established in towns and cities in other countries. For instance, there are 58 tram systems in Germany, 34 in France and 11 in Spain. Tramway systems have made a comeback in Great Britain, as they have emerged over recent decades in towns and cities across the nation: Manchester 1992; Sheffield 1994; West Midland 1999; Croydon 2000; Nottingham 2004; Blackpool 2012<sup>7</sup>; and Edinburgh 2014. Trams provide a range of general benefits<sup>8</sup> that are now discussed in turn.

### Environmental

Trams tend to get people out of their cars. This modal shift is good for the environment as it reduces congestion and also pollution levels. Like electric cars, there is no pollution at the point of use. They also provide more pleasant urban environments for cyclists and pedestrians.

In a comparison of the energy efficiency of competitor modes of transport, one study found trams to be significantly more efficient than both cars and buses.<sup>9</sup>

**Chart 5: Relative Transport Efficiency (kWh per passenger km)**



<sup>7</sup> The new modern tramway was launched on 8 September 2011 and opened to the public on 5 April 2012.

<sup>8</sup> UKTram – “Investigation into the economic impacts on cities of investment in light rail systems”

<sup>9</sup> Professor Lewis - <https://bathtrams.uk/the-most-energy-efficient-mode-of-public-transport/>

Source: Professor Lewis Lesley

Moreover, another case study showed that a 4.5km tramway system's total carbon emissions were about 25 percent of that of an equivalent bus service.<sup>10</sup> This came from two main components: embodied energy/resources used in the construction; and energy in use, through the day-to-day energy use to operate the system.

## Accessibility

A key advantage is that trams can connect more directly to final destinations as they can operate through town and city centres. Considering high-speed trains cannot connect all the spots in the city, trams, like buses, offer last-mile connectivity for daily commuters

Trams tend to be easier for people with:

- disabilities or reduced mobility;
- pushchairs or small children;
- luggage and shopping bags.

## Safety

Trams are relatively safe forms of transport infrastructure. The Croydon tram crash in November 2016 saw the first tram passenger deaths in UK in the modern tramway era. In the UK the industry is working hard with RAIB and ORR to ensure, as far as possible, it does not happen again. There has been a new safety body for the light rail industry established in the UK: the Light Rail Safety and Standards Board. As such, Trams are still at least as safe as buses, and safer than cars.

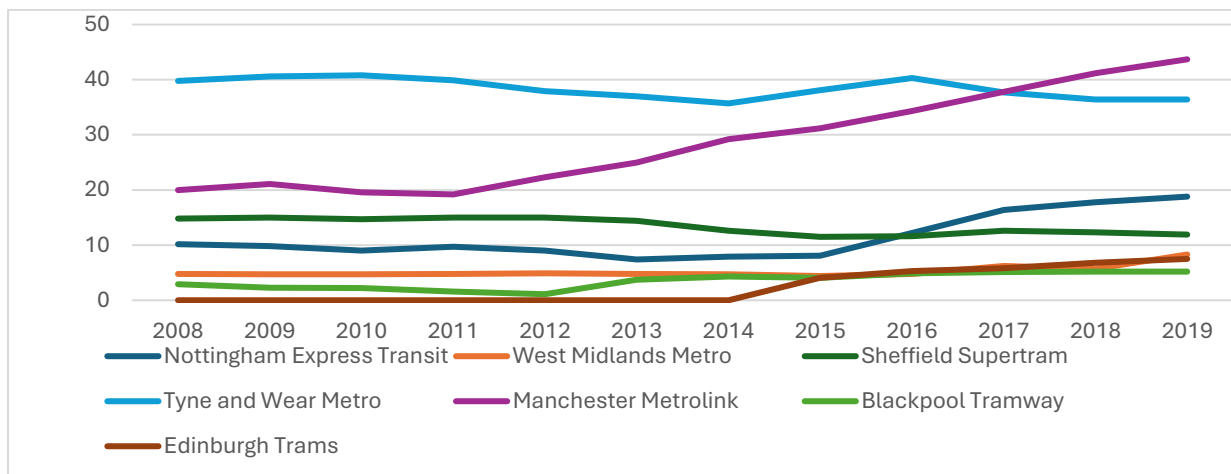
## Capacity

Trams take the best of trains and buses and puts them together. They combine the infrastructural flexibility of the bus with the capacity, robustness and efficiency of a train. Similar to trains, they also carry a lot of people. Chart 6 below shows that the patronage of Trams was in general showing increases across a range of UK tram systems prior to the Covid-19 pandemic lowering patronage across all modes of transport.

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<sup>10</sup> An emission model to compare bus and tramway transport



**Chart 6: UK trams – passenger journeys (millions)**

**Source:** Passenger journeys on light rail, trams and undergrounds by system: Great Britain - annual from financial year ending March 1984

## Urban development

Trams are often seen as a way of increasing mobility whilst also reviving economically depressed areas. They encourage the building of residential and commercial properties relatively densely around stations which often convince more people to walk and cycle. They are also modern in terms of how they look and feel they give to towns and cities. Trams often unlock hard-to-reach sites for development and can unlock poorly connected docks or former industrial sites for development. Developments often tend to follow newly built tram infrastructure and thereby they serve to provide stimulus for property development and more generally attract new investment.

## Cost effectiveness

Whilst trams entail substantial fixed costs, they become cost efficient at higher passenger flow levels. For instance, one driver can serve up to 200 passengers. Trams are also much cheaper to install than metro trains, subways, or other forms of heavy rail.

## Increases Land and Property value

There is evidence of increased values in UK areas that have introduced trams, such as:

- Increased land values in Isle of Dogs.
- Increased house prices in east London (due to Crossrail), and the Croydon and Manchester tram lines.
- Developer contributions in Docklands and Salford Quays .

## **Annex C: Thames Crossing – interactions; the need for congestion relief; relative costs**

The Lower Thames Road Crossing is a proposed significant local major piece of transport infrastructure that is designed as a strategic road connection. It would provide enhanced connectivity but also a number of challenges. The total cost is currently estimated to be £10 billion. It would be commercial crossing charge for a single car could be around £20-£40. This could exacerbate exclusion for those without cars and further encourage car usage.

Whilst it would likewise reduce journey times, it would involve the following problems:

- The attraction of increased road traffic leads to greater road congestion.
- Increased local pollution leading to poorer health outcomes.
- Increased future traffic levels and road congestion expected as a result.
- It relates to an area where many people have no car access.

## Appendix D: Examples of successes of existing UK Tram systems

### Croydon Tramlink

From a user's perspective Croydon Tramlink was extremely successful. It has been able to carry 16m passengers a year of whom around 20 percent have transferred from cars. It has in general been extremely reliable and has received very high customer satisfaction ratings. The obvious blight was the 2016 derailment. Nonetheless, the introduction of the Croydon tram resulted in the following benefits<sup>11</sup>:

- Radically improved orbital access across South London.
- Markedly raised the profile of Croydon (but not other centres served by the system, such as Wimbledon).
- Assisted in attracting high profile inward investors to Croydon.
- Made recruitment marginally easier and improved productivity through better punctuality.
- Improved the job prospects of the unemployed residents of New Addington (a relatively remote part of the town).
- Improved the accessibility of the mobility impaired and socially excluded.
- Maintained footfall in central Croydon during major retail redevelopment.
- Enabled the upgrading of a number of retail outlets within Croydon.

### Sheffield Supertram

The Sheffield Supertram<sup>12</sup> has been found to have the following benefits:

- Improved punctuality and reliability.
- Reduced journey times.
- Environmental benefits.
- Increased speed of access to Meadowhall retail complex.
- Development along the Meadowhall line.
- Job creation.
- Increased capacity to support major events.
- Reduced traffic congestion solutions.

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<sup>11</sup> Croydon Tram evaluation <https://www.witpress.com/Secure/elibrary/papers/UT04/UT04085FU.pdf>

<sup>12</sup> Sheffield Supertram evaluation <https://apprguk.co.uk/media/files/lr%20apprg%20super%20tram%20presentation%2021012014.pdf>

## Manchester Metrolink<sup>13</sup>

Pre-covid patronage performance was lower than previously anticipated patronage when the original demand forecasts were estimated over a decade prior. This was due to a range of external and Metrolink-specific factors but, pre-covid at least, the patronage position was steadily improving.

Benefits of the Metrolink have included the following:

- Modal shift away from cars and hence environmental improvement due to relatively lower emissions.
- Significant improvement in public transport access to employment, further education and healthcare, especially for deprived communities in Greater Manchester.
- Improved customer and labour force catchments for businesses as well as opportunities for business travel.
- Due to increased attractiveness of residential areas, results from house price studies generally show a strong relationship between house price changes and proximity to Metrolink.

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<sup>13</sup> Manchester Metrolink Monitoring and Evaluation Second Report March 2021