London to Southend Movement Study (LOTS)
Executive Summary

1. Background to the Study

The revitalisation of the Thames Gateway represents a key part of Government policy and the Government has recognised the importance of the area by identifying it as a priority area for economic regeneration in the adopted Regional Planning Guidance for the South East of England (RPG 9). The Thames Gateway Strategic Partnership has been set up to develop a broad strategy to deliver the Government's policy. To assist in this, the area has been subdivided into three partnership areas, namely: North Kent Partnership (Kent Thameside); South Essex Partnership (Thames Gateway South Essex), and London Partnership (Thames Gateway).

Thames Gateway South Essex (TGSE) broadly encompasses Thurrock, the area south of the A13 in Thurrock and the A127 in Basildon, together with the whole of the Boroughs of Castle Point and Southend-on-Sea, and London Southend Airport in Rochford District. A key concern of the partnership is identifying how to improve the transport systems and related infrastructure to promote regeneration and help achieve the overall vision for the area.

RPG 9 recognised the need for a study of the transport movements between London and Southend-on-Sea. Hyder Consulting (UK) Limited was commissioned by the Thames Gateway South Essex Partnership to carry out the London to Southend Movement Study (LOTS) to identify the key transport movements within the TGSE area and the main components that will be required to develop a transport strategy.

2 Thames Gateway South Essex

More than 630,000 people live in South Essex and it is the largest built–up area in the East of England Region. The area has a number of economic and social problems that are exacerbated by an ageing transport infrastructure. This infrastructure has developed primarily to cater for east-west movement between London and the urban areas in South Essex. This followed the earlier visions of a 'linear city' following the Thames out from London. However, this vision failed to integrate the three major elements of the area, namely city, country and coast (the '3 Cs').

The TGSE vision combines the best of the 3 Cs to create a thriving sustainable community. The transport challenge for the TGSE Partnership is to build on the existing road and rail infrastructure to develop a complementary integrated transport system that provides a sustainable mix of private car, bus and rail public transport, and road and rail freight. The role of air transport and coastal shipping in satisfying transport demands must also be considered, although they are expected to satisfy a small part of the total travel demand.

The development of the TGSE transport networks must start with the existing infrastructure provided by the major highways (A13, A130 and A127), the inter-urban bus services and rail services that are supplied by c2c and First Great Eastern, on the Shoeburyness to London Fenchurch Street and Southend Victoria to London Liverpool Street lines respectively. Ultimately a transport strategy must set out the enhancements and additions that will be required to all the transport networks to help achieve the development and regeneration of TGSE in accordance with

Government aspirations as set out in the Sustainable Communities Plan and the Partnership vision.

3 Study Objectives

The main objectives of LOTS were to:

- understand existing and future transport movements within TGSE;
- provide an insight into the transport related issues relating to regeneration and other aspects of integrated transport;
- provide an insight to future strategic transport movements in the study area arising from current and future land uses; and
- provide strategic guidance on the key components of the future transport infrastructure.

In identifying the key components, the Study considered:

- the need for a step change in transport infrastructure and service provision in the TGSE area;
- the need for a multi-modal, integrated approach to transport provision; and,
- the extent to which the achievement of the necessary improvements will involve proposals of national importance**.**

Any solutions identified also had to take account of the long-term regeneration and sustainability objectives for the wider Thames Gateway area.

4 Key Issues

Key issues that were looked at in the Study included:

- the needs of the regeneration hubs around Thurrock, Basildon/Castle Point, Shellhaven, and Southend/ Rochford;
- the extent of the traffic congestion on the strategic roads (A127, A13 and A130);
- the river crossing capacity at Dartford as the M25 provides the only major strategic link between Essex and Kent;
- rail capacity and the extent of the overcrowding of the C2C and First Great Eastern services, especially during peak commuting times and the fact that significant bottlenecks to service improvement exist at Barking and Stratford; and
- the regeneration opportunities provided by London Southend Airport, Tilbury Port and Shellhaven.

5 Study Approach

The study was divided into two stages. Stage 1 involved an assessment of current movements and forecasts of future travel demands in TGSE. Key constraints and opportunities for regeneration and redevelopment associated with the current transport networks were identified. To assist in this process, the study drew on existing data sources and recent studies that have been (and were being) undertaken in the area. No new data collection was undertaken. Stage 2 investigated potential solutions and identified key components that should be examined in more detail as part of the development of a transport strategy for TGSE.

6 Current and Future Personal Travel Demand and Patterns

Existing Demands. The Study identified high levels of peak car traffic on the inter-urban roads in the TGSE and this is a reflection of the distribution of jobs and workers and the dominance of car as the main commuting mode. Annual average daily traffic flows of between 60,000 and 90,000 vehicles a day are observed on sections of the A13 and A127 and these are comparable to flows on the A12 and M11. There is significant out commuting from the area to satisfy the job aspirations of residents and there is evidence that travel between the urban centres is necessary to balance the availability of skills with job opportunities. A notable exception is Southend-on-Sea, where there is a net shortfall in workers compared with jobs, generating large in-flows of commuters in the morning. The analysis of mode used for journey to work showed that:

- the dominant mode of travel for work purposes within the area is car (67% of all commuting);
- rail accounts for 16% of travel for work purposes; and
- bus accounts for 5% of the commuter demand but is heavily concentrated in the urban centre.

As might be expected, given its closeness and the imbalance between workers and jobs, London is a significant attractor of workers. In some respects, this is not a major problem if they commute by rail and do not cause congestion in accessing the rail stations in South Essex. However, the main stations in the urban areas (Southend, Basildon, Grays) are not especially well located compared with the main housing developments and local employment and this may well explain the relatively poor use of rail for inter-area travel.

In terms of giving people access to job opportunities, it is important to note that 23% of all households in TGSE do not own a car.

7 Movement of Freight

Existing Freight Movement. Warehousing, distribution, port and manufacturing in TGSE generates a large volume of good vehicle activity, as evidenced by the goods vehicle flows of 1,000 to 5,000 vehicles/day on the A127, A13 and A130. The average proportion of goods vehicles in the traffic flow on these strategic routes ranges between 4% and 14%, although on some stretches, the proportion of goods vehicles is much higher.

The current economics of freight haulage is such that rail is only viable for bulk haulage of construction material or containers. Tilbury is the centre of rail freight generation and attraction in TGSE and freight from Tilbury and Shellhaven is carried on 60 EWS trains/day on the London Tilbury and Southend Line. There is no rail freight carried on the c2c or Great Eastern Lines east of Shellhaven.

Future Growth and Impact. The capacities of the radial routes, both the road and rail networks, centred on London, now provide a serious hindrance to the development of business in the Thames Gateway. Road traffic from South Essex has little choice but to route to the congested M25 via non-trunk roads of insufficient capacity. Rail freight traffic is similarly constrained and has to route via London where there are capacity limitations on the orbital routes in the north east of the city.

8 Future Development Proposals

The key policy imperative for the sub-region is jobs-led growth to secure higher levels of local economic performance and employment in order to achieve a more sustainable balance of local jobs and workers. Although, it has 300,000 residents in employment, the sub-region only supports a workforce of 233,000 employees. The numerical difference highlights the scale of out commuting from TGSE to stronger employment markets in London and elsewhere.

The draft sub-regional strategy for Thames Gateway/ South Essex, prepared as part of the development of new Regional Planning Guidance for the East of England (RPG14), identifies a provision of 55,000 net additional jobs and 40,000 net additional dwellings between 2001 and 2021. Local Development Plans for the sub-region are currently being reviewed to accommodate this provision. This is divided into five main areas in the TGSE as shown in Table S.1. The potential development sites that have already been identified in Local Plans in order to maintain this employment and housing growth within the TGSE and the spread of sites is illustrated in Figure S.1.

Table S.1: Employment and Dwelling Provision 2001-2021.

Area	Jobs	Houses
Basildon	11,000	9,500
Thurrock	26,000	17,500
Castle Point	2,000	3,500
Southend	13,000	5,500
Rochford	3,000	4,000
Total – South Essex	55,000	40,000

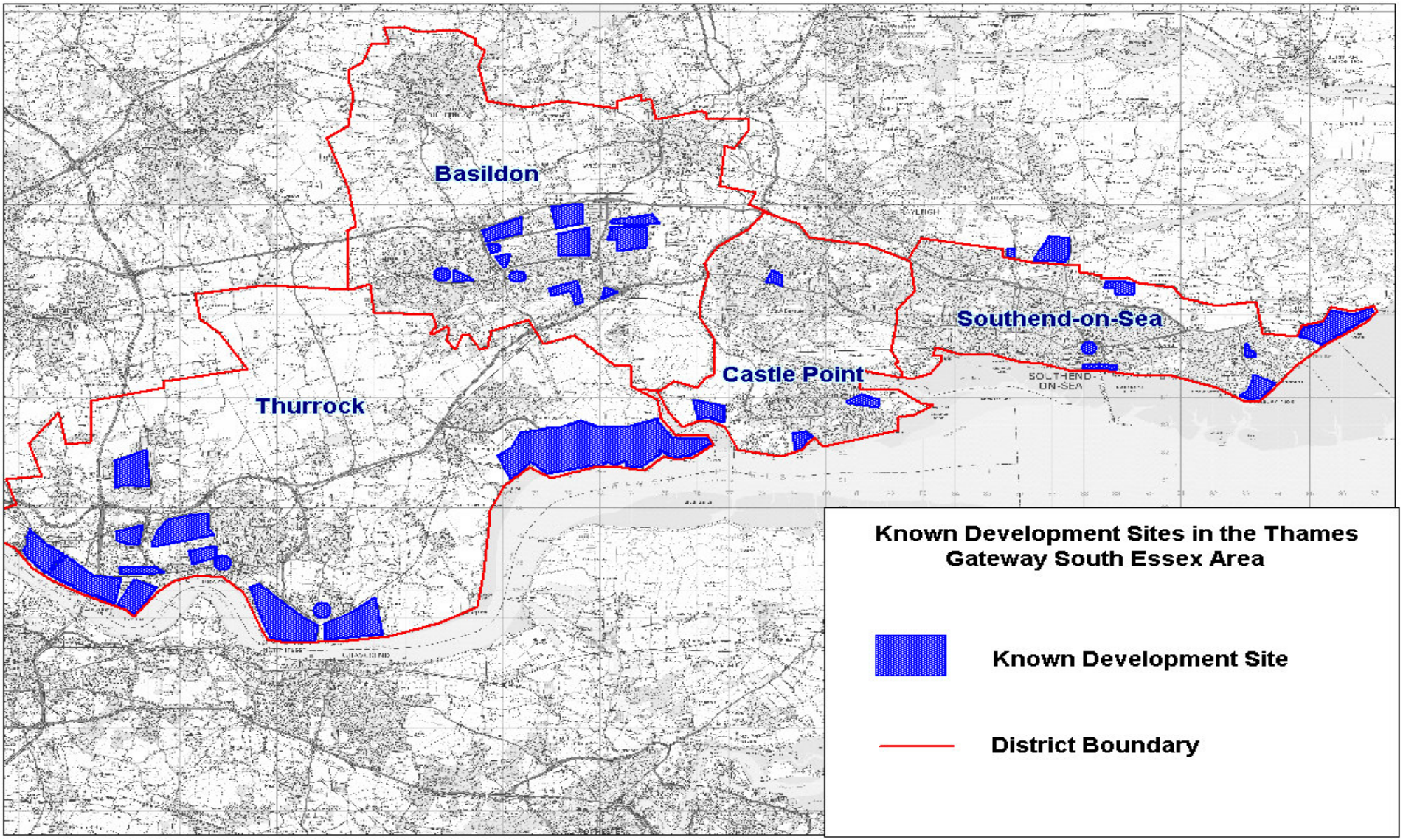
Source: '*Draft RPG14 Sub-Regional Strategy for Thames Gateway/ South Essex*'

9 Impact of Future Developments on Travel Demands and Transport Networks

Road Network Impacts. A continuation of current travel modes and trip distribution patterns to 2021 will generate increases in road traffic that will overload much of the current strategic road network, including large sections of the A13 and the A127. Routes between the developments and the strategic road network are also likely to be severely overloaded. Taking account of the known junction limitations, it is clear that the levels of housing development proposed are unsustainable and the level of employment related development would be unachievable with the existing travel behaviour and road infrastructure. In order for the full sub-regional strategy development to be achieved it is clear that an integrated transport strategy will need to be implemented in the near future.

Rail Network Impacts. Local rail travel within TGSE along the c2c and First Great Eastern lines has the potential to increase, as there is available capacity for both train paths and passenger capacity. The main constraints on the rail network are at the stations close to London and at the London terminal ends of the lines. Train passenger capacity could increase in the morning peak by increasing all trains to 12 car lengths and increasing the platform capacity at platforms that can only hold eight car trains at present.

Bus Network Impacts. The existing inter-urban and urban bus networks cater for a relatively small proportion of current travel demands. There is scope to expand and improve further the inter-urban bus networks, which, in association with supporting policy measures, will help to promote modal



PROJECT No: GD00628	DRAWN C.G.	CHECKED J.S.	DRAWING TITLE: Known Development Sites in the Thames Gateway South Essex	Figure S.1

THAMES GATEWAY south essex

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shift as part of a more sustainable mix of transport choices. This will build on the ongoing Quality Bus initiatives that are especially important in the urban areas of Greys, Basildon, Canvey and Southend-on-Sea.

Land Use Implications. It is clear that the regeneration must focus on providing a larger number of jobs, targeted at the existing (and future) skills base. This will not stop inter-regional movement but will help to reduce the need to travel longer distances. Further housing without adequate jobs will increase further the need for commuting, placing a greater strain on the transport networks

10 Shellhaven

In the event that Shellhaven port develops to the full capacity of 3.5m Twenty Foot Equivalent Units (TEUs) per annum, the movement of the associated freight will have a major impact on the South Essex area. To place it in context, the movement from Shellhaven will be equivalent to the total container throughput from all the existing SE ports (those in the Thames area, Hampshire, Kent and Sussex). Under current rail/road mode split proportions, this could equate to some 10,000 goods vehicle movements per day from the port. Consequently, there would be a major impact on the A13 and the M25. Similarly, there would need to be a major increase in rail freight capacity.

11 Key Components of the Transport Network Development

The work undertaken in this Study concentrated on the perceived need for transport improvements to cater for future traffic that will be generated by existing and new development in TGSE. Practicability, affordability and value for money were not addressed directly although it is recognised that further work will be required to justify any of the key components identified and discussed below.

Whilst it is recognised that the scale of the investment required to implement some of the key components is large, the likelihood of any significant regeneration or new development occurring in TGSE without improvements to the existing transport networks is small. The analysis has demonstrated that investment in roads alone will not provide a realistic sustainable transport future for TGSE. To satisfy future travel demands from an invigorated and regenerated TGSE, there must be a quantum change in mode split away from car to public transport and non motorised modes. This mode change will not be achieved by Green Travel Plans and a few ad hoc bus improvement measures alone. It will require investment in public transport infrastructure and associated policy measures that go beyond anything in the current LTPs.

The way forward must embrace a combination of measures as described below.

- Public transport (road and rail) improvements to encourage modal shift and social inclusion. However, ‘tinkering’ with services and providing ad hoc improvements will not achieve the step change in provision required. Major improvements to bus and rail services and networks will be necessary.

- Rail Improvements for Freight. The freight study[1] identified a need for improvements irrespective of the development of the port at Shellhaven.

- Urban Strategies that encompass integrated transport (bus, interchange, walking, cycling, traffic management, travel plans etc).

- Complementary policy measures to manage car use to achieve a balance between demand and available capacity. This must be a two pronged approach making it more difficult to use the car (for example reducing parking spaces) and making it more expensive (parking charges and, possibly, ultimately with some form of road user charging).

- Some road improvements. These will be required to cater for increased traffic, either for the car (if other parts of the strategy are not implemented) or for public transport priority to help achieve the step change in provision required. Road improvements will also be required to cater for future growth in road freight, especially from a fully developed port at Shellhaven.

A summary of the key components identified under public transport are illustrated in Figure S.2 and for road improvements in Figure S.3.

12 Implementation and Costs

The development of a future strategy will need to be mindful of implementation requirements of the key component schemes. Many of the schemes that might form part of a TGSE strategy will require extensive further development work and appraisal before being programmed for implementation. However, a broad indicative programme has been produced, based on how long it may take, under current procedures, to implement the various proposals. Where possible, broad indicative costs have also been included.

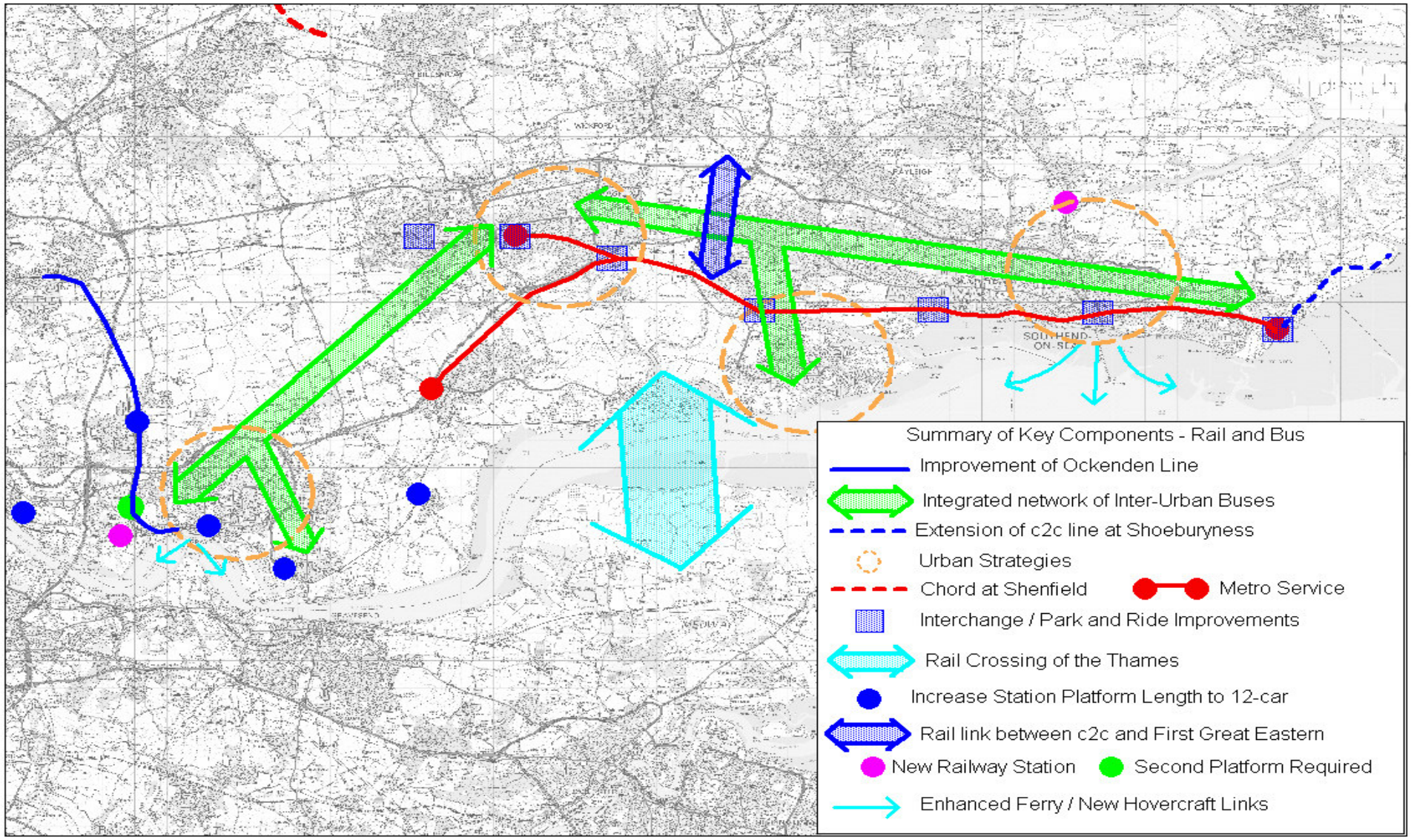
In total, the list of schemes that could be considered for implementation would cost some £1.6 billion (excluding any additional road/rail crossing of the Thames). However, it is recognised that some of these schemes are alternatives and so the cost of a strategy will be less than this. Also, as might be expected, most of the larger infrastructure schemes may take many years to progress through the various appraisal and statutory processes.

The exact combination of schemes required will depend on the extent to which there is an active commitment to change future travel behaviour and to shift the current pattern of travel movement away from a dependence on the private car to fulfil the travel demands.

13 Next Steps

The next stages for developing a transport strategy for TGSE will require a detailed examination of the key components that have some realistic chance of being implemented in the coming 10-15 years. Those that are being progressed as part of the LTP process will proceed as currently planned, but the additional key components that should be subject to further study are as follows.

[1] Thames Gateway Freight Study Final Report, Sinclair, Knight Merz, September 2002



PROJECT No: GD00628	DRAWN C.G.	CHECKED G.A.	DRAWING TITLE: Summary of Key Components for Further Consideration in Development of Transport Strategy – Bus and Rail	Figure S.2

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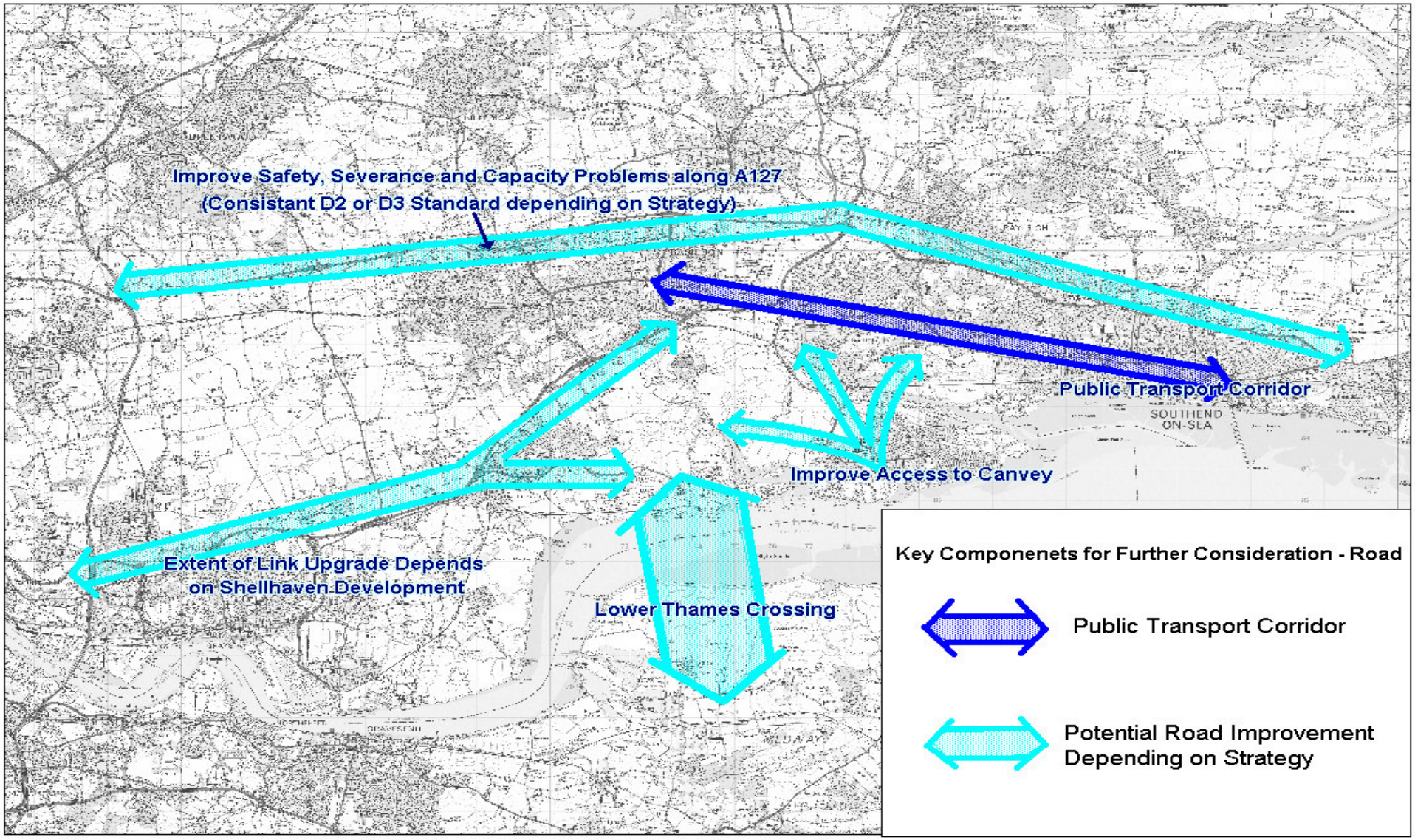

PROJECT No: GD00628	DRAWN C.G.	CHECKED G.A.	DRAWING TITLE: Summary of Key Components for Further Consideration in Development of Transport Strategy – Road	Figure S.3

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- The feasibility, affordability and practicality of developing a first class (bus) transit system that caters for inter-urban and intra-urban travel in TGSE. This will include the provision of high quality, integration between the bus and rail system, the development of a common-ticketing system and first class passenger information. The extent to which any of this network could ultimately have the potential to revert to rail transit could also be examined.

- The widening and improvement of both the A127 and the A13. This should examine the alternative options for providing for additional general traffic, providing specifically for goods and high occupancy vehicles or providing for the bus transit system.

- The most appropriate mix of policy options that will support the investment in public transport and encourage a change in mode split away from private car.

Other key components, especially the rail elements, will require longer study and implementation periods. Some may also be dependent on the completion of specific developments such as Shellhaven. However, it is advisable that some initial studies are undertaken to ensure that potential rights-of-way are protected for each of the road and rail proposals that require new alignments to be identified.

An integral part of the redevelopment and regeneration planning will be a review of the local transport links between the proposed centres of employment and housing. More internalisation of travel within TGSE is an objective but it must not be at the expense of more car commuting. In addition to the strategic schemes, the local accessibility must not be forgotten, as it will be essential to make the developments sustainable and help encourage social inclusion.