

# Super-Connected Nottingham

Nottingham's Redacted Bid to the Urban Broadband Fund  
February 2012 (Redacted Version)



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'Super-Connected Nottingham'



Nottingham  
City Council

# Application Information



## Project name

**Super-Connected Nottingham**

## Lead organisation

**Nottingham City Council**

## Lead contact details and position held

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If the bid is a joint proposal, please enter the names of all participating bodies and specify the co-ordinating authority

**This bid will be led by  
Nottingham City Council  
and has been approved  
by the Chief Executive.**

## Proposed start date of project

**(21/March/2012)**

## Proposed end date of project

**(31/March/2015)**

## Strategic private sector partners include:

**BioCity**

**The Confetti Media Group**

**Broadway**

**Nottingham Business Ventures**

**Speedo**

**Esendex**

**Boots**

**Capital One**

**RizkMcCay**

**Skeleton Productions**

## Strategic public sector partners include:

**Nottinghamshire County Council**

**Ashfield Borough Council**

**Broxtowe Borough Council**

**The University of Nottingham**

**Nottingham Trent University**

**New College Nottingham**

**South Nottingham College**

**Nottingham City Housing**

**Nottingham Contemporary**

**New Art Exchange**

**Nottingham Academy (Greenwood Dale Foundation Trust)**

**Nottingham Playhouse**

**East Midlands Media**

**Djanogly Academy**

## Delivery partners include:

**The Nottingham (Boots) Enterprise Zone Partnership**

**The Nottingham Science Park**

**Nottingham Development Enterprise (NDE)**

**Nottingham Regeneration Limited**

**One Nottingham Partnership**

**The Invest in Nottingham Club**

**Experience Nottinghamshire**

**Science & Technology Advisory Council**

**D2N2 Local Enterprise Partnership**



# Executive summary: A vision for a super-connected nottingham



**Super-Connected Nottingham** will use ultrafast transformational 100+Mbps/1Gbps connectivity as the catalyst to enable private sector driven, digital-led, economic growth and social regeneration. It will achieve this through establishing a fibre access network along the route of the Nottingham tram, extending through the City's creative and digital quarter The Lace Market, and out to major strategic business locations throughout the City, including the Nottingham Enterprise Zone, Queen's Medical Centre, the Universities, Medipark and the Science Parks. It delivers exceptional value for money as it builds on the £500 million investment to be made by the partners in the tram Phase Two – there is no requirement for Super-Connected Cities investment to be absorbed in expensive capital infrastructure. The key components of the project include:

- Establishing an open access fibre access network for SMEs exploiting existing and planned ducting along the Nottingham tram network.
- Providing ultrafast connectivity onto key development sites including the Nottingham Enterprise Zone.
- Providing ultrafast connectivity and 'hub' infrastructure for SME growth sectors, including throughout The Lace Market, home to Nottingham's digital content sector.
- Establishing a Midlands Internet Exchange, additional hosting capacity and an Atlantic connection at The Portal.
- Developing an ultrafast public network which will enable Wi-Fi in public venues and community buildings in the City.
- Enabling 'on the go' Wi-Fi on the tram and in transport hubs.

We are also working closely with other Core Cities, notably Manchester, Bristol and Birmingham, building on the solid foundations that we established under the DC10 initiative. We share the ambition to use ultrafast connectivity to drive the development of media services within their SME community. The proposition of each city seeks to improve the access connectivity within the cities and lower the costs to SMEs. In addition we are seeking to stimulate new service providers and creativity in service provision. Moving forward there is scope for further collaboration by creating an aggregation market place for SMEs across the four cities that would result in greater accessibility to higher bandwidths at potentially lower costs. This will be jointly explored by the four cities in the detailed planning phase of work.

**Super-Connected Nottingham** is endorsed by the Derbyshire and Nottinghamshire Local Enterprise Partnership (LEP) as being the leading local project to deliver lasting economic and social benefits through an ambitious programme for growth. It does this by:

## Digital-Led Economic Growth

- Creating 13,000 quality sustainable jobs in new or future businesses – through key strategic sectors or inward investment. These will be created on major strategic sites including the new Enterprise Zone.
- Supporting 1,000 local businesses to increase efficiencies and enhance revenues – through bringing new projects to market, developing international trading connections, changing working practices and stimulating innovation. Key sectors supported will be creative and digital technologies, green technologies, advanced manufacturing and lifesciences.
- Delivering innovative approaches to provision of public services – through a new Public Sector Digital Partnership bringing organisations together to deliver online democracy and community commerce through connected libraries, Multiple Tenancy Units (MTU) and wireless hotspots around the City.
- Stimulating private sector investment – bringing new carriers to Nottingham, supporting these through a sophisticated portal, encouraging inter company trading and stimulating businesses bringing new products and services to the market.
- Raising skill levels – already in motion through College, University and private sector partners developing digital content training to ensure the jobs created go to a trained local workforce.
- Fully supporting "Britain's Superfast Broadband Future" and the "Nottingham and Nottinghamshire Broadband Plan".

## Commitment of Resources

- Super-Connected City investment will link with over £500 million of investment into the Nottingham tram network alongside over £40 million of resources from Nottingham City Council and the private sector. Over £6 million of further EU funding will be channelled into the support for the SME community through Antenna, BioCity, Broadway and Mercury House.
- Nottingham City Council will project manage Super-Connected Nottingham using existing quality controlled systems and processes for all major projects including Phase One of the tram system.
- Value for money is assured through the £500 million of investment through the Phase Two tram development, complementary ducting proposals when these can be facilitated by road improvements and through stringent procurement.

# Executive summary: A vision for a super-connected nottingham



## Stimulating Take Up and Demand

- The Nottingham Economic Growth Plan is committed to supporting the growth of the digital content sector and we see our proposals to achieve this as being fundamental to helping to stimulate the take up and demand for superfast connectivity.
- The Ultraband project will demonstrate how SMEs in key growth sectors can fully exploit new levels of connectivity, applications and devices.
- The partners are committed to training local people in digital skills, developing apprenticeships in the key business sectors, enhancing online access to STEM subjects including the world renowned Game City week, and opening access to FE and HE courses amongst the digitally excluded.
- The new Public Sector Digital Partnership will coordinate the delivery of partner services online.
- Social benefits will include greater personal connection, empowered opportunities under the Big Society, efficient service delivery, new and improved energy management services and delivery to Multiple Tenancy Units.

## Streamlining planning processes to support infrastructure rollout

- Nottingham City Council is the project lead and the planning authority and will coordinate all permissions.
- Large property owners have been involved on the Steering Group that has developed the project – these relationships have roots and have been developed through previous job creation and business support strategies.

## State Aid Compliance

- Super-Connected Nottingham is fully compliant with State Aid legislation.

## Delivery Approach

- Included in the bid submission is a pathway highlighting how development and procurement processes have been developed through the longstanding experience of Nottingham City Council to ensure delivery is complete by March 2015. This is because Nottingham delivers and this can be seen in projects such as the first phase of the tram and the Building Schools for the Future Programme.
- The proposed procurement plan has been tested using Nottingham City Council quality assured systems to ensure viability, cost effectiveness and realism.
- The procurement processes have been designed to ensure local SMEs stand the best possible chance of securing the work – through surgeries, advice, support and the design of the contractual lots.

**Super-Connected Nottingham** works with the current coverage of BT and Virgin, and delivers to white zones of the City. It addresses market failure using tram ducting and wireless hotspots. It changes work routines and practices enabling home and commuter working. SME demand will be driven up through an innovative sector loan fund and the prospects of increased international trade. Above all since it requires investment only in superfast connectivity rather than extensive trench digging and building infrastructure it offers superb value for money.



## A1

**Define the strategic objectives, measures of success and targets of the proposal.**

## A1.1 Economic Growth

### Objectives

Super-Connected Nottingham will use ultrafast transformational 100+Mbps/1Gbps connectivity as the catalyst to enable private sector driven, digitally-led, economic growth. It will achieve this through establishing an open access fibre network along the route of the Nottingham tram, and out to major strategic business locations throughout the City, including the Nottingham Enterprise Zone and Science Parks. The high level economic objectives are:

- To make Nottingham attractive to new inward business investment
- To support the development of strategically important business clusters
- To link businesses to Universities
- To support strategically important business and employment sites
- To create new quality private sector jobs
- To help businesses become more economically productive
- To stimulate business investment in the City
- To drive up skills amongst local people
- To facilitate new international trade

The use of the tram is symbolic as well as being highly effective and delivering value for money. Super-Connected Nottingham will “build the railway” and the market will then provide the “trains and stations” and “operate the services”. This makes the best use of public sector investment to create the right conditions for future private sector growth.

### Measures of Success

We will measure the success of the investment through:

**Raised Profile:** Nottingham will be internationally recognised as a leading destination for business investment for growing companies. The tram connectivity infrastructure will give the City a competitive edge for attracting quality high growth companies, creating a lasting buzz.

**Dynamic Business Sectors:** Nottingham has prioritised local business sectors that can generate future success and quality jobs – digital content, lifesciences and low carbon technologies. The Super-Connected Nottingham infrastructure will allow these to bring innovative new products and services to the market.

**Businesses / University Collaboration:** Super-Connected infrastructure will link with the high speed infrastructure of the City Universities facilitating cooperation between the high growth companies and academics. These also allow access to the University’s international connections in China and Asia – growing dynamic markets. This is a vital element in achieving success.

**Thriving Key Business Sites:** Fibre ‘spurs’ out to key sites from the access network along the tram will directly support new investment on key strategic business sites throughout Nottingham – the Rolls Royce SME development site, The Lace Market, the Boots Campus and, crucially, the new Nottingham Enterprise Zone.

**High Quality Jobs for Local Residents:** All facets will combine to create new private sector sustainable quality jobs for local residents. This is fundamental in transforming Nottingham from a City dependent on traditional declining industries and public sector employment into a dynamic forward looking European market leader in private sector growth.

**High Quality Workforce Skills:** If the jobs to be created are to go to residents of Nottingham then these will need to take on board the skills required. In the medium to long term this will drive up the skills levels of the local population.

**New International Trade:** Through Hibernia Atlantic – a privately owned submarine cable operator providing dedicated ethernet and optical services. The Super-Connected Nottingham project will provide connections to London, Paris, Frankfurt, New York, Boston and Montreal. This will directly stimulate commerce between these cities, and through the latency improvements directly make a difference to the business offer.

### Targets

Targets to be created as a result of this project by March 2015 are as follows:

- 1 open access local network provided with 100+Mbps/1Gbps
- 30 wireless hotspots created across the City
- 1 publicly owned neutral zone created in Nottingham within The Portal
- 1 submarine cable network enabled for the benefit of Nottingham businesses and residents
- 700,000 sq metres of existing city centre office space and 250,000 sq metres of planned space currently under construction provided with 100+Mbps/1Gbps
- 1,000,000 sq metres of future office space on approximately 250 Ha of strategic development sites, including the Enterprise Zone, provided with Mbps/1Gbps

- 13,000 jobs created or attracted to key employment sites (based on only 25% of sites being developed)
- 13 million tram commuters per annum with access to wireless connectivity, including the potential for 4G services
- 10 international cities connected to Nottingham through trans-Atlantic submarine network
- 1 Enterprise zone connected with 100+Mbps//1Gbps
- 2 FE and 2 HE educational institutions connected with 100+Mbps/1Gbps.
- 5 clusters of businesses supported to improve performance and grow

## A1.2 Take up of Broadband Services

### Strategic Objectives

The Super-Connected Nottingham project will directly take forward agreed local strategies for the implementing Broadband in the Greater Nottingham area – including “Britain’s Superfast Broadband Future” and the “Nottingham and Nottinghamshire Broadband Plan”. Strategic Objectives here will focus on achieving 50% take up across all sectors and will include:

- To enable the exponential growth of the digital content sector in Nottingham
- To generate new education, information and demand building activities
- To deliver public sector services online
- To spread social benefits and change patterns of working
- To address digital exclusion and access to finance
- To provide connectivity at key strategic locations along the tram route
- To drive up take up through the use of public buildings in key locations
- To create new open access networks with a Neutral Zone for businesses
- To provide next generation digital connectivity at affordable rates
- To continually raise the awareness of businesses and citizens to achieve 50% take up across all sectors

These objectives will complement the Economic Growth aspects, ensuring the benefits of the project are felt across all society – driving forward social growth.

### Measures of Success

We will measure the success of the investment through:

**New Era of Education and Training:** Partners in the education and training arena of Greater Nottingham are now gearing up to provide the information and skills to service the digital-led growth of this proposal. Success will be measured through the attraction of new students studying software, digital media and complementary subjects through local providers as diverse as Nottingham University, Nottingham Trent University, New College Nottingham, The Lace Market Creative Quarter, Antenna Media Centre and South Nottingham College. The collective efforts of these will change the skills landscape.

**New World of Information:** The Super-Connected Nottingham project will directly facilitate savings on the cost of leased lines and the sharing of resources by partners. Information will be exchanged through high capacity networks of libraries, delivering to housing blocks in an innovative pilot project. A new Public Sector Digital Partnership will bring organisations together to identify new opportunities for innovation in service delivery – including online democracy, and community online commerce.

**New Ways of Working:** Take up will be improved by the ability of commuters to use the tram’s wireless hotspots to work during their daily travel to the office – increasing productivity and efficiency.

**Digital Exclusion:** The project will deliver public services through high quality connectivity to digitally excluded residents within Multiple Tenancy Units. This will provide greater access to online learning, public services, information on employment opportunities, and the creation of new networks. For businesses this will be backed with the introduction of a new Emerging Sectors Investment Fund – sector specific loan funds for equipment to exploit new ultrafast connectivity.

**A Networked City:** Dark fibre access will link every tram stop facilitating access in the City Centre, University campuses, smaller neighbourhood centres and key public venues.

**Key Networked Buildings:** We will create a new public infrastructure network between key public and community buildings, with wireless hotspots in libraries, arts centres University and College premises, shared service centres – making public services more efficient and cost effective.

**A Neutral Zone:** We will create a Neutral Zone co location facility independent of any one carrier – lowering the barriers to the introduction of very high capacity broadband and providing next generation broadband at affordable rates.



## Targets

Targets to be created as a result of this project by March 2015 are as follows:

- 14 strategic employment sites connected with 100+Mbps/1Gbps
- 1 business awareness campaign launched
- 1 public awareness campaign launched
- 1000 SMEs encouraged to take up ultrafast connectivity at affordable rates
- 70% citizens encouraged to take up ultrafast connectivity at affordable rates

## A1.3 Social Objectives

### Strategic Objectives

Our proposals will address social and digital exclusion across the City of Nottingham by providing transformational infrastructure to local people through a series of measures. A new public infrastructure network, including wireless hotspots, will be created in public buildings, libraries and community access points, opening up transformational technology to citizens across the City, including those from non-traditional backgrounds who do not currently have access to online services. All of Nottingham's educational institutions will also be connected to the network. In addition, the project will connect Nottingham's residents from some of the most disadvantaged communities through providing network access at a significant number of the City's key Multiple Tenancy Units.

The aim of these social interventions is to provide local people with access to a plethora of new opportunities for engagement with public services, democratic processes, education and social networks. As a result of this proposed investment, Nottingham City will develop a range of new and innovative online services, designed to encourage direct engagement with services for local people, and making as many services as possible available online.

The project will also create the infrastructure needed for a future Nottingham Smart Grid energy management system. This will be a digitally enabled electrical grid that gathers and acts on behavioural information in order to improve the efficiency and reliability of electricity services across the City.

### The social objectives are:

- To enable greater connectedness between people, public services and other institutions across the City and beyond
- To empower local people with improved access to a range of innovative new online public services, including information on employment opportunities
- To provide people from Nottingham's disadvantaged communities - residents who are currently 'digitally excluded' - with access to transformational technologies
- To support local people with greater access to online learning provision
- To create a range of additional, innovative online public services
- To transform the delivery of public services in Nottingham, by making as many services as possible available online
- To enable more efficient and effective public services
- To enable more efficient and reliable electricity services
- To open up new opportunities to create a public sector network involving education, health, government, community and arts facilities

### Measures of Success

We will measure the success of the investment through:

**Greater personal connectedness:** Nottingham's citizens will be well connected and well informed about the services and opportunities available to them in every arena of life, including employment, learning, public services, social linkages and a wide variety of other areas.

**Enhanced opportunities to contribute to the Big Society:** Nottingham's citizens will feel informed and empowered to contribute and engage in democratic processes and a range of other areas of public life including Big Society initiatives.

**Effective, successful and efficient public services:** Nottingham's public sector will have access to the transformational technologies it needs to innovate and develop new online public services, providing a more effective and successful services to local people. The public sector will also have the opportunities to integrate more effectively with others services and institutions, generating new efficiencies and economies of scale.

**New and improved energy management systems:** Nottingham's electricity services, and potential other energy management systems in the future, will benefit from increased efficiencies and reliability of services.

### Targets

Targets to be created as a result of this project by March 2015 are as follows:

- 4 Multiple Tenancy Units connected with 100+Mbps /1Gbps at affordable rates
- 30 community access points created within public buildings
- 1 Nottingham Smart Grid energy management system enabled
- 70% of Nottingham's citizens engaging with public services online

### A1.4 Other Objectives

#### Strategic Objectives

This proposal has a number of other strategic objectives. It will support the establishment of a local TV station as part of the government's plans to roll out 20 new stations by 2015. The investment will add significant value to other major infrastructure investment currently taking place in Nottingham. This includes investment in the train station, the A453 and strategic employment and housing sites. In addition, the project will allow for improved connectivity beyond the city boundary by linking closely with Nottinghamshire County Council's proposals for improved rural connectivity through BDUK funding. It will also position The Portal as a Midlands Internet Exchange with separate links to the US and Amsterdam. This is of UK importance, positioning Nottingham as a resilient location for internet traffic immune to catastrophic failure in London. Nottingham has strong green credentials, and through this project aims to develop and enhance this through offering its citizens access to mobile and online working opportunities, leading to fewer road journeys, this reducing adverse effects on the environment.

#### Key additional objectives are:

- To develop Nottingham as the new Midlands Internet Exchange, driving up international competitiveness in the wider region and positioning Nottingham as a resilient location
- To establish local TV in Nottingham built on active and diverse community participation
- To expand the network using other significant infrastructure development schemes across the City and wider area
- To reduce carbon emissions through increased online working

#### Measures of Success

We will measure the success of the investment through:

**Well positioned Nottingham:** Nottingham will be well positioned to attract new investment into the City as a

result of its enhanced technological capabilities through the Midlands Internet Exchange.

**Active and aware:** Through creative local TV programming local people will communicate and encourage community activities.

**Reduced negative impacts on the environment:** Through innovative transformational technologies, Nottingham will enhance online working and reduce carbon emissions.

### Targets

- 1 Midlands Internet Exchange created by March 2015
- 1 local TV initiative supported to access community based production

## A2

### Set out the rationale for public investment.

### A2.1

#### What are the specific needs you are addressing?

Our proposals for transformational connectivity have been developed to meet the specific needs of businesses and citizens across Nottingham. We have worked in close partnership with industry to shape this project, from existing providers, to large private owners of properties and land in the City, and a wide range of SMEs from our key sectors. Our businesses tell us that they need a highly competitive offer – at least comparable with other international locations. This is crucial in relation to cost, flexibility of service, latency and access to storage, high performance computing and resilience in relation to key international markets. Our proposals respond directly to these. Specific sector needs addressed are:

**SMEs in the digital content sector:** This has been recognised as a key growth sector for Nottingham, where there is a cluster of SMEs and micro-businesses in The Lace Market. Companies need low cost, high bandwidth symmetrical services with flexibility to occasionally send very large media files and access to storage, especially if they are trading in the cloud. They also need to be connected to other clusters via low latency connections. Nottingham City Council has consulted widely with SMEs in this sector, bringing together an industry-led Creative and Digital Industries Working Group to create a Positioning Paper and define the needs for the sector, focusing on driving forward future digitally-led job creation and growth strategies. The key findings from this work have driven these proposals and are outlined in a concise summary on the next page.



Nottingham's creative and digital businesses are often located in multi tenanted buildings where good connectivity is a key requirement not always achieved. Business require:

- Cost effective connectivity capable of accessing multiple services through a single device
- Revenue and increased audiences through "open access" applications
- Dynamic relationships between other businesses in the supply chains and partnerships feedback and connectivity between customers, production companies and investment organisations
- Data driven supply and demand business models, that rely on the speed of communication and enable a much more rapid evolution of product development
- Research and development with others in fast and effective supply chains

The cost of transformational broadband services to enable these is a real issue. Currently on top of a typical £3-5k connection charge, a symmetrical 100Mbps service could cost between £15-20k per annum, per business, with a service level agreement which may not offer the flexibility they require. There are significant advantages to companies with similar needs co-locating, undertaking joint procurement, and even jointly managing their bandwidth requirements.

**How we will meet this need:** By providing open access transformational broadband access along the tram network and directly into existing infrastructure in the Creative and Digital Hub, The Lace Market, our proposals are designed to directly meet the need of SMEs in this sector.

**Nottingham's Financial Services:** Nottingham's Financial Services are found in the City Centre and along each of the strategic sites identified along the tram network, including the Nottingham Enterprise Zone. Companies require low latency connections to other financial service centres across the world with an absolute need for resilience. Large operational centres – such as call centres – also require low cost high bandwidth with access to significant data centre capacity. Consultation with companies locating and investing in Nottingham has determined that digital infrastructure is crucial because companies cluster around cities with the most advantageous offer.

**How we will meet this need:** Through provision of an open access fibre network along the tram line, key strategic sites in the City, including the Enterprise Zone, will have access to digital infrastructure necessary to attract significant inward investment, and in turn economic growth, into Nottingham.

#### **Biomedical, engineering and other R&D focused sectors:**

Specialist business centres across the City, including BioCity in The Lace Market, the Nottingham Science Park and the Biomedical Science Parks proposed for the Enterprise Zone need highly specialist applications such as high performance computing and 'telepresence'. Companies are often engaged in intense and complex collaboration and need access to low latency and resilient international networks, along with data centre storage.

**How we will meet this need:** The fibre network through the tram will directly serve each of these key R&D focused sites, ensuring that the climate for high level research is established in Nottingham and businesses and universities can be highly competitive and successful.

#### **Public Services, including Nottingham's educational services, and the people of Nottingham:**

Nottingham's public services need a large number of 'point to point' connections to link across the estate, currently exceeding 120 buildings. There is also an increasing need to share information and implement shared services – Nottingham is implementing a shared services initiative with Leicestershire County Council. Higher and Further Education need to connect with national and international networks and procure very high bandwidth to service their user community. In turn, Nottingham City Council increasingly needs to make information and services available online to residents, our diverse communities and our visitors. In consultation with residents across the City, the need for wireless access and mobile working is growing rapidly.

**How we will meet this need:** Our proposals will deliver transformational connectivity to Nottingham City Council and each of the education institutions across the City to enable the effective and successful delivery of innovative new online services. The capital works will also be combined with awareness raising campaigns. Our proposals for wireless access at each of the City's tram stops and across Nottingham City's public buildings will enable mobile working and open up transformational digital services to people from non-traditional backgrounds.

**Rationale for our proposals:** Nottingham is already well served by operators, including BT and Virgin, who currently offer broadband to significant parts of the city - see map 2. These also offer business ethernet connectivity on a wholesale basis.

There is though a gap in the market, especially with smaller SMEs who are not adequately served or unable to afford the level of digital infrastructure they require to meet their current or future needs in a highly competitive international market place. Nottingham has:

- Currently no provider offering access to 'dark fibre'
- A shortage of digital infrastructure in key locations serving Nottingham's key employment strategic sites
- A shortage of data centre/hosting capacity suited to the needs of SMEs

The transformational digital infrastructure we are proposing will help remove these constraints. The tram ducting would provide access or 'first mile' connectivity providing the dark fibre connections from The Portal to the strategic employment sites and SME clusters. The Portal will be where access networks connect to the wider internet and international carriers. It will also act as a focal point for digital businesses where they can site servers with good access to the local market and the wider world. The Portal and associated dark fibre in the tram ducting will be 'carrier neutral' acting as a host for different carriers and service providers. This will have an immediate impact on the availability of dark fibre to service providers with customers in economically important areas of the City, and so boost competition in the provision of business connectivity.

Dark fibre offers service providers and carriers the ability to offer businesses services in demand now, including high quality ultrafast broadband internet access and point-to-point ethernet connectivity.

This is market changing but not market distorting. If the network is completely open then any cost advantage available to one service provider is available to all service providers. The benefits of this are:

- The cost of acquiring the core infrastructure is approximately 10% of a conventional trench-dig
- Identified latent demand in Nottingham for high speed next generation connectivity
- Potential transformational – encouraging innovation and business investment
- Removing dark fibre access constraints, resulting in restrictive costs for SMEs
- Potential for the tram to serve valuable growth areas

This is a unique opportunity which can be delivered speedily and at a fraction of the normal costs.

## **A2.2 Have all options to meet these needs by the stimulation and encouragement of private sector investment been explored?**

It is our understanding that current and proposed investment in Nottingham will include:

- Upgrades to the existing BT copper/DSL network using fibre-to-the-cabinet/VDSL technology
- Upgrades to the existing Virgin copper coaxial network using DOCSIS3.0
- Increased availability of ethernet services from both incumbents and BT resellers
- Investment in conventional data centres close to existing backbone for major corporate tenants

BT has already converted many exchanges to offer 'superfast broadband' services based on fibre-to-the-cabinet (FTTC) VDSL technology providing download speeds of up to 40Mbps. BT states that up to 25% of upgrades will use GPON fibre-to-the-premises (FTTP) technology, capable of delivering up to 100Mbps down speeds with higher promised. No announcements have been made about FTTP in Nottingham.

Virgin has now converted all of its infrastructure to DOCSIS3.0 broadband, offering down speeds of up to 50Mbps. Many areas have now been upgraded further to offer 100Mbps.

## **A2.3 What resources and skills are you uniquely placed to contribute to the project?**

Nottingham City Council has consulted widely with the business community to seek their views on digital connectivity. The overwhelming response is that investment in digital infrastructure is as important as investment in physical and transport infrastructure – the City will be placed at a competitive disadvantage if this is not addressed. Given the City Council's leadership in the development and ownership of the tram and being the planning authority, we are uniquely placed to contribute.

The Local Authority is the only body to secure this opportunity. The City Council's role will be limited to ownership and control of the passive layers of the network, the construction and operation of the network will subsequently be openly

tendered to a commercial body.

Nottingham City Council is also vastly experienced in mobilising the private sector to deliver forward looking strategies and initiatives for growth, having successfully created and managed the recent Science City Advisory Council and Ultraband Industry Working Group – both of whom have already help shape these proposals and are primed to continue to develop this work in partnership for the benefit of Nottingham's businesses and citizens.

### A3

**Outline the information, education and demand-stimulation activities to be undertaken**

#### Details are contained in Section D:

- Business champions advocate the benefits of ultrafast connectivity.
- Demonstrations through Wi-Fi access at public access points such as libraries and contact centres.
- Awareness raising campaigns across the City
- An emerging sectors loan fund to purchase the necessary technology for ultrafast connectivity.

### A4

**What new infrastructure does your proposal require?**

#### A3.1 Fixed. (Fibre, cable)

The proposal is based on existing and already planned trunk ducting along the full 32 kilometre length of the tram network that will become available for use in November 2013. Nottingham also has other existing ducting provided by previous road improvements to support speed camera installations, and also a network of service tunnels which are capable of extending the reach of the proposed network.

Our proposal will require additional fixed infrastructure in the form of:

- Retro-fitting redundant ducting in tram line one to provide access chambers
- New ducting routes to connect strategic sites, SME clusters and public venues
- Installation of fibre along the full tram network
- Equipment in buildings to access connectivity and wireless broadband
- A hub location in The Lace Market to provide connectivity and hosting for SMEs
- Equipment in the neutral zone to allow ISPs to connect to the network
- A new fibre link between The Portal and the Hibernia Atlantic POP in Loughborough – 8 miles

#### A3.2 Wireless connectivity

Wireless connectivity across the city would be enabled by the proposed core trunk fibre. The proposal does include wireless transmission equipment in approximately 30 public venues

### A4

**Define the area(s) over which ultrafast or superfast broadband is to be delivered**

#### A4.1

**By existing networks and already-announced rollouts by existing communications service providers**

Our proposals deliver new ultrafast broadband networks where the market does not currently deliver. Map 1 defines the areas where existing providers deliver 'next generation' broadband. There are significant gaps here, especially the central and western parts of the city. BT has recently announced upgrades to its 'Longbow' covering the city centre, though there are no announcements on its two exchanges serving the west. Additionally map 2 indicates the BT exchanges to be upgraded to deliver the 80-100Mbps service. Both providers also make available their symmetric ethernet business service, though we do not have detailed maps to indicate the precise coverage. Ethernet can be

#### A4.2

**By investment in in-fill (areas not covered by commercial suppliers)**

Our proposals deliver new ultrafast broadband networks where the market does not currently deliver. Map 5 identifies the limited 'white areas' not covered by commercial suppliers. The most significant covers The Lace Market – a key target

#### A4.3

**By new networks**

Our bid focuses on serving specified strategic sites and existing areas of SME concentration in and around the city centre. the tram route allows easy access to almost all of the City's key strategic employment sites including the Enterprise Zone and the new Rolls Royce development site just over the boundary in Ashfield District, but which is part of the contiguous urban area.



The new network delivers dark fibre ultrafast services of at least 100Mbps with no defined upper limit symmetrical service to key strategic sites and SME clusters. The tram 'trunk' fibre covers 32 kilometres through the City Centre with the following key strategic sites:

Line 3 (Chilwell via QMC and Beeston)			
1.	<b>Nottingham Station</b> <ul style="list-style-type: none"> <li>– <b>Unity Square.</b> Planning permission for 220,000 sq ft of office space (approx 10 businesses), and a 200 bedroom hotel.</li> <li>– <b>Meadows Gateway.</b> Planning permission for 200,000 sq ft of offices (approx 10 businesses).</li> <li>– <b>The Sentinel</b> – Planning permission for 100,000 sq ft of offices (approx 10 businesses).</li> </ul>	2.	<b>Meadows North</b> <ul style="list-style-type: none"> <li>– <b>The Portal.</b> Planning permission for 200,000 sq ft of offices (approx 10 businesses), and Data Centre.</li> </ul>
3.	<b>NG2</b> <ul style="list-style-type: none"> <li>– 32 existing companies including Experian, Specsaver and Speedo.</li> <li>– Planning permission for Hotel.</li> <li>– Planning permission for 150,000 sq ft of offices</li> </ul>	4.	<b>Gregory Street</b> <ul style="list-style-type: none"> <li>– <b>Lenton Lane.</b> Approx 20 existing businesses including Games Workshop.</li> <li>– <b>Medipark.</b> Proposed major redevelopment approx 300,000 sq ft.</li> </ul>
5.	<b>QMC</b> <ul style="list-style-type: none"> <li>– Hospital.</li> <li>– University Medical School.</li> <li>– Biomedical Unit.</li> </ul>	6.	<b>University of Nottingham</b> <ul style="list-style-type: none"> <li>– University.</li> <li>– Nottingham Science Park, with approx 60 existing businesses including Toyota, Chinook, Changan, etc., and expansion land available for further 100,000 sq ft.</li> </ul>
7.	<b>University Boulevard</b> <ul style="list-style-type: none"> <li>– University</li> <li>– New Hotel – planning permission has been approved.</li> <li>– East Midlands Conference Centre.</li> <li>– Boots (existing 4,000 jobs).</li> <li>– Enterprise Zone</li> </ul>	8.	<b>Beeston Town Centre</b> <ul style="list-style-type: none"> <li>– Town centre.</li> <li>– The Quadrant – 34,000 sq ft office development.</li> </ul>
9.	<b>South Nottingham College</b> <ul style="list-style-type: none"> <li>– College</li> </ul>		

Line 2 – (Clifton via Wilford)			
1.	<b>Wilford Lane</b> <ul style="list-style-type: none"> <li>– Wilford House (approx 150 jobs)</li> </ul>	2.	<b>Ruddington Lane</b> <ul style="list-style-type: none"> <li>– South Nottingham and Wilford Industrial Estate.</li> </ul>
3.	<b>Clifton Centre</b> <ul style="list-style-type: none"> <li>– Town Centre</li> </ul>	4.	<b>Clifton Park and Ride</b> <ul style="list-style-type: none"> <li>– 'Clifton Extension'. Possible residential and commercial extension.</li> </ul>

#### A4.4 Wireless connectivity

The network will deliver mobile broadband along the whole route of the tram including every stop, creating next generation opportunities for the commercial sector, and making wireless connectivity available over a much wider area. The City Council will encourage providers to bring forward proposals to deliver wireless connectivity onboard trams, along the full length of the network, across the city centre, in University campuses, and in selected neighbourhood centres such as Clifton, Hyson Green, Bulwell and St Ann's.

Wireless connectivity will be made available in approximately 30 public venues – key leisure, tourism and information hubs, libraries, youth centres, arts venues, leisure centres and visitor attractions. These will benefit from ultrafast connectivity.

## A5

**What funding from the Ultrafast Broadband Fund are you requesting? (Details in Section G.)**

## A6

**Briefly set out what additional funds will be contributed to the project (More detail to be given in Section G)**

## A6.1 By Local Authorities

The project takes advantage of the major investment in extending the Nottingham tram network and specifically construction of Phase 2. Nottingham City Council will:

- fund the installation of additional ducts and inspection chambers to install additional fibre
- encourage local businesses to take advantage of the new connectivity
- fund a limited pilot project to install wireless broadband in one of the city libraries
- research the impact of ultrafast connectivity on local SMEs

## A6.2 From the EU

We envisage EU investment supporting the development of a super-connected SME sector. Current ERDF investment that will contribute to project aims. Complementary ERDF projects supporting the SME sector include:

## A6.3 From the Public Sector

It is anticipated that investment at The Portal in the development of a data centre and as a network hub.

In addition other significant investment in strategic sites includes approximately 'Enterprise Zone.

	Minimum	Additional
<b>Main backbone</b>		
Line 1 retrofit		
Phase 2 new (single sided)		
Phase 2 fibre		
<b>Link to new international Carrier</b>		
Hibernia Atlantic		
<b>Resilience</b>		
Phase 2 new (ducts on both sides)		
<b>Sub backbone and access networks Strategic Sites</b>		
Enterprise Zone		
Rolls Royce (through Hucknall)		
Phase 2 tramside strategic sites FPTB		
Phase 2 tramside connect buildings		
<b>Sub backbone and access networks SME Sites</b>		
Lace Market FPTB		
Lace Market connect buildings		
Castle Quarter FPTB		
Castle Quarter connect buildings		
Council House spurs FPTB		
Council Housespurs connect buildings		
<b>Public sector building enablements</b>		
Connection to backbone fibre		
Wi-Fi installation in public venues		
Connection to Multi tenant housing blocks		
<b>Hub Locations</b>		
Neutral Zone in The Portal		
Hub in Lace Market		
<b>Totals</b>		
<b>Minimum total</b>		
<b>Total with option</b>		

## A7

**Any physical resources the city or its partners are contributing to the project. (Details in Section C.)**

The City Council has access to important assets and is also leading a number of major infrastructure improvements that will make further physical resources available to the project.

The City Council's assets include:

- Ducting from the Nottingham tram network and along strategic transport routes
- Properties which will provide next-generation Wi-Fi within, and across wider areas through roof-top transmitters
- Street furniture which can be utilised in the deployment of Wi-Fi.

Physical resources available from the private sector include:

- National fibre operators who can be found on one site, at The Portal. This is a carrier neutral communications hub and hosting capacity.
- Hibernia Atlantic, an important international carrier route, can be accessed approximately 8 miles from The Portal in Lowdham, Nottinghamshire.
- Two network providers (BT/ Virgin) will continue to expand their services within Nottingham, and will commit even more if selected as a Super-Connected City.





## B1

**What job creation initiatives and strategies for attracting new businesses into the city are in your proposal including, where relevant, linkage to the delivery of a successful Enterprise Zone?**

Our proposal includes a series of job creation strategies and initiatives, particularly focussed on attracting new businesses into the City and linking to the Nottingham Enterprise Zone.

The proposals have been built directly into the City's Economic Growth Plan, which incorporates digital connectivity as a key strategic theme. The Growth Plan sets out how improved digital connectivity will contribute and support the City's overall aspirations for economic growth and prosperity, with specific reference to how enhanced digital infrastructure can drive genuine growth within key emerging sectors of digital content, low carbon and lifesciences. The specific job creation strategies included within these proposals include:

**Introduction of spur cables from the Nottingham tram fibre access network into the new Nottingham Enterprise Zone:**

The Nottingham Enterprise Zone, based on the Boots Campus, has a specific thematic focus upon lifescience supply chains. Our proposals to introduce dark fibre within tram lines 2 and 3 will directly enhance the offer of the Enterprise Zone because of the close proximity of Line 2 to the Boots Campus and the opportunity to introduce a spur into the proposed incubation and training academy on the Enterprise Zone.

This deep digital infrastructure will provide a number of important advantages for new business developments and creation of clusters at the Enterprise Zone and other strategic sites nearby:

- It will drive up the marketing potential of the site, promoting the development as distinct from others and special, served with access to affordable ultra high bandwidth internet connectivity and point-to-point services
- In turn, it will attract new inward investors into the area, creating new jobs and growing the local economy
- It will offer developers an opportunity to extract further value from their properties by having a stake in the access network
- It will drive up the effectiveness, productivity, communication and partnership capabilities of businesses located within and around the Enterprise Zone
- In turn it will drive business growth across the Enterprise Zone, increasing GVA output and raising job creation levels as a result

**Provision of transformational digital connectivity to creative and digital SMEs in the City's Lace Market cluster:** Our proposals will connect extensive FTTP fibre to properties across The Lace Market. This will drive up the competitiveness of SMEs and Micro-businesses in the creative and digital sectors, for whom access to transformational technologies is crucial to business growth and success. Businesses will develop new joint ventures with their counterparts across the UK and internationally and will in turn become more productive, grow and create new jobs.

**Establishment of the 'Emerging Sectors Investment Fund:**

The City's Growth Plan outlines three key emerging sectors which are critical to the long term health of the Nottingham economy – digital content, low carbon and lifesciences. Because access to finance continues to be a significant barrier to growth we intend to establish a series of sector specific loan funds. Although these loan funds will be available to invest in a range of capital projects which could drive job creation, applicants will be encouraged to invest in the equipment necessary to access and exploit the new ultrafast connectivity provided through this project.

**Creation of neutral zone within The Portal:** Our proposals include creation of a neutral zone within The Portal. This work aims to provide the Midlands with a major IT and communications exchange point. The Portal will allow Nottingham to accelerate the growth of clusters such as Gaming, Media, and Biomedical – all of which require high performance computing and high capacity national and global connectivity. Through The Portal, Nottingham will be able to offer a 'single location' from which businesses and the public sector can e-create, e-store, e-market and e-distribute globally, driving up productivity, efficiency, competitive position in the market, and in turn job creation.

## B2

**How will the proposed development enhance the capability of businesses, particularly SMEs, to increase efficiency and revenues?**

Our research and consultation with industry has confirmed that innovation and the drive towards efficiency in business practices is intrinsically connected to digital infrastructure capacity. Our proposals are predicated on the basis that SMEs are best served by giving them new space to experiment and innovate. This means providing application-neutral infrastructure that can then be used for purposes as yet unknown. We firmly believe that digital freedom can drive the next generation of growth and high growth companies by providing them with the ability to innovate.

Our proposals will promote enhance efficiency and revenues (through growth) in two ways:

- By providing business with the potential to create all-new services rather than merely competing in the existing crowded markets created by first generation broadband. For example, new cloud applications that depend on much higher bandwidth, lower latency or on-net (off internet) service levels
- By encouraging connections between the emerging sectors. For example the creation of new cloud services to support bio-tech research and service delivery, or innovation and demonstrator applications in clean-tech that rely on ubiquitous or ultrafast connectivity

This deliberate strategy is like building bits of railway and then looking to the market to in-fill the railway gaps, make trains and stations, and operate services. This strategy creates the most fertile ground for high-growth SME birth and development. We believe in any case that the introduction of FTTC and EFM services can, in most cases, be left to existing market forces.

## B3

### What proposals are included for leveraging innovation and new broadband connectivity for the development and delivery of public services?

We will leverage innovation and new broadband connectivity for the development and delivery of public services through:

**Creating significant savings on City Council leased line spend:** As already outlined, we will maximise leverage of existing public sector assets by using the tram network ducting, speed camera ducting and Victorian-era access tunnels to construct a new, open-access, passive backbone/access network at minimal cost. This passive network can then be used to provide connectivity to public service centres and public sector buildings.

By connecting City Council buildings including the main offices at Loxley House, shared service centres and libraries we estimate potential savings between £100k and £200k on an annual City Council leased-line spend of £1m. We plan to create a public sector service provider (PSSP) vehicle to lease capacity on the open backbone and provide service to public sector agencies.

**Creating low-cost, high-capacity connections for libraries, and a Wi-Fi voucher scheme:** We believe the existence of very low-cost, unlimited connectivity between these centres will encourage innovation in public service development and delivery. For example, we will examine the feasibility of a voucher scheme for libraries to fund the operating costs of new high-speed Wi-Fi services for customers. There are also opportunities to save costs by aggregating demand for layer-3 services like internet access and Voice over IP (VoIP).

**Providing new opportunities for shared high capacity connectivity for HE and FE providers:** By providing connectivity to both the University of Nottingham and Nottingham Trent University (both have main campus locations adjacent to the new backbone) they will be able to make significant savings on existing leased line contracts for JANET connectivity. We believe the existence of dark fibre connections between HE and FE institutions will encourage collaboration and innovation.

### Establishing a pilot which will provide connections to housing blocks to trial new public service delivery:

We aim to trial the delivery of electronic public services to tenants in social housing using existing coax TV infrastructure in Multiple Tenant Units (MTU). We have identified MTUs which are hard to let and where many tenants do not rent a telephone line, cannot afford cable services and so, as well as being unable to access the internet, are unable to access public services such as City Council online services or education content provided by schools. By connecting these MTUs to the backbone and using standard equipment to deliver IP connectivity alongside TV RF (or IPTV) over the existing TV aerial coax, it would be possible to offer tenants free-to-air public service connectivity as well as allowing ISPs or housing associations to offer very low cost ultrafast broadband, perhaps as part of the rent. This would help make the MTUs more attractive to tenants and could also provide a potential test bed for trials of new services such as telehealth and telecare.

**Creation of a new public sector partnership and service provider vehicle:** We aim to maximise development of public services while simultaneously reducing costs for public sector agencies by creating a new public services digital partnership (PSDP) to bring together multiple public sector organisations in the city and maximise shared use of the open access backbone/access network and related co-location infrastructure. The PSDP will identify new opportunities for innovation in new services along with cost savings. The PSDP will also oversee the creation of the new Public Sector Service Provider (PSSP) to operate services tailored to public sector organisations.

### **Directly investing in public service innovation using Infinite Bandwidth Zero Latency (IBZL) methodology:**

We believe that the availability of new, fully open digital infrastructure is a stimulant to innovation because of its flexibility and the transformational step change in capacity that it offers. However we also intend to stimulate the innovation process directly using the IBZL innovation methodology in partnership with the Open University. We will fund a programme of IBZL workshops bringing together heterogeneous groups of public sector organisations to think creatively about what is possible with the new infrastructure and develop projects from the ideas.

### **Creating of a range of new online public services, leading towards making as many services as possible available online:**

A key part of this strategy will be to invest across the public sector in Nottingham to create as many new and innovative online access points to services as possible. This will be an ongoing and continuous process, working in partnership with local people and businesses to achieve relevant and appropriate services that meet the needs of our customers.

## **B4**

### **How do you propose to stimulate additional private sector investment in order to generate greater accessibility to faster broadband services by businesses and consumers?**

The creation of opportunities to stimulate additional private sector investment is integral to our proposals. Additional private sector investment will be crucial to generating greater accessibility to faster broadband services by businesses and consumers. This will be achieved through the following, which have been built in to our operating model:

- Stimulating peering activity to lower the barrier to investment in ultrafast services and encourage new service providers.
- Providing open backbone access to remote distribution hubs to lower the barrier to new build investment.
- Attracting new service providers, data centre developers and disaster recovery (DR) facilities through new carrier-neutral and diverse international routes.
- Easing investment in sub networks with open access and shared passive service guarantees.
- Encouraging new digital SME clusters and value chains around distribution hubs by offering co-location for server hosting.
- Offering low cost and passive backhaul to Long Term Evolution (LTE) i.e. 4G operators and new Wi-Fi entrants.

We aim to kick-start peering activity in Nottingham and so enable the creation of 'Nott-IX' (internet exchange) through three related measures:

- We will create a 'Neutral Zone' co-location facility, independent of any one ISP, carrier or hosting provider at The Portal. This will be equipped with open access switching equipment to interconnect multiple carrier backbones already present, and provide an IX platform for ISPs to install their own routing equipment. This will encourage investment by ISPs and niche service providers and lead to lower transit costs, thus lowering the barrier to introduction of very-high capacity broadband for digital media and similar businesses by significantly reducing the 'backhaul problem'.
- We will create a new open-access passive link to the Hibernia trunk fibre route at Lowdham to offer ISPs connectivity to a resilient international route to US and Amsterdam independently of London and the Cornwall landing point. The link will also offer a resilient route to the IX facilities in Manchester, opening opportunities for service providers to offer very high capacity links between digital media businesses in the two Core Cities.
- We will offer open access to the backbone to ISPs, carriers and wireless/mobile operators with co-location facilities in distribution hubs in locations such as The Lace Market and Enterprise Zone. The backbone will offer open-access passive and active connections back to the Neutral Zone.

All of these facilities will be open access and carrier neutral. We will guarantee this by leading on the creation of a new mutual partnership of stakeholders including carriers, ISPs, large corporate users, public sector organisations and hosting providers, similar to mutual arrangements for successful exchanges like AMS-IX (the world's largest).

Through these arrangements barriers will be lowered to investment in new network build by developers and property owners. Anyone wishing to create new network can leverage their investment by retaining ownership of the network and joining the partnership to provide access for ISPs. This will be particularly attractive for owners and developers of business centres and business parks, who will see significantly enhanced asset value.

New network built around or near the open access distribution points will be able to offer business ISPs co-location space to deploy new high capacity services, space that would also be attractive for digital content businesses and start-ups wishing to develop content and application services. Highly distributed co-location space offers potential for the deployment of ultra-low latency niche cloud applications, for example real-time editing services for media



businesses in The Lace Market area. The distribution hubs become magnets in themselves for digital content business clusters because they offer triple advantages:

- Low-cost, high capacity connectivity to the net
- High-capacity, low-latency connectivity to local businesses and SMEs
- Open access local hosting

The existence of the open access infrastructure will also lower barriers to investment in new data centre and disaster recovery facilities. Investors will be attracted by low transit costs, passive connectivity and resilient international routes. Similarly, the infrastructure will lower barriers to new entrant wireless operators wishing to create new LTE or Wi-Fi infrastructure without depending on competitors for backhaul.

## B5

**What commitments to raise skills levels in the local population, providing greater accessibility to educational programmes to equip more people with better knowledge-based skills, will accompany this investment in faster broadband?**

Improving rates of education and training across Nottingham and raising skills levels is one of the most important priorities of the City's Growth Plan and a key priority within our proposals for this project. As such, in the same way that the enhanced digital connectivity provided by these proposal will help drive SME growth within our key emerging sectors, it will also help underpin our commitment to raise skill levels across Nottingham to ensure more people can exploit the opportunities this will provide. Specific commitments to raise skills within these proposals are as follows:

**Access to work-related skills development:** Work skills are particularly important to enable people to enter and progress within the labour market. Skills are also an important contributor to the 'adaptive capacity' of an area – the ability to withstand economic shocks and take advantage of new opportunities. As such, we have ensured that our proposals for providing next generation of digital infrastructure are closely linked with a programme of workforce technology skills development – ensuring the workforce has the right level of skills to take advantage of the new opportunities to arise through Super-Connected Cities investment.

**Access to apprenticeships:** Alongside the proposals contained in the bid, our Growth Plan commits us to improving the availability of technical level skills within key emerging sectors, as outlined in B1. We are planning to work alongside business leaders from our emerging sectors to seek support from the National Apprenticeship Service

(NAS) to make available more apprenticeship places within life-science, digital content and low carbon businesses.

**Enhancing the STEM subjects:** Investment by Super-Connected Cities will contribute to proposals to expand Nottingham's successful GameCity festival – Europe's biggest videogame culture festival. Every year it attracts significant numbers of visitors and major industry figures from across the world. GameCity has become iconic in the world of videogames, part of Nottingham's digital content sector, but it also has significant potential to be used to encourage people to consider pursuing a career in this industry. The GameCity School initiative plans to support the studying of STEM subjects as a means of getting young people engaged with the technical nature of the games (such as computer programming) rather than just being passive players of games.

**Access to the FE and HE offer:** Nottingham's FE and HE sector is also gearing up to provide the combinations and ranges of skills needed to service digital-led growth envisaged in this proposal. The two Universities attract over 2,000 graduates between them to study software, digital media and associated subjects. The majority are with Nottingham Trent University which has over 15,000 students and almost 30 courses. However, FE is also a significant driver within the digital contents sector. New College Nottingham (NCN) has over 400 students registered on related courses from levels 2 – 6 based at their training centre in The Lace Market Creative Quarter. Confetti, based at the Antenna Media Centre, also has a significant number of students with accredited courses from De Montfort University and strong links with South Nottingham College.

## B6

**Describe, where appropriate, how the project will dovetail with existing Local Broadband Plans (for projects in England with allocations from BDUK's £530m superfast broadband programme) or with national plans for broadband rollout in Scotland and Wales.**

Our proposals have been designed to directly link and dovetail with the Nottinghamshire and Nottingham Broadband Plan and deliver the Government's national plans for superfast Broadband. We are committed to working in partnership with a range of local partners to deliver the most appropriate and effective ultrafast broadband offer.

**Dovetailing with local plans:** The Nottinghamshire and Nottingham Broadband Plan covers proposals for investment in ‘white areas’ in both the County of Nottinghamshire and the City of Nottingham. A total allocation of £4.25m has been awarded, with more than 97% of this earmarked for ‘white areas’ outside of the city boundary. Nottinghamshire County Council has taken a lead role in the production of a Broadband Plan, which includes reference to specific target areas including the City Council area. Nottingham City Council’s allocation is less than £100k for five ‘white areas’ spread across the city in a fragmented pattern. The overall pattern of ‘white area’ in the city does not offer a contiguous area for which a coherent set of proposals could be brought forward. The total allocation is also too small to deliver any meaningful improvement for any one area.

While it is therefore unlikely that the City Council will be able to make use of the BDUK funding, at least one of the ‘white areas’ – The Lace Market in Nottingham – will be a significant focus for our submission. The Lace Market area is the location for a dynamic and growing Creative, Digital and IT sector, and is already the focus of the existing Ultraband research project. The bid proposes making available fibre to the premises (FTTP) to SMEs in the area, and also to important public sector building e.g. New College Nottingham’s Lace Market campus.

Nottingham City Council will also work with Nottinghamshire County Council to explore whether further links can be made. The proposal to connect with the Hibernia Atlantic POP at Lowdham will for example extend the networks fibre route out to a ‘white area’ in the County Council area, and could therefore provide opportunities to provide local services at this location. Additionally the Super-Connected Cities bid in will enhance internet service provision through its investment in a neutral zone, and thereby improve the quality of services across the whole Nottinghamshire BDUK area.

**Linking with the national strategy:** Superfast broadband is considered to be vital for the growth of the economy. In the strategy paper *Britain’s Superfast Broadband Future* (December 2010), the Government recognises the importance of bridging the ‘digital divide’, highlighting the potential benefits especially for SMEs. The government wants the UK to have the best superfast broadband network in Europe by 2015 and Super-Connected Nottingham provides an excellent opportunity to work towards this target.

The rollout of superfast broadband in Nottingham will meet local targets for economic growth, as well as support the governments overarching Growth Agenda by aiding the creation of a world class communications network to help the economy grow as the UK recovers from the recession. This will also increase and improve the local public and private services on offer, in line with the Government’s ambition for greater customer choice and reduced costs, as well as the delivery of more efficient, cost effective public services. Britain’s Superfast Broadband Strategy highlights the need to work alongside local authorities to reduce costs by using existing streetworks to roll out superfast broadband. Our Super-Connected Nottingham proposals will directly deliver this priority.



## C1

**Detail those physical and administrative resources that will be committed to the achievement of objectives in this proposal (show financial resources in Section G – Funding)**

## C1.1 From the city

**Physical Resources:** The City Council owns important assets and is leading major infrastructure improvements. The Council will make available ducting already in place in Tram Phase 1 and has already provisioned for separate communication ducting in Phase 2. There will be a total of 32km of ducting along the full length of the tram network which will be available for use from November 2013. Other Council ducting to be made available includes:

- 950 metres of service tunnels
- Major transport route installed during recent strategic road improvements

The Council owns venues to deploy next generation Wi-Fi, including libraries, shared service centres, MTUs and leisure facilities. Some can deploy wireless connectivity using roof top transmitters. Additionally street furniture including lighting, bus stops and tram stops will be made available in a planned and co-ordinated way in the deployment of Wi-Fi.

**Administrative resources:** The City Council will put in place a project implementation team to deliver the project and co-ordinate partners. The Council will provide administrative and professional support including transport planning and engineering, procurement, legal and financial support services and IT advice. The Council has already worked together with its Science City Advisory Council – a group of key businesses and agencies in the science, high technology, creative and digital sectors – to create and shape these proposals. Going forward, the Council is committed to engaging with industry, the education sector, the public sector and residents to regularly consult and develop relevant and needs driven project plans.

## C1.2 From the private sector

**Physical Resources:** Nottingham has a high co-location of national fibre operators at The Portal, a carrier neutral communications hub and data centre ideally located for the project. The Portal will be enhanced through a publicly owned 'Neutral Zone' where ISPs would be provided with space to

offer services over the network. Road improvement schemes have provided ducting to connect The Portal with the tram fibre route. The Hibernia Atlantic international carrier route is 8 miles from the The Portal in Lowdham, Nottinghamshire and a fibre route will take advantage of this. Nottingham already has two network providers and will attract more if selected as a Super Connected City.

**Administrative resources:** A private sector partner will be appointed with experience in building and operating open access fibre networks. A high level Steering Group will sit above the project management team made up of private sector partners.

## C2

**Provide evidence that the City Authority has access to the project management capability and strengths in programme governance to deliver the programme of work.**

**Project management capability:** Nottingham City Council has considerable project management capability, successfully delivering:

- The Nottingham tram Line 1 and planned extension
- Major transport developments – including a fundamental re-alignment of traffic in the city
- Connectivity for its corporate estate of more than 100 properties
- Nottingham station redevelopment
- Strategic employment sites
- Redevelopment of its schools through BSF
- New shared services in partnership with Leicestershire County Council
- Ultraband connectivity for four major business centres

The Council has restructured its service delivery infrastructure, moving to a new single administrative centre at Loxley House, creating a new customer service centre in the central library, and establishing shared service centres in Clifton, Bullwell, Hyson Green and St Anns. The Council will project manage the limited works rolling out the network onto sites and through Wi-Fi deployment, using relevant project skills.

**Programme governance strengths:** Nottingham City Council has extensive experience in working effectively in partnership with the private sector, such as Nottingham Regeneration Ltd and Nottingham Development Enterprise.



The City Council will establish a high level programme delivery board led by a significant private sector figure, and draw on private and public agencies with specialist experience and track record. There has already been significant input from the private sector through the Steering Group, co-ordinated by NDE with large employers and SME sector groupings. Nottingham City Council acts as the neutral party ensuring collaboration for the wider benefit of the City.

## C3

## How will value for money be assured?

Super-Connected Nottingham will provide exceptional value for money as it builds on the £500 million investment in the Nottingham tram network, using this investment to host the connectivity. The network will offer dark fibre to key locations with high demand including strategic sites including the Enterprise Zone, SME clusters, Universities and FE Colleges and public buildings – see maps 3a-f.

When ducting routes need to be dug this will be done at the same time as other infrastructure such as new roads, or by using existing service tunnels. The network will minimise the distance between tram trunk fibre access points and business locations. Wherever possible the routes will pass other potential users, such as public buildings, arts and cultural facilities and education and skills venues. Network building will be achieved through an open tender process with incentives to maximise the uptake of target user groups.

Investment in Wi-Fi in key public buildings will be procured through the most competitive routes. In most cases connectivity will be procured using available dark fibre and highly competitive transit rates available through The Portal.

The investment will also offer a significant opportunity to reduce existing costs and establish new merger arrangements for public bodies, creating vast economies of scale. At the same time, this investment will bring extensive, digital-led economic growth – many recent studies have demonstrated that increased broadband provision leads to growth in GDP, and indeed the widely respected study conducted by Ericsson, Arthur D Little and Chalmers University of Technology concluded that *'doubling broadband speeds in a region increases GDP by 0.3%... and also that... 'further doubling speed can add more than 0.3% to growth'*.

## C4

**Broadband investment will lead to both quantifiable and non-quantifiable benefits. Outline how you propose to measure and monitor the delivery of such benefits that are quantifiable.**

**Our monitoring plan:** This proposal details key quantifiable targets and measures for success. We have created a plan to ensure effective monitoring of results throughout the project lifecycle. This will be longitudinal, with processes established before delivery.

Monitoring will be undertaken by Nottingham City Council, who will produce monthly progress reports. These will be based on output information defined by the specific targets of this proposal. This information will be collected through established procedures including output forms with evidence of each output attached.

The monitoring will be ongoing through to the project exit strategy, with Nottingham City Council reporting regularly to the Steering Group on key targets and spend, and feedback from all key stakeholders, businesses and citizens. This feedback will enable the Steering Group to decide on any changes required and to implement these effectively. In this way the project will be kept completely fresh, up to date and responsive.

**Preparing our monitoring plan:** Nottingham is delivering "Ultraband" – a research project to assess the impact on SMEs given 'unconstrained' connectivity. Through this the Council has devised an evaluation and monitoring methodology to measure successes and economic impacts.

Further monitoring methodologies have been put in place for the City Council's new loan fund, which focuses on assessing the impact on business innovation, growth and development. This will be extended to cover the quality and cost of connectivity available to businesses and the impact this has on business expansion and growth. Lastly monitoring will review access to connectivity amongst residents and the level of service usage enabled.

Nottingham City Council will work with professional independent evaluators to deliver this.



## D1

**Detail your proposals for education, information and demand building activities generating greater demand by businesses (including SMEs) and residences for ultrafast broadband services, aiming for 50% take-up across all sectors.**

The addition of a backbone network, commercialised as an open access passive network, to follow the new tram routes will have a transformational impact. It will directly address the scant availability of affordable dark fibre and provide a neutral platform for a new value chain, with the potential for more than 50% take-up across sectors. By restricting the network to the provision of wholesale dark fibre and duct access, competition between service and telecoms providers would be enabled and encouraged; the only market impact being in an area where the market has failed. A set of actions with the ability to stimulate the demand will sit alongside the capital investment proposed in this bid, as we cannot assume that demand will follow supply in this case.

**Nottingham Ultraband:** Nottingham City Council is currently delivering the Ultraband project, a three year pilot programme researching the impact of ‘unconstrained’ levels of connectivity on SMEs in four business centres in Nottingham serving the digital media, biotech and the small ‘start up’ sector.

The project has assembled a 1GB network and will support up to 120 SMEs in the centres in how they deploy and exploit this new level of connectivity. This includes the availability of a £120,000 grants fund. A research company has been commissioned to undertake research and document case studies of the impact.

This project demonstrates that we already have a strong track record of identifying market demand and delivering targeted proposals which supply transformational digital infrastructure to drive growth. Because Nottingham already has this project underway, it will allow us to demonstrate to SMEs and developers the benefits of engaging with and taking advantage of the Super-Connected Cities investment through legitimate, recent case studies. This will be used as part of the ongoing PR campaign, detailed below, which will be associated with any investment in ultrafast broadband.

**Demonstrate the Public Value of Ultrafast Connectivity:**

Our proposals include establishing a network of ‘super- connected’ public information venues (hubs) where

users will be able to access the internet through newly provided Wi-Fi connectivity. These buildings will act as demonstration centres and provide educational support to help users experience the value of ultrafast connectivity and at the same time help provide access to public services e.g. libraries will offer support to new users. Also by investing in libraries, schools, and housing sites (MTUs), the project will enable provision to be made for support of more accessible next generation broadband for the digitally excluded.

**Awareness Raising:** A critical part of stimulating demand is ensuring that those with the potential to exploit our proposals are fully aware of the benefits. As such, using our private sector advocates within the digital content sector and those who are currently utilising and benefiting from the Ultraband project, a focussed awareness-raising programme will be put across to both our citizens and SMEs. The Ultraband project will produce a valuable resource of case studies which will outline how SMEs have benefited from accessing ultrafast connectivity.

This city wide PR campaign will demonstrate both what the Super-Connected Cities investment will deliver along with how they can benefit. It will be rolled out alongside the capital programme outlined in this bid and will be part of the Growth Plan’s drive to improve Nottingham’s reputation to both internal and external audiences.

**Emerging Sectors Investment Fund:** The Growth Plan outlines three key emerging sectors which are critical to the long term health of the Nottingham economy – digital content, low carbon and lifesciences. Because access to finance continues to be a significant barrier to growth we intend to establish a series of sector specific loan funds. Although these loan funds will be available to invest in a range of capital projects with the ability to drive job creation, applicants will be encouraged to invest in the equipment necessary to access and exploit this new ultrafast connectivity.

## D2

**How will the proposed investment be utilised to transform the delivery of public sector services by making as many services as possible available online?**

Nottingham City Council is currently embarking a major transformation programme called ‘Citizen First’ which will improve and expand the opportunity for people to access services and information online.

A key part is close work with partners to ensure a seamless, more joined up experience for people who access online public sector services. This will lead to an increase in the number of transactions carried out online; an expansion of the City Council's already successful use of social media channels such as Facebook and Twitter and easy mobile access to online services.

Through Citizen First and the related digital engagement strategy, the Council is working with partners to gear up public sector services so that they are ready for increased demand, and through initiatives such as the Super-Connected Cities project, are able to access them online. Widespread availability of ultrafast wireless will further improve the accessibility of these services.

- The proposals in the bid will allow health and social services to develop more effective home care packages supported by devices that can be placed in clients' homes and connected by 4G technology
- Public inclusion and transparency of services will be enhanced by the online availability of public services, allowing for more democratic and reactive city governance
- Improved connectivity will allow more people to work from home, reducing overall traffic congestion and carbon emissions, thus contributing to making Nottingham a more environmentally friendly city
- Nottingham's citizens will benefit from an improved jobs-market with 13,000 new jobs created. The education provided in new technology will also bring about long-term employability benefits of a workforce with a higher level skills base

## D3

**Proposals for delivering social benefits, possibly including: online involvement in democratic processes; flexible working; more flexible local labour markets; changing patterns of work; more online commerce.**

There is potential for unprecedented social benefits to be delivered as a result of improved access to broadband in Nottingham. These social benefits will be realised both by direct improvements to public services and indirectly through a boost to the local economy, providing access to fast, convenient services for everyone.

The proposal to provide dark fibre to SMEs and wireless connectivity in public venues throughout the tram route is an exciting and enabling opportunity – allowing both public services and the private sector to bring direct benefits to Nottingham citizens. Some key areas where this will have particular impact are as follows:

- The new tram routes through Clifton, and the current line 1 through Bulwell, are areas which are known to have high levels of digital exclusion. The proposal will provide a base for greater supply side access, particularly coupled with the proposal to deliver wireless access at public venues in these locations
- Greater, wider ranging availability of mobile broadband both in outdoor areas and in public venues should make more flexible and mobile working possible, both within the Council and for other organisations. This is particularly the case in the areas of health and social care where the roll out of 4G technology would make mobile working even more effective



## E1

**Demonstrate how the Local Authorities involved will expedite the installation of new infrastructure by ensuring that wayleaves, streetworks and other permissions required for access to public land and properties are made available in a timely fashion.**

- ‘Major Work’ traffic restrictions will be avoided, with fibre works taking priority over other utility works planned in the areas
- Wayleaves and Equipment Positioning will be granted to public buildings
- All necessary planning permissions are facilitated

The building of extensive duct and fibre networks in dense urban areas can be expensive, difficult to plan and obtain multiple permissions, and also very time consuming to build. The local authority's involvement in the development of the tram network has ensured that ducting will be in place along the full length of the tram. Inspection chambers will also be located in key locations along Phase two as it is built, and a programme of ‘retrofitting’ phase one of the tram will involve placing inspection chambers in suitable locations. The local authority will involve its appropriate transport planning teams to ensure this is programmed suitably in advance and delivered in a timely fashion.

As sites along the route are being developed, the City Council will work with developers through site based regeneration plans to ensure that connections into sites are installed as part of a wider set of infrastructure works. Already the City Council has ensured that provision for ducting into The Portal site has been incorporated into a site access improvement scheme that will ensure no further digging will be required to access the site.

Initial surveys have already been undertaken in areas such as The Lace Market, a conservation area, and it is felt that deploying fibre throughout this area would not involve any particular difficulties, especially as most of the fibre will pass along pedestrianised routes. The City Council's planning team will ensure that through our extensive asset holdings and powers all permissions are obtained in a timely fashion. A significant number of properties included in the bid are owned by the City Council – especially the public venues earmarked for Wi-Fi, and the City Council will ensure permissions and wayleaves are arranged in a timely fashion. The City Council will also work with private owners to ensure that wayleaves and permissions are resolved at the earliest possible time in the process.

Access to street furniture will be coordinated by the City Council with the aim of open access transmission solutions that therefore minimise the use of street furniture and avoid the possibility of street clutter. In addition the City Council will ensure that:

- Detailed roll out plans are agreed with all interested parties at the start of the project

## E2

**Indicate how engagement with large private owners of properties and land will be used to facilitate access for the deployment of infrastructure.**

The project has the support of a significant number of property owners, including in The Lace Market area, and the major owners of the key strategic sites including the Enterprise Zone. The City Council is already working on the development of key regeneration sites with the private sector partners through partnerships bodies including the Nottingham Regeneration Ltd (NRL) and Nottingham Development Enterprises. Long standing regeneration work is ongoing in The Lace Market and through this excellent working relationships have been developed with property owners in the area who are all seeking improvements to their digital infrastructure.

## E3

**Detail any other steps the Local Authorities will take to facilitate network deployment and up-grading.**

Nottingham City Council will establish a partnership body to oversee the commercial deployment and any further upgrading on a continuing ‘open access’ basis.

The actual operation of the network will be undertaken by a commercial operator on the terms stipulated by the partnership. The operator will be procured through an open tendering exercise, and consideration will be given to profit sharing with the commercial operator which will be channelled into on-going upgrades and further deployment.

Given that there will be sufficient dark fibre available to service existing and future needs it is expected that further deployment will occur once the network is established as more sites and public bodies acquire access to the dark fibre available.





## F1

### Show how the proposed infrastructure investments and business models to be used will comply with State Aid rules.

The aim of this intervention is to promote economic growth through the creation of a neutral supporting infrastructure designed to:

- Encourage investment in new services and connectivity
- Promote innovation in new types of service and application
- Encourage new entrants in the digital value chain and so increase competition

Our case is that a fully open, passive infrastructure gives maximum scope for innovation and competition that would not otherwise be possible. We argue that insofar as any State Aid is granted, it addresses areas of market failure, is not market distorting, potentially ameliorates existing distortions, and is designed to facilitate the development of economic activities.

**Ambition:** The development of the digital and creative sector has been identified as a strategic priority in the Nottingham growth plan. Nottingham has strengths in all parts of this sector, in technical as well as creative areas. The development of the sector is thus best served by offering the opportunities at all parts of the digital value chain. Thus we are focusing on passive rather than active provision, and, with some small exceptions, focusing on nodes and primary links rather than access networks. We aim to create an infrastructure that will encourage investment by carriers and service providers with a view to kick-starting peering activity, which in turn will stimulate demand, and so enable Nottingham to provide a competitive environment for digital-led businesses.

**State Aid:** For there to be State Aid, there must be:

- an intervention by the state or through state resources
- which confers an economic advantage on the recipient
- which distorts or threatens to distort competition; and
- which is liable to affect trade between Member States.

Insofar as this intervention will create publically and mutually owned assets, open to all market players, we believe that there is no benefit conferred on any commercial player that distorts competition, and thus that there is no State Aid. Partners will be sought to aid the City Council in the construction, maintenance, operation and commercialisation of the network, however these partners will be chosen by open procurement procedures and restricted to the open, passive, wholesale network.

If it is the opinion of The Commission that such partners are beneficiaries of State Aid, we further argue that the aid is justified because it addresses market failure, corrects rather than creates distortions, and is well designed to achieve the objectives of the City without adversely affecting trading conditions.

**Objectives:** The market conditions in Nottingham are suitable for new investment that uses this infrastructure to support new business clusters and access networks.

Where direct investment in access network is proposed, for example in The Lace Market area, there is a direct connection with the ambition to enable high growth digital-led businesses to flourish. Property owners will be encouraged to make the necessary investments in their properties to provide their tenants – mostly SMEs – with:

- Access to ultrafast internet services from competing service providers currently unavailable at affordable prices, or prices commensurate with similar services in competitor cities in Europe
- Access to point-to-point dark fibre to construct and develop their own new services
- Access to server and switching co-location to build new applications and services

We therefore believe that, in accordance with Article 107 3 c, any State Aid is justified.

**F2**

**Summarise any information you have received from the Commission that supports the view in F1.**

As yet the City Council has not obtained any specific views directly from the Commission on this particular proposal though has received detailed briefings from other Core Cities who are currently pursuing State Aid notification.



## G1

Please complete this funding table detailing proposed funding make up and profile. Non-monetary resources to be contributed to the project should be set out in Section C.

G1.	2012-2013	2013-2014	2014-2015	Notes
<b>Main Backbone</b>				
- Line one retrofit				
- Phase 2 ducting				
- Phase 2 fibre				
<b>International Carrier</b>				
- Hibernia Atlantic				
<b>Resilience</b>				
- Phase 2 new				
<b>Strategic Sites</b>				
- Enterprise Zone				
- Rolls Royce site				
- Other strategic sites				
- Connect buildings on sites				
<b>SME Areas</b>				
- Lace Market FPTB				
- Lace Market connect buildings				
- Castle Quarter FPTB				
- Castle Quarter connect buildings				
- Council House spur FPTB				
- Council House connect buildings				
<b>Public sector buildings</b>				
- Connect to backbone fibre				
- Wi-Fi install in public venues				
- Connection to Multi Tenant housing blocks				
<b>Hub Locations</b>				
- Neutral Zone in The Portal				
	<b>Millions</b>	<b>Millions</b>	<b>Millions</b>	
£8,109,244				
(£1,103,149 option).				

**Private sector investment**

£30m anticipated investment at The Portal

**UBF funding**

£7,562,625 with additional £1,103,149 option

**Other funding (Local Authority &c.)**

£546,660 – tram ducting

£250,000 – SME loan fund

£80,000 – Ultraband

**Other funding (European/ERDF)**

£2,472,000 – ERDF sector development

## Totals

Approximate number of premises, residential / non-residential, covered by the funding.

The route of the fibre along the existing tram line and planned extension as Phase 2 passes closely to all the city's important economic and employment locations.

Line one extends north from the station, passes The Lace Market and goes through the City centre past Nottingham Trent University, eventually terminating in Hucknall near the new Rolls Royce strategic site.

The city centre alone has a total of 1,450 commercial offices, and the numbers included in the key target sector cluster areas are as follows:

- Lace Market – 272
- Castle Quarter – 268

There are significant other accessible SME locations along the full length of line one, and especially in Hyson Green, Phoenix Park, Basford and Bulwell.

Phase two of the tram including lines to Beeston and Clifton will pass through some of the most significant and important strategic employment locations. Further details of these strategic sites are listed in section A.

It is estimated that there are more than 2,000 workplaces directly accessible from the new line including 20 of the 30 largest employers in the City.

The key strategic sites in the target area that are partly developed have approximately 100,000 sq metres of mainly commercial office space supporting approx 5000 jobs. There are additional planning permissions for a further 150,000 sq metres of commercial office space including at the Enterprise zone.

The bid will also include connecting upto four high and medium rise housing blocks on the route and it is anticipated approximately 250 residential properties will be connected in these blocks.

## G2

### Funding Structure

#### G2.1 Describe any modelling that has been used to arrive as the funding estimate. (Full details not required at this stage.)

Initial outline modelling was undertaken in October 2011 by the City Council to establish the business case of investing in additional ducts in phase two of the tram during its construction period and in advance of having developed a full business case and business model for its eventual commercialisation. An independent consultant concluded that only very modest take-up of dark fibre priced at a level considerably less than the current cost of leased lines would

allow for repayment on investment over a suitable period. A very modest take up by 20 fibre customers after 10 years would have allowed repayment in year 20. Further more detailed modelling will be undertaken based on this much more comprehensive infrastructure deployment.

#### G2.2 How will the capital funding be spent and who will own the infrastructure? For example, do you propose to lease equipment from a private sector contractor (cabinets) or own the capital investment (laying cable, installing wireless) or will the private sector contractor own the capital investment?

Costs outlined above in G1 relate almost entirely to civil engineering assets and equipment installation that will be retained entirely in public ownership by Nottingham City Council. All equipment located in the 'Neutral Zone' and 'Hub' will be owned by the Council. It is however likely to be located in a private premises where the selected operator will lease space on a long term basis. All of the wireless equipment in public venues will also be retained in the City Council's ownership.

## G3

### Describe the commercial model that you propose to use. Give the reasons for your choice and, if it is a JV/PPP or alternative model, the nature and key principles of the risk bearing arrangements.

The preferred operating model will have the City Council retaining ownership of the infrastructure while selecting a technical partner to undertake all operational requirements including managing the Neutral Zone, installing fibre to buildings, monitoring the performance of the network, maintaining service levels, supporting customers, sales and all customer relations.

The City Council considers that a specialist company is required to undertake this role, and also they would be required to operate on a commercial basis within the aims and objectives set by the City Council. It is anticipated that the arrangement would also involve a profit share for the city.

While the commercial model has not yet been fully scoped or developed it would almost certainly require the technical partner to bring additional investment to the project and bear a significant risk in the delivery of the partnership objectives. In going out to tender for such a partner it is likely that the City Council would be seeking to guarantee a certain level of return while at the same time sharing in profits.



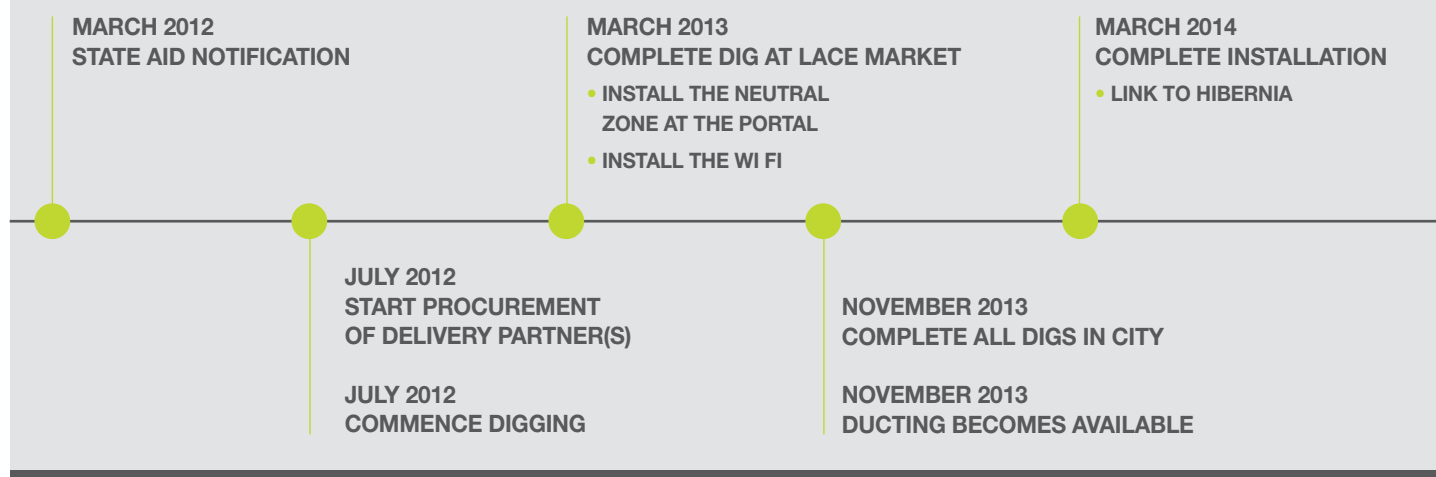


## H1

**Timely development, procurement and delivery timescales to ensure delivery is completed no later than March 2015.**

The development timescale following is made possible as the City Council already has a framework agreement in place that will enable digs to commence immediately after the announcement of funding, and thereby ensuring early completion of the most challenging aspect of the delivery.

**The key milestones for the project and the dates for when they need to be achieved are as follows:**



Nottingham City Council will oversee the project and liaise closely and frequently with each of the project's delivery partners, ensuring all contract clauses and conditions are fully adhered to. Nottingham City Council will manage:

- Contract Management via monthly project meetings
- Issue resolution
- Stakeholder Management
- Financial Management
- Risk Management
- Scheduling
- Change Management
- Partner Updates

Nottingham City Council has tried and tested project management systems and processes in place to:

- Establish project control procedures and decision making protocols to ensure the effective management of the project
- Develop the project within clearly established and agreed project parameters
- Facilitate transparency of all management systems and procedures – for audit purposes
- Facilitate selection of the right people and organisations to deliver the project through the establishment of robust qualitative and quantitative measurement criteria focusing on the specific skills, service or products required
- Maintain and ensure a focus on the time, quality and cost objectives for the project

- Manage costs effectively
- Establish an effective project reporting structure
- Put in place an effective risk identification and management system
- Regularly review the performance of the project instigating any corrective measures or actions necessary where performance is not the required standard as well as praising performance where appropriate

A project Steering Group has already been created and will meet on a monthly basis throughout the project. The Steering Group will be responsible for overseeing the delivery of the project, including:

- Agreeing the Annual Delivery Plan for the programme
- Overseeing performance against targets/outcomes and outputs
- Assessing the Equalities and Environmental Impact Assessment data
- Agreeing the marketing and communications strategy
- Agreeing the monitoring and evaluation plan
- Providing links with existing best practice
- Providing links with other potential partners
- Providing strategic direction
- Ensuring the project is meeting its original vision and objectives
- Champion and support the development of the programme
- Dissemination of the progress and successes of the project

## H2

### Give the proposed timetable for procurement and demonstrate how cost effectiveness will be achieved

The Council will seek a private partner to build and operate the core infrastructure, including the Neutral Zone (which is where the fibre will terminate and where connections will be made with the internet via switching equipment); and the fibre itself including installation to buildings; and all operation.

The following key elements of our procurement plan will ensure cost effectiveness and successful delivery of our proposals:

- 1 We will consider a separate procurement to build and operate as they are different skill sets and could allow local businesses better chance to succeed.
- 2 A separate partner will be procured to build and operate a Lace Market hub (or separated).
- 3 The council will also procure all other elements including Wi-Fi, housing pilot connections, and link to Hibernia.
- 4 The council will undertake all necessary civil engineering requirements, including building a link to Hibernia Atlantic without the need to go through additional procurement processes as it is covered by an existing framework agreement.

Nottingham City Council will undertake the lead role for State Aids Notification and procurement and envisage the following timetable:

State Aids Notification process will commence immediately with the aim of submitting documentation to the European Commission when the funding is announced in March 2012. While we understand detailed funding allocations may not be confirmed until July 2012, a case be progressed in advance of the detailed decision. It is therefore hoped that procurement processes can commence immediately funding is confirmed. In addition to notification a detailed procurement plan will be ready for implementation from funding confirmation date. It is anticipated that procurement of the main delivery and construction partner will go through the OJEU process and is likely to take 3-6 months to complete. The process will be expedited by having a plan and all documentation prepared in advance of this date.

The following procurements are anticipated to commence July 2012 and complete by December 2012:

- Selection of operating partner
- Procurement of The Portal Neutral Zone equipment
- Procurement of Wi-Fi equipment
- Procurement of The Lace Market Hub equipment

## H3

### The proposal should demonstrate its fit with the Government's approach to using SMES in delivery.

Nottingham City Council is dedicated to ensuring that local SMEs can access public sector contracts, and committed to supporting the Government's aspiration that 25% of public sector spend should go to SMEs. Nottingham City Council has already put in place a number of flexible procurement measures to ensure that small and medium sized businesses can be successful in tendering for contracts, including for example:

- Developing new products and initiatives in close working partnership with industry
- Breaking large contracts into smaller lots
- Working with major suppliers to increase SME access to sub-contracting opportunities
- Increasing the amount of information that is available to SMEs about contract opportunities
- Holding Product Surgeries for SMEs to pitch innovative ideas
- Piloting new procurement methods that are more open to SMEs

## Sign off by Local Authority CEO



Sign off by Local Authority CEO, Section 151 officer or  
Portfolio-Holding Executive Member

Name of proposal: **Super-Connected Nottingham –  
Nottingham's Bid to the Urban Broadband Fund**

I verify that this proposal to the Ultrafast Broadband Fund fits with corporate policy

Signed:

Name: **Jane Todd**

Job Title: **Chief Executive**

Date: **10/2/2012**

# Appendices

## Maps

1.

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2.

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**3. Distribution of Target Locations:**

- a. Higher and Further Education
  - b. Medium and High Rise Blocks
  - c. Joint Services Centres
  - d. Key Strategic Sites
  - e. City Centre Ducting and Service Tunnels
  - f. Libraries, Museums and Other Centres
- 

**4. Context Maps**

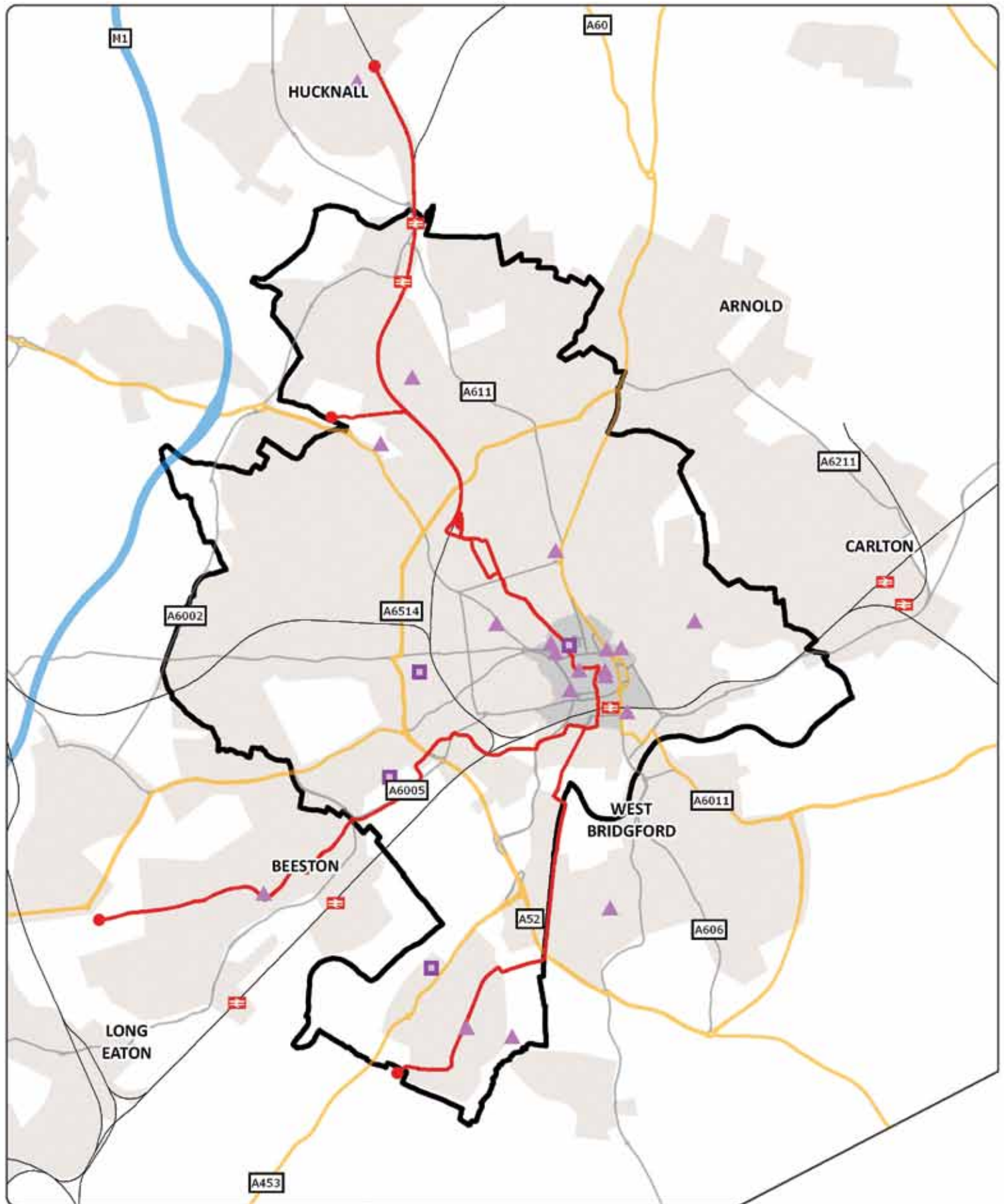
- a. Contextual Plan of Nottingham
  - b. Transport Corridors
- 

5.

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### 3a Further and Higher Education



#### Key

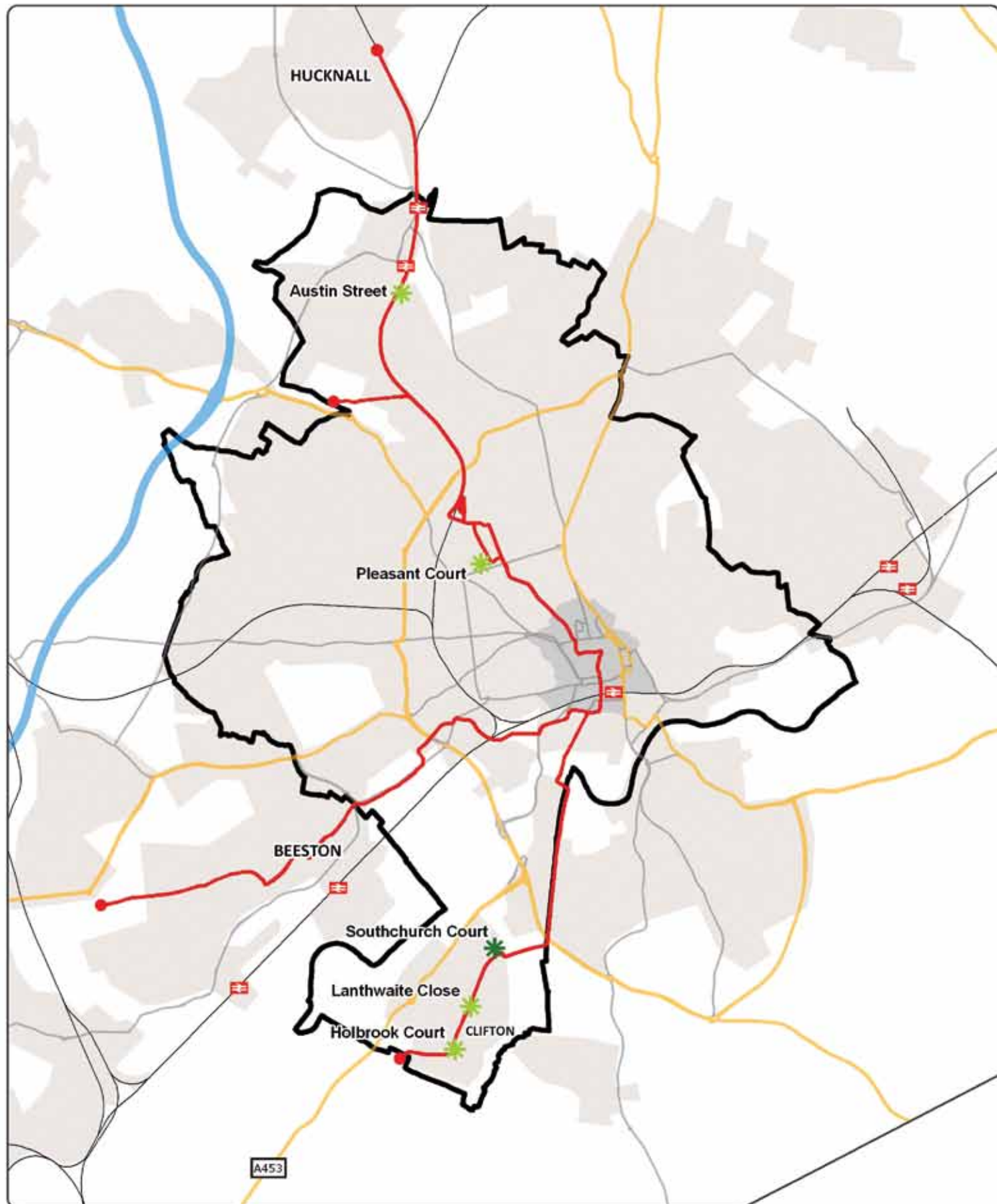
- ▲ Further Education
- University Sites
- NET Routes
- Rail\_Line\_100k
- City Centre
- City of Nottingham

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0 425 850 1,700  
 Meters



### 3b Medium and High Rise Blocks



#### Key

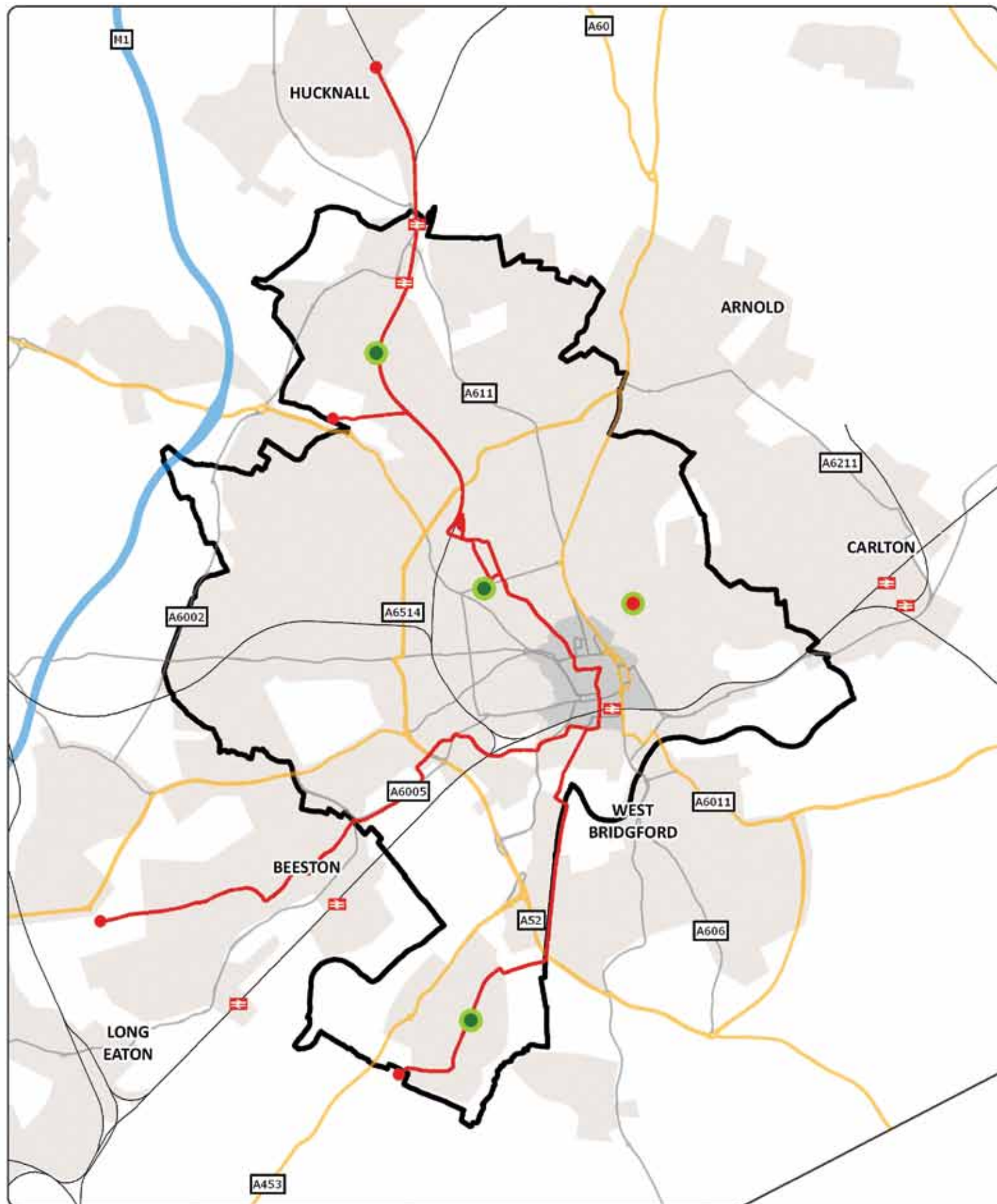
- ★ High Rise
- ★ Medium
- Motorway
- Primary Road
- A Road
- City of Nottingham
- City Centre
- NET Routes

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Miles  
0 0.25 0.5 1.0





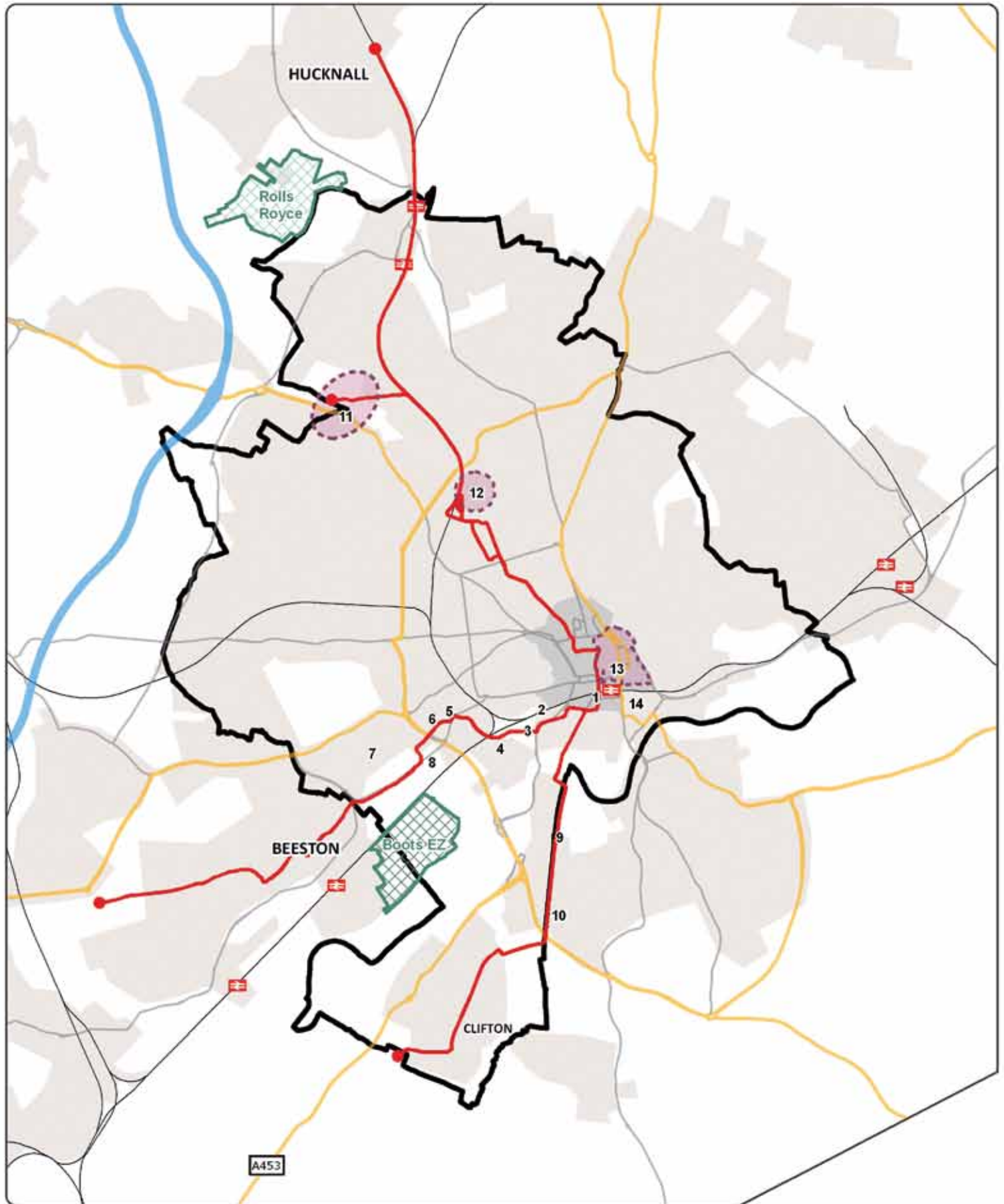


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- |  |   |  |                    |
|--|---|--|--------------------|
|  | Joint Service Centre - Open               |  | NET Routes         |
|  | Joint Service Centre - Under Construction |  | City Centre        |
|  |   |  | City of Nottingham |

### 3d Key Strategic Sites



#### Key

- NET Routes
- SMEs
- Enterprise Zones

- City of Nottingham
- City Centre

#### Strategic Sites:

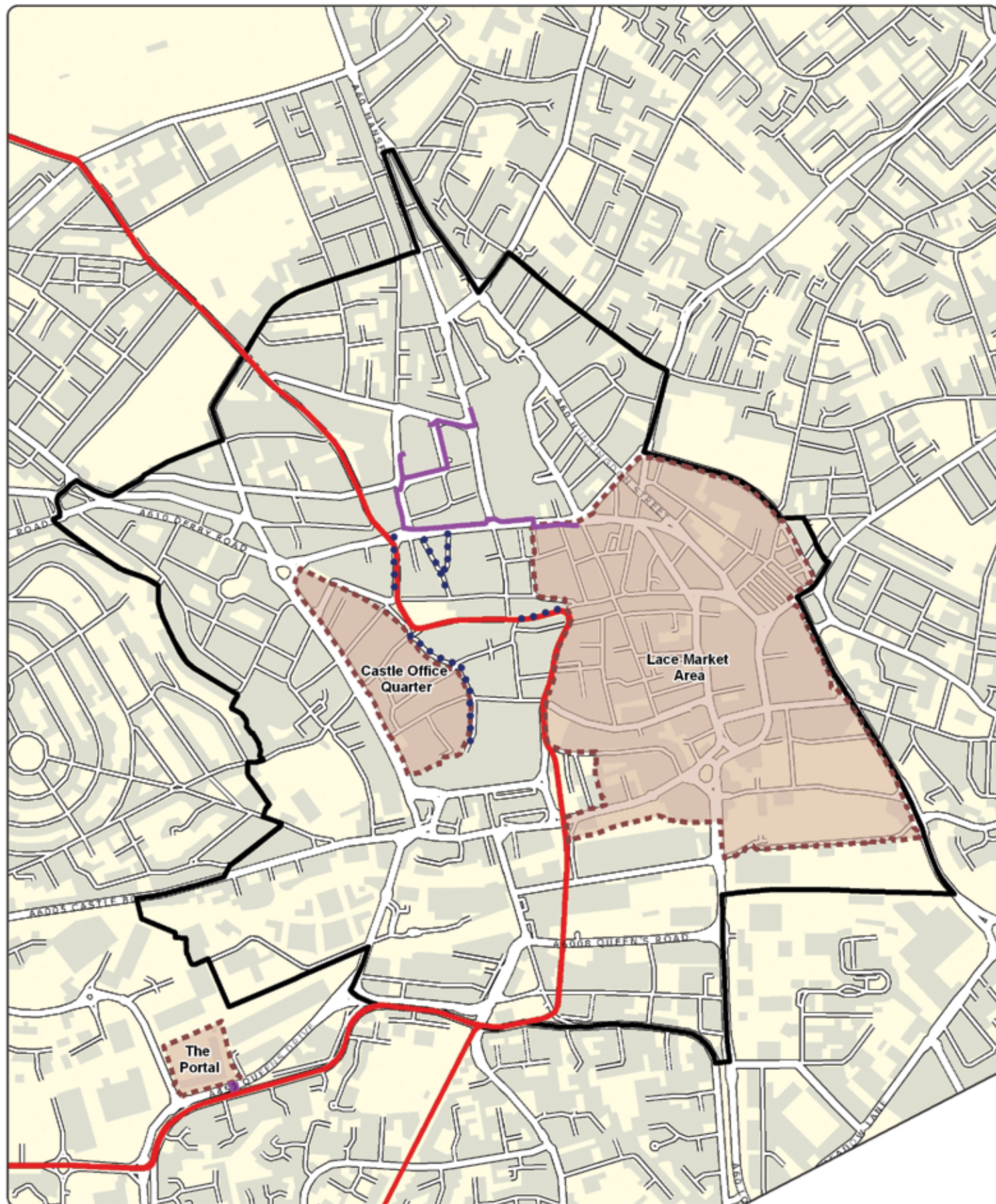
- |                             |                            |
|-----------------------------|----------------------------|
| 1. Nottingham Railway       | 8. Nottingham Science Park |
| 2. The Portal               | 9. Wilford Lane            |
| 3. NG2                      | 10. Ruddington Lane        |
| 4. Lenton Lane              | 11. Phoenix Park SME       |
| 5. Medi Park                | 12. Basford SME            |
| 6. QMC                      | 13. Lace Market SME        |
| 7. University of Nottingham | 14. The Island Site        |

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Key

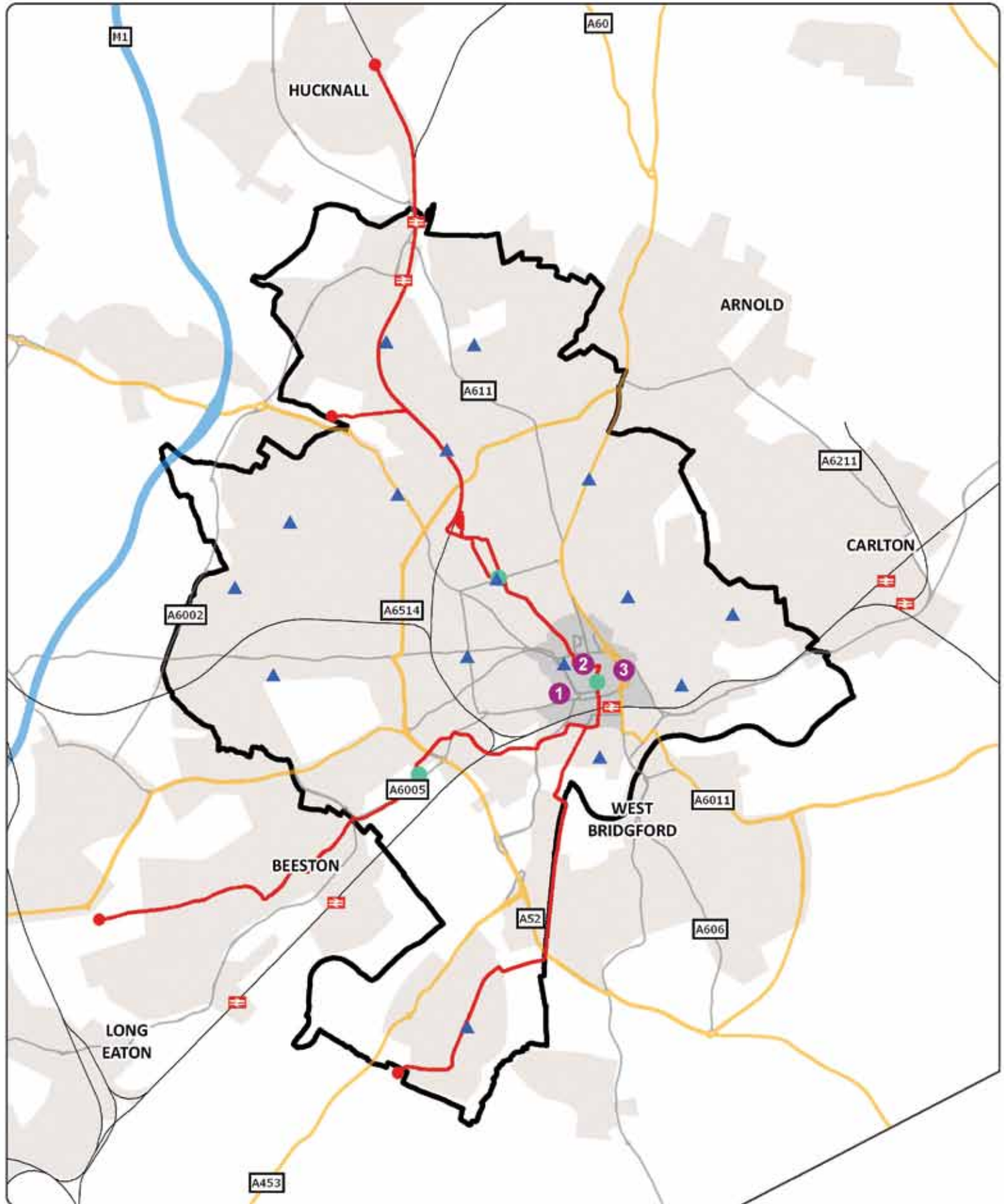
- Tunnels
- NET Routes
- Ducting
- City Centre

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Metres







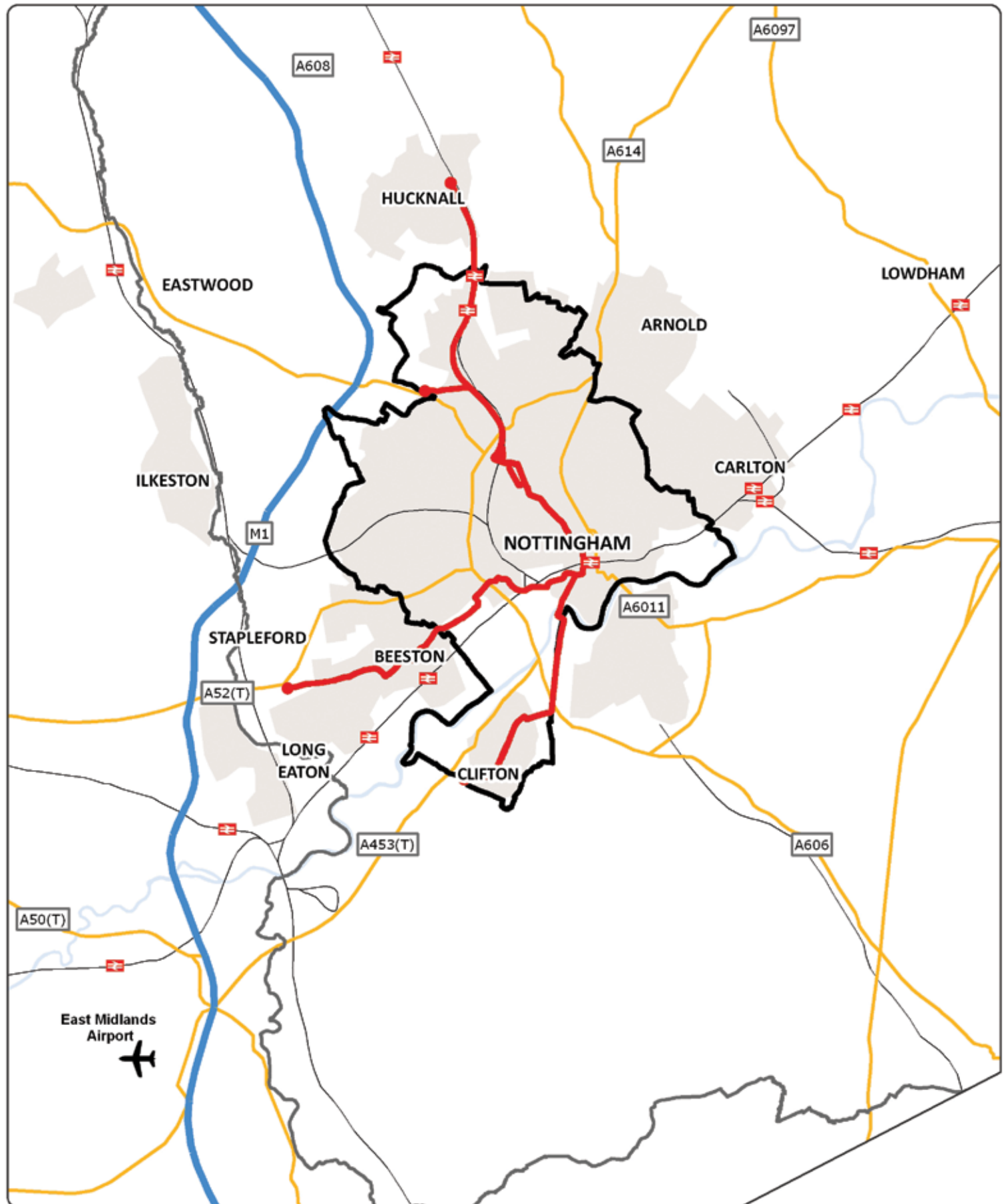
## Key

- ▲ Libraries
- Museums and Galleries
- 1 Nottingham Castle
- 2 Tourist Information Centre
- 3 National Ice Centre
- NET Routes
- Rail\_Line\_100k
- City Centre
- City of Nottingham

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 Metres





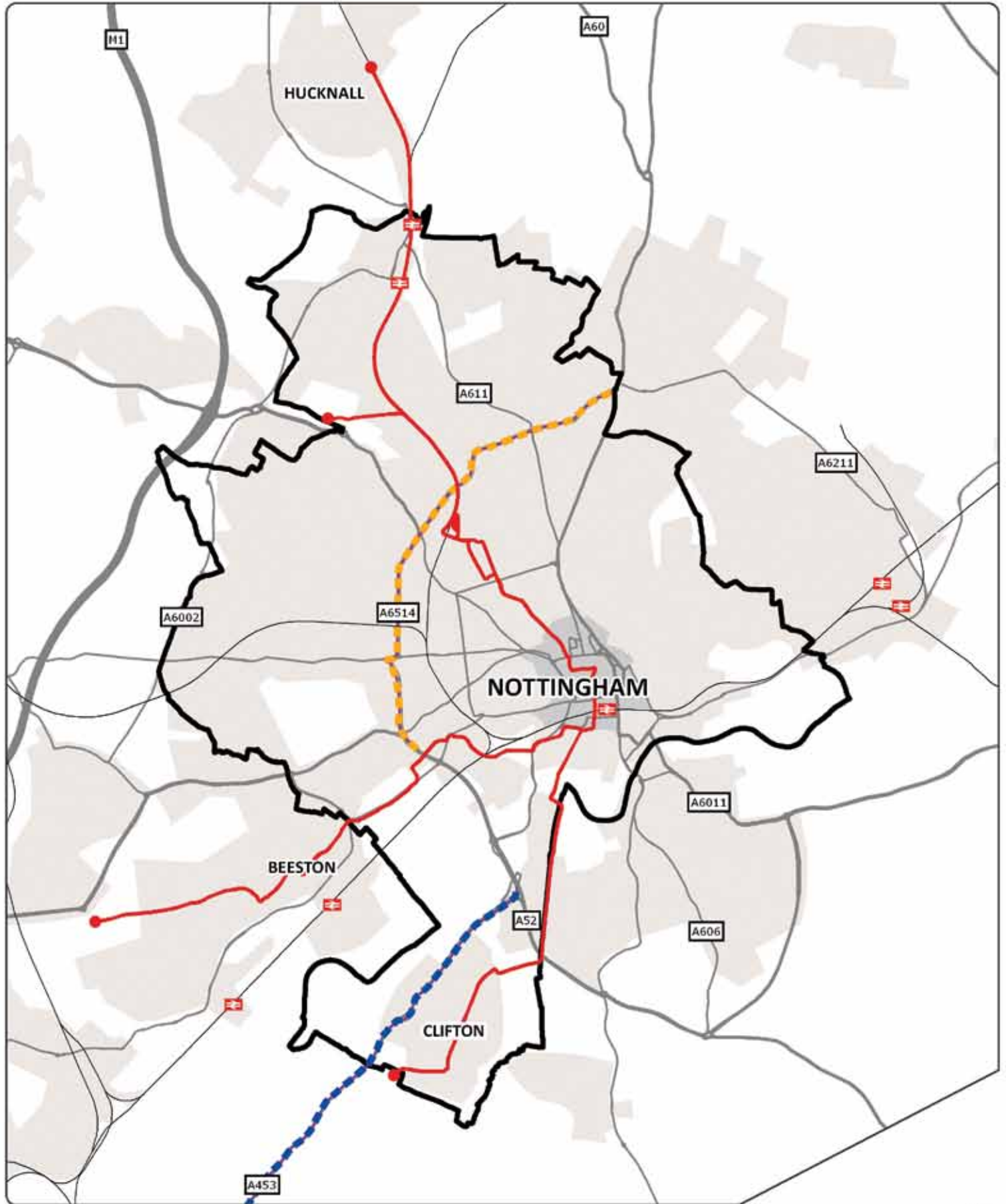
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- City of Nottingham
- Nottinghamshire
- NET Routes

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0 800 1,600 8,400  
Meters





Key

- NET Routes
- A453 Widening
- Ring Road Improvements
- City of Nottingham
- City Centre

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Scale: 0 400 800 1,600 Meters

