

Report to the Department for Transport CONFIDENTIAL

Euston Area Plan and HS2 scheme compatibility

Executive Summary

This report has been produced by the Euston Area Plan (EAP) team to respond to the recent HS2 designs for Euston Station based around retaining the tracks and platforms at their existing level and developing the HS2 station alongside the existing Euston Station (HS2 revised design, Option 8). This approach is radically different to the station design approach developed by HS2 to date which involved lowered platforms and tracks and rebuilding a joint HS2 and classic station (the baseline scheme, B1). The EAP team have been working with HS2 throughout the development of the EAP, a joint planning document for Euston produced by Camden Council, the GLA and TfL, to understand, shape and reflect the emerging station designs as much as possible. The emerging EAP masterplan and plan objectives, consulted on late last year, therefore reflect the HS2 baseline scheme which was being developed until February 2013 and assumed there would be scope for a comprehensive approach to station development, new streets and development.

An assessment of the compatibility of the new HS2 revised (option 8) scheme and the latest baseline scheme iteration (B1 value managed) against the established EAP objectives and design principles has been carried out to determine the impact of the different designs on implementing the aspirations of the EAP. A summary of the findings of this assessment and supplementary work undertaken by consultants on the economic implications are below.

Economic implications

An addendum to the EAP economic vision report by GVA estimates the following high level implications for development capacity, floorspace and gross value added to the economy resulting from the EAP masterplan, HS2 baseline (B1) and HS2 revised (option 8) schemes for the station area and decking up to Hampstead Road:

	EAP masterplan	HS2 B1 VM	HS2 revised (option 8)
Homes	2,930	2,260	1,700
Jobs	10,135	6,800	3,900
Employment	210,000	136,000	79,000
Floorspace (sqm)			
Gross value added	£690m	£460m	£270m
of employment			

The timescales and information available to make this assessment have necessitated a high level approach based on the potential impact of station designs on the strategic masterplan maximum capacity estimates, which are still being refined, see appendix 1 for details. We have assumed some OSD above the HS2 and existing/redeveloped station in all the estimates, but it is not clear how much of this will be able to be delivered. See appendix 1 and 2 for details.

In summary the GVA reports on economic and employment implications (appendix 2 and 3) highlight that a transformational approach to rail infrastructure and facilities (the EAP masterplan or an amended baseline (B1) design) in the Euston area can create a scale and mix of uses that can contribute to the long term value and economy of Camden, London and the UK economy. This will enable the transformation of the public realm,







image and identity of Euston Station, replacing poor quality facilities which have constrained investment in adjacent areas for decades.

A comprehensive approach also results in a place-making scheme that will fundamentally transform Euston, with a focus on overcoming physical barriers rail infrastructure presents, creating a new framework for East-West connections between Regents Park and Kings Cross and enhancing the quality of the public realm, image and identity of the Euston Area.

Assessment against EAP objectives and design

The main body of this report is an evaluation of the two HS2 schemes against the EAP objectives and design principles. This assessment highlights that the revised option 8 station design (reuse) does not meet or only makes a small contribution towards achieving the majority of the plan objectives, despite the best efforts of the HS2 design team over the last two weeks to improve the performance of the design against these. HS2's own station design option sift process last year illustrated the significant problems associated with retaining the existing tracks and platforms at their current level, particularly in terms of the poor compatibility with over site development, rail operational issues and urban design issues including poor integration with existing surroundings and poor massing implications.

A summary of the assessment tables evaluating compatibility of the EAP objectives and design principles with the two HS2 station designs is shown below:

No compatibility – the design *does not contribute* towards meeting the EAP objective

Poor compatibility – the design makes a small contribution towards achieving the EAP objective
Significant compatibility – the design makes a significant contribution towards achieving the EAP objective
Full compatibility – the design meets the EAP objective

Not clear – Sufficient information and details are not available to make an assessment.

Euston Area Plan Objective	HS2 B1	HS2 option 8
Prioritising local people's needs		
2. Securing excellent design		
3. Making the best use of new space above the station and tracks		
4. New streets above the station and tracks		
5. Providing jobs and boosting the local economy		
6. Creating sustainable development		
7. Improving the environment along Euston Road		
8. Promoting sustainable travel		
Enhancing existing public transport		
10. Planning for future public transport		

Euston Area Plan Design Key Principle	HS2 B1	HS2 option 8
1. Improved Euston Road		
2. Extend & strengthen Drummond Street		
3. Extend Phoenix Rd to Robert St		
4. New north-south retail street		
Improving station relationship with Eversholt Street		
5. Extend & activate Coburg Street		
6. Reinforce east – west connections – additional routes (e.g.		
Polygon – Varndell St)		
7. Network of integrated open spaces		
8. A new permeable piece of city		
Creating traditional urban streets with active frontages		







The revised option 8 scheme represents a missed opportunity to transform the quality of the public realm, the image of the area and local accessibility, each of which play a key part in facilitating high value economic growth. The contribution that the option 8 scheme makes towards improving the environment along Coburg Street, new east-west connections in the form of a new road to the north of the station and an internal connection in line with Drummond Street through the station concourse, will still not fundamentally meet the EAP aspiration to create an integrated and vibrant piece of city with traditional streets and development around and above the new station.

The level of development supported by the HS2 schemes is not able to be confirmed, but as mentioned above, it is estimated that the option 8 scheme is likely to result in significant reductions in the number of homes and jobs secured. Even where additional over site development can be secured above the existing station (which would be dependent upon Network Rail to deliver) issues with access, design and setting make it unlikely to meet the EAP or baseline scheme capacity potential. The revised scheme also leaves the podium building and 1 Eversholt Street building to the front of the station in place (the baseline B1 VM scheme also retains 1 Eversholt Street), which is a huge lost opportunity to transform the image of Euston, and also restricts development capacity here. Taking a piecemeal approach to development and reliance on several organisations to deliver transformational change is unlikely to fully meet the transformational potential represented by the arrival of HS2 into Euston.

Conclusions

The evaluation of the two HS2 station designs against the EAP objectives and design principles clearly illustrates the significant issues arising from not taking a comprehensive approach to redeveloping the station and failing to address the existing public realm and connectivity issues. The findings of the GVA report also clearly demonstrate that there is a significant risk to realising the economic potential of the area and transforming the image of Euston by taking a less comprehensive approach. It is therefore Camden Council and the Mayor 's view that a comprehensive approach, more in line with the baseline (B1) scheme would achieve significantly greater economic and community benefits.

If, despite the results of this assessment, it is decided to progress with the Option 8 scheme, significant work on the design of the Option 8 scheme would be required to reduce its footprint, improve permeability and better integrate it with the surrounding streets and townscape. In particular, a joined up approach to assess the potential for OSD across the station areas is required, which would necessitate the active participation and support of Network Rail, DfT and HS2 to try to make the best of the sub-optimal development potential.

Despite the fact that at short notice the comprehensive approach to station redevelopment has been abandoned by the HS2 project team, Camden, GLA and TfL officers have sought to find a compromise solution that could still deliver key aspirations of the EAP, within the limitations imposed by the retention of the classic tracks. This has included proposals from the EAP team to retain key east west and north south linkages, to deliver over station development and to ensure the edges of the new station have active uses rather than blank frontages (please see appendix 4). Additional commentary on this is provided in this report.







1. Introduction

The Euston Area Plan is being developed as a joint strategic planning document by Camden Council, the GLA and TfL to guide future development above and around Euston Station. The plan is being produced to respond to the impacts and opportunities the arrival of HS2 presents at Euston and also reflects and updates previous plans and aspirations for the Euston area produced by Camden Council and reflected in the London Plan.

The Euston Area Plan team are developing the masterplan with the technical support of HS2, and the planning process has been timed and designed to enable the aspirations of the EAP to be integrated into the redesign of Euston Station. The team have collated the consultation results, and the emerging background research results, the emerging results as required by the project's challenging programme to develop a draft plan by May 2013. The masterplan is still work in progress but represents an emerging spatial illustration of how to achieve maximum regeneration benefits based on the EAP key principles.

1.1 Purpose

The plan work to date responded to the assumption that the baseline HS2 station scheme was likely to be progressed, which includes the key aspiration of sinking platforms and tracks to subsurface level allowing for new development and associated economic regeneration, streets and open space above and around the station. On 25th February HS2 presented an emerging scheme to reuse the existing station platforms and tracks and develop the new HS2 station to the west which has been developed to respond to the revised increased cost and programme implications of the baseline HS2 scheme reported by HS2 to the SoS late last year. This has significant implications for the achievement of the emerging masterplan design principles and the Euston Area Plan objectives in general. This report provides an evaluation of the HS2 baseline station design and the emerging revised "reuse" HS2 station design, previously being developed against the key Euston Area Plan objectives and design principles established in 2012. A summary of the economic and viability implications on masterplan delivery and economic vision for the area is provided and a short report can be found at Appendix 2.

The EAP intends to maximise the long term regeneration benefits by harnessing the opportunity presented by the arrival of HS2 to raise the profile of Euston. This can be achieved by exploiting Euston's central London location and its status as a key transport hub through maximising development opportunity and providing an excellent quality of public realm integrating the new station and associated developments with its immediate and London wide context.







2. Euston Area Plan Objectives and consultation support

A set of 10 objectives were developed for the Euston Area Plan and formed the basis of initial consultation in November/December as agreed at the EAP Strategic Board on 5th October. As a result of the consultation process some minor changes to the objectives have been incorporated into a revised set of objectives intended to form the basis of the draft plan. These are set out below.

- 1. **Prioritising local people's needs:** To ensure that new development meets local needs by ensuring homes, jobs, businesses, schools and open space lost or affected by HS2, should it go ahead, are reprovided in the Euston area.
- 2. **Securing excellent design:** To work to ensure that any new station or development is of excellent design, easy to access, complements the character *and heritage* of the area, and helps to improve the image of the Euston.
- 3. **Making the best use of new space created above the station and tracks:** To make sure any new development above the station provides a mix of homes, shops, jobs, open space, services, education and leisure facilities that benefits existing and future residents, businesses and visitors.
- 4. **New streets above the station and tracks:** To create new streets on the ground above the station and railway tracks to make it easier for people to move between Somers Town and Regents Park and from Euston Road to Mornington Crescent, which is currently made difficult by the existing Euston Station building.
- 5. Providing jobs and boosting the local economy: To provide new spaces for existing and new businesses and shops, and encourage new and innovative business sectors in the Euston area, such as knowledge or creative industries, and secure significant new job and training opportunities for local people and specialists.
- 6. **Creating sustainable development:** To plan for carbon free sustainable development and a local renewable energy network in Euston, to reduce the impact of new development on the environment.
- 7. **Improving the environment along Euston Road:** To create new and improved crossing points across Euston Road and improve the pedestrian and cyclist experience.
- 8. **Promoting sustainable travel:** To promote walking and cycling in the area, through encouraging improvements to the streets and enhancing facilities for pedestrians and cyclists and those using the station.
- 9. **Enhancing existing public transport:** To encourage improvements to underground services, station, bus and taxi facilities and particularly new entrances into the station to the north, east and west.
- 10. **Planning for future public transport:** To ensure that if a new station is developed, adequate improvements to the underground services and new transport links, such as Crossrail 2, are provided to prevent congestion and overcrowding of the underground trains.







The consultation process indicated a high level of support for the objectives, with all of the objectives seen as medium or high priorities by the majority of respondents to the consultation exercise. Key findings included a need to reprovide housing, particularly affordable housing in the area and the need to complement the character, scale and heritage in new development. There was also consistent reference to making the area more permeable and the need to ensure the area is designed for pedestrians and cyclists.

3. Design principles and masterplanning to date

Design principles for the Euston Area Plan were developed reflecting the objectives, background research and consultation results and these were sent to the DfT for information in November 2012. The plans below illustrate these key design principles which has formed the basis of the emerging masterplanning work for the plan.

Key design principles

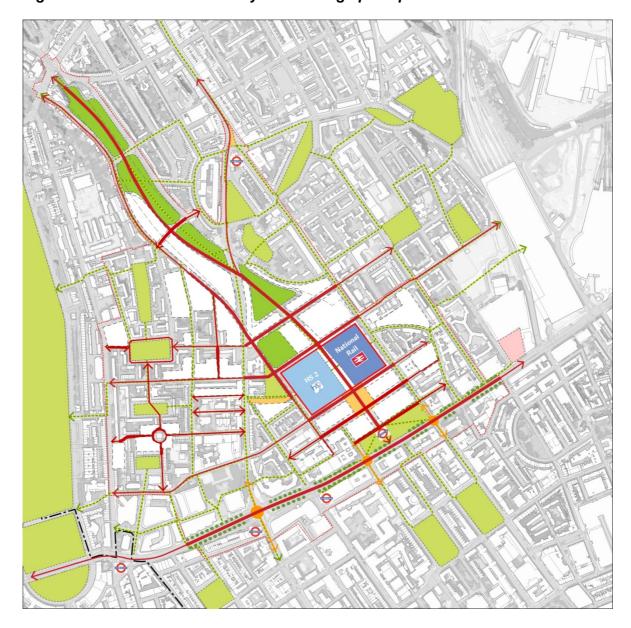
The urban design principles identified as essential considerations in the design of the HS2 station or any redevelopment at Euston are summarised below:

- Public realm improvements and new at-grade crossings at Euston Road: pedestrian and cycle improvements and prioritisation to create a better environment along Euston Road.
- 2. **Extend and strengthen Drummond Street:** reconnect Drummond Street with Doric Way to create a key east-west pedestrian route and create a vibrant street environment with active frontages to reinforce existing independent shops here.
- 3. **Extend Phoenix Road and connect with Robert Street:** This is a key route to connect the redeveloped Euston Station with Regents Park to the west and with St Pancras and Kings Cross to the East.
- 4. **New North –South retail street from Euston Square to Hampstead Road:** this will help to encourage direct pedestrian access between Euston Square and associated new developments, Euston Station, new developments to the north, Ampthill Estate and Mornington Crescent Station. The route will provide N-S permeability through the bulk of the station.
- 5. **Extend and activate Coburg Street:** The aspiration is to extend and connect Coburg Street with Park View East to create a direct connection between the communities to the north to the western entrance of the station. The street would create active frontage along here to enliven street environment and provide a station entrance closer to Hampstead Road and Regents Park estate.
- 6. Reinforce east-west connectivity with additional secondary connections: additional east –west connections identified at Euston Street, Polygon Road, and Mornington Place, Clarkson Road and Barnby Street designed to help bridge the disconnect between the communities to the East and West of the new station and help firmly integrate the new station with neighbouring communities and address the severance caused by the existing station block.
- 7. Create and enhance a network of existing and new open spaces: The aspiration is to build on the existing character of a network of protected and other open spaces by creating new high quality open spaces and public squares close to the station and to the north of Granby Terrace for existing and future residents, visitors and workers.
- 8. A new permeable piece of city: building permeable development blocks around a framework of new ground level connections and public spaces, with appropriate land uses and active frontages. This principle also envisages containing the station building between Drummond Street and Phoenix Road and using the north-south public connection to separate the national rail and HS2 stations. This would also provide a better opportunity to exploit opportunities for high quality public realm experience for over station development.





Figure 1: Plan to illustrate the key urban design principles for the Euston Area Plan









4. Emerging masterplan and HS2 plans

The draft Euston Area Plan has been developed to respond to the 10 objectives and 8 urban design principles and has been informed by the results of the public consultation and evidence base collation to date, which consists of: an Historic Area Assessment; Economic Vision, Retail Assessment and Viability Report; Baseline Report; Sustainability Appraisal; and, ongoing Transport Assessment work by TfL.

4.1 Masterplan key figures

The preferred masterplan produces a maximum of approximately 4,900 net (5,600 gross) additional homes and 11,100 net additional jobs (12,500 gross), however further work to refine this capacity estimate is required in relation to the technical requirements of HS2. It produces 112,000sqm of open space including a new 6 hectare park over the rail cutting north of Hampstead Road. A broad viability assessment of the new HS2 and station decking areas south of Hampstead Road (which provides 2,930 homes and 10,135 jobs) suggests that the preferred masterplan for the station area has an approximate 5% viability gap when considered against the gross development value of an over-site development scheme. A range of strategies have been identified to address this. It should be noted that HS2 have indicated that there are potential technical constraints to developing parts of the track throat area to the north of the station, which has not been reflected in capacity estimates at this stage, but we would expect to refine capacities to respond to operational and construction constraints being identified by HS2 as part of the ongoing masterplanning work.

The homes and open space illustrated in the railway cutting to the north of Hampstead Road provide the planning policy required levels of open space for development above the station. In its current form this would require significant additional funding. If the entire EAP area is considered as a single development, the cost of this new park would significantly reduce viability. It is not expected that this park component could be paid for as part of a private sector led development. However, the potential to reduce the proportion of affordable homes, increase development and reduce the amount of open space needs to be investigated further as part of strategies to address viability issues.

The economic rationale for the masterplan approach is set out in the work in progress Economic Vision Report by GVA reported confidentially to Strategic Board on 5th March 2013. Further work to refine the final cost and apportionment between developer and HS2/DfT of building a structural deck to support new development and open space needs to be carried out. At the moment the assessment assumes that development is carrying all the costs to provide the deck, however some of the structure would be required for HS2 to build the new station therefore some of the cost could be apportioned to HS2's overall project cost. The implications of a non comprehensive approach to development at Euston on the emerging economic vision are provided in an addendum report to this paper prepared by GVA, which can be found at Appendix 2. An additional paper highlighting economic impacts in terms of employment can be found at Appendix 3.







Camley Street Natural Crowndale Road Gardens St. Pancras Ampthill Estate Kings Cross Cumberland Market Estate The British Drummond Crescen Doric Way Regent's Varndell Street Park Churchway Regents Park Estate Robert Street Garden Munster Longford Street Bloomsbury

Figure 2: Emerging illustrative masterplan (development blocks in purple)







4.2 HS2 schemes and evaluation against EAP objectives and principles

The two HS2 schemes, the baseline value managed scheme (B1 VM) and the revised scheme (option 8) have been evaluated against the Euston Area Plan objectives and design principles. Euston Area Plan members have met with the HS2 station engineers and designers three times since being presented with the reworked Option 8 scheme on 25th February to work to incorporate objectives and design principles from the emerging Euston Area Plan work. The HS2 team have reworked the design to respond to the requirements as much as possible, however this work is ongoing and the assessment reflects the current plan as at 13th March.



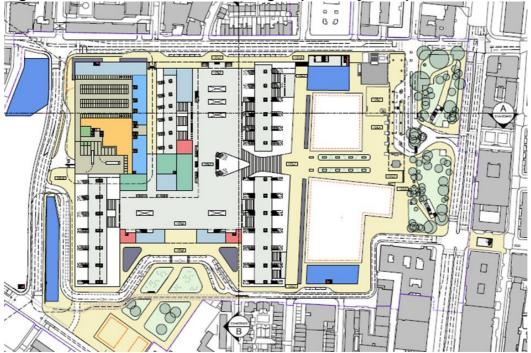


Figure 4: HS2 revised (Option 8) scheme (as at 13/03/13)

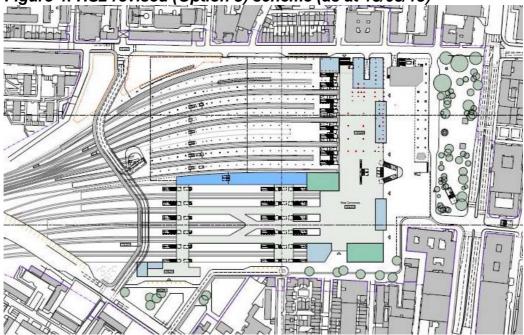








Table 1: Evaluation of HS2 schemes against EAP objectives

Assessment criteria and process

The adjacent criteria have been used to assess the compatibility of the HS2 B1 value managed design and the current revised HS2 Option 8 "reuse" design. The assessment is based on the information we have been provided by HS2 on the latest station designs on 13th March 2013 as part of the EAP team collaborative working process. HS2 are continuing with their design refinement.

No compatibility – the design <i>does not contribute</i> towards meeting the EAP objective
Poor compatibility – the design makes <i>a small contribution</i> towards achieving the EAP objective
Significant compatibility – the design makes a significant contribution towards achieving the EAP objective
Full compatibility – the design meets the EAP objective
Not clear – Sufficient information and details are not available to make an assessment.

Euston Area Plan Objective 1. Prioritisina

needs

HS2 B1 – value managed design (Jan 2013)

local people's

- The scheme creates less open space and ground level development parcels to the rear than the original B1 baseline scheme as the service area is in the north east corner at ground level where at grade OSD and public realm was previously provided however it does create larger development parcels at the front.
- There is OSD potential above the service area to the rear. accessible from street level which is positive.
- The design incorporates significant potential for development above and around the station.
- The scheme does not quite meet the EAP aspirations in terms of community integration and economic benefit due to the size and extent of the station.

HS2 revised design (Option 8)

- The design incorporates retail units to the front of the station. These create vibrancy and economic activity but are within or directly related to the station therefore are likely to cater more to commuter needs.
- A new public square at Drummond Street and part pedestrianised Coburg Street contribute towards improving the surrounding environment for local people however formal open space replacement for St James Gardens has not been provided.
- There is over site development (OSD) potential which could include replacement housing and businesses above and to the rear of the HS2 station therefore making a small positive contribution.
- OSD potential above a rebuilt Euston Station would need to be progressed by Network Rail separately. Separating the design and delivery of OSD above the HS2 station and the existing station risks creating pockets of development above the station with no coherent public realm or connectivity with the surrounding streets which reduces the



Euston Area Plan Objective	HS2 B1 – value managed design (Jan 2013)	HS2 revised design (Option 8)
2. Securing excellent design	 By lowering the tracks and platforms across the site there is significant potential for new development above to more readily integrated at ground level with the surrounding townscape and public realm. However, the large L shaped ground level footprint of the station and service yard restricts north -south permeability and reduces potential for some over site development potential. The layout includes a bus station and taxi lay-by that occupy significant parts of the public realm and detract from the potential to improve image of the area. The north west corner and the south east corners are poorly designed for pedestrian and cycling movement. Further discussion on the design, function and location of these elements could result in a scheme that makes a significant contribution towards meeting this objective through providing a street based arrangement. The layout also includes a ground level service area which reduces over site development opportunities here, however it is designed with development fronting onto Eversholt Street and a new east-west route which would contribute significantly towards achieving this objective. The retention of 1 Eversholt Street potentially misses the opportunity to improve the image of Euston and significantly reduces the potential to attract new occupiers to the area. Network Rail have not confirmed if they would 	physical and community integration potential. A commitment to a joint masterplanning approach from Network Rail, DfT and HS2 would be required to get the best arrangement of OSD here if this option is progressed. The scheme therefore makes only a very small contribution towards meeting community needs through the OSD potential. It is not clear what contribution this design makes towards achieving this objective at this stage however a refreshed extended station would make a limited contribution towards achieving this objective. The large station footprint allows some OSD including limited potential above the existing station (if it gets rebuilt there is potential for more OSD) and also potential for OSD above the lowered tracks and platforms on the HS2 side. Over site development above the existing station will be "in the air" therefore there are issues with occupiers accessing the 1st/2nd floor levels to properties and the quality of the public realm here which detracts from its attractiveness to occupiers, particularly in terms of the potential to attract institutions such as UCL and UCLH to take space along with creative and knowledge based sectors. Permeability across the area is limited to a rear east-west route (with challenging gradient) and a through concourse route almost in line with the Drummond Street route. Whilst it is recognised these start to contribute towards meeting this objective, the quality and type of routes do not match the ground level, traditional street aspirations that work best in terms of design, accessibility, safety and security and development values. The south western corner and western side of the station are poorly designed and do not allow for easy permeable movement. The change in levels between and around the stations and reuse of the existing building will reduce the ability to create a coherent and well designed station of the quality



Euston Area Plan Objective	HS2 B1 – value managed design (Jan 2013)	HS2 revised design (Option 8)
	be willing to address this area as part of separate station redevelopment plans.	 The retention of the podium building and 1 Eversholt Street misses the opportunity to improve the image of Euston and significantly reduces the potential to attract new occupiers to the area. Network Rail have not confirmed if they would be willing to address this area as part of separate station redevelopment plans. If Network Rail are minded to rebuild the station there is potential to include OSD and secure development along Eversholt Street which would help to significantly improve street environment here, however this is not confirmed. By retaining and extending the existing station it continues to turn its back on the surrounding communities, doesn't provide a permeable network of active frontages and impact on community safety issues in the area. It fails to make the most of the opportunity to secure a world class station integrated with the surrounding townscape of a quality necessary to improve the image of Euston.
3. Making the best use of new space above the station and tracks	 The layout allows for a significant amount of development above the tracks and station area and in front and to the rear of the station. The provision of open space and levels of OSD are not fully compatible with the EAP aspirations due to the size and location of the station and service area layout. 	 The design does not make the best use of new space above the station and tracks. If OSD can be accommodated above the HS2 station and the tracks, this scheme could make a limited contribution towards achieving this objective. OSD above the existing rail station will not be of the same quantum or quality as that which could be achieved if the tracks and platforms were lowered and a comprehensive approach to station design were taken. If Network Rail are minded to redevelop the existing station building to allow for a greater scale of OSD, the offer would not be as attractive to potential occupiers or contribute in the same way to the local economy and local community needs as "at grade" OSD would, as outlined above. It is estimated that there is a risk to the delivery of approximately 60% of the EAP estimated jobs and up to



Euston Area	HS2 B1 – value managed design (Jan 2013)	HS2 revised design (Option 8)
Plan Objective		40% of the estimated homes in the station area depending on the level of OSD that can be supported, which will be largely dictacted by access, design and quality.
4. New streets above the station and tracks	 The priority to recreate Drummond Street and create a new east-west link lining up with Phoenix Road which connects to Kings Cross and St Pancras are largely met with this design, and active frontages can be achieved along significant parts of these routes. The design does not incorporate a north-south route through the station. The bus station is replaced in its current position at Euston Square Gardens. There is an EAP aspiration to use traditional streets for bus stopping arrangements to reflect the masterplan grid street layout which was being investigated and therefore could have potentially be achieved. However in broad terms, the design performs well against this objective. 	 There is only one new street created as part of this design, and this is currently designed as a service road to the rear of the station and incorporates significant level changes. Whilst no active frontages are shown there is potential for these to be developed, however if these do not come forward there are likely to be community safety problems. It is unclear who the users of this road will be and whether there will be a conflict between users within this space, e.g. HGV versus pedestrians and cyclists. The location of the concourse has been moved slightly to line up with Drummond Street to allow an internal through route for pedestrians. Retaining the podium and 1 Eversholt Street significantly reduce the potential to transform the image of Euston, as these are still first impressions of Euston. They maintain the existing accessibility and public realm problems, do not allow the creation of street grid in front of the station and continue to make a negative contribution to the townscape. The HS2 design team has altered the design to allow a through route between Drummond Street and Doric Way using the station concourse. However this will not perform the same role as a public street. If 24 hour access, active frontage and at grade access can be achieved in this link this would make a small contribution towards achieving this plan objective. The HS2 design team have improved the condition of Coburg Street to create a significant pedestrianised area and public square which makes a positive contribution (VM) towards achieving this objective. However further work on taxi arrangements is required, as prioritising as much space



Euston Area Plan Objective	HS2 B1 – value managed design (Jan 2013)	HS2 revised design (Option 8)
		 as possible around the station for pedestrians and cyclists is a plan priority and avoiding a wall of taxis around the station. The bus stopping arrangements use a new street across Euston Square Gardens which is preferable to a large bus station from Camden Council and GLA's perspective. Potential to improve east-west connections linking key routes needs to be explored more fully. If the station design can allow for the later construction of upper level east-west connections, particularly between Phoenix Road and William Road this will help to contribute towards achieving this objective. The HS2 design team have indicated that a north-south route through the station may be possible to incorporate – but they have not committed to this at this stage. Depending on the treatment of the road to the north of the station, this could further contribute towards this objective.
5. Providing jobs and boosting the local economy	 This design includes development parcels at the front and back of the station therefore overall makes a significant contribution towards achieving this objective. The service yard at the rear occupies key potential development land and restricts OSD potential. Access to development is largely possible from the ground floor, with the exception of any above the service yard to the rear, which is a more attractive developer and occupier proposition and makes a positive contribution to place making. This design therefore makes a significant contribution towards achieving this objective. 	The potential level of OSD above the two stations is unlikely to be of the scale or quality achieved in the B1 VM design or that envisaged in the emerging EAP masterplan which is a fundamental issue with this approach. Up to 60% of the jobs identified in the EAP masterplan are at risk of not being delivered though this option. EAP masterplanning work to date identified that there is a significant opportunity to attract new businesses and capitalise on existing knowledge and creative business links in the area if a comprehensive approach to redeveloping the area is taken as this will transform the identity and attractiveness of Euston. High quality public realm, vibrant surrounding uses and image are all now essential to potential occupiers, and a piecemeal approach to over site development associated with individual station developments is unlikely to be able to



Euston Area Plan Objective	HS2 B1 – value managed design (Jan 2013)	HS2 revised design (Option 8)
		provide the quality of development that would attract the same type and quality of occupiers the EAP economic vision identified.
6. Creating sustainable development	 There is potential for this option to contribute positively to this objective, however at this stage it is not known if renewable energy networks and carbon free development can be incorporated into the design. The incorporation of cycle parking and a permeable street pattern within the design will contribute towards reducing carbon emissions here, prioritising and encouraging walking and cycling. 	 There is potential for this option to contribute positively to this objective, however at this stage it is not known if renewable energy networks, a low emission zone around the station and carbon free development can be incorporated into the design. However through reusing the station and by not lowering the tracks there is potentially less opportunity to incorporate carbon free development and renewable energy network requirements. The station buildings would still form a barrier to east-west pedestrian and cycle movement therefore reducing its sustainability. It is unclear how walking and cycling and car free/capped development would be enhanced here.
7. Improving the environment along Euston Road	 A new direct subsurface link to Euston Square Station is provided, which contributes towards meeting this objective as it provides a new option for crossing Euston Road. It is unclear if any additional new crossings or improvements to the pedestrian and cycle environment will be possible at surface level. HS2 can contribute positively towards improving surface level crossings and improving the environment in and around Euston Square Gardens, but they have not committed to this at this stage. The rating could improve to significant contribution if improvements to crossings/the gardens could be made. 	 The incorporation of a new direct subsurface link to Euston Square Station is welcomed, which contributes towards meeting this objective as it provides a new option for crossing Euston Road. It is unclear if much needed additional new crossings or improvements to the pedestrian and cycle environment will be possible or provided at surface level. HS2 can contribute positively towards improving surface level crossings and improving the environment in and around Euston Square Gardens, but they have not committed to this at this stage. The rating could improve to significant contribution if improvements to crossings/the gardens could be made.
8. Promoting sustainable	- Drummond Street is connected to Doric Way as a traditional street with some active frontages.	- The design does not currently incorporate a fully permeable network of traditional streets to enable north south and east



Euston Area Plan Objective	HS2 B1 – value managed design (Jan 2013)	HS2 revised design (Option 8)
travel	 The Robert Street - Phoenix Road link is also provided, although part of this is through the station concourse it still makes a significant contribution towards greater permeability of the area and helps to encourage walking and cycling in the area. Station entrances to the south, west and north east also contribute significantly towards meeting this objective. 	 west movement linking into St Pancras, Camden Town, south across Euston Rd and west to Regent's Park. However the road to the north does connect Varndell Street with Polygon Road which makes a small contribution towards achieving this objective. The east-west link provided through the concourse allows for the continuation of Drummond Street but this is through the station building, and therefore also makes a small contribution towards achieving this objective. A new entrance to the station at the north western corner has now been incorporated into the design, which makes a small contribution towards making routes to Mornington Crescent more attractive and accessible for pedestrians and cyclists. The scheme does now show taxis using Hampstead Road for turning and standing which creates potentially a better public realm for pedestrians and cyclists at the southern end of Coburg Street which makes a small contribution towards meeting this objective. No provision for cycle parking has been provided although we understand this will be incorporated into the next stage of design.
9. Enhancing existing public transport	 This design has good interchange facilities with taxis but the bus station design conflicts with pedestrian movement. The design provides inefficient interchange between rail, underground and bus. A new entrance to the station is provided to the west and a new underground station entrance to the south of Euston Road, which make a significant contribution towards achieving the objective. 	 The design includes a new underground station entrance to the south of Euston Road which makes a significant contribution towards achieving the objective. However the design also includes a station entrance within Euston Square Gardens, the design of which would need to be carefully considered in relation to it's heritage significance as a London Square. The entrance allows for the route to be used as a pedestrian link as well as station interchange. There is potentially better underground and rail interchange potential than the B1 VM design. The on street bus facilities would potentially provide an



Euston Area Plan Objective	HS2 B1 – value managed design (Jan 2013)	HS2 revised design (Option 8)
		 enhanced transport offer compared to the existing bus station arrangement, however they do not significantly improve the setting of Euston Square Gardens, which could be achieved if development could include a new east-west road to the north of the gardens to accommodate the bus street with development and active frontages facing onto the gardens. Station entrances are provided in line with the existing location and an additional entrance to the north west which makes a small contribution towards achieving this objective.
10. Planning for future public transport	 HS2 have confirmed that this design allows for Crossrail 2 interchange but this is not shown in the designs. There is no provision made for additional public transport infrastructure such as the DLR 	 HS2 have confirmed that this design allows for Crossrail 2 interchange but this is not shown in the designs. There is no provision made for additional public transport infrastructure such as the DLR



Table 2: Evaluation of HS2 schemes against EAP design principles and emerging masterplan

This section reviews the compatibility of the two HS2 designs against the 8 EAP design principles and also separately considers the relationship with Eversholt Street and creating active frontages. Active frontages are ground floor uses which contain activity, such as shops, restaurants cafes or have windows/doors facing onto them to create activity, interest and natural surveillance of streets. The same rating system has been used as above.

EAP Design Key Principle	HS2 B1 value managed design (Jan 2013)	HS2 revised design (option 8)
1. Improved Euston Road	 New subsurface link across Euston Road provided with entrances to the north and south of Euston Road. Improvements to surface road crossings have not been identified/committed to by HS2 as yet. 	 New subsurface link across Euston Road provided with entrances to the north and south of Euston Road. Improvements to surface road crossings have not been identified/committed to as yet.
2. Extend & strengthen Drummond Street	 Drummond Street is extended across the front of the station to connect with Doric way which meets this objective. However, active frontages along the street are not shown along both sides of the new street which would be encouraged to be incorporated. 	- HS2 have altered the design to better align the concourse with this route to create an internal east-west route along this alignment which makes a small contribution towards achieving this objective. However the route is not a traditional street and will need to be designed and managed carefully to create a space that feels usable by all.
3. Extend Phoenix Rd to Robert St	- This route is provided as an external street from the east, which is completed through entering the station building to the west to exit out onto the concourse.	This route is not achieved with the new station design. The It is recommended that if this option is progressedt here design does not prevent the long term incorporation of a high leve east-west link across this route.
4. New north- south retail street	There is potential for this design to incorporate a north-south retail street, however the design does not currently include this aspiration. If this can be achieved the assessment through an internal route this assessment would change to "poor or significant compatibility" depending on the nature of the design.	There is potential for this design to incorporate a north-south retail street, however the design does not currently include this aspiration. If this can be achieved the assessment through an internal route this assessment would change to "poor or significant compatibility" depending on the nature of the design.
Improving station relationship with Eversholt Street	This option limits the extent of the station building along Eversholt Street, and there is some potential for OSD and active frontages along Eversholt Street.	 Potential for OSD at the north eastern corner makes a small contribution towards achieving this objective. The HS2 design team have confirmed that if Network Rail are minded, there is potential to include a strip of development along the Eversholt Street boundary by rearranging platform 1. This could make a small contribution towards meeting this element of this aspiration therefore the rating would change to "poor or significant"



EAP Design	HS2 B1 value managed design (Jan 2013)	HS2 revised design (option 8)
Key Principle		
5. Extend & activate Coburg Street	 Coburg Street is designed to accommodate taxi pick up using a recessed layby. This is likely to detract from the attractiveness of this route for pedestrians and cyclists. Active frontages are achieved along a significant proportion of the street. St James Gardens are partly replaced. If the taxi arrangement could be altered to prioritise pedestrians and cyclists this design would achieve "full compatibility" with this principle. 	 compatibility" depending on the nature of the design. Coburg Street is extended and part is pedestrianised. A new public square at the junction with Drummond Street is proposed. Part of the road is designed to accommodate taxi drop off and pick up, with standing taxis kept to Hampstead Road which makes a significant contribution towards improving pedestrian and cycle routes. An additional station entrance is provided to the north and there is potential to add active frontages along the station flanks which if provided would change the assessment rating to "full compatibility".
6. Reinforce east – west connections – additional routes (e.g. Polygon – Varndell St)	 The Varndell Street to Polygon Road link is provided. The Euston Street link is not provided although development blocks could be split to allow for this. The road to the north is designed to accommodate service vehicles and taxis but appears to include development on one side which will help to improve its use by pedestrians and cyclists. It is unclear whether additional east-west routes across the tracks to the north of Granby Terrace can be achieved. 	 The Varndell Street to Polygon Road road link aligns with the connecting streets. The road to the north is designed to accommodate service vehicles and has a steep gradient and curve which will make it unattractive for pedestrian and cycle use. There is potential to improve the northern route through inclusion of development on either side of the road with active frontages. If confirmed this would improve the assessment to "significant compatibility". It is unclear whether additional east-west routes across the tracks to the north of Granby Terrace can be achieved.
7. Network of integrated open spaces	 The design includes part reprovision of St James Gardens. Landscaped public realm and routes are integrated into the design of the station which contributes positively towards achieving this principle. It is not clear whether the open space to the north of Granby Terrace can be achieved with this design, but HS2's Decking Constraints report indicates it is possible to build it. 	 Public space is provided as a new public square at the junction of Coburg Street and Drummond Street. However it is unlikely this space would perform the same function as the lost garden/park space at St James Gardens. This therefore makes only a limited contribution towards achieving this principle. Retention of the podium building and 1 Eversholt Street at the front of the station maintaining the current blight caused by this unattractive and poor public realm detracts from achieving this principle. It is not clear whether the open space to the north of



EAP Design	HS2 B1 value managed design (Jan 2013)	HS2 revised design (option 8)
8. A new permeable piece of city	 The design allows for the creation of new development blocks above a partly sub surface station which contributes significantly towards meeting this principle. However the location of the routes and layout of the station prevent this design from fully integrating with the surrounding street pattern and reduce legibility and OSD therefore this design does not fully achieve this EAP principle. 	 Granby Terrace can be achieved with this design, but HS2's Decking Constraints report indicates it is possible to build it. If this can be accommodated the performance against this principle will be significantly improved. The potential for development which is integrated at street level with the surrounding area is limited mainly to the HS2 station and to the north of the site. Not sinking the platforms and tracks below ground will continue the existing problems Euston Station has in terms of poor accessibility, poor relationship with surroundings, lack of activity and barrier effect around. Even if OSD is possible above the HS2 and existing station it will be challenging to achieve an appropriate ground level interface for above the retained tracks and platforms. If this option is progressed a coordinated approach to designing OSD between Network Rail and HS2 is required. However a concourse route connecting Drummond Street to Doric Way could make a limited contribution towards meeting this objective if active frontages, 24hour access
		and better alignment can be achieved which would improve the rating to "poor compatibility".
Creating traditional urban streets with active frontages	- This design contributes significantly towards meeting this principle, however does not fully achieve this due to the size and layout of the station.	The design does not contribute towards meeting this design principle at all at this stage However if active frontages can be achieved at Eversholt Street and Coburg Street this would make a contribution towards achieving this principle.this principle.



5. Economic considerations

5.1 Introduction

This section provides a summary of the GVA addendum report which accompanies this paper. Key themes from the paper are set out below.

5.2 The economic opportunity

Euston has been identified by consultants as a new landmark UK economic hub, with strong prospects for a combined commercial office and knowledge sector economic base.

Euston station lies in one of the most enviable investment locations in London, the UK and Europe. In addition to its excellent local and national scale public transport connections major transport connections, it is surrounded by

- high value West End and Holborn office markets;
- a global centre of the knowledge sector at Bloomsbury and the Euston Road, anchored by businesses as well as UCL, the University of London, UCL Hospital and the Wellcome Trust; and
- new investment locations at King's Cross Central (including new BNP and Google office headquarters) and Regent's Place,
- high value residential areas.

GVA and Aecom have identified that there is long term demand for higher value space in the area from UK and international occupiers. The redevelopment of the station site, which could transform the identity, image, quality of place to create a highly marketable destination for international audiences.

In addition to commercial office space, there is potential to create a nationally significant cluster of new knowledge sector uses at Euston. With its Central London Location and proximity of existing major higher education and health sector institutions, including UCL, UCLH, Wellcome and the University of London, Euston provides a major opportunity for expansion close to anchor facilities.

The economic opportunity at Euston could also generate regeneration benefits, with significant employment and training opportunities for local residents in an area with significant pockets of deprivation

5.3 Viability

It is clear that there is demand for commercial and residential development in the Euston area. While there is substantial impetus to a transformational scheme at Euston, there are challenges to delivering over-site development, which will essentially create new 'land' for development in central London at central London values.

The cost of structural components required to support development above rail facilities, and the cost of development itself, is substantial. However, early assessments based on emerging master planning information indicate the scheme above the station area is sufficiently close to viability to justify pursuit of a transformational scheme and investigation of ways to address the gap. The indicative viability gap identified by GVA at this stage is approximately 5% of the gross scheme development costs including estimates of the over-site structural deck and development above this. Such investment should also be considered in the context of the scale of wider economic, employment and regeneration benefits of a transformational scheme







Consultants have identified a range of strategies that can enhance viability, including the ensuring integrated solutions to station and over-site requirements, clarifying station and over-site development-related structural costs, investigation of a public-private delivery structure and linking link repayment of any public subsidy to the uplift in business rates and community charge associated with the scheme

5.4 The economic case for a comprehensive scheme

A comprehensive approach to over station development is needed at Euston to leverage the full economic, housing and place-making value of this major public sector investment, transforming the local environment and fundamentally changing the level of private and institutional investment in Euston. Full economic outcomes will not necessarily be achieved on a proportional basis for a smaller and more limited scheme involving reusing the existing station building.

A scheme limited to areas of least technical constraint and above station structures will not necessarily create opportunities at the best locations or offer the potential for strong, cohesive building and public realm arrangements or the most leasable floor plates.

A piecemeal approach would therefore be likely to reduce lease and transaction values, again reducing private sector investment interest and weakening viability. It would also be likely to generate significant opportunity costs, with reductions in new commercial and residential development and associated social and economic benefits. The opportunity to transform the image, attractiveness and function of the area would also be lost: this would fail to make the most of the regeneration potential of the site, fail to improve a poor local environment currently created by Euston Station, and fail to generate the value that would be created through a comprehensive approach.

5.5 Implications for employment creation

GVA's implications for employment creation report at Appendix 3 highlights the considerable risk associated with a less comprehensive scheme at Euston that the employment floorspace created would only attract more general office activity, reducing the impact and contribution Euston can make to the pan-London economy. A comprehensive approach to development creates more flexible plot dimensions which can accommodate appropriate floorplates and an integrated public realm which would help to capture a significant scale of higher value employment activity, such as research and development. Please refer to the full report at Appendix 3 for more information.







6. Summary of implications

The Euston station site offers a unique opportunity to meet national, regional as well as local planning policy and economic objectives around economic growth, housing delivery and urban design. The EAP preparation process and background research has shown that the Euston area, particularly the station site itself, offers significant opportunities to deliver new homes, jobs and public realm improvements. Many of the plan objectives and urban design aspirations would be facilitated under the B1 station design scheme as this allows for a comprehensive approach to development and new streets to allow better integration with other key sites, surrounding street patterns and greater potential for creating a new and improved Euston. The assessment highlights with some further alterations the B1 value managed scheme can provide the basis for a fundamental transformation of the Euston area broadly in line with the EAP objectives. This reflects the original recognition that the significant potential for residential, recreation, retail and commercial development could be delivered as part of a Euston Station rebuild in the HS2 Command Paper (para 6.8, pg 98, Command Paper, March 2010). The paper also notes that this potential would be due to the enlarged footprint and subsurface location of the rebuilt subsurface platforms and tracks, which the B1 VM scheme largely reflected in its design.

In comparison the revised option 8 scheme is unable to meet the fundamental underlying aspiration of the EAP objectives which is to create a new piece of city with a station and development above fully integrated at street level with the surrounding built environment and which helps to reconnect communities both physically and by providing much needed homes and jobs. Whilst there are potential opportunities identified for new development above the existing station (particularly if rebuilt), above the HS2 station and to the front and rear, which will be capable of delivering new homes and jobs, delivery of these in a piecemeal fashion will significantly reduce the capacity potential. Without OSD above the existing station up to 60% of the 10,135 jobs and 40% of the 2,930 homes estimated through the EAP masterplanning process for the area to the south of Hampstead Road are at risk of not being delivered due to the size and extent of the station and risks associated with OSD which limits the attractiveness of developments to both developers and potential occupiers. See appendix 1 for more information on the potential impact on capacity.

HS2's own station design sifting reports (October and December 2012) identify fundamental issues with retaining the classic tracks and platforms at their current level and not taking a comprehensive approach. Two variations of the reusing the tracks and platforms were discounted after the first stage sift of station design options due to urban design issues, over site development incompatibility and classic rail infrastructure requirements. HS2 then discounted the revised option 8 in the second sifting stage due to operational issues, poor integration with existing surroundings and poor massing implications. These issues still fundamentally remain despite efforts by the HS2 design team to improve the two station's relationship with the surrounding area.

A comparison of the compatibility of the HS2 B1 VM scheme and the revised option 8 with some of the EAP key principles and objectives is shown in the images below. As the images demonstrate (using the colour coding from the assessment tables) the option 8 scheme does not meet the majority of the EAP objectives or public realm and design principles in its current state. Despite the efforts of Camden, GLA and TfL to seek a compromise solution around the retention of the classic lines at Euston (see appendix 4), HS2 have to date shown only limited flexibility and intent to accommodate the ideas put forward by the EAP team which is extremely disappointing and frustrating.







Figure 5: HS2 B1 Value Managed (VM) plan compatibility with EAP principles and objectives

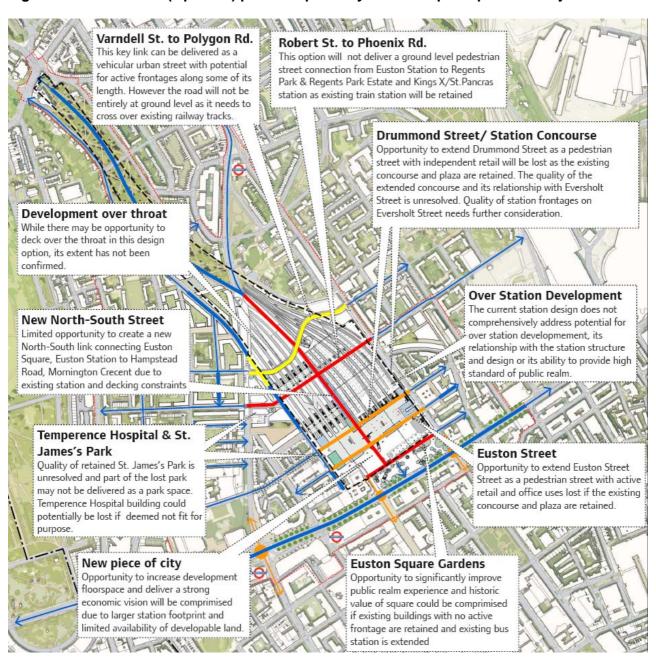








Figure 6: HS2 Revised (Option 8) plan compatibility with EAP principles and objectives









Key issues arising in relation to the two HS2 schemes are summarised by topic for ease of reference below.

6.1 Housing

The National Planning Policy Framework (NPPF) places a strong emphasis on the delivery of high quality housing as part of new development. Camden has established housing as its priority land use due to the pressing need for more homes in the borough. New homes could be provided as part of either scheme, however the quality of environment will be constrained where development is provided above the station only with limited ground level interface, which if HS2/DfT and Network Rail commit to delivering OSD through the Option 8 scheme, would be the main potential development area. This would change the value and desirability for investment. The B1 VM scheme provides more opportunities for well designed homes set in quality public realm which is more likely to attract investment.

Much of the housing capacity identified in the masterplan is provided to the north of the station. The initial viability work indicates that the ratio of development to open space makes this difficult to deliver without public subsidy, but delivering this could help to mitigate the loss of open space and provide much needed housing in this central and accessible location. The HS2 decking constraints report has indicated that development is possible to the north, but the development of designs for this is not within their remit.

6.2 Jobs and economy

The NPPF also highlights the government's commitment to securing economic growth in order to create jobs and prosperity, building on the country's inherent strengths. Euston Station could provide a unique opportunity to secure nationally important economic uses in a key central London location as part of one of the most significant public transport infrastructure schemes for the next thirty years. The Option 8 design fails to capitalise on the opportunity to create a considered and comprehensive approach to developing a nationally important area of central London land.

By not taking a comprehensive approach this will reduce the potential to create a new image for Euston and significantly reduce capacity for development in the station area with up to approximately 60% of original maximum masterplan estimate for the station area of 10,135 jobs at risk of not being delivered and 40% of the 2,930 homes. These estimates include an assumption that Network Rail will redevelop the existing station and provide OSD above, but this has not been confirmed at this stage and these are therefore initial estimates by the EAP team. GVA's report indicates the risks of not taking a comprehensive approach as it limits the area's attractiveness to developers and occupiers identified in the economic vision for the plan. The B1 VM scheme/ a comprehensive approach has potential to create attractive public realm, ground level connections and activity around the station which will help to significantly transform the image of the area which is necessary to make a step change in perception, attract developer and occupier interest and maximise the economic opportunities on offer.







6.3 Open space and community

The new public square along Coburg Street and potential for open space at the front of the station (though provision of this would reduce development capacity further) in the Option 8 reuse scheme make a limited contribution towards the reprovision of open space. However the given the location of these spaces it is unlikely these will be able to be provided as meaningful replacement park space to mitigate the loss of St James Gardens. The B1 VM scheme recreates part of St James Gardens and therefore makes a significant contribution towards mitigating the loss of this green space. The new east-west routes in the B1 VM scheme also help to connect open spaces in the vicinity. The reuse scheme only makes a very limited contribution towards reconnecting the communities to the east and west through the new road to the north and the publically accessible concourse route connecting Drummond Street to Doric Way.

6.4 Design and masterplan compatibility

The NPPF highlights the great importance of the design of the built environment. Essential urban design considerations established in the NPPF include connections between people and places, integration into the surrounding environment, sense of place, local character and visual attractiveness. The option 8 station design as shown at the moment would represent a missed opportunity to transform the quality of the public realm, the image of the area and local accessibility, each of which play a key part in facilitating high value economic growth as described in section 6.2. Although the HS2 design team has made efforts to improve the environment along Coburg Street, provided a new road to the north of the station and provided a connection in line with Drummond Street through the station concourse, these the proposed changes have not gone far enough to deliver the EAP aspiration to create an integrated and vibrant piece of city with traditional streets and development around and above the new station. A significant amount of work is required to improve the option 8 design if it is progressed further despite these significant issues.







7. Euston Area Plan Management Board/ Strategic Board recommendations

This paper provides a brief overview of the Euston Area Plan (EAP) work to date, the plan objectives and emerging masterplan work and an assessment of the two HS2 station designs against these EAP objectives and principles. Both the masterplanning work and HS2 station design are work in progress and the assessment has been undertaken within a short timeframe in order to inform the DfT and SoS decision making process on which design to include and progress as part of the HS2 Environmental Statement consultation in May.

The assessment clearly demonstrates that there are fundamental issues in the compatibility of the Option 8 revised scheme in its current state with the EAP objectives and design principles, particularly as it results in a significant risk in terms of the economic opportunity costs for Euston and London. Whilst it is recognised that the HS2 design team have made efforts to improve the performance of the Option 8 design against the objectives, by working with the EAP team in the last two weeks, due to the significant transport and engineering constraints associated with this design these changes have not gone far enough towards making this scheme acceptable.

By lowering the tracks and platforms to assist in the creation of a permeable and attractive piece of city, Euston could be transformed. Only through such a truly transformational approach can this vision be achieved, and it is argued that the Option 8 scheme does not do this.

Notwithstanding this, if it is decided to progress with the Option 8 scheme, significant work on the design of the Option 8 scheme would be required to reduce its footprint, improve permeability and better integrate it with the surrounding streets and townscape. In particular, a joined up approach to assess the potential for OSD across the station areas is required, which would necessitate the active participation and support of Network Rail, DfT and HS2 to try to make the best of the sub-optimal development potential.







Appendix 1

Initial home and job capacity changes to masterplan estimates associated with the two HS2 station designs







The capacity of development parcels up to Hampstead Road (the station area and deck) estimated through the EAP masterplanning process have been reviewed against the development implications associated with two HS2 station designs (B1 Value Managed and Option 8 revised). Plans and capacity estimations are provided to highlight the differences in capacity. These estimates include an assumption that Network rail will develop OSD above a redeveloped station, and we have indicated where OSD is most likely to be acceptable/achievable to the best of our knowledge at this stage. New potential block arrangements which the capacity estimates are based on have been drawn over the two HS2 station designs and are delineated by the purple blocks.

B1 VM station design – potential impact on EAP masterplan capacities



This design could potentially accommodate, depending on the design and extent of decking provided around the station, approximately:

2,260 homes = approximately 700 less homes than the EAP estimate 6,800 jobs = approximately 3,300 less jobs than the EAP estimate

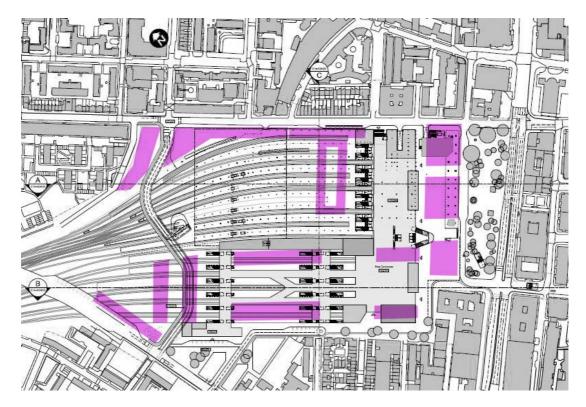
The extent of development above the station itself is not confirmed, and is provided here as an estimate.







HS2 option 8 revised design – potential impact on EAP masterplan capacities



This design could potentially accommodate, depending on the design and extent of decking provided around the station and the level of OSD above the station (we have assumed some can be provided for this exercise), approximately:

1,700 homes = approximately 1,200 less homes than the EAP estimate 3,900 jobs = approximately 6,200 less jobs than the EAP estimate

The calculations are based on a broad assessment of capacity and split of uses using the same residential and commercial split across the site estimated for the masterplan. The proportion of homes and jobs could be altered, in light of the different layout/uses across the site, therefore the number of homes could be reduced to increase the job provision potential.

Further work to refine the capacity potential is required.







Appendix 2

Addendum Paper to EAP Economic Visioning Paper Station over site development scale at Euston, GVA







ADDENDUM PAPER: For Discussion STATION OVER-SITE DEVELOPMENT SCALE AT EUSTON

Purpose and Summary

- 1.1 The purpose of this paper is to review the prospects and case for the over-site development opportunity associated with a new HS2 station and replacement Network Rail station at Euston in Central London. The over-site scheme considered here is based on a comprehensive development and place making scheme identified through GLA led masterplanning as part of the Euston Action Plan the 'Preferred Option'. This focuses on development at and above the immediate rail station environment between the Euston Road and Hampstead Road. It also draws on evidence established by the Economic Vision commissioned by Camden Council and prepared by GVA Ltd in collaboration with Aecom.
- 1.2 This paper identifies significant economic and housing potential associated with over-site development and a transformational scheme at this gateway to Central London. There is significant pre-existing demand for mainstream central London employment and knowledge economy space in the area and strong evidence of future demand. A comprehensive scheme will also secure significant regeneration and place-making gains for adjacent areas.
- 1.3 Public investment to enable comprehensive development meets and exceeds typical public investment criteria for development and regeneration schemes.
 Substantial economic, employment, housing and fiscal benefits can be expected.
- 1.4 Parrallel development of rail station concepts have identified smaller scales of development at and above station facilities. This includes a reduced B1 Value Managed option and a significantly smaller 'Retained' station option. GLA capacity studies responding to these options have identified the reduction in development potential that results.
- 1.5 It is considered that a smaller scale, non-transformational or piecemeal approach to this major development opportunity will have a lesser gross impact and also diminishing proportional returns because quality of place issues will be incompletely addressed. This will potentially present economic, employment, housing and fiscal opportunity costs to London and the UK economy.

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Euston is a Once in a Generation Opportunity

- 1.6 Euston station lies in one of the most enviable investment locations in London, the UK and Europe. It is surrounded by:
 - High value West End and Holborn office markets,
 - A global centre of the knowledge sector at Bloomsbury and the Euston Road, anchored by businesses as well as UCL, the University of London, UCL Hospital and the Welcome Trust
 - An international destination for inward investment by next generation corporations, at Kings Cross on one hand and Regents Place on the other;
 - One of the world's great urban open spaces at Regent's Park;
 - A high visibility central London gateway location based on national and regional rail assets on the A40/Euston Road corridor.
 - High value residential neighbourhoods at Bloomsbury, Regents Park, Kentish Town and Camden Town.
- 1.7 There is now the potential to essentially create new 'land' for development at Euston. This is an opportunity to fill in, and complete one of the most dynamic urban locations in Europe. The delivery of a new HS2 station along with the potential for a wider redevelopment of the existing station can address the physical gap and poor quality built fabric of rail infrastructure and facilities at Euston Station. A high value development and public fabric can be established that will support a transformational scheme.

A Deliverable Vision: A New Landmark UK Economic Hub

- 1.8 The Euston Economic Vision sets out strong prospects for a combined commercial office and knowledge sector economic base. West End and Mid-Town growth in business and financial services, digital media and creative industry growth from Soho and Bloomsbury is projected.
- 1.9 Commercial Office floor-space absorption trends in the West End and Mid Town along with investor and stakeholder market testing have evidenced long term demand for higher value space in this area by UK and international occupiers. Euston also presents an ideal location for future UK inward investment opportunities. Recent years has seen Gazprom arrive at Regent's Place and Google commit to Kings Cross. New HS2 service and facilities will transform the identity, image, quality of place to create a highly marketable destination for international audiences.

- 1.10 For higher education and health sector in particular, where proximity is premium factor, Euston provides an opportunity for expansion close to anchor facilities. Expansion of the core higher education and health services and research from the Euston Road and Bloomsbury are the drivers for Euston. The international prominence of UCL, UCLH and the University of London, and the importance and appeal of their central London location to national and international students and staff anchors a future source of demand.
- 1.11 Beyond larger occupiers a wide range of corporate spin outs, research commercialisation and local start-up and incubator operations will add diversity and flavour to an intensely mixed use district. An existing public and institutional organisational structure enhances individual investments. Most recently UCL and the BBC have announced the location of a technology hub in the area.
- 1.12 The potential average annual absorption of employment and related floor-space in the Euston Area is 10-15,000 SQM per year. Lease values and recent land transactions indicate that commercial development would be viable in the Euston area under typical circumstances.
- 1.13 Existing and new residents will join workers and the increase in rail passengers to support new and reconfigured retailing.
- 1.14 Independent research has identified development demand and potential across all major sectors. This demand can be captured to steer a full range of 1 central London development trends into an immediately adjacent area. More than 200,000 SQM of commercial and employment space has been projected. Market analysis indicates the scale of development that could be absorbed can be transformational.
- 1.15 Delivery of this demand will also provide significant employment and training opportunities for local residents, many of whom currently have lives and socio-economic characteristics which are disconnected from the opportunities this central London location offers.
- 1.16 There is ongoing residential demand in Central and Inner London. Current prices are at high historic levels. Ongoing population and household growth is projected to continue in London for some time. Immediate access to employment and a full range of global city amenities can be expected to maintain residential demand in this area over the long term.

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- 1.17 A transformational approach rail infrastructure and facilities in the Euston area can create a scale and mix of uses that can contribute to the long term value and economy of Camden, London and the UK economy. This will enable the transformation of the public realm, image and identity of Euston Station, replacing poor quality facilities which have constrained investment in adjacent areas for decades.
- 1.18 The comprehensive approach also identifies a place-making scheme that will fundamentally transform Euston, with a focus on overcoming physical barriers rail infrastructure presents, creating a new framework for East-West connections between Regents Park and Kings Cross and enhancing the quality of the public realm, image and idenity of the Euston Area.

Why a Transformational Approach is Required

- 1.19 The scale and extent of transformation has important implications for the delivery of these benefits. Full economic outcomes will not necessarily be achieved on a proportional basis for a smaller and more limited scheme.
- 1.20 Euston is currently faced by a number of constraints on development, many of which are the direct result of existing station facilities. Key factors include: large, aging, poor quality and inactive frontage buildings along Coberg and Eversholt Street; the lack of east west connections between the existing station frontage and Hampstead Road to the north; overly functional servicing and access arrangements and extensive roofing structures covering platforms.
- 1.21 Euston Action Plan (EAP) concepts developed by the GLA and LB Camden addressing the proposed HS2 station area and the existing Euston Station have included the following components:
 - A comprehensive and integrated approach to redevelopment at the Euston Road frontage;
 - A new north-south public connection at the centre of the new combined station facilities:
 - New East-west connections on axis with: Drummond Street; Robert Street/Phoenix Road and Polygon Road
 - New public open spaces to the north of the station frontage
 - A new public open space along Cardington Street;
 - A new public spaces and public realm above rail tracks to south of Hampstead Road;

- A series of over-site development blocks at over-site frontage locations on Cardington Street and Eversholt Street as well as new over-site frontages created by the new east-west and north south connections above.
- 1.22 The intention of this masterplan approach is to overcome the existing constraints and seek a complete and integrated approach to development, movement and public realm, with a mutually reinforcing quality that transforms the role, density, image and identity of this location. The identified scale, coherence and continguity of this approach is important to meeting these requirements in a location which is currently undermined by the immediate impact and quality of transport facilities.
- 1.23 A number of large scale and rail terminal oriented schemes provide reference points for the scale of development that is required in order to leverage the value of transport infrastructure and secure both development investment and long term commitment from occupiers.

Station Scheme	Total Office Floorspace
King's Cross	300,000sqm
Liverpool Street	400,000sqm
Paddington	300,000sqm
London Bridge	270,000sqm
Victoria	135,000sqm

- 1.24 In each case building footprints and floorplates have been matched by transformational investment in connections to stations, the quality of the public realm of streets and open spaces and pedestrian connections.
- 1.25 It is recommended that the extent of over-site development by maximised in order to provide multiple locations, an integrated and comprehensive development environment and settings for high quality buildings.

The Economic Case for a Transformational Scheme

1.26 Major public investment will occur in the Euston area if HS2 rail services and station facilities are delivered. This has the potential to be matched by major investment in the existing Euston Station. Together this will represent one of the largest single public sector investments in London and the UK. The scale of this investment has the potential to fundamentally change the level of private and institutional investment in Euston.

- 1.27 There is the potential to leverage the full economic, housing and place-making value of this investment at and above station and rail facilities south of Hampstead Road. The following potential has been identified from the EAP scheme:
 - 10,000 plus jobs
 - 200,000 SQM plus of employment space
 - 3.000 homes
 - Creation of £2 to £2.5 bn in capital value of development
 - Gross Value Added of employment of approximately £690 million per annum
 - Business rates and council tax revenue of £6m + per year
- 1.28 Additional economic factors include the economic value of central London employment agglomeration, the efficiency of allowing proximate institutional growth among higher education and health sectors and equity considerations of addressing socio-economic deprivation and housing need in the Euston Area. Each will help leverage and achieve the full value of forthcoming rail service and facility investment.

Meeting Viability and Public Investment Thresholds

- 1.29 While there is substantial impetus to a transformational scheme at Euston, there are challenges to delivering over-site development. An assessment of viability issues has been carried out against the the EAP masterplan concept / Preferred Option and its capacities evolved by the GLA and LB Camden.
- 1.30 Over-site development will essentially create new 'land' for development in central London in a location where it does not currently exist. Land with development opportunity in central London has a significant value. However, there is a cost to creating the over-site development opportunity, which will impact the receipts it will secure if its is a cost to the developer. However, there is evidence to suggest these financial challenges are of a scale that can be resolved and managed by the public sector rather than being prohibitive to the scheme at this stage.
- 1.31 The cost of structural components required to support development above rail facilities, and the cost of development itself, is substantial. The ability to increase development densities is constrained by view corridor, conservation area and other Town Planning requirements. There are also costs, or reduced receipts, associated with affordable housing requirements.

- 1.32 However, early assessments based on the information that has emerged to date indicate the scheme is sufficiently close to viability to justify pursuit of a transformational scheme and investigation of ways to address the gap.
- 1.33 While there may be gross cost considerations, this is within the tolerances for further investigation and funding criteria of historic regeneration programmes such as Growth Area Funding, the Regional Growth Fund, Growing Places Fund and the London Growth Fund. Such investment should also be considered in the context of the scale of wider economic, employment and regeneration benefits of a transformational the scheme, further investigation of this option is recommended.

Strategies to Enhance Viability Further

- 1.34 This analysis has been carried out with review of on-going conceptual masterplans and development capacity studies prepared for the EAP by the GLA and LB camden and also parallel and rapidly evolving and work-in-progress HS2 focused station designs being led by HS2. As such, there are number of moving parts and this analysis is preliminary. However, it is possible to identify immediate and medium term strategies that can enhance viability. These include:
 - Extension and, or, refinement of the brief to design teams to identify integrated solutions to station and over-site requirements;
 - Isolation of net structural costs beyond those associated with foundations and column structures required for station facilities to establish costs to development;
 - Investigation of a public-private delivery structure to reduce profit requirements on public components currently carried within the development assessment model:
 - Directly link repayment of any public subsidy to the uplift in business rates and Council Tax associated with the scheme.

A Limited Scheme Will have Diminishing Returns

1.35 The value of a transformational approach in a context such as Euston cannot be wholly disaggregated. Creating floorspace will not be sufficient to achieve full economic gains in the absence of a substantial and high quality new setting and context for development. Euston's wider physical constraints will need to be addressed at the same time to address the context of any new investment.

- 1.36 In order to realise full economic benefits a large scale and transformational approach will be required that can create floorspace and also provide a new, high quality public realm, connectivity and amenities. Investors, developers and occupiers now seek vibrant, mixed use places with activity throughout the day and evening. The ability to address and lift the entire environment is now a requirement for development interests.
- 1.37 There is a risk at Euston that a reduced or piecemeal scheme will not be of sufficient scale to overcome and counteract existing constraints and their impact on image, identity and investment value these have.
- 1.38 At the same time, a scheme limited to areas of least technical constraint will not necessarily create opportunities at the best locations or offer the potential for strong, cohesive building and public realm arrangements or the most leasable floor plates. This is particularly the case where relatively isolated clusters might have close adjacencies with or directly overlook freight facilities, large expanses of station roof or multiple rail lines.
- 1.39 These factors will inevitably reduce lease and transactions values, again reducing private sector investment interest and weakening viability.

The Opportunity Costs of Under-Investment

- 1.40 There is a significant potential opportunity cost for under investment in over-site development at Euston Station.
- 1.41 This would include reductions to:
 - The quantity of new employment floorspace;
 - The value of new employment floorspace;
 - Opportunities for expansion of the local knowledge economy;
 - The annual Gross Value Added to the UK economy secured;
 - Local employment benefits to residents;
 - Housing opportunities;
 - Overcoming physical constraints imposed by current station facilities;
 - The quality of place and station setting for residents, workers and passengers;
 - The wider socio-economic and regeneration potential for existing residents.

- 1.42 Development location and capacity studies were presented by the EAP team on March 8, 2013. These were an initial assessment of the effect of eliminating over-site development from locations of constraint identified as part of evolving station concept designs. The Reduced Capacity Analysis identifies development locations aligned along and south of Euston Street and also to the north of the existing station service area over tracks. The core areas of both stations do not have over-site development.
- 1.43 While necessarily outline as this stage, the following impact on development outputs in the station and rail areas between Euston Road and Hampstead Road is implied:

Option	Employment Space	Jobs	Gross Value Added	Homes
EAP Preferred	210,000 SQM	10,135	£690m	2,930
HS2 B1 Value Managed	136,000 SQM	6,800	£460M	2,260
Retained Station	79,000 SQM	3,900	£270m	1,700

1.44 There are clear net opportunity costs in associated with smaller scale schemes. We also believe that will be risks associated with diminished returns that will go farther than a proportional reduction if a lesser scale of development reduces the cohesiveness, quality and functionality of new development areas.

Conclusion

- 1.45 Public investment to enable comprehensive development meets and exceeds typical public investment criteria for development and regeneration schemes.Substantial economic, employment, housing and fiscal benefits can be expected.
- 1.46 A smaller scale, non-transformational or piecemeal approach to this development opportunity will have a lesser gross impact, diminishing returns because quality of place issues will be incompletely addressed and present economic, employment, housing and fiscal opportunity costs to London and the UK economy.
- 1.47 Based on the above, it is strongly recommended that a comprehensive and transformational approach to the delivery of the Euston Action Plan be pursued. This includes:
 - Design integration of new HS2 and redevelopment of existing Euston Station facilities;

- Consideration of the entire joint potential rail related estate and over-site development in a cohesive manner;
- Maximisation of the over-site development scheme, subject to Town Planning, that provides sufficient scale to be both transformative, and achieve full economic benefits, higher values and full socio-economic and physical regeneration benefits;
- Identification of focus areas for new development that respond best to the city fabric and also offer the greatest potential for cohesive development zones;
- On-going refinement of viability considerations as rail facility, structural deck and over-site development capacities are developed further.

Note: This analysis has been provided on the basis of preliminary assessments of development locations, footprints and floorspace capacities provided by others.

Development density and employment density assumptions have been made. All schemes reviewed will be subject to Town Planning and Policy considerations. Gross unit costs for structural elements have also been provided by others based on broad types. Viability considerations are preliminary and represent an assessment reflecting the level of specification available at the time this paper was prepared.



Appendix 3

Addendum Paper to EAP Economic Visioning Paper Implications for Employment Creation, GVA







ADDENDUM PAPER IMPLICATIONS FOR EMPLOYMENT CREATION

- 1.1 The purpose of this paper is to estimate the potential employment and job creation implications of different approaches to over-site development opportunity associated with a new HS2 station and replacement Network Rail station at Euston in Central London.
- 1.2 At present there are three potential forms of development. The first is based on a comprehensive development and place making scheme identified through GLA led masterplanning as part of the Euston Action Plan the 'Preferred Option'. This focuses on development at and above the immediate rail station environment between the Euston Road and Hampstead Road.
- 1.3 Alongside this proposed approach further options have been identified that include a reduced B1 Value Managed option and a significantly smaller 'Retained' station option. GLA capacity studies responding to these options have identified the reduction in development potential that results.

Employment Creation

1.4 Based on the gross development capacity estimates identified by the GLA it is possible to calculate the jobs generated by the redevelopment of Euston station proposed by each scenario. For each option the table below sets out the total number of jobs created:

Jobs Created

EAP Preferred	10,135			
HS2 B1 Value Managed	6,800			
Retained Station	3,900			

1.5 The Euston Economic Vision, prepared by GVA in collaboration with Aecom, identified the likely appropriate share of activity between different sectors within the new commercial space created through redevelopment of the Station area. The Vision estimates 60% of activity would occur within 'general' corporate office

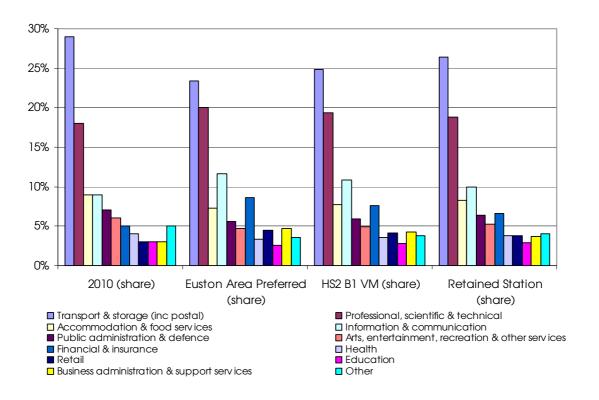
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activity, 30% within research and development activities and a further 10% within retail space. Based on these shares the new jobs would have the following distribution:

	Total Jobs	Office	R&D	Retail
	Created			
EAP Preferred	10,135	6,081	3,041	1,014
HS2 B1 Value Managed	6,800	4,080	2,040	680
Retained Station	3,900	2,340	1,170	390

Impact on Current Employment Shares

- 1.6 Based on our understanding of the likely market for employment space within the Euston area (investigated in full within the Euston Economic Vision) it is possible to estimate the potential impact on the distribution of employment between sectors.
- 1.7 Given the nature of occupier demand within the West End market (of which Euston forms a key part) and recent take up experience at King's Cross and Holborn it is reasonable to expect that the majority of future office-based employment will lie within the ICT, Financial Services and Business Administration sectors. Future R&D activity requires bespoke property types, with employment activity falling within the Professional, Scientific and Technical sector.
- 1.8 As such, we estimate that each scenario will have the following impact on the current sector employment pattern within the Euston area.



	2010	2010	Euston Area	Euston	HS2 B1 VM	HS2 B1 VM	Retained	Retained
	Position	Share	Preferred	Area	(employment)	(share)	Station	Station
			(employment)	Preferred			(employment)	(share)
				(share)				
Transport & storage (inc postal)	12,500	29%	12,500	23%	12,500	25%	12,500	26%
Professional, scientific & technical	7,700	18%	10,741	20%	9,740	19%	8,870	19%
Accommodation & food services	3,900	9%	3,900	7%	3,900	8%	3,900	8%
Information & communication	3,800	9%	6,232	12%	5,432	11%	4,736	10%
Public administration & defence	3,000	7%	3,000	6%	3,000	6%	3,000	6%
Arts, entertainment, recreation & other services	2,500	6%	2,500	5%	2,500	5%	2,500	5%
Financial & insurance	2,200	5%	4,632	9%	3,832	8%	3,136	7%
Health	1,800	4%	1,800	3%	1,800	4%	1,800	4%
Retail	1,400	3%	2,414	5%	2,080	4%	1,790	4%
Education	1,400	3%	1,400	3%	1,400	3%	1,400	3%
Business administration & support services	1,300	3%	2,516	5%	2,116	4%	1,768	4%
Other	1900	5%	1,900	4%	1,900	4%	1,900	4%
Total	43,400		53,535		50,200		47,300	

- 1.9 As shown above the Euston Area Preferred scheme has the largest impact on employment accommodated within the 'higher value' sectors. Research and development employment is likely to increase to represent a fifth of all employment within the area with ICT increasing its share of employment by 3% and Finance by 4%.
- 1.10 Employment within the 'lower value added' activities of business administration and retail will increase by approximately 2%.

- 1.11 Both the HS2 B1 value managed and retained station schemes have a much lower impact in terms of re-focusing the employment offer within the Euston area. Whilst the high value sectors do increase their share of employment relative to other sectors the proportional increases are less significant.
- 1.12 It should be noted that there is a significant risk to the realisation of the potential for Euston to capture a significant scale of higher value employment activity.
 Research and development activities and larger corporate occupiers in particular are likely to seek bespoke property types that can be tailored to their needs and set within a high quality environment.
- 1.13 At Euston this may only be delivered via a comprehensive approach to development that creates more flexible plot dimensions which can accommodate appropriate floorplate types and also deliver an integrated public realm.
- 1.14 As such, the increase in R&D activity calculated above for the retained station scenario, whilst theoretically an opportunity, may not be achievable in reality given the smaller development opportunities it creates. This would limit the scale of activity the area could accommodate and prevent the co-location of the major private and institutional presence that is likely to be required to drive activity.
- 1.15 Therefore, there is a considerable risk that the employment floorspace developed would only attract more general office activity, reducing the impact and contribution Euston can make to the pan-London economy.



Appendix 4

EAP suggested potential alterations to the revised Option 8 plan









