

Mobility Hubs

A Strategic Study for the South East of
Scotland/SEStran region

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Introduction

01

The South East of Scotland Transport Partnership (SEStran) is the Regional Transport Partnership of eight local authorities: the City of Edinburgh, Clackmannanshire, East Lothian, Falkirk, Fife, Midlothian, the Scottish Borders, and West Lothian.

SEStran recognises an opportunity to bring the concept of Mobility Hubs to the South East of Scotland and has commissioned Steer to explore opportunities for development of Mobility Hubs in the region. The study was funded through the LEZ Public Transport Provision Fund by Transport Scotland.

SEStran is a SHARE-North delivery partner. The Interreg North Sea Region Project "SHARE-North"¹ includes activities for developing, implementing, promoting Mobility Hubs and assessing car sharing, bike sharing, ride sharing and other forms of shared mobility in urban and rural areas and employment clusters.



The core purpose of this report is to demonstrate the role and scope of Mobility Hubs within the specific regional context of the SEStran region, to devise a framework for their successful implementation and to identify potential locations for introducing Mobility Hubs.

The report has been developed based on:

- Desktop research and a literature review of planned and implemented Mobility Hubs and available guidance on implementation of the hubs worldwide (see Appendix A);
- Stakeholder engagement with representatives of implemented Mobility Hubs and potential providers of Mobility Hubs components (see Appendix B);
- Engagement with local authorities in the SEStran region; and
- Review of national and regional SEStran policies and strategies.

¹ <https://share-north.eu>

The report is structured as follows:

02 Chapter

Answers the question "What is a Mobility Hub?" by providing definition and objectives of Mobility Hubs supported by the case studies from around the world. It also shows the alignment of the Mobility Hubs concept with national and regional policies in the SEStran region.

03 Chapter

Introduces Mobility Hubs typologies and related components.

04 Chapter

Presents an implementation framework for Mobility Hubs covering pre-planning, planning and implementation phases.

05 Chapter

Covers stakeholder engagement and communications listing the key stakeholders involved in planning and implementation of Mobility Hubs.

06 Chapter

Presents potential operational and management structures.

07 Chapter

Explores potential locations for implementation of Mobility Hubs in the SEStran region.

08 Chapter

Summarises recommended next steps.

09 Chapter

Presents a set of maps for each local authority in the SEStran region.

What is a Mobility Hub?

02

Definition and Objectives

Mobility Hubs present an opportunity to integrate public transport and shared transport (such as bike share and car clubs) to enhance connectivity and user experience, encouraging and facilitating more sustainable travel in the SEStran region. Through implementing joined up transport-services more effectively, there is potential to maximise the benefits of more sustainable transport and minimise the negative effects of private car travel such as congestion, poor air quality and inequalities.







Mobility Hubs are an evolving concept with some of the first developed by the City of Bremen, Germany, and later expanded to cities and regions in Norway, Belgium and the Netherlands as part of the SHARE-North project.² Existing definitions of Mobility Hubs follow common themes and concepts, recognising a Mobility Hub as a link between sustainable and shared transport modes supplemented by additional facilities and features which benefit and attract the user.

Definition

Based on desktop research (see Appendix A) and supported by engagement with local authorities, this study defines a Mobility Hub as follows:

"A Mobility Hub is a recognisable and easily accessible place which integrates different transport modes and supplements them with enhanced facilities, services and information aimed at encouraging more sustainable travel, creating sense of place and improving journeys and travel choices"

For a place to be defined as a Mobility Hub, it should meet the following criteria:

-  Co-location of public transport and shared transport³ (at least one or more public transport mode; and one or more shared transport mode);
-  Safe and secure bicycle storage;
-  A place for everybody (good lighting, visibility, accessibility and safety);
-  The redesign of space (improving the surrounding public realm);
-  Serves local needs (residential population, employment, visitors or multiple user types); and
-  Identify the space as a Mobility Hub through a branded pillar or board and provide travel information, which is clear and visible.

²The Interreg North Sea Region Project "SHARE-North" includes activities for developing, implementing, promoting and assessing car sharing, bike sharing, ride sharing and other forms of shared mobility in urban and rural areas and employment clusters: : <https://share-north.eu>. SEStran is a SHARE-North delivery partner.

³Such as bike share and car clubs

Objectives

The key objectives of Mobility Hubs in the SEStran region are presented below:



Economy

- Improve connectivity through the integration of transportation options and other services.
- Integrate shared mobility to complement the existing transport network.



Accessibility

- Promote inclusivity and follow design standards for disabled people or those with mobility impairments.
- Improve accessibility for those with limited transport choice or no access to a car.
- Support people to make informed travel choices through integration and provision of information.



Environment

- Support low carbon choices and reduction of emissions.
- Increase use of shared mobility as an alternative to the private car and facilitate a shift to more sustainable and active modes to reduce car ownership.
- Encourage behavioural change and facilitate a modal shift to more sustainable modes of transport.



Safety and Health

- Ensure safety and security for people using the hub.
- Create a sense of place and community and reallocate space in the public realm through placemaking and effective land use.

Case Studies

There is a range of implemented and planned Mobility Hubs around the world which include those with a different objectives and focus. This section presents case studies highlighting emerging practice and lessons learnt. More information on the international case studies is presented in Appendix C.

Case study 1. Mobility Hubs, Vienna, Austria - Integrating MaaS with Mobility Hubs

The Vienna Mobile Station (WienMobil Station) Simmeringer Platz was launched in the city in September 2018. The facility features a series of mobility options including public transit, e-bike sharing (Simbike), car sharing, an e-charging station (WienEnergie), a cargo-bike (Simbike), bike-safety-boxes (Safetydock), a bike pump and an information screen. The station has been developed by Wiener Linien (public transport authority). It is a part of the EU-funded urban renewal project "Smarter Together".

Figure 1. WeinMobil Station



Source: SmarterTogether, Mobility Point & WienMobil presentation

The idea behind the project is to improve public transport connectivity such as bus, rail and tram, and provide a range of first/last mile transport solutions to encourage shared mobility use. The services can also be accessed through the Wiener MaaS platform, which features both physical and digital integration of transportation services.

Case study 2. Transport corridors and suburbs - Bremen, Germany - network of mini hubs and focus on shared mobility

The Municipality of Bremen, Germany, introduced the concept of Mobility Hubs or "mobil.punkte" in 2003 with implementation of large hubs. In 2014 a network of smaller hubs was also built. The Mobility Hubs are also supported by the SHARE-North project.

The network currently consists of more than 40 hubs with ten large hubs supported by smaller hubs located in neighbourhoods where daily trips start. A hub with four or more car club spaces is considered a large hub with smaller hubs having one to three car club spaces.

Figure 2. Mobil. punkt, Bremen



Source: SHARE-North, UK Mobility Hub Guidance 2019/20, CoMoUK

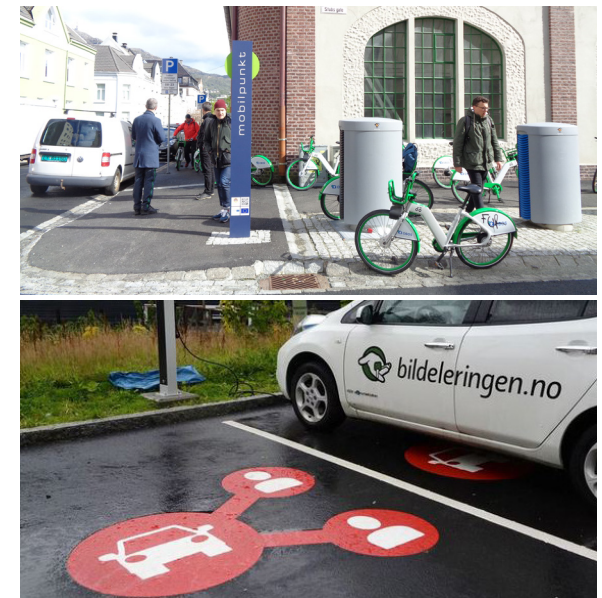
The key objectives of the hubs are to provide an alternative to a private car through provision of shared transport, to reduce car ownership, to reclaim the street space for people and to reduce vehicle

emissions. The key elements of the hubs include car clubs, safe places to lock bikes and specific branding and marking on the streets. Last mile delivery will be tested in Bremen this year alongside car clubs with EVs and bike pumps.

Case study 3. Mobility Hubs, Bergen, Norway - Integrating electric car clubs

The Mobility Hubs in Bergen are a direct result of the transnational cooperation in the SHARE-North project and were directly inspired by the City of Bremen's "mobil.punkt" concept. The city of Bergen launched its first Mobility Hub (Mobilpunkt) in the Møllendal neighbourhood in May 2018. The Mobility Hub features spaces for car club vehicles, bicycle parking, easy pedestrian access and public transport stops. It also includes rubbish collection facilities and secure bicycle hangers that can be rented by residents to park e-bikes. The aim was to develop a Mobility Hub that caters to the wider needs of the local community.

Figure 3. MobiPunkt.



Source: SHARE-North, UK Mobility Hub Guidance 2019/20, CoMoUK

After implementation of the first hub, the city launched eight Mobility Hubs across the city centre and residential areas to promote car clubs and reduce private car ownership. EV charging infrastructure for the shared vehicles is available at each hub and some of them also have digital pillars providing travel information.

Case study 4. Tim Mobility Hubs, Linz, Austria - Integrating MaaS with Mobility Hubs

The city of Linz introduced smart Mobility Hubs (multi-modal nodes) called 'Tim' in three centralised mobility hotspots of the city: the main square, LINZ AG Center and the Johannes Kepler University. Each location features a range of mobility options including EV car club vehicles, bike parking spaces, EV charging points and car rental options in addition to public transport connectivity.

The project is funded by the Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMVIT), Austria and the city of Linz received €1.1m for the development and implementation of the Mobility Hubs.

Figure 4. Tim Hubs Concept in Linz.



Source: CIVITAS, UK Mobility Hub Guidance 2019/20, CoMoUK.

The idea is to improve connectivity between central city locations and areas with limited public transport availability in order to reduce use of personal vehicles. The concept is based on the idea of sharing instead of owning cars.

Users can access Tim services and make payments through Tim Membership cards. Users can arrive at any Tim location by bike, walking or using public transport and access a range of shared services such as EV car club vehicles, collective/shared taxis at discounted prices and car rentals to complete their journey. Users can also park their bikes or charge their electric vehicles at the hub.

Case Study 5. Mobipunten, Flanders, Belgium - introducing additional services, e.g. click & collect

Inspired by the Mobility Hubs concept introduced in Bremen, Mobipunten were launched in 2017 in Flanders region by the partnership between Taxistop, Autodelen and Infopunt Publieke Ruimte supported by SHARE-North. There are plans for 15 municipalities to have at least one hub. Eight Mobility Hubs have been built, with plans to build ten more hubs by early 2021. The Flemish government incorporated the Mobility Hubs concept into a new policy vision launched in 2019.

Figure 5. MobiPunt concept, Flanders region.



Source: SHARE-North, Autodelen.net



Source: SHARE-North, Autodelen.net

The concept was originally considered on a neighbourhood level and has expanded to a city level. Currently, there is a broad range of hubs, from large stations to small hubs in rural areas. The components and services offered at the hubs vary depending on the type of hub. The key objectives of the Mobility Hubs are to increase use of shared mobility, promotion of multimodality and for the hubs to be inclusive, visible and accessible.

Case study 6. Mobipunten (Mobility Hubs), Kop van Noord-Holland, the Netherlands - exploring opportunities for new housing developments and re-purposing other sites

Funding has been made available through SHARE-North and support from the local government to develop a network of Mobipunten (Mobility Hubs) in the Kop of Noord-Holland region. There are 20 Mobility Hubs planned in the region and the first one opened in March 2020. The same branding and logo as in the Flanders region have been adopted.

The concept of Mobility Hubs has been adopted from Bremen but also expanded into implementing hubs in rural areas and in new housing developments. For example, a Mobility Hub pilot will be tested in Parkrijk, a new housing development in Rijswijk.

Each hub has its own business case and each neighbourhood has its own type of hub and selected

components, e.g. a high-end residential housing development may provide shared Tesla cars. Mobility Hub components can include recycling facilities, delivery lockers, car clubs, EV charging etc. The hubs should have a minimum of three facilities (e.g. recycling, public transport and delivery lockers), but there are no requirements for car clubs to be a part of the hubs.

Key lessons learnt

Mobility Hubs have the potential to bring together different modes of transport which facilitate onward travel, and / or improve first/last mile connectivity for users. Planning, implementation and management of Mobility Hubs, however, requires significant investment and local commitment to be successful. The key factors that need to be considered while implementing a Mobility Hub are summarised in Table 1.

Table 2. Summary of findings and lessons learnt.

Characteristics	Considerations
Location	<ul style="list-style-type: none"> The success or otherwise of a Mobility Hub is closely related to its location: Mobility Hubs are more beneficial in areas with high travel demand – access to employment, shopping or other needs. Hence, major transport hubs, city centres and dense residential areas are considered prime locations for Mobility Hubs. At the same time, Mobility Hubs can improve connectivity in rural areas but may not be commercially viable and would therefore require subsidies from the government. It can also be challenging to find space for a hub in the densest urban environments and city centres, which can be mitigated through land use planning or implementation of a network of smaller hubs, e.g. with more limited spaces for car club vehicles.
Components	<ul style="list-style-type: none"> Mobility Hubs may vary in size and components: each hub should be tailored to the needs of the users in the area and the objectives of the hub. Type of vehicles and modes provided should serve the local needs. For example, large hubs can have vans available for sharing with smaller hubs offering smaller cars for occasional use by local residents. Mobility Hubs should be designed to improve quality of place and public realm.

Characteristics	Considerations
Stakeholder engagement	<ul style="list-style-type: none"> Stakeholder engagement is of paramount importance in securing the buy-in from local stakeholders and leading to successful implementation and take up of the hubs. Mobility Hubs planning should include feedback from transport operators (both public and private), other service providers such as EV charging providers, technology providers and the local community. Stakeholder engagement and a communications plan should be developed and followed throughout the process of implementation of the hubs at different stages and for different audiences. When opening a Mobility Hub/s, it is important to engage local media and all stakeholders, for example inviting them to an official opening ceremony to promote the initiative.
Local Community	<ul style="list-style-type: none"> It is important to engage with the local community/ residents at the early stage of delivering Mobility Hubs to evaluate the demand and hence, viability of the service. They should also be engaged in determining the type of services to be included in the hub. The hubs can cause tensions from local communities as they can be perceived as taking away parking spaces for private cars. It is important to increase awareness of the benefits and advantages of the hubs and engage with local community throughout all implementation phases.
Monitoring & Evaluation	<ul style="list-style-type: none"> The impact of Mobility Hubs on travel behaviour, usage and wider transport objectives such as carbon emissions and congestion should be monitored to build an evidence base for planning the future expansion/ continuation of service provision. For example, number of car club vehicles rented per day, or number of EV charging instances. It is also important to establish a baseline and develop an understanding of existing travel behaviours prior to implementation of a Mobility Hub. A pilot project, which evaluates the overall impact of the hub in terms of demand for services and travel behaviour change for the services offered will be beneficial to provide robust evidence of its impacts and estimate benefits.

Characteristics	Considerations
Mobility Hub Network	<ul style="list-style-type: none"> The concept of a network of smaller hubs has been successful in Bremen, Germany, but it developed over time starting with pilots of larger hubs.
Accessibility and visibility	<ul style="list-style-type: none"> Accessibility is very important as the hub should be visible and easily accessible by all types of users.
Planning and implementation	<ul style="list-style-type: none"> Establishing new Mobility Hubs can take time and requires careful planning – working with multiple partners on a complex development may not happen fast or easily. There is not a perfect solution for Mobility Hubs and the approach to planning and implementation of each hub will need to be tailored.
Mobility as a Service (MaaS)	<ul style="list-style-type: none"> Both physical and digital integration of transportation services through a Mobility Hub will support adoption of MaaS. In Austria, the WienMobil station illustrates physical as well as digital integration through the Wiener MaaS platform.
Marketing and branding	<ul style="list-style-type: none"> A Mobility Hub should have coherent branding across the whole region. A clear recognisable logo associated with the hubs will increase visibility and user's awareness.
Knowledge share	<ul style="list-style-type: none"> There are Mobihub Planning Academies organised in partnership with SHARE-North project, which share knowledge about setting up and managing Mobility Hubs – it is important to learn from each other.
Maintenance and operations	<ul style="list-style-type: none"> The implementation plan should take into account future operations and maintenance and ensure there is a budget and a partner responsible for these activities.
Information Pillar	<ul style="list-style-type: none"> It is important to have an information pillar which can be digital or analogue. Digital pillars can have high implementation and maintenance costs and may not be viable in locations with lower population density or potential user demand.
Facilities	<ul style="list-style-type: none"> It is important to have the sufficient grid capacity in the energy network available in order to install higher powered EV charging infrastructure.

Strategic alignment with the Policy Context in the SEStran Region

The SEStran area is very diverse from both a geographic and socio-economic perspective. In terms of geography, the area has a wide range of urban and rural environments, from the capital city of Edinburgh, to very rural areas in East Lothian and the Scottish Borders. From an economic perspective, Edinburgh is considered as the main driving force of the SEStran region. From a socio-economic perspective, areas of deprivation can be found across most of the SEStran area. This diversity brings with it a wide range of transport needs, which Mobility Hubs have potential to address.

The key transport challenges and issues in the SEStran region on national, regional and local levels are presented in Figure 6.

Figure 6. Key transport challenges in the SEStran region



Table 2 considers the specific policy context of the SEStran region and explains how Mobility Hubs meet key themes drawn from the Scottish national and SEStran's regional transport policies developed to address regional and local transport needs and challenges mentioned above.




The list of policies, themes and objectives is selected from the following documents: National Transport Strategy 2020, SEStran Regional Transport Strategy 2015–2025 and the Climate Change (Scotland) Act 2019. A detailed review is provided in Appendix D.



Table 2. Policies with potential to be addressed by Mobility Hubs

Common Theme	Policies and strategies	Addressed by Mobility Hubs
A high-quality transport system	<ul style="list-style-type: none"> National Transport Strategy (NTS2) SEStran Regional Transport Strategy Local Development Plans and Local Transport Strategies 	<ul style="list-style-type: none"> Improve the end-to-end journey for people and freight by encouraging multi-modal trips and offering a possibility of seamless journeys to their users at Mobility Hubs. Provide interchange facilities to connect locally available modes of transport. Provide choice for different journeys and serve various user's needs. Potential to test Mobility Hubs in rural areas enhancing connectivity in isolated communities. Potential to test Mobility Hubs in locations with low car ownership enhancing connectivity and covering gaps in the transport network.
Improved accessibility	<ul style="list-style-type: none"> National Transport Strategy (NTS2) SEStran Regional Transport Strategy Local Development Plans and Local Transport Strategies 	<ul style="list-style-type: none"> Improve accessibility for various transport modes and cater for people with disabilities through inclusive design of the hubs. Potential to test Mobility Hubs in disadvantaged locations to enhance access to healthcare services and employment opportunities.
Emissions reductions	<ul style="list-style-type: none"> Climate Change (Scotland) Act 2019 National Transport Strategy (NTS2) SEStran Regional Transport Strategy Local Development Plans and Local Transport Strategies 	<ul style="list-style-type: none"> Encourage behavioural change and facilitate a shift to more sustainable modes of transport. Mobility Hubs to be used to promote greener, cleaner choices through provision of EV charging infrastructure, storage facilities for bicycles, wayfinding information and provision of bike share. Provision of first and last mile travel through car club and bike share at Mobility Hubs can help to reduce the need for a car and associated problems of carbon emissions. Mobility Hubs can be used for monitoring air quality through the installation of air quality monitoring equipment.
Spatial planning	<ul style="list-style-type: none"> National Transport Strategy (NTS2) SEStran Regional Transport Strategy Local Development Plans and Local Transport Strategies 	<ul style="list-style-type: none"> Offer potential for integration of shared mobility and public transport in spatial planning and new developments, relieving parking pressure and need for additional parking spaces, also contributing to creating more affordable housing. Mobility Hubs to be considered as part of land use and transport planning.

Common Theme	Policies and strategies	Addressed by Mobility Hubs
Improved health and wellbeing	<ul style="list-style-type: none"> National Transport Strategy (NTS2) SEStran Regional Transport Strategy Local Development Plans and Local Transport Strategies 	<ul style="list-style-type: none"> Integrate active travel options such as walking and cycling. Promote and facilitate active travel choices through provision of information and services and raising the profile of active transport modes.
Stronger economy	<ul style="list-style-type: none"> National Transport Strategy (NTS2) SEStran Regional Transport Strategy Local Development Plans and Local Transport Strategies 	<ul style="list-style-type: none"> Support seamless journeys providing the necessary infrastructure and access to transport modes. Potential for Mobility Hubs to enhance transport provision at/to hospitals, major employment areas and universities.
A place for community	<ul style="list-style-type: none"> National Transport Strategy (NTS2) Local Development Plans and Local Transport Strategies 	<ul style="list-style-type: none"> Provide the high level of information, safety and security through design to create a sense of place for community.
Quality of information	<ul style="list-style-type: none"> National Transport Strategy (NTS2) SEStran Regional Transport Strategy 	<ul style="list-style-type: none"> Support people to make informed travel choices through provision of information.
Embracing innovation	<ul style="list-style-type: none"> National Transport Strategy (NTS2) 	<ul style="list-style-type: none"> Foster integration of new transport innovation and existing transport services. Provide an opportunity to test innovative technologies and support early adoption of beneficial transport innovations. Mobility Hubs are considered as physical enablers of MaaS.
Partnerships	<ul style="list-style-type: none"> National Transport Strategy (NTS2) 	<ul style="list-style-type: none"> Encourage effective partnerships between key stakeholders including local authorities, landowners and service providers.

Table 3. SEStran Mobility Hubs Typology

Types of Mobility Hubs	Description
<p>Large interchanges / City hubs</p> 	<ul style="list-style-type: none"> • A high demand for transport – high passenger numbers for starting / ending journeys / transferring between modes; • Potential to enable fewer private car and taxi trips through better provision and awareness of sustainable modes and improving transport connectivity; • Space may be limited meaning there may be a need to focus on prioritising sustainable, efficient modes and links to first/last mile modes; • This type can also include tourist destinations in urban areas; and • Due to the size of these locations major public realm improvements are likely to be only possible as part of a wider scheme.
<p>Transport corridor / Linking hubs</p> 	<ul style="list-style-type: none"> • Focus on services which link residents in surrounding areas to core transport network; • An opportunity to offer greater choice to people for first / last mile trips; and • This type of hub can also be developed at Park and Ride (P&R) sites and can include space for car parking.
<p>Key destinations (business parks, hospitals, etc)</p> 	<ul style="list-style-type: none"> • High density of users; • A need to offer commuting links and back to base solutions; • Located in areas which attract regular sustained visitor numbers; and • Key destinations can include the following places: <ul style="list-style-type: none"> – Universities and colleges; – Hospitals; – Tourist destinations; – Business parks and key areas of employment; – Industrial estates; – Stadiums and event venues; – Shopping centres; and – Community centres.

Types of Mobility Hubs	Description
<p>Mini hubs (or a network of mini hubs)</p> 	<ul style="list-style-type: none"> • The transport offer is limited and demand is lower; • A need to offer commuting links and back to base solutions; • Mobility hubs can be designed to address local issues e.g. car club spaces to address parking issues, bike share or secure cycle parking for flats without space for bike storage or Demand Responsive Transport (DRT) to supplement restricted bus service; and • Locations for mini hubs can include: <ul style="list-style-type: none"> – Suburban settings; and – New housing developments.
<p>Market towns/ village hubs</p> 	<ul style="list-style-type: none"> • Assess local needs such as limited public transport with pools of shared e-bikes; • If the space allows, the areas can be used to provide a wider range of services as long as there is critical mass to ensure there is viability; and • Some small market town/village hubs can also serve as a tourism hub (focus on services with easy registration for visitors which can then provide a seasonal boost to the viability of the service for rural residents).




Mobility Hub Components



There is not a universal approach for implementation of Mobility Hubs, but this research highlights the need for consistency in how they are developed and branded, so that people recognise Mobility Hubs as places of a high quality that encourages use and a place to access and change modes. Each Mobility Hub is unique, and a tailor-made approach should be applied for each location. Mobility Hubs need to be adapted to the setting both in terms of the type of components and their scale. For example, a city centre Mobility Hub will not have any car parking for private cars, whereas a transport corridor/ linking hub may include a Park & Ride site.

A set of potential mobility related and non-mobility related components for each type of a Mobility Hub is presented in Table 4. The components most commonly identified as part of our research and engagement are highlighted in bold. More information on possible Mobility Hubs components can be found in Appendix A.

The list of components provided below is not exhaustive and a unique set of components should be chosen on a case by case basis depending on the location of the hub, needs in the area and available funding, although any type of the hub should have all minimum characteristics stated in Chapter 2.

Table 4. Mobility Hub Components

Types of Mobility Hubs	Mobility related components	Non-mobility related components
<p>Large interchanges / City hubs</p> 	<p>National & Regional Rail, Regional Bus Public transport (e.g. tram, bus) Car club bays (smaller vehicles) Bike share Taxi, DRT – drop off/pick up – dynamic kerb management Secure bike storage Bike repair stand, bike pump EV charging infrastructure (car clubs and e-bikes) No parking spaces for private cars</p>	<p>Covered waiting areas Digital pillar (Real Time Passenger Information, ticketing, wayfinding, etc) Cash machine Lighting Wi-Fi and phone charging Accessible toilet facilities Urban Realm improvements (e.g. art/planting/parklets) Baggage storage Refreshments – coffee carts, food stalls Vending machines Co-working space CCTV cameras</p>
<p>Transport corridor/ Linking hubs</p> 	<p>Regional rail / Regional bus Public transport (e.g. tram, bus) Car club bays (vans and cars) Taxi, DRT – drop off/pick up – dynamic kerb management Secure bike storage Personal deliveries – package deliveries lockers Bike repair stand, bike pump EV charging infrastructure (public, car clubs and e-bikes) Cargo bike share P&R, car parking spaces</p>	<p>Covered waiting areas Digital pillar (Real Time Passenger Information, ticketing, wayfinding etc) Lighting Urban Realm improvements (e.g. art/planting/parklets) Wi-Fi and phone charging Refreshments – café, food stalls, coffee carts Vending machines Cash Machine CCTV cameras Accessible toilet facilities</p>
<p>Key destinations (business parks, hospitals, etc)</p> 	<p>Public transport (tram, bus, rail) Car club bays (smaller cars) Bike share Taxi, DRT – drop off/pick up – dynamic kerb management Secure bike storage Bike repair stand, bike pump EV charging infrastructure (car clubs and e-bikes) Cargo bike share Personal deliveries – package deliveries lockers Short term car parking Regional Rail</p>	<p>Covered waiting areas Information pillar (Real Time Passenger Information, ticketing, wayfinding etc) – can be digital Lighting Wi-Fi and phone charging Urban Realm improvements (e.g. art/planting/parklets) Refreshments – café, food stalls Vending machines CCTV cameras</p>

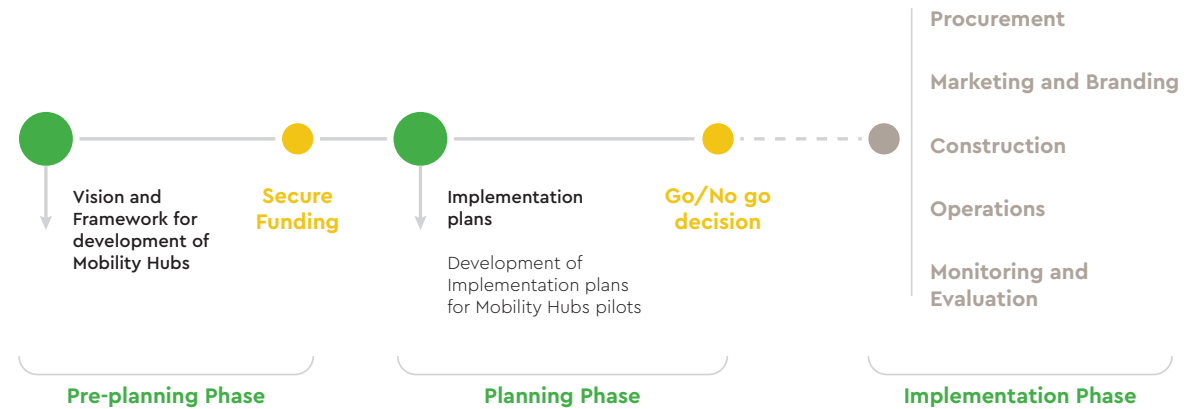
Types of Mobility Hubs	Mobility related components	Non-mobility related components
<p>Mini hubs (or a network of mini hubs)</p> 	<p>Public transport (e.g. tram, bus) Car club bays (smaller cars) Taxi, DRT – drop off/pick up – dynamic kerb management Secure bike storage EV charging infrastructure (public, car clubs and e-bikes) Personal deliveries – package deliveries lockers Cargo bike share Bike repair stand, bike pump Short term car parking</p>	<p>Covered waiting areas Information pillar (Real Time Passenger Information, ticketing, wayfinding etc) – can be digital Lighting Urban Realm improvements (e.g. art/planting/parklets) Vending machines Recycling facilities CCTV cameras</p>
<p>Market town/ village hubs</p> 	<p>Regional rail / Regional bus Bus Car club bays (vans and cars) Taxi, DRT – drop off/pick up Secure bike storage Personal deliveries – package deliveries lockers Bike repair stand, bike pump EV charging infrastructure (public, car clubs and e-bikes) Cargo bike share</p>	<p>Covered waiting areas Information pillar (Real Time Passenger Information, ticketing, wayfinding etc) – can be digital Cash Machine Urban Realm improvements (e.g. art/planting/parklets) Refreshments – café, food stalls CCTV cameras Lighting Wi-Fi and phone charging Recycling facilities Self-service lending libraries</p>

Mobility Hubs Implementation Framework

Overview

The key steps of Mobility Hubs implementation are summarised in Figure 7.

Figure 7. Mobility Hub Implementation Framework



Source: Steer

Pre-planning Phase

Development of a Vision and Framework for Mobility Hubs in the SEStran Region

The pre-planning phase for the SEStran region has already been completed as part of the development of this report.

A key purpose of this task is to develop a vision and framework for implementation of Mobility Hubs which demonstrate the role and scope of Mobility Hubs within the specific regional context. This should include:

- Development of the definition and objectives of Mobility Hubs (undertaken for the SEStran region as described in Chapter 2);
- A toolkit for determining the typology and components of Mobility Hubs for different locations

(undertaken for the SEStran region as described in Chapter 3);

- Operational and management structures and agreements including opportunities for innovation and partnership working (as described in Chapter 6); and
- A high-level overview of communication and marketing processes required (see Chapter 5).

The pre-planning phase also includes an exploration of potential locations where Mobility Hubs could be delivered or piloted. This has been undertaken for the SEStran region and is described in Chapter 7.

Funding element is a key consideration throughout the pre-planning and planning phases.

Funding

Capital costs are often funded through a mix of public and private sources, with public entities financing the projects and with individual transport operators being responsible for their own infrastructure and operating costs and paying rental costs that go towards maintenance of the sites.

Funding from the government can help subsidise investments, incorporating Mobility Hubs as an eligible expenditure under existing funding streams and capital improvement programs if Mobility Hubs are recognised to provide the potential to encourage certain strategy or goals and/or reduce congestion and pollution.

There is an opportunity to consider potential EU, national or local grants. The EU Interreg North Sea Region SHARE-North project has financed Mobility Hubs (e.g. Mobipunten) with goals to enhance accessibility and efficiency in the use of transport infrastructure and shared mobility solutions. The Vienna Mobile Station (WienMobil Station) is part of the EU-funded urban renewal project "Smarter Together".

Other funding sources can also be utilised. For example, a proportion of funding can be provided through developer contributions (Section 75) from a new housing development, through an existing bike share scheme or available funding for EV charging infrastructure.

Transport operators could also be approached for part funding the projects, as the implementation of Mobility Hubs might have a positive impact on their ridership and revenue.

MaaS Investment Fund and Innovate UK funding possibly provides opportunities for integrating Mobility Hubs with digital platforms and running proofs of concept.

Planning Phase

Implementation plan for each identified Mobility Hub

The development of a detailed implementation plan is required which will include a wide range of elements, discussions and partnerships needed to implement the area specific plans over time, including describing roles and responsibilities and phasing of implementation activities.

An implementation plan for each identified hub should include the key tasks summarised in Table 5.

Table 5. Implementation plan: key tasks

Action	Description
Review Background Information	This task includes the review of relevant background material and a Vision and Framework for Mobility Hubs in the SEStran region, confirming the vision and objectives of a hub. This phase would also provide justification for any departures from the initial directions set out in the Framework.
Stakeholder engagement plan (See Chapter 5)	<p>This stage will include development of a detailed engagement strategy to respond to the purpose and objectives of the hub. Stakeholder engagement and a communication plan should be developed and followed throughout the process of implementation of the hub at different stages and for different audiences.</p> <p>For a Mobility Hub to be planned, constructed, operated and monitored successfully, a wide range of stakeholders must be approached and engaged. Their involvement will be different, depending on a Mobility Hub's objectives, operational model, governance, features and locations. Chapter 5 which follows presents more information about stakeholder engagement.</p>
Land use and site selection	<p>Assessment of the local land use plan, land ownership and potential for the hub to be developed. Including site visits to assess:</p> <ul style="list-style-type: none"> • visibility of the area; • safety and vandalism concerns; and • available space.
Commercial Feasibility	Economic and financial analysis including capital and operational costs and opportunities for revenue generation to determine long term sustainability.

Action	Description
Technical assessment	<ul style="list-style-type: none"> • Multi-modal transport analysis (including parking); • Confirmation of key components (mobility and non-mobility related) required for implementation of the hubs; • Urban design and sustainability review – setting the key design principles for implementation of hubs including visibility and accessibility requirements (e.g. kerb design, lighting, shelters etc); • Environmental evaluation.
Operations and maintenance (See Chapter 6)	Assessment of the key arrangements and contracts required for operation and maintenance of the hub. Chapter 6 which follows presents more information on operations and maintenance agreement.
Partnerships	Assessment of partnerships required.
Monitoring and evaluation	Identification of what metrics should be used for monitoring and evaluation of the hub.
Public consultation	Public consultation is recommended during this task to present plans for a Mobility Hub and gather feedback from local residents on the components and design of the hub.
Procurement routes	Identification of necessary procurement routes for: <ul style="list-style-type: none"> • Construction of the hub; and • Operations and maintenance.

Go/No Go decision point

Depending on the outcome and recommendations of the implementation plan, a Go/No Go decision should be made on each specific Mobility Hub location. There is a possibility that at this stage the timing of some of the following tasks is prioritised. The funding for implementation phase should be secured, if this has not already happened.

Implementation Phase

Following a Go/No Go decision, and depending on its outcome, a procurement process should start. Procurement can include both tenders for service providers (e.g. car club or EV charging infrastructure) and construction. The need for tendering for service providers will depend on existing contracts in the area. For example, where a car club is already present in the area, then there may be no need to re-tender this type of service. After procurement is completed, construction of the hub starts followed by operations and monitoring and evaluation phases.

Irrespective of the type of hub, there are three main implementation phases which include: (i) Construction and set up of street assets, (ii) Maintaining, operating and managing the service and ultimately, (iii) Monitoring and evaluation through user data collection and analysis.

Development of branding and marketing strategy

One of the key lessons learnt from the case studies and stakeholder engagement is the need for a strong marketing campaign and branding. A unified branding plan and marketing strategy for long-term expansion of hubs across the region will be beneficial and desirable.

Mobility Hubs require a clear visual identity, with a pillar or sign to ensure visibility and increase customer awareness. The use of a strong brand and recognised colours and logo will help to raise the profile of Mobility Hubs and provide uniform identity.

It is recommended that a marketing strategy covering the whole region is developed including identification of key stakeholders and communication channels. A good marketing strategy will raise awareness, influence public attitudes, encourage and incentivise use and also advise about use (e.g. how to use an e-bike or plug in an EV). Marketing Strategy can be a part of a wider behavioural change strategy.

Stakeholder Engagement and Communications

05

Key Stakeholders

The success of Mobility Hubs requires significant involvement of key stakeholders at all phases, from planning through to implementation and evaluation, primarily in helping to identify suitable locations and to ensure that services are customised to the needs of users. This is particularly important when introducing Mobility Hubs as a new concept to ensure that initial locations balance between where demand is greatest (to have the greatest potential for commercial success) and where the need is greatest (and public subsidy is likely to be necessary).

Table 6 explores these key stakeholders and their role in implementation of Mobility Hubs in the SEStran region. An illustrative stakeholder engagement plan is presented in Appendix E.

Table 6. Key Stakeholders

Stakeholder	Relevance for engaging with a stakeholder
Local authorities	<p>Local authorities should be consulted for identifying a range of key locations for Mobility Hubs based on their role in improving access to employment, education, healthcare, and other services. Local authorities should be consulted in relation to any planning requirements associated with implementation of a new Mobility Hub. A Mobility Hub should also be linked to a local legibility/wayfinding strategy. As part of this study we have sought engagement from each local authority in the SEStran region (see Appendix B).</p> <p>In order to get political buy-in, involvement of local councillors is also recommended. This can have the added benefit of increasing the profile of Mobility Hubs, securing public support and take up.</p>
Shared mobility and other private transport operators	<p>Mobility services, such as bike share (docked/dockless), car clubs, on-demand taxi/private hire/bus services, car rentals and eScooters (subject to legal changes), are pivotal to deliver improved connectivity which does not rely on private cars. There are a range of shared mobility providers already operating in the region, including Enterprise Car Club, Serco (the operators of Edinburgh Cycle Hire) and GO e-bike. Additionally, first mile / last mile freight services can also be offered through Mobility Hubs, such as e-cargo bikes.</p> <p>The suppliers of shared mobility services will need to be consulted to consider the commercial aspects of potential Mobility Hubs and the extent to which these services can be provided commercially, or whether funding is required.</p>

Stakeholder	Relevance for engaging with a stakeholder
Public transport operators	<p>Public transport operators in the region such as Stagecoach, Scottish Citylink, Lothian Buses, Edinburgh Trams, First Bus, ScotRail, should be involved in the planning phase. In addition, demand responsive or community transport operators should also be consulted to improve connectivity for all.</p> <p>Not only would public transport operators provide services but also potentially share real-time data on fleet, timings, ridership and utilisation of Mobility Hubs. This will help SEStran to monitor performance as well as identify the challenges of Mobility Hubs once implemented, thereby providing evidence for future expansion/growth.</p> <p>Operators could also be approached for part funding the projects, or potentially managing some locations, as the implementation of Mobility Hubs could have a positive impact on their ridership and revenue.</p>
Local community groups including residents and businesses	<p>The local community and businesses are the primary users of Mobility Hubs. They should be consulted at an early stage of development to understand their current mobility needs and challenges. Key aspects to explore would include attitudes and understanding of shared mobility services and to what extent their provision would support a shift from single occupancy car use, and an increase in accessibility to key services. There is also an opportunity to consider how existing non transport related services could be brought together as part of a Mobility Hub.</p> <p>Once the implementation plan is developed, the consultation team should present the idea to the local community. This will encourage the local community's participation from the start of the project.</p>

Stakeholder	Relevance for engaging with a stakeholder
Other government agencies and transport authorities	<p>Transport Scotland should be consulted in terms of ensuring Mobility Hubs development and business case occurs within the Strategic Transport Appraisal process. The engagement with Transport for Edinburgh (TfE), started as part of this study, should be continued with TfE appropriately consulted and involved in delivering hubs in the City of Edinburgh.</p> <p>Depending on proposed locations, the role that Mobility Hubs could play at supporting inter-regional connectivity would involve consultation between SEStran and other Regional Transport Partnerships bordering the SEStran region (SPT, TACTRAN, SWestrans).</p> <p>Other public bodies such as Police Scotland and the Scottish Fire and Rescue Service should be engaged to evaluate the current provision and local challenges pertinent to a particular location/ area.</p>
Landowners and property developers	<p>Where there is a desire to introduce a Mobility Hub on privately owned land such as a business park, negotiation with landowners and property developers will be required. Where a Mobility Hub is to be introduced on public land, such as a local authority owned P&R site or other transport interchange, engagement with surrounding private landowners or developers may still be required to ensure access is safe and of good quality, particularly for pedestrian and cycling links.</p> <p>New housing developments present a key opportunity to promote sustainable transport modes through implementation of Mobility Hubs. The housing developers can reduce private car parking provision / increase density of the estate through development of a Mobility Hub. A local authority needs to make housing developers aware of a potential of developing a Mobility Hub as an alternative to providing other costly measures and encourage/assist them in developing it.</p>

Stakeholder	Relevance for engaging with a stakeholder
Not-for-profit organisations including disability and other community groups	<p>Mobility Hubs aim to improve accessibility for all transport users. Hence, feedback on needs and challenges from those who may be most impacted by poor accessibility would help in developing inclusive services that cater to the requirements of the wider community. Key groups to consider would include those with mobility difficulties, the elderly, younger people, those from areas of high deprivation and those working outside nine to five work patterns. It is important to involve various disability groups to ensure Mobility Hubs are accessible both in terms of design and information provided at the hub.</p> <p>Consultation with organisations such as CoMoUK and Sustrans can be beneficial. CoMoUK can provide bespoke guidance and advice on developing Mobility Hubs and required communication materials. It is also developing technical guidance with design standards and plans for Mobility Hubs.</p>
Technology providers	<p>The back-end technology that supports and manages journey planning, payment systems, real-time information, user interfaces such as mobile applications and contact centre, also plays a significant role in user demand and user acceptance of Mobility Hubs. Therefore, technology and systems providers should be consulted during the planning phase.</p> <p>In addition, mobile service providers should be appropriately involved to power the systems or provide wi-fi connections at the hubs.</p>

Stakeholder	Relevance for engaging with a stakeholder
Major employment sites and other key trip generators	<p>Depending on the objectives of a Mobility Hub, major employment sites (such as large business parks) or other key trip generators such as large hospital or educational sites, can be key stakeholders. This may be either in respect to hosting a Mobility Hub on their land or in terms of promotion of the facilities to their staff and/or visitors.</p>
Assets, infrastructure and utility companies	<p>Physical assets and infrastructure, including charging stations for EVs, smart kiosks/ information pillar for wayfinding and ticketing, can be included at Mobility Hubs. Additional features such as vending machines, coffee carts, co-working spaces and others can be further developed at Mobility Hubs. The suppliers of these assets and infrastructure facilities should be consulted at the planning phase to explore key features that can be built at the hubs.</p>
Other established Mobility Hubs	<p>As highlighted through the case study examples there is a growing range of Mobility Hubs implemented internationally such as in the City of Bremen, Amsterdam and Vienna. Each site presents a potentially valuable stakeholder in terms of sharing knowledge and expertise on best practice for implementation and operation of Mobility Hubs in the SEStran region. Ongoing engagement will be valuable to share lessons learnt and identify how challenges have been overcome and how opportunities have been harnessed. This will be vital to ensure Mobility Hubs in the SEStran area capitalise on the existing experience.</p>

Operational and Management Structures

06

Operation and Maintenance of Mobility Hubs

A Mobility Hub requires a delivery lead who secures the funding and coordinates planning and implementation phases including construction of the hub.

In terms of operation, Mobility Hubs could be operated and managed by public or private sectors, outsourced to a management company or run in partnership. This will depend upon the type of hub, the local context and the existing activities of operators already providing local services. Table 7 presents potential operators for different types of Mobility Hubs.

Table 7. Potential Mobility Hubs Operators

Types of Mobility Hubs	Potential operator
Large interchanges/ City hubs	Local authority / Train station operator / Bus station operator or partnership.
Transport corridor/ Linking hubs	Local authority / Train station operator / Bus station operator / Park & Ride operator (which could be local authority or transit operator).
Key destinations (business parks, hospitals, etc)	Local authority / Private operator: e.g. business park / hospital facilities management or 3rd party site management company.
Small market town/ village hubs	Local authority, community operator or 3rd party site management company.

Types of Mobility Hubs	Potential operator
Mini hubs (or a network of mini hubs)	Local authority, community operator or 3rd party site management company. Housing developer / housing association or 3rd party site management company for private housing developments.

Management responsibilities and operations

The Mobility Hub operator will be responsible for overseeing the day to day operation of a Mobility Hub, checking the different components are running correctly (including the different transport services), and overseeing a cleaning regime.

In the context of a large interchange/ city centre, where a Mobility Hub is being added to an existing interchange location, it may be appropriate to seek a partner, such as the current operator of a mainline train station, to incorporate all or some aspects of management of a Mobility Hub within their existing management arrangements.

If a local authority takes on the role of the Mobility Hub operator, it may utilise in-house services such as street cleaning and refuse collection. The resources with the right skills and knowledge should be allocated appropriately. For example, the Municipality of Bremen, Germany, advises that managing of planning for Mobility Hubs implementation is taking 20% of one officer's time.⁴

Alternatively, a local authority or private sector provider may contract a specialist company to run a Mobility Hub. In Flanders, Autodelen.net, a non-profit organisation, has taken on running of their Mobility Hubs.

⁴ Mobility Hubs Guidance, CoMoUK

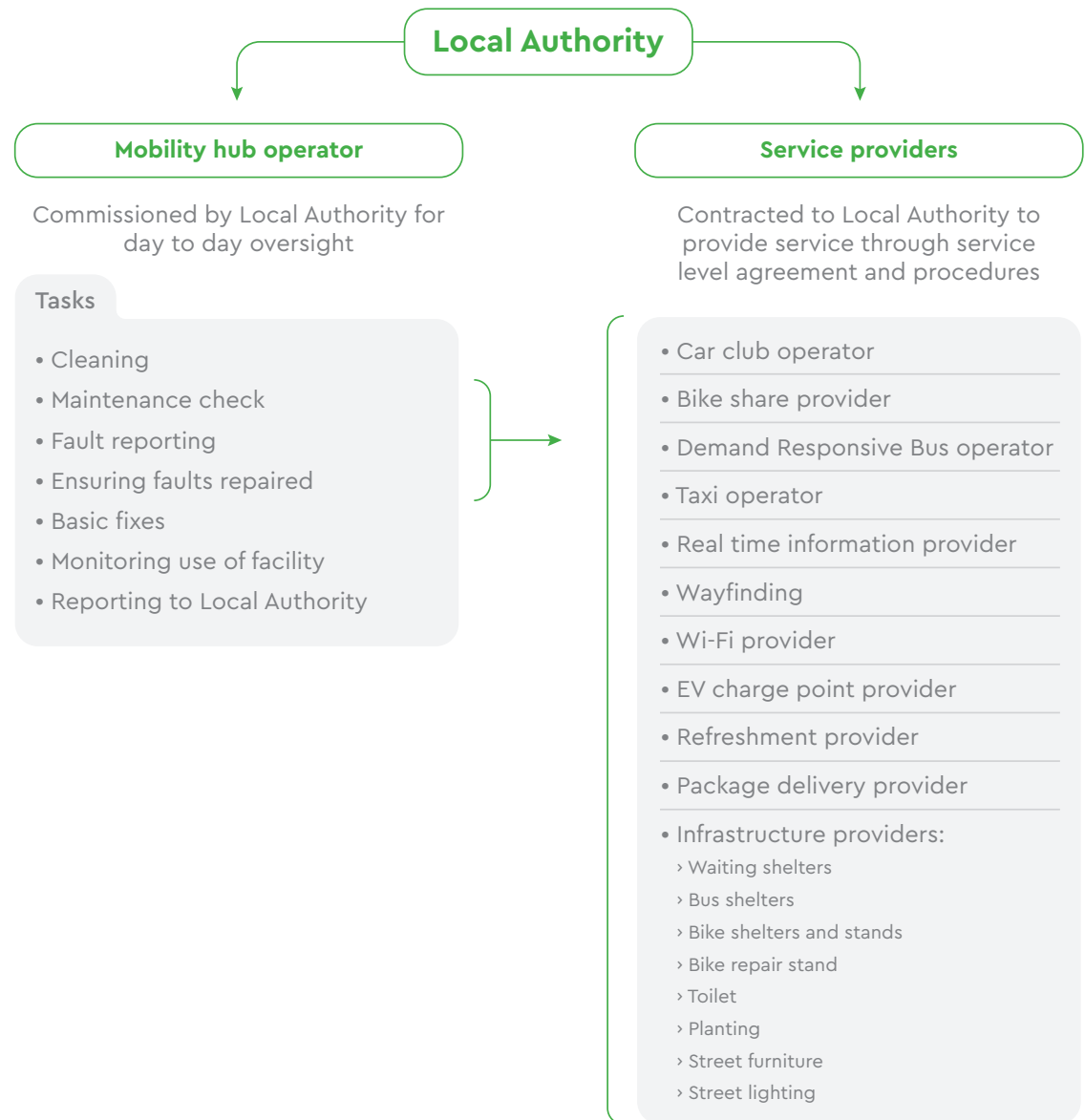
For mini hubs in suburbs or market towns, it may be appropriate to appoint the Community Council or a Community Interest Group to take on responsibility for day to day operations. For example, there are cases of Community Rail Partnerships across the UK where a community group has taken on responsibility for managing rail station facilities.

Figure 8 illustrates a situation where a responsible local authority commissions a community organisation to be a Mobility Hub day to day operator, showing the tasks of the community organisation. Different service providers are being commissioned by a local authority through service level agreements and contracts.

It is also possible that hybrid arrangements are used. The local authority may retain responsibility for a Mobility Hub but recruit a community organisation or local volunteers to undertake day to day checks, report faults and perhaps even some basic cleaning duties. For example, Sustrans has made effective use of volunteer rangers to check the condition of its routes and report faults.

For smaller district centres, mini hubs or market town hubs, where appropriate, it may be possible to incorporate certain features of a Mobility Hub into existing community facilities. For example, if there is a café located next to the desired location for a Mobility Hub, this may be able to provide waiting facilities, refreshments, toilets, information displays and wi-fi. This will of course be dependent on context and subject to negotiation.

Figure 8. An example of Mobility Hub operations



Whatever the management arrangements, there will be a need to clearly agree responsibilities between the Mobility Hub operator and the providers of the different mobility and non-mobility components, through a service level agreement or contractual arrangement. This will include elements such as the time within which a bike share provider or car club provider must replace or repair a faulty vehicle, or the charge point supplier must fix a faulty charge point. The Mobility Hub operator will require appropriate fault reporting mechanisms to these bodies. There will also need to be a clear mechanism for addressing sub-standard performance, for example, a mobility provider failing to repair faulty equipment within a defined timescale.

Appendix F provides suggestions for responsibilities of various actors for different components of a Mobility Hub.

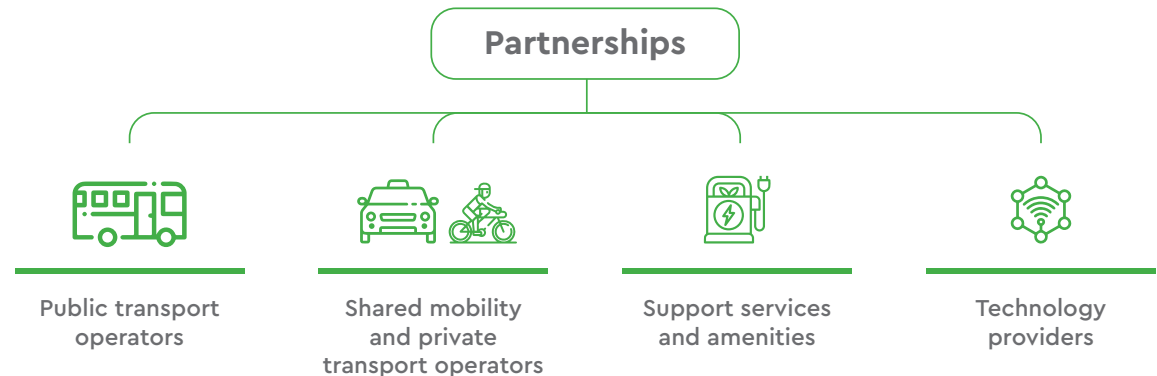
Opportunities for Partnerships

Mobility Hubs seem to be a natural interface for public and private partnerships as they incorporate a variety of privately-operated transport services such as car clubs, bike share or on-demand services. They also rely on strong stakeholder engagement and a common vision for the future.

A key lesson learnt from the case studies reviewed is that the ability for a Mobility Hub to function successfully depends on its ability to balance transport planning, land use planning and strong design principles. The main partnerships required for successful implementation of Mobility Hubs are summarised in Figure 9.

Depending on the type of a hub being developed, the type of partnerships and stakeholders involved can vary. The section which follows outlines possible roles and partnerships.

Figure 9. An example of Mobility Hub operations



Source: Steer.

Public transport operators

Public transport operators can be encouraged to coordinate schedules of public transport to match the employee schedules, peak times and agree the frequency of services serving Mobility Hubs. Additionally, public transport operators may help to promote use of their services by offering discounts and integrated fare products in the context of a Mobility Hub, targeting specific audiences if relevant.

Public transport operators may own suitable land, so partnerships can be established: for example, a hub could be built close to the rail station on land owned by Network Rail.

Shared mobility services and other private transport operators

Car clubs

Car clubs are encouraging the use of alternative transport modes by providing a substitute for vehicle ownership and by expanding travel choices. By providing car club access at Mobility Hubs, users will be able to complete their trips without relying on private car ownership.

The operating agreement may vary. For example, in Bremen (with the "mobil.punkte"), car clubs pay a monthly fee for the use of the hubs. Additionally, operators are typically chosen through a public tender process.

A Mobility Hub usually needs to provide a dedicated parking bay for car club vehicles. The maintenance of the bays is likely to be overseen by the local authority if they are on the public highway. Alternatively, on private land this may be carried out by a local management agency (e.g. in Bremen) or by the car club operator itself.

On-demand shared services (e.g. on-demand taxis, microtransit)

A first form of partnership between local or transport authorities and on-demand share services is to create programmes or pilots to provide a first and last mile connectivity to and from Mobility Hubs.

A Mobility Hub will have to allocate kerb space for pick up and drop off, while also managing inappropriate parking or idling. A designated on-demand pick-up and drop-off is usually accompanied by wayfinding signs to clearly communicate the location to both passengers and drivers. Maintenance is likely to be undertaken by the local authority depending on the contract terms.

Bike share and micromobility services

Encouraging the adoption of cycling as a viable alternative to private vehicle use is one of the objectives of Mobility Hubs. Bicycles can serve as an appealing mode to access other services and stations especially if bike parking and other supportive facilities are available for use. First/Last mile connectivity can be further enhanced through the implementation of a bike share scheme.

In association with development of a Mobility Hub, it is important to link to or improve cycling infrastructure on routes leading to the hub from residential areas / key attractions.

Where a station-based bike share service is offered, the maintenance of the docking stations may be overseen by the operator itself (such as Serco, operator of Edinburgh Cycle Hire). However, depending on the business case, this may require financial support from the local authority.

Dockless bike share or eScooters services usually do not have to pay to provide their services at the hubs, but they might be required to agree to maintain a certain number of vehicles at the hubs through a Memorandum of Understanding or more formal agreement.

Support services and amenities

EV charging stations

In order to reduce greenhouse gas emissions and air pollution the adoption of low-emissions vehicles should be encouraged by providing supportive infrastructure such as EV charging stations. Electric vehicle charging infrastructure can often be provided for car club vehicles within a Mobility Hub.

EV charging stations are typically operated by private operators, and can be funded commercially by developers or local authorities.

Package delivery

Mobility Hub operators can partner with parcel delivery companies (e.g. Amazon, DHL, UPS, and FedEx) to introduce lockers at the hubs. Cooled lockers can also be used for grocery shopping from companies like Ocado, M&S, Tesco etc. The lockers can also be made available for various delivery companies through provision of the digital access code through a neutral host model.

Technology providers

Wi-Fi providers

There is an opportunity to fund wi-fi provision through direct sponsorships and partnerships. For example, there is a potential to add free wi-fi for the hub's users through the partnership with a Mobile Network Operator in exchange for advertising revenue.

Mobility as a Service

Mobility Hubs offer an early practical opportunity to bring services together in a pilot for MaaS applications. A Mobility Hub offering access to bus, car club and bikes could provide an account for users to access all modes. For example, in the city of Linz, users can access Tim services and make payments through Tim Membership cards. In Vienna at the Mobility Hub the services can also be accessed through the Weiner MaaS platform, which provides digital integration of transportation services.

Mobility Hubs Potential Locations

Mobility Hubs aim to make multi-modal journeys easy and convenient and encourage the use of sustainable and shared transport modes. Mobility Hubs are pleasant, sociable, convenient places offering reliable high-quality services for their users. Mobility Hubs can help local authorities to organise mobility more efficiently, to regain street space and to improve the quality of public realm provision and regional connectivity.

Mobility Hubs have potential to play a key role in addressing key transport challenges in the SEStran region such as:

- Increasing population and growing demand for transport;
- Congestion affecting economic performance at all levels, travel times, journey time reliability and a number of regional bottlenecks such as the Edinburgh City Bypass and the Forth Crossings;
- Declining bus use and increasing car use;
- Problems for economic activity associated with poor connectivity between the SEStran;
- Greenhouse gas emissions and local air quality;
- Lack of access to employment, training, services and leisure for people who have no, or limited, car availability; and
- Public transport provision in rural areas.

Mobility Hubs can support initiatives such as introduction of Low Emission Zones, workplace parking levy and development of Park & Ride sites.

To explore potential locations for Mobility Hubs in the SEStran region, two sets of maps have been produced for each local authority:

- demand based analysis for Mobility Hubs; and
- needs based analysis for Mobility Hubs based on areas of multiple deprivation.

The full set of maps is presented in Chapter 9.

Potential Demand for Mobility Hubs

We have analysed data to assess locations where underlying potential demand for Mobility Hubs (and therefore most likely to be viable to operate commercially) is likely to be the strongest.

The data sources used for the analysis are presented in Chapter 9 and include:



Population



Workplace population



Target Mosaic Population



Geographic Access to Services - Drive time



Geographic Access to Services - Public Transport



Car Club Locations



Bike Share Docking Locations

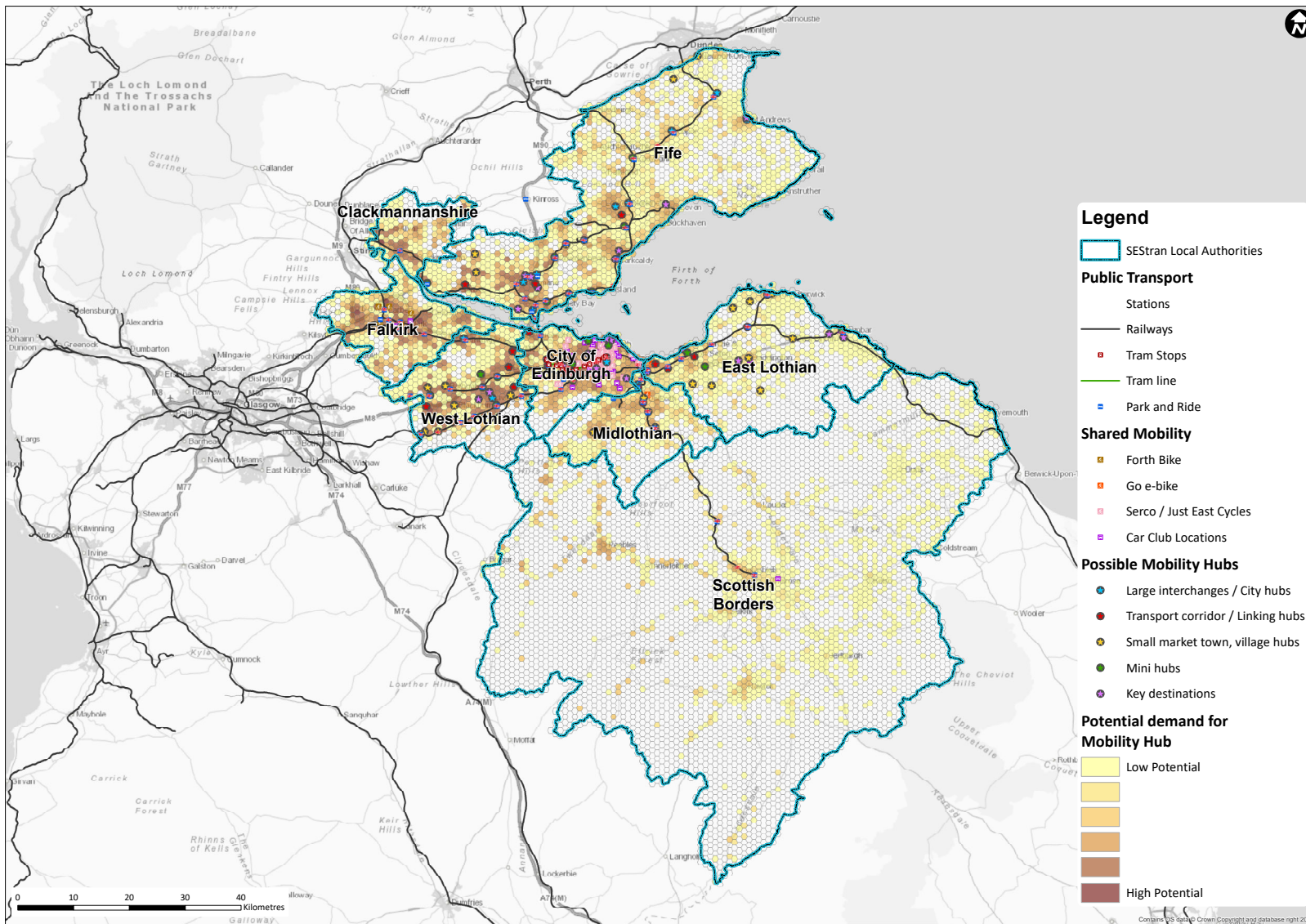


Proposed Mobility Hubs Locations

07

Figure 10 presents an illustrative example of a map showing potential demand for Mobility Hubs. The dark areas show the highest potential for implementation of Mobility Hubs, with those areas with the lowest potential demand highlighted in yellow.

Figure 10. Potential Demand for Mobility Hubs



Source: Steer.

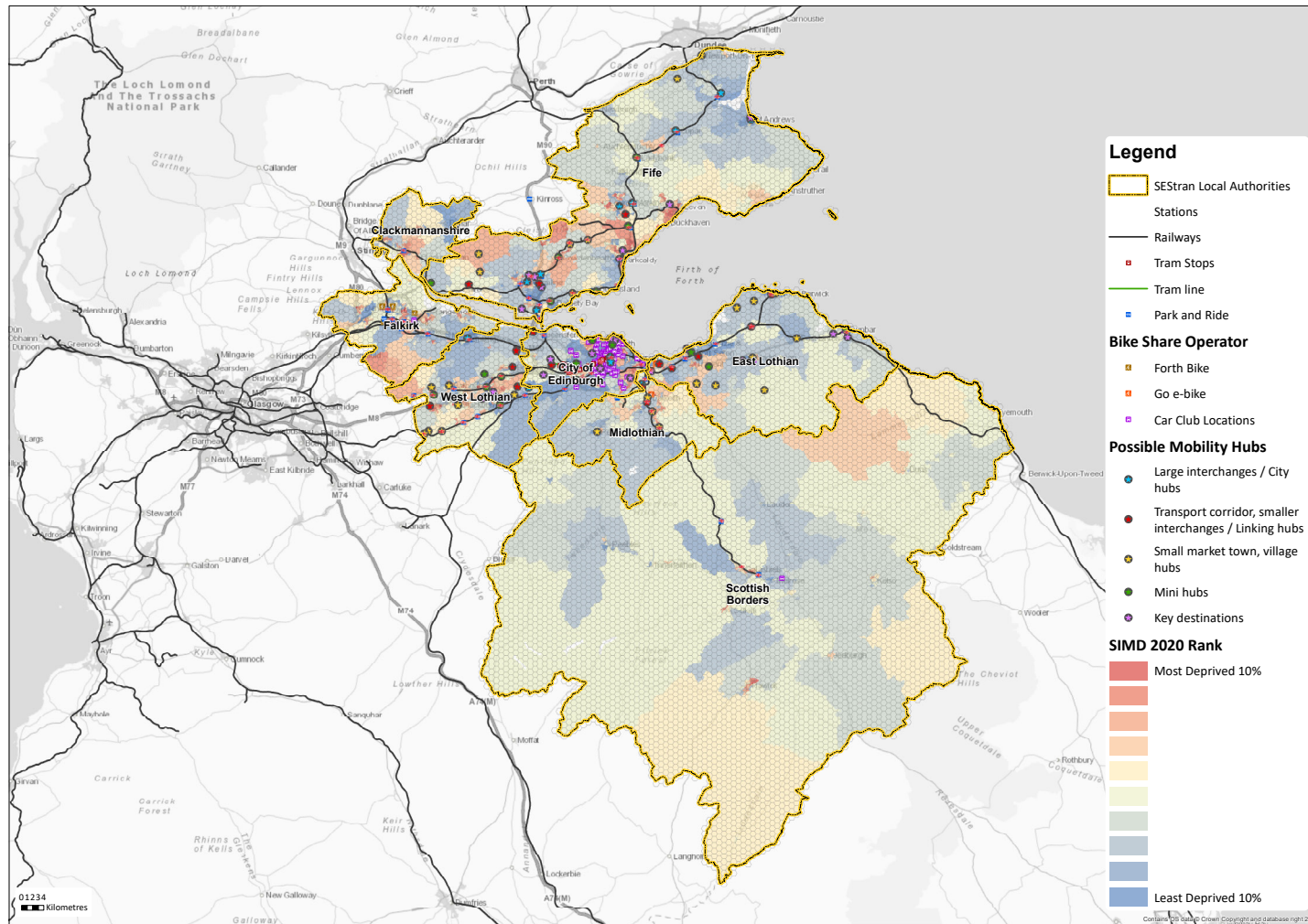
Potential Need for Mobility Hubs

We have analysed data to show where the social need for Mobility Hubs is likely to be greatest (but are likely to need subsidy to operate). Maps showing areas of multiple deprivation have been produced for each local authority in the SEStran region. The maps

have been created based on the Scottish Index of Multiple Deprivation (SIMD), which identifies areas of multiple deprivation in Scotland. It measures across seven domains: current income, employment, health, education, skills and training, housing, geographic access and crime. SIMD ranks small areas from most deprived to least deprived.

Figure 11 presents an illustrative example of a map. Red colour highlights the most deprived areas with the blue areas presenting less deprived ones.

Figure 11. Potential Need for Mobility Hubs



Source: Steer.

Selection of Pilot Locations

Table 8 presents insights collected through engagement with local authorities as part of this study. Each local authority prioritised three potential locations for Mobility Hubs in its area. The table summarises the highest priority location for a Mobility Hub in each local council area.

Each location was chosen based on the local knowledge of representatives of each local authority and analysis of the data presented in two sets of the maps showing the demand and need for Mobility Hubs (see Chapter 9).

These locations, and the longer list presented in Appendix G, provide a starting point that, depending on availability of suitable funding, may lead to more detailed consideration of Mobility Hubs in these areas in the future but are not necessarily guaranteed or planned.

Table 8. Potential locations for Mobility Hubs

Local Authority	Mobility Hub Type	Location	Comments/reasoning
City of Edinburgh	Transport corridor/ market town	Wester Hailes	It is an area with ongoing regeneration and new development sites with an underutilised rail line and existing cycling infrastructure. The location is in a relatively deprived area with medium potential for Mobility Hubs based on the data analysis. The focus should be on creating a community hub for local residents.
Clackmannanshire	Market town/ Linking Hub	Alloa Town centre in vicinity of King Street	The data analysis shows a good potential demand for a Mobility Hub. The area is highly deprived.
East Lothian	Transport Corridor	Musselburgh	It is a busy transport corridor. There are existing frequent and relatively quick bus services to Edinburgh. Existing car club provision. The location is close enough to the city for cycle connectivity. The area is categorised as deprived with a highest potential for Mobility Hubs in East Lothian based on the data analysis. Air quality is identified as an issue. There is a high number of planned housing developments and expected population growth. There are opportunities to encourage mode shift due to the station being close enough to the city.
Falkirk	Large Interchange	Falkirk Central/ Falkirk Grahamston	The area is considered as deprived with a high potential for Mobility Hubs based on the data analysis. The following Mobility Hubs components are currently available: rail and cycle parking. E-bike share, Green route and taxi provision are planned through the Growth deal. With Falkirk Central it is hoped, through the Growth Deal, that bus provision will be co-ordinated better with the train service.
Fife	Market town	Leven Bus Station	The Levenmouth area is within the top 5% of the SIMD. There is to be a lot of investment in this area, to encourage business investment and thus increase job opportunities, increase access to further education and make Leven a tourist access to the East Neuk Fife. Data analysis shows low to medium potential demand for a Mobility Hub.

Local Authority	Mobility Hub Type	Location	Comments/reasoning
Midlothian	Market town/ Linking Hub	Jarnac Court / Dalkeith town centre	The data analysis shows a high potential demand for a Mobility Hub.
Scottish Borders	Transport corridor/ Linking hub	Tweedbank	Multi-modal options are available – Borders Rail terminus; Existing bus services (X62, 61, 62B, 67, 69, 964); P&R site; some bus services able to carry bikes. EV charging available. Proximity to Borders General Hospital – parking pressure and presents opportunity for encouraging sustainable travel. Would improve sustainable access of the station for the population in Melrose. Opportunity to improve local travel information provision to support tourist economy – tourist attractions such as Abbotsford House and Melrose are a short cycle away (also walkable). Wider border leisure cycling routes available. Potential integration with any Scottish Borders Car Club at Newton St Boswells Council HQ (if exists). Further development of Tweedbank station as a 'place' as the area is developed further.
West Lothian	Transport corridor / Linking Hub	Livingston – Almondvale Avenue	All West Lothian bus services use Almondvale avenue in centre of Livingston. It has a reasonable public realm but problems with real time information systems. It needs connection to two railway stations – Livingston North and Livingston South. The nearby central Dedridge residential area is considered as deprived and has medium to high potential for Mobility Hubs based on the data analysis.

Conclusion and Next steps

Mobility Hubs have the potential to assist in supporting the delivery of the following policy objectives in the SEStran region:



Improving public transport in the SEStran region – journey time, reliability, price, convenience, quality, availability, information and integration.



Improve connectivity and develop an integrated transport network.



Support operation and delivery of Low Emission Zones.



Reduction of greenhouse gas emissions.



Enabling more sustainable travel and behaviour change.



Reducing car dependency.



Encouraging active travel.



Improving accessibility for disadvantaged areas to health services and employment.

08

Next steps

The following next steps for developing Mobility Hubs in the SEStran region have been identified.



Funding

SEStran and/or local authorities should seek to secure funding for development of Mobility Hubs implementation plans and, if possible, funding for construction and operations for a number of Mobility Hubs in the area through:

- Engagement with Transport Scotland;
- Exploring funding opportunities within each relevant local authority;
- Exploring funding opportunities through the SHARE-North project; and
- Exploring opportunities to utilise other funding sources such as developer contributions from new housing developments, existing bike share schemes and available funding for EV charging infrastructure.

Based on the funding available, detailed implementation plans for Mobility Hubs in the SEStran region should be developed (the number will depend on available funding).



Collaboration and engagement

SEStran should continue to collaborate with CoMoUK, who can assist with bespoke guidance and advice on developing Mobility Hubs across the region and required communication materials. It is also in the process of developing technical guidance with design standards and plans for Mobility Hubs.

SEStran should also continue with ongoing engagement and sharing of lessons learnt with other Mobility Hubs around the world to identify how challenges have been overcome and how opportunities have been harnessed. This will be vital to ensure Mobility Hubs in the SEStran area capitalise on the existing experience.



MaaS

MaaS Scotland is the focal point for MaaS activities in Scotland establishing a formal network and facilitating initiatives in the Scottish MaaS eco-system. Mobility Hubs are considered as digital enablers of MaaS and offer a practical opportunity to pilot MaaS applications.

SEStran should explore opportunities for integrating Mobility Hubs with digital platforms through the MaaS Investment Fund and Innovate UK funding.



New Housing developments

New housing developments present a key opportunity to promote sustainable transport modes through implementation of Mobility Hubs. The housing developers can reduce private car parking provision / increase density of the estate through development of a Mobility Hub.

SEStran and/or local authorities should make housing developers aware of the potential of developing a Mobility Hub as an alternative to providing other costly measures and encourage/assist them in developing it. They should work in collaboration exploring opportunities to use Section 75 contributions for development of Mobility Hubs at new housing developments.

Data analysis

To explore potential locations for Mobility Hubs in the SEStran region, two sets of maps have been produced for each local authority:

- demand based analysis for Mobility Hubs; and
- needs based analysis for Mobility Hubs based on areas of multiple deprivation.

Any scores less than or equal to 0.001 have been excluded from the map and are shown as blanks representing areas of very low or no population.

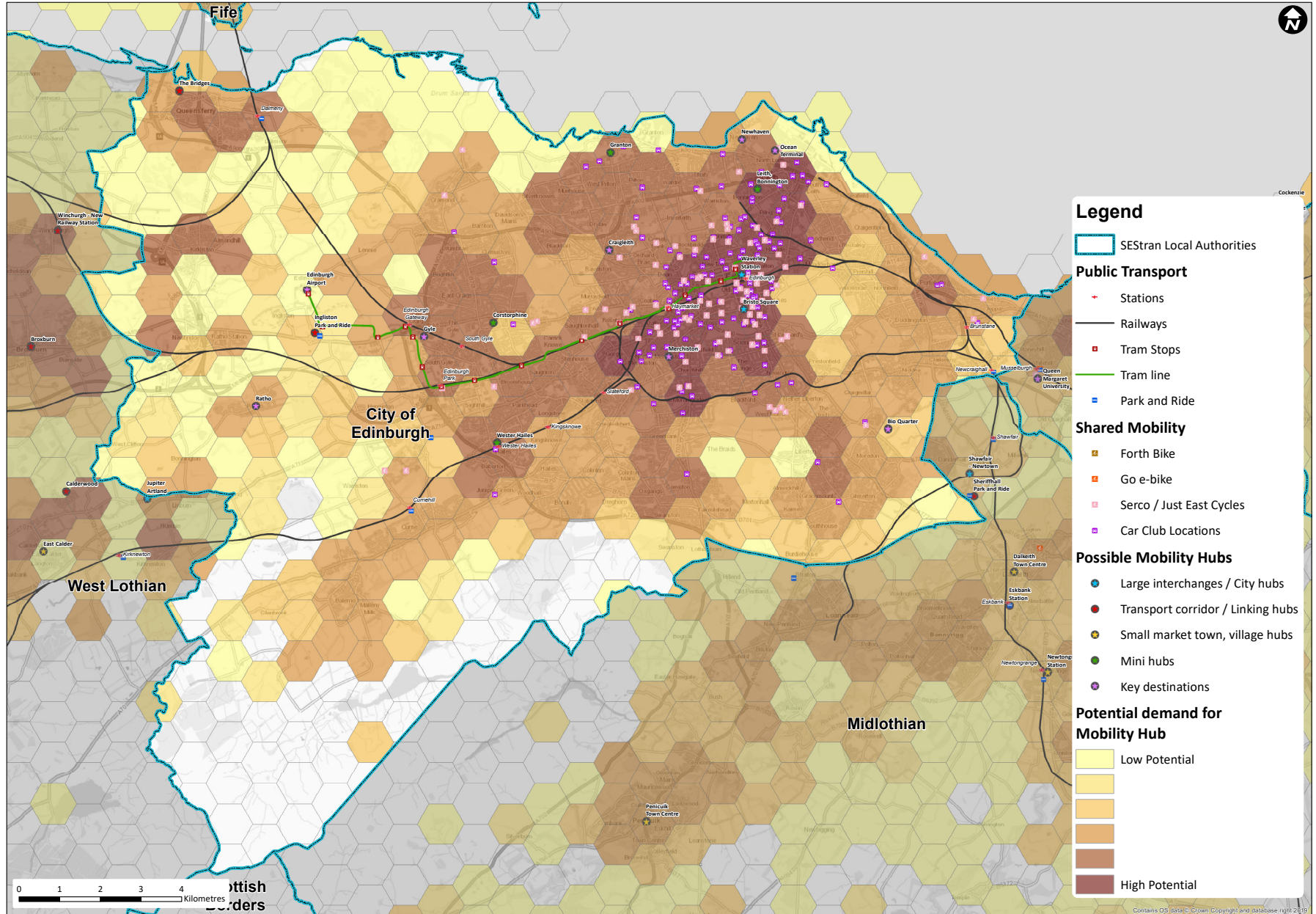
Table 9 presents the data analysed and collected to produce the set of maps for each local authority in the SEStran region highlighting underlying potential demand for Mobility Hubs in the area.

Table 9. Data sources

Data	Source	Justification
Population	Experian Mosaic – 2019 Mid-Year Population Estimates	Higher residential population increases potential demand for a Mobility Hub.
Workplace Population	2011 Scottish Census	Higher workplace population increases potential demand for a Mobility Hub.
Target Mosaic Population	Experian Mosaic – 2019 Mid-Year Population Estimates	Target mosaic groups as identified in the "Carplus Annual Survey of Car Clubs, Scotland 2017/18" report. The data helps to identify areas where users are most likely to utilise a Mobility Hub.
Geographic Access to Services – Drive time	Scottish Index of Multiple Deprivation (average of all services)	Population within areas which have a shorter drive time are more likely to switch to public transport and benefit from a Mobility Hub.
Geographic Access to Services – Public Transport	Scottish Index of Multiple Deprivation (Average of all services)	Areas with pre-existing good transport links are suitable locations for Mobility Hubs.
Car Club Locations	CoMoUK	Car clubs can be offered at Mobility Hubs.
Bike Share Docking Locations	Bike share operator's website and locations provided by email	Bike share can be offered at Mobility Hubs.
Proposed Mobility Hubs	SEStran Local Authorities	Mobility Hubs locations suggested by the stakeholders.

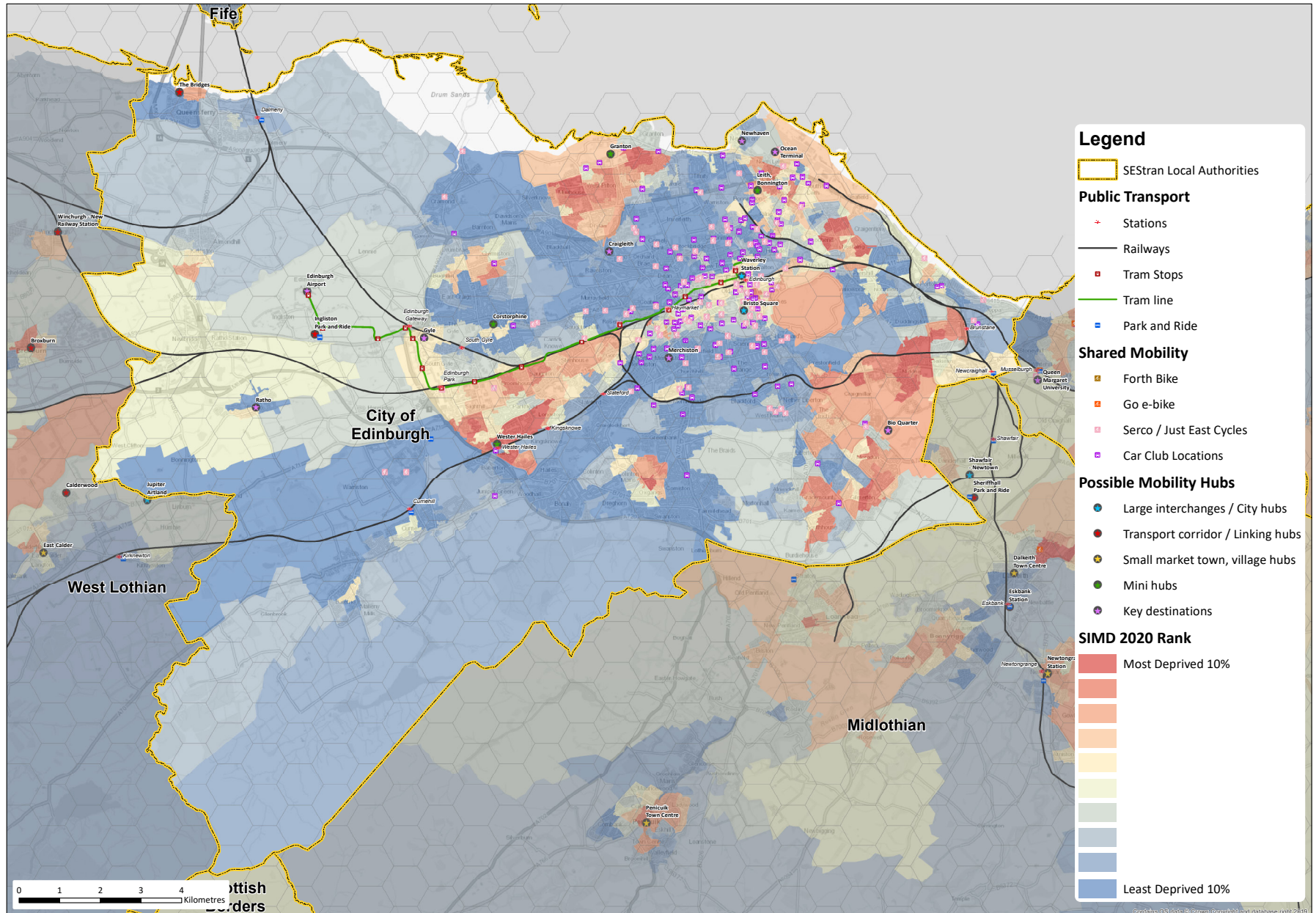
Potential demand for Mobility Hubs

City of Edinburgh Council



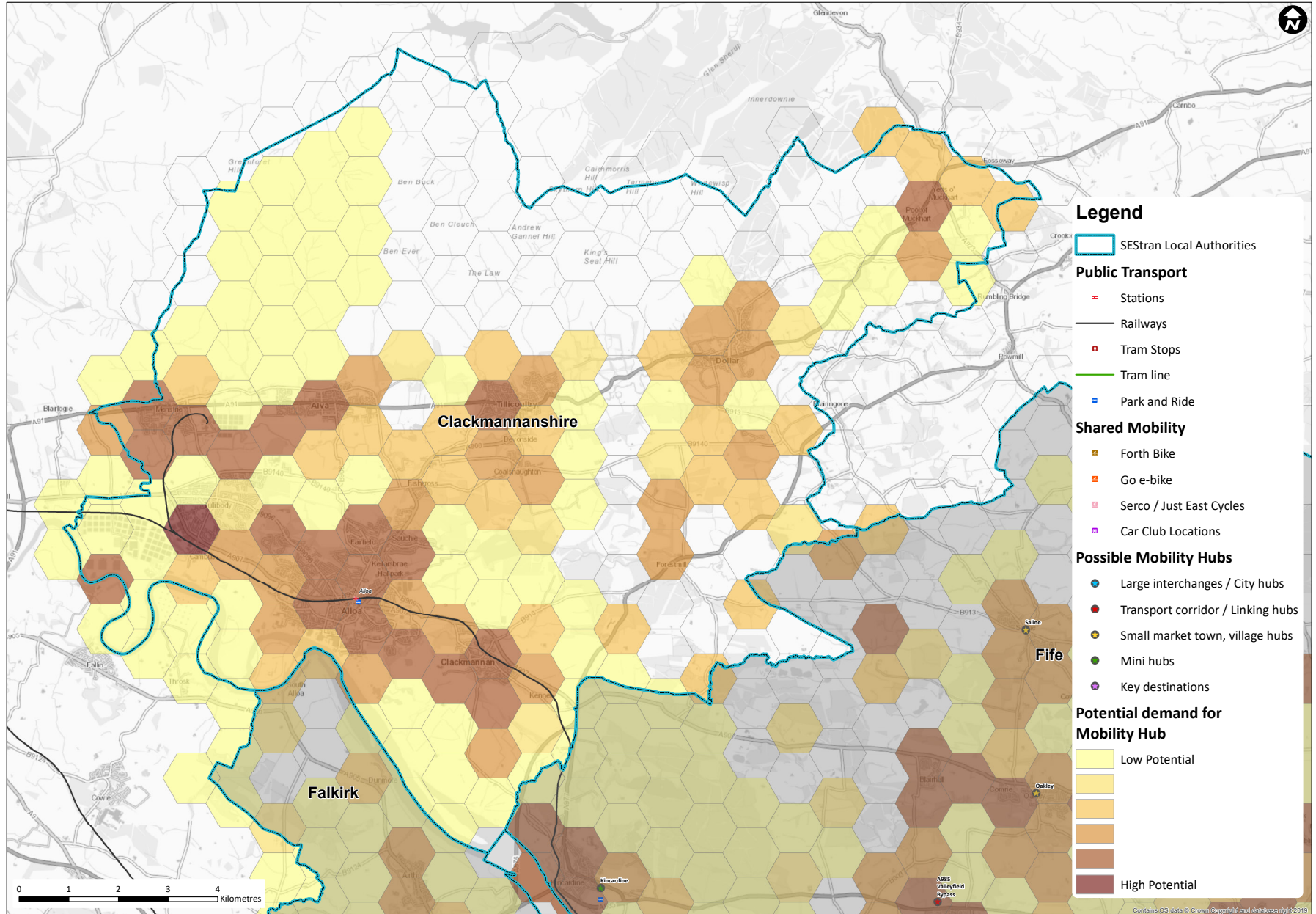
Potential need for Mobility Hubs

City of Edinburgh Council



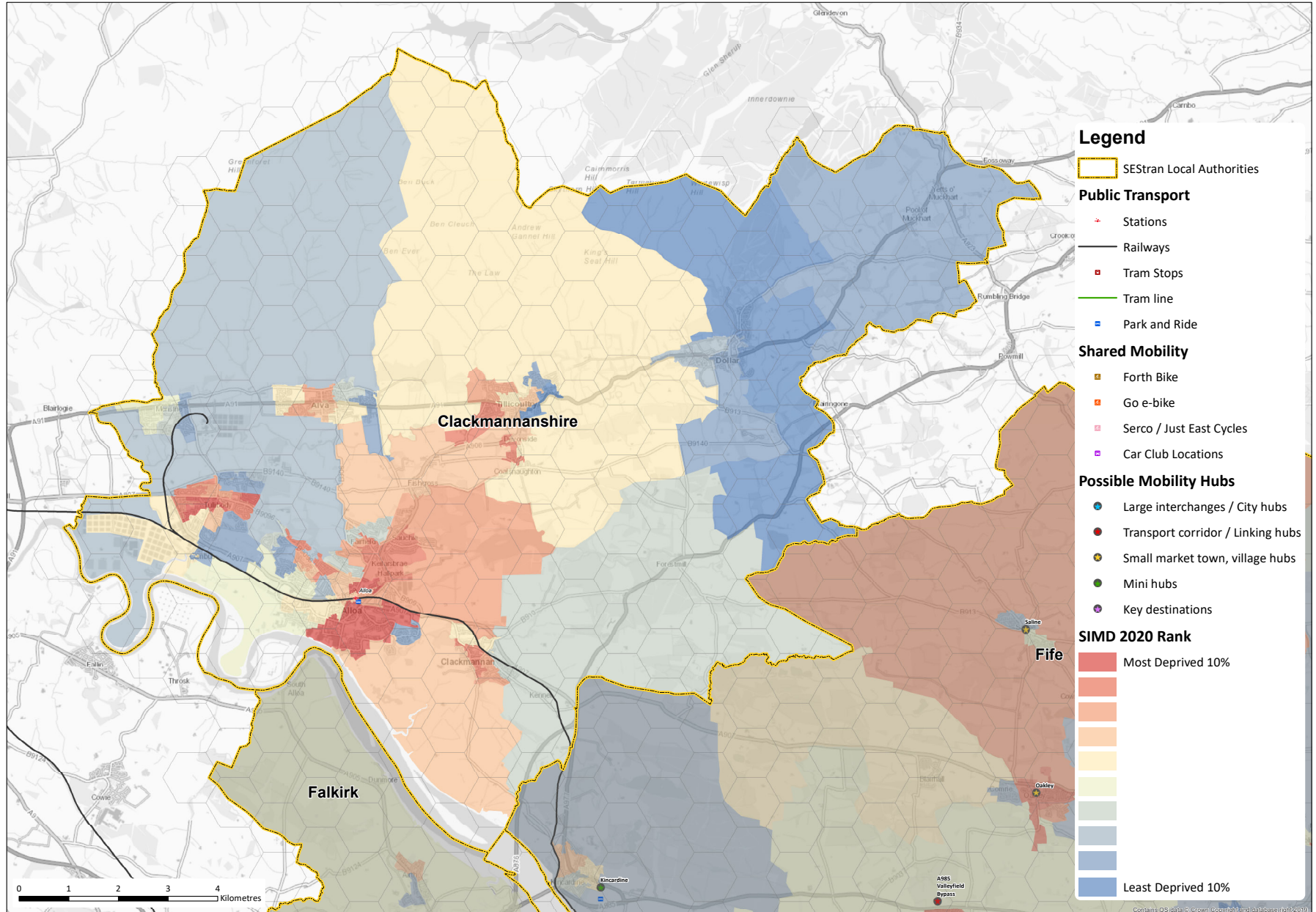
Potential demand for Mobility Hubs

Clackmannanshire Council



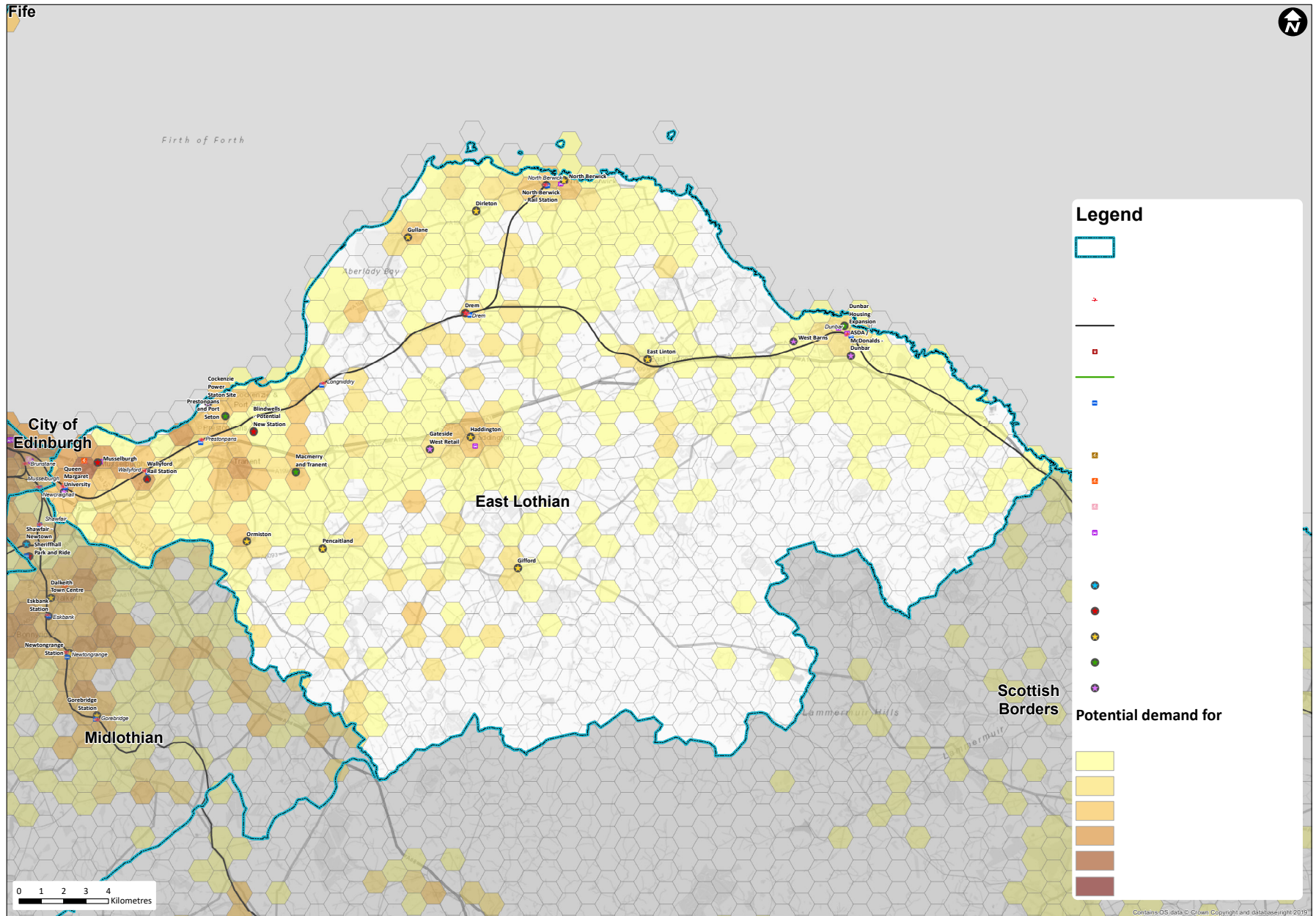
Potential need for Mobility Hubs

Clackmannanshire Council



Potential demand for Mobility Hubs

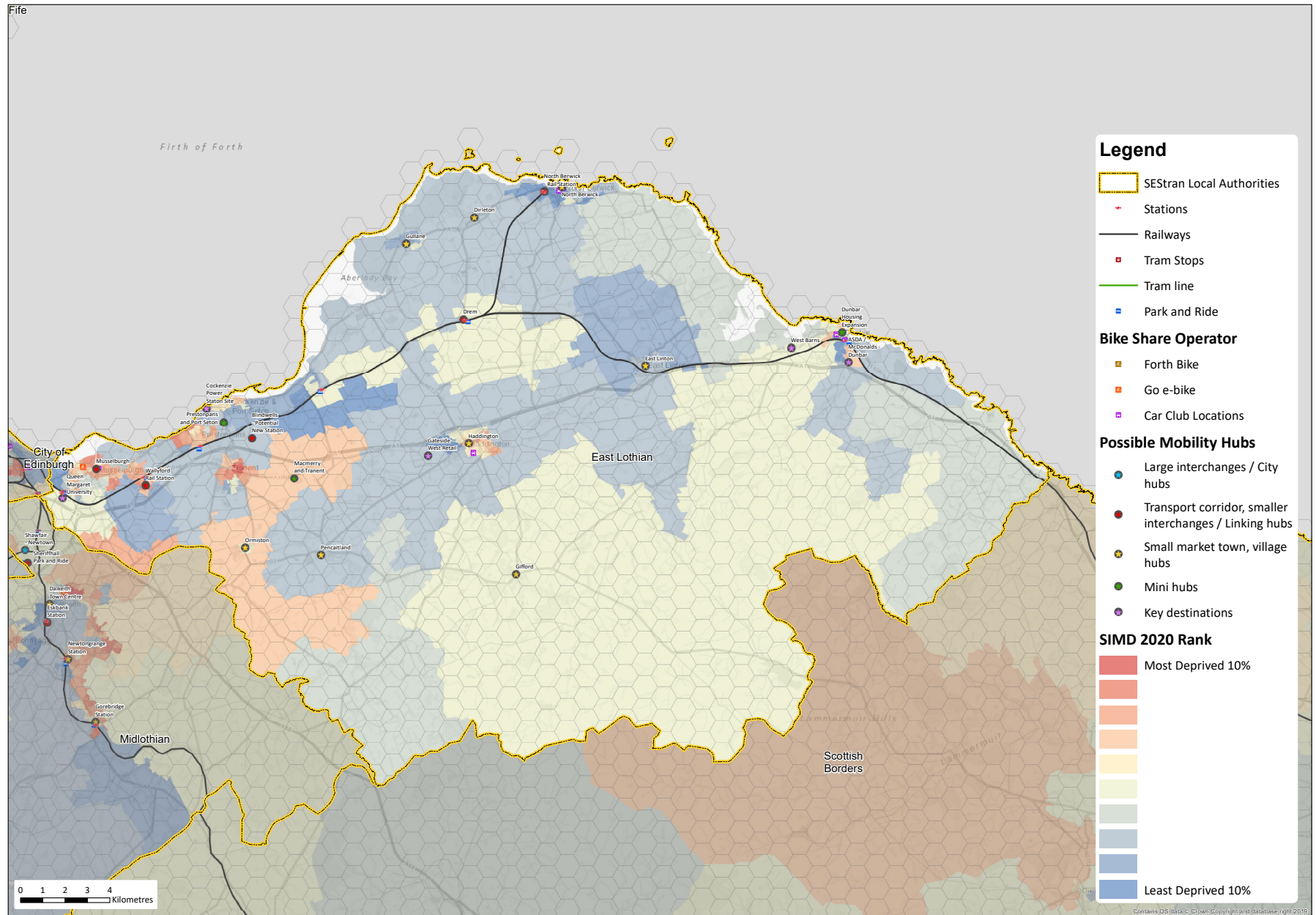
East Lothian Council



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Potential need for Mobility Hubs

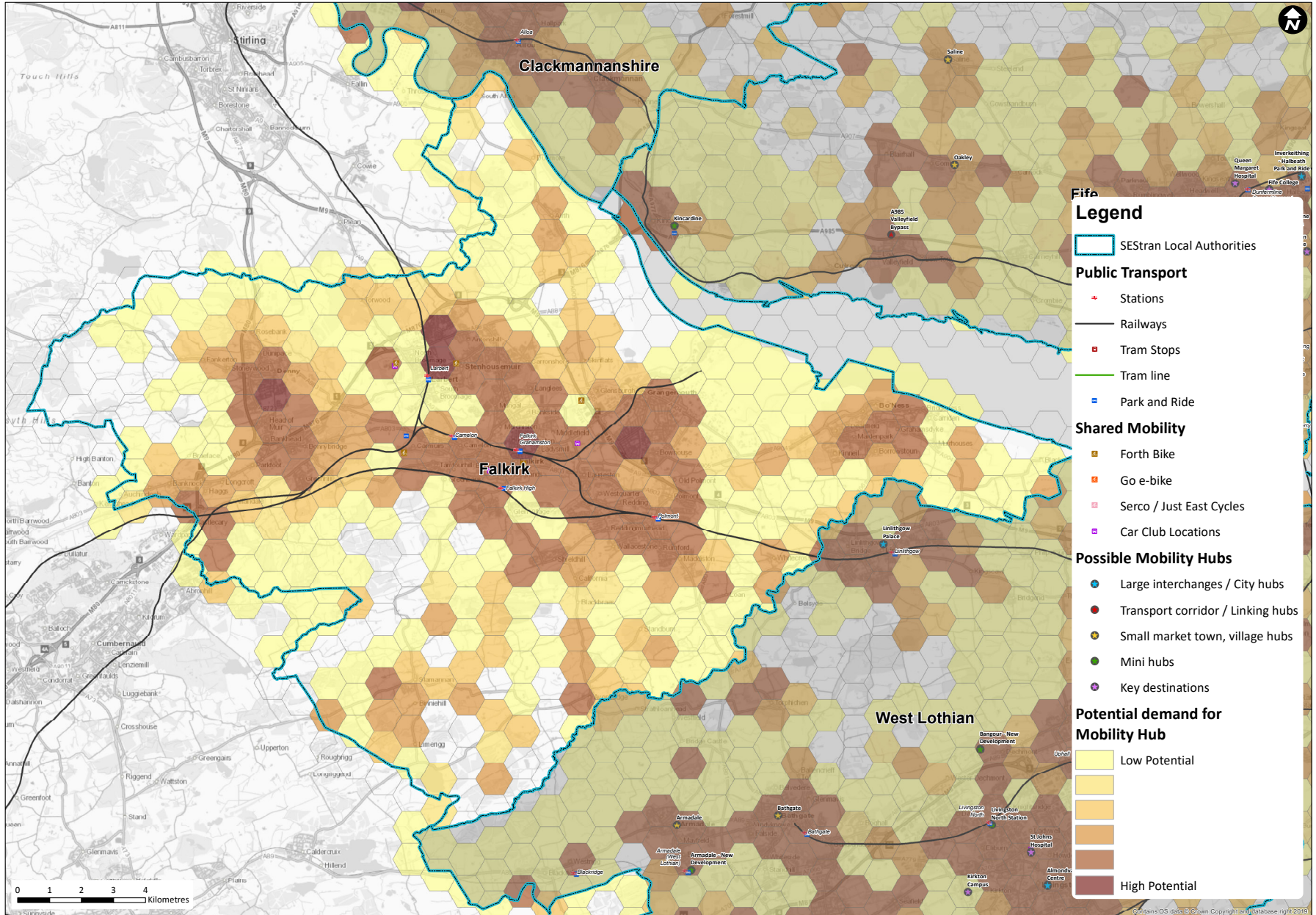
East Lothian Council



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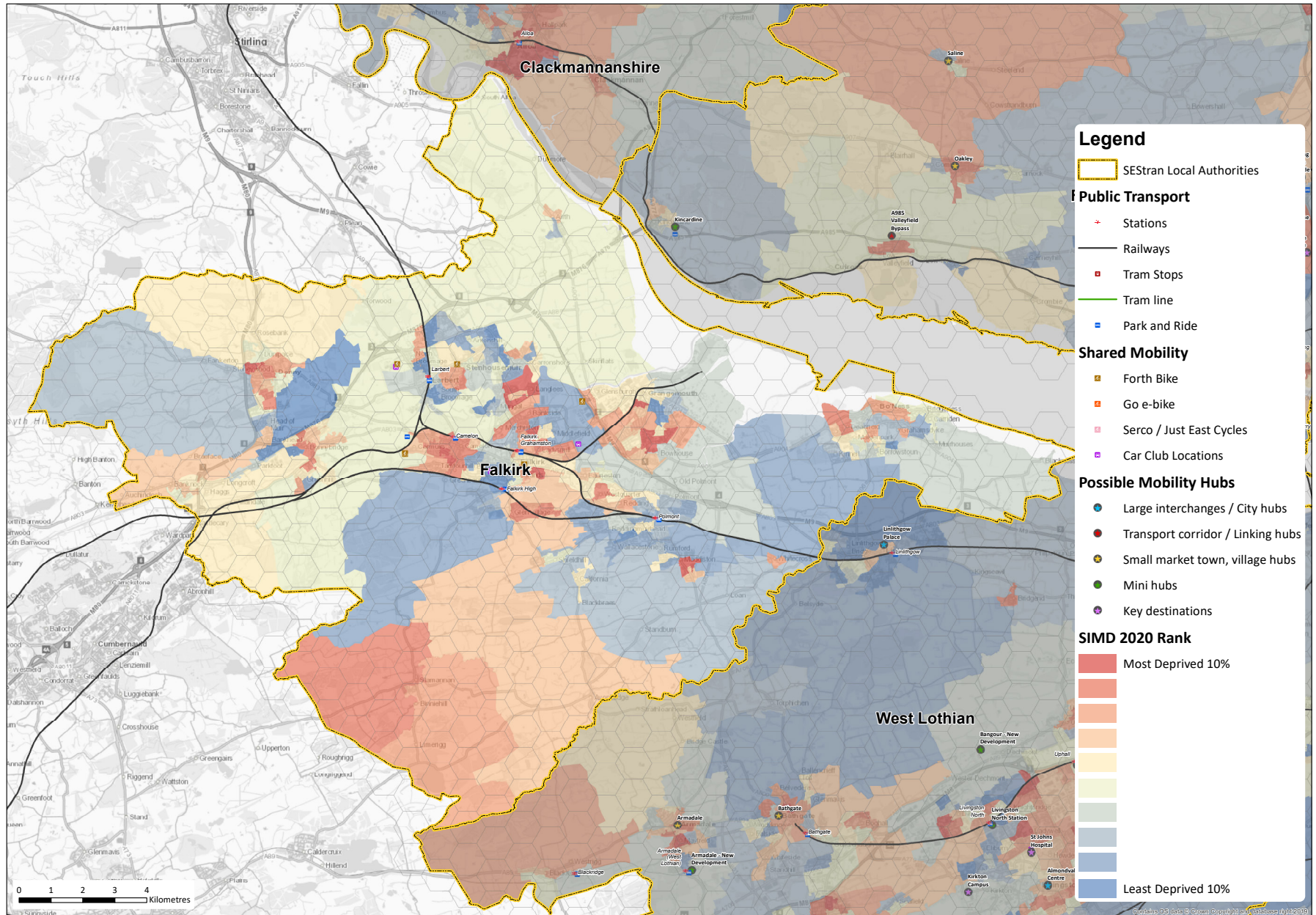
Potential demand for Mobility Hubs

Falkirk Council



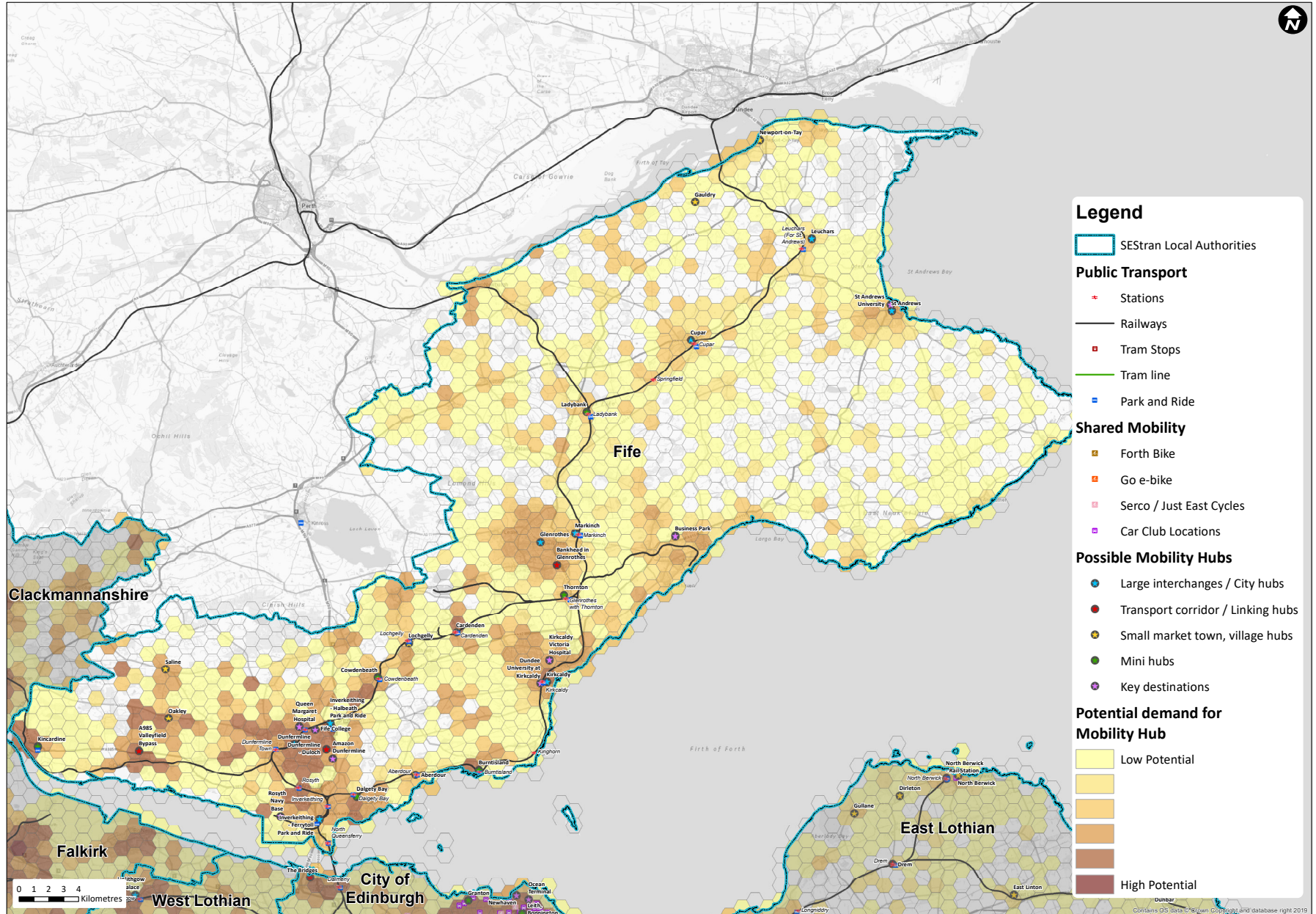
Potential need for Mobility Hubs

Falkirk Council



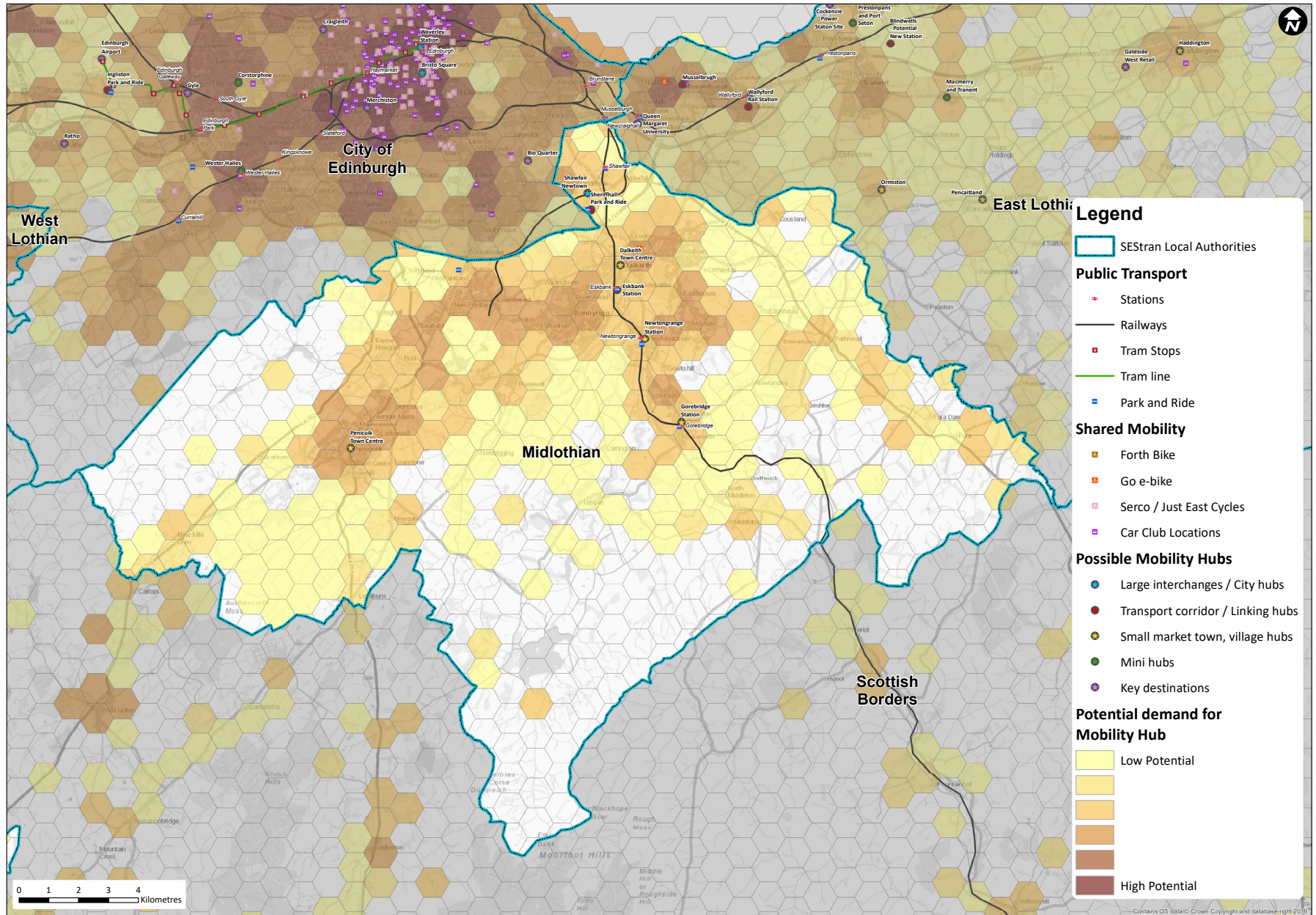
Potential demand for Mobility Hubs

Fife Council



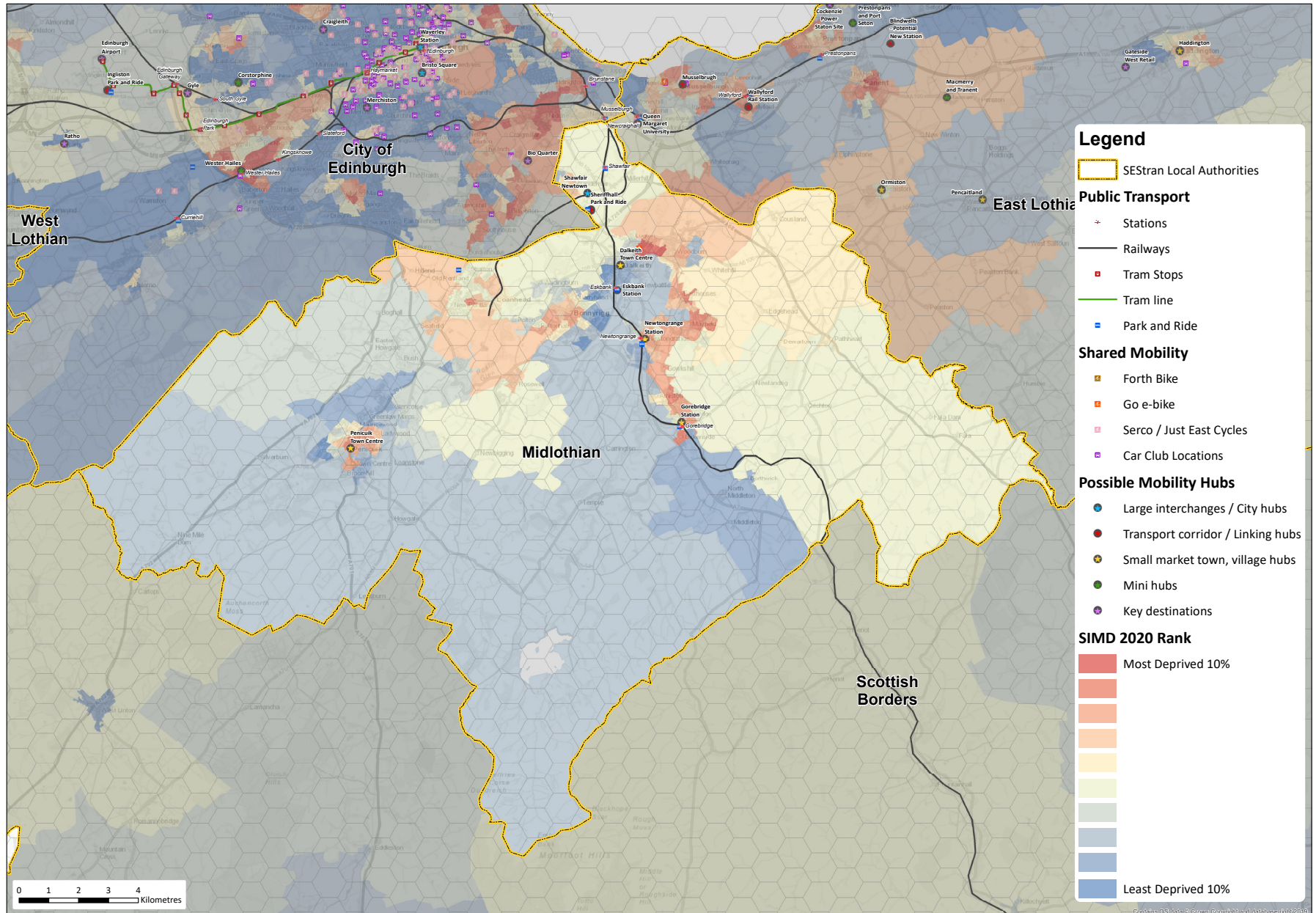
Potential demand for Mobility Hubs

Midlothian Council



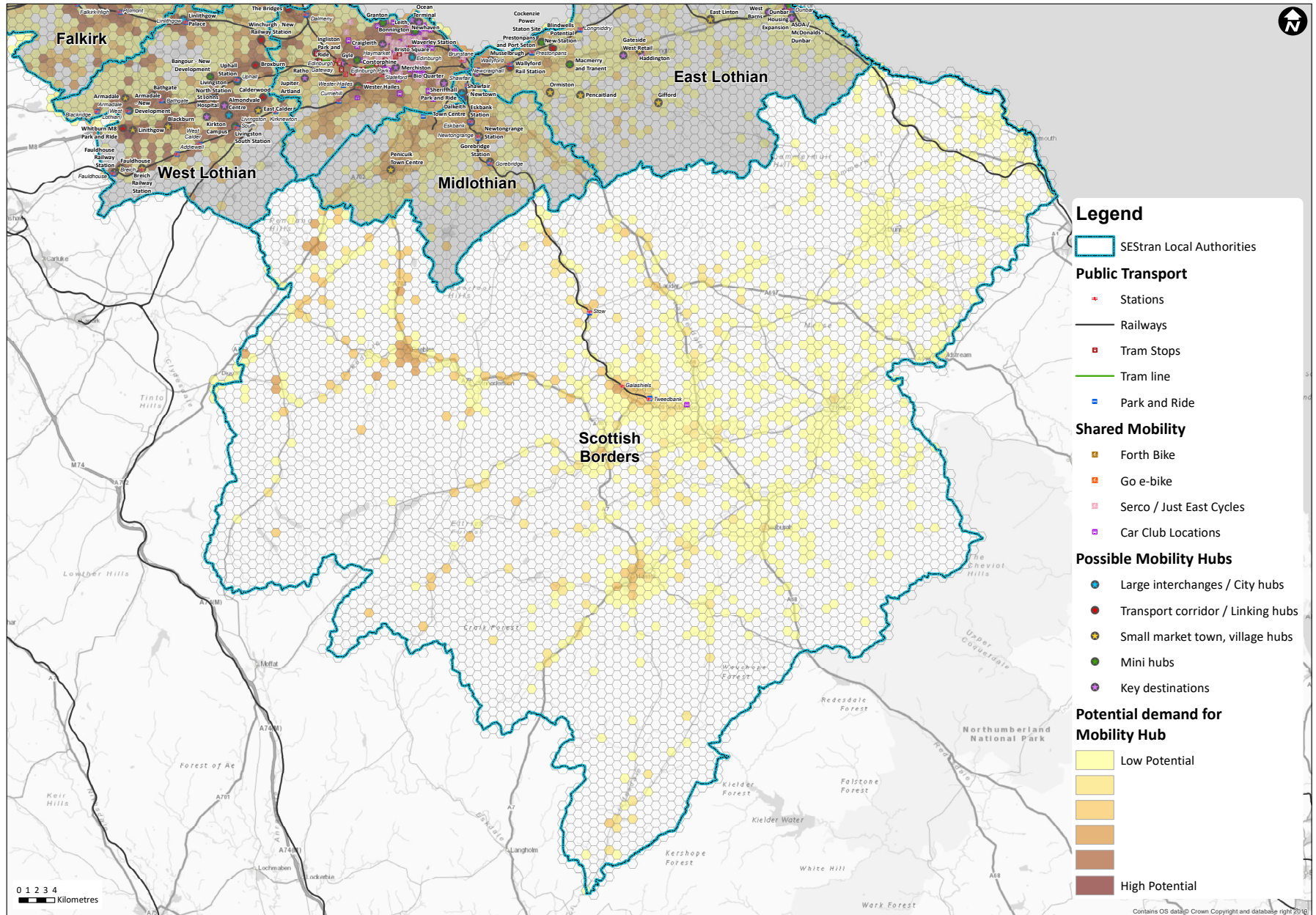
Potential need for Mobility Hubs

Midlothian Council



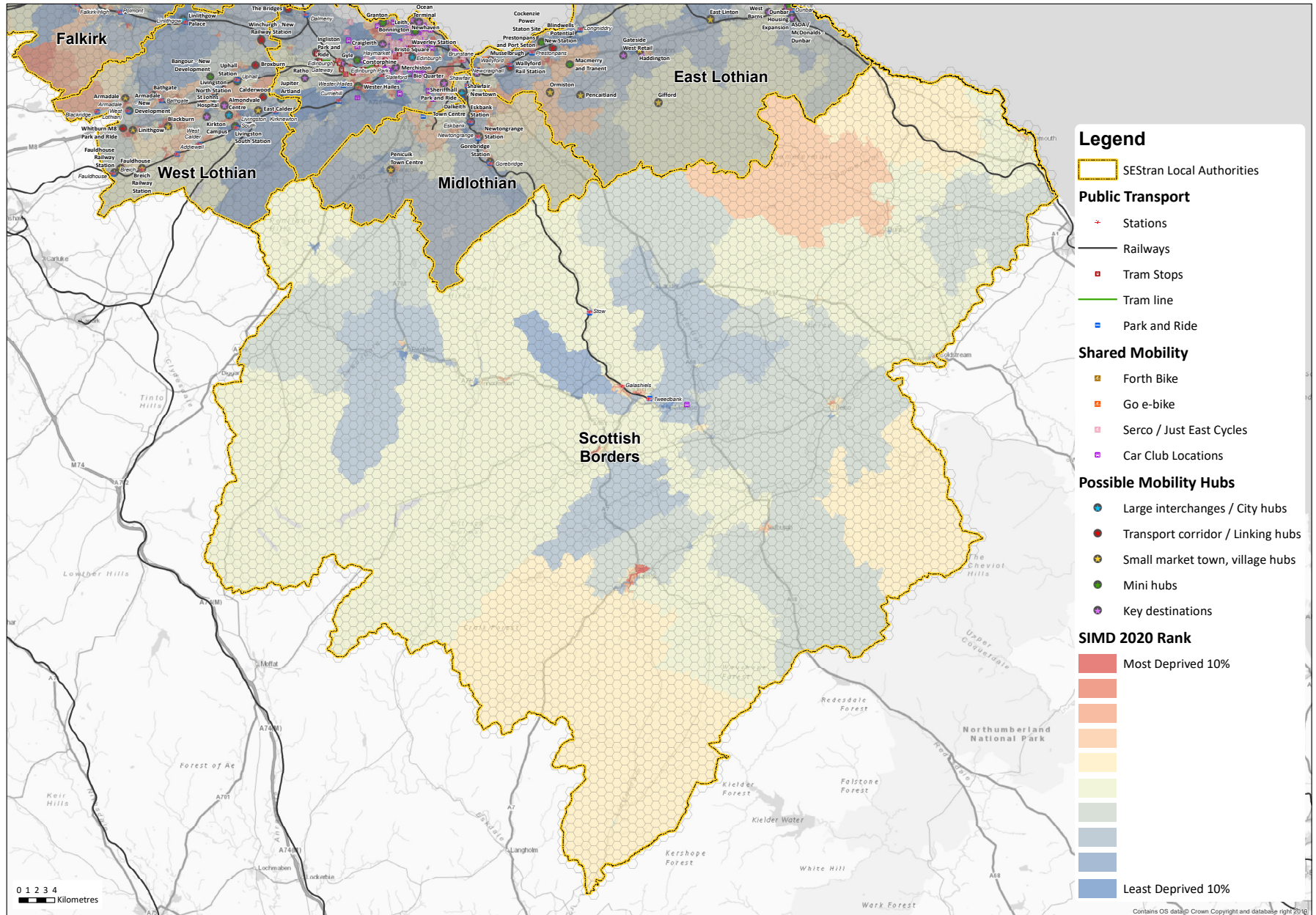
Potential demand for Mobility Hubs

Scottish Borders Council



Potential need for Mobility Hubs

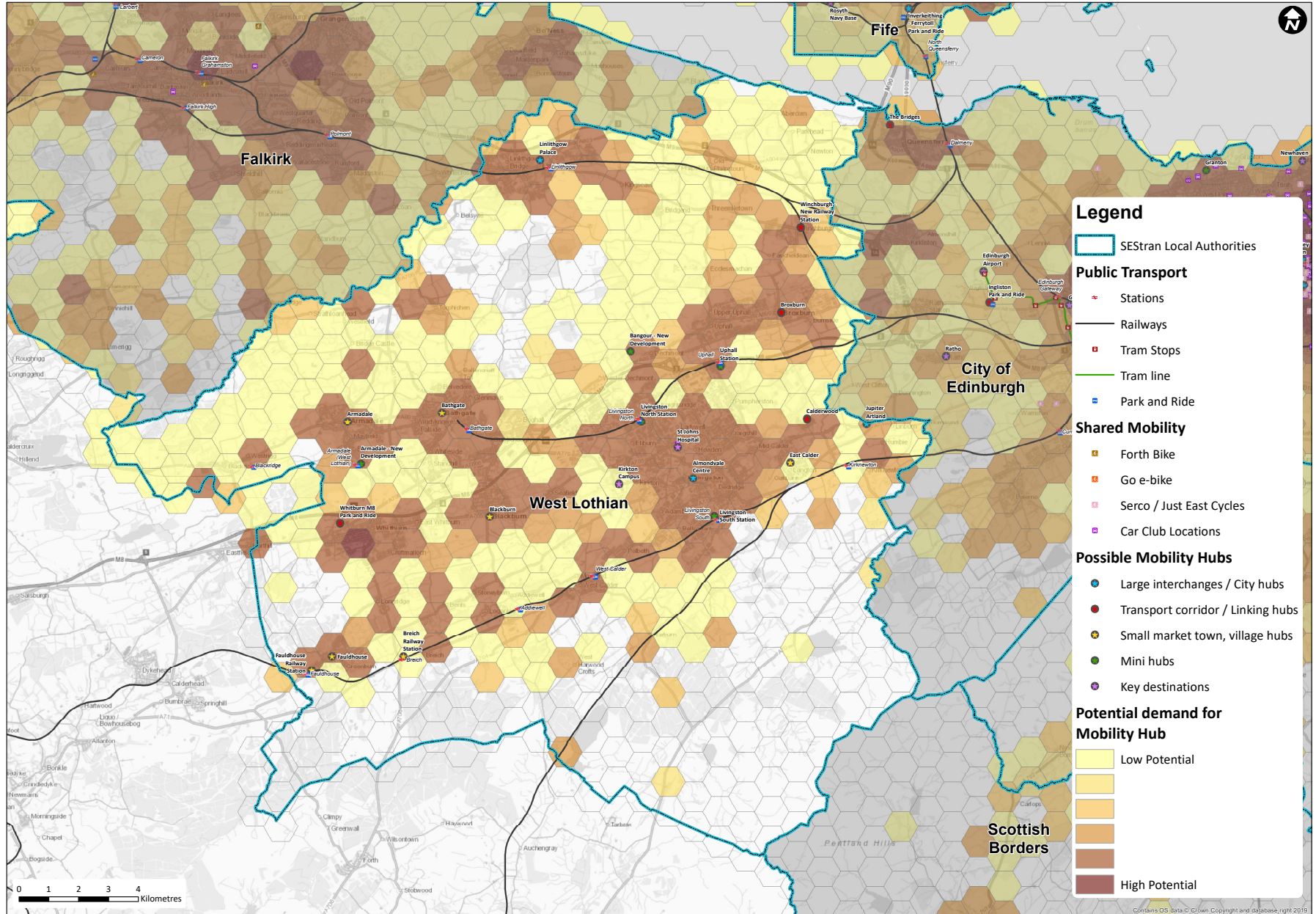
Scottish Borders Council



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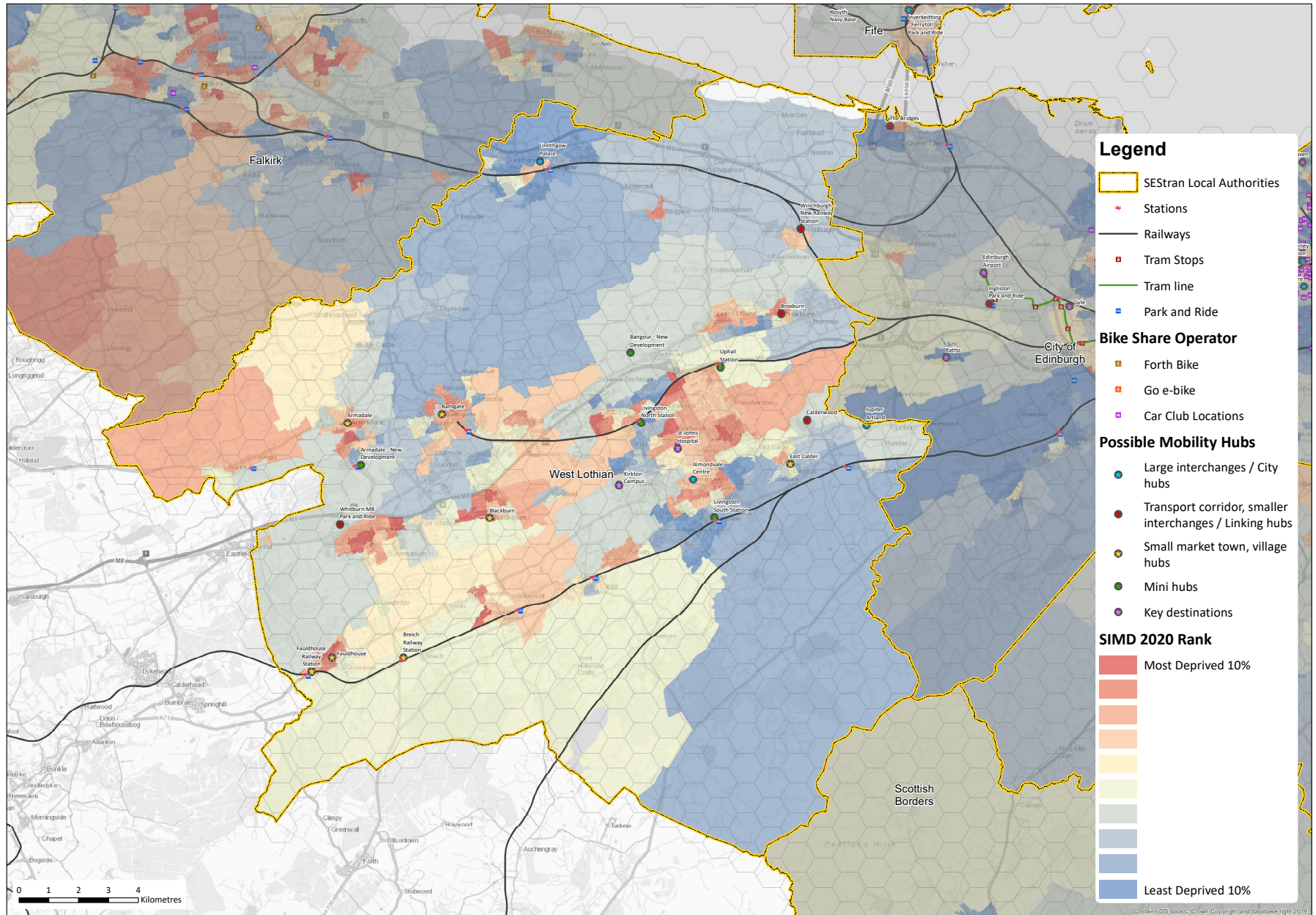
Potential demand for Mobility Hubs

West Lothian Council



Potential need for Mobility Hubs

West Lothian Council



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