HEALTH IMPACT SCOPING OF ABERDEEN LOCAL TRANSPORT STRATEGY (2023 – 2030)

Background

Aberdeen City have developed a draft local transport strategy (LTS) that considers the transport needs of the local authority area and sets out a high-level plan to meet these between 2023 – 2030, through strategic decision making, investment and co-ordinated actions with the potential to deliver positive outcomes beyond 2030.

The LTS has been developed in the context of regional and national transport strategies that link to wider strategy and policy around climate and sustainability, planning, economic growth, health, and equalities. The draft LTS has been developed using a Scottish Transport Appraisal Guidance (STAG) based approach, a Scottish Government tool that supports use of best practice guidance, and in consultation with the public. Potential co-benefits to climate and sustainability, health, placemaking, and the economy supported by the adopt emergent technology are key drivers that could support change.

The LTS sets a vision for "A safe, resilient, high-quality transport system that is accessible to all, supports a vibrant economy, facilities healthy living and minimises the impact on our environment. Aberdeen's transport network should encourage people to live in, work in and visit our city." This vision is further developed through eight transport planning objectives:

1. Climate and Environment: Reduce the negative impact of transport on the climate and the environment in Aberdeen.
2. Health: Improve transport opportunities in Aberdeen that help enable and promote healthy lives and give access to healthcare.
3. Safety: Improve the safety of the Aberdeen transport network and reduce safety issues for users.
4. Economy: Ensure more efficient movement of people and goods across, into and from both Aberdeen city and the whole region.
5. Accessibility/ inclusivity/ user-friendly: Improve the user-friendliness of the Aberdeen transport network, making it more accessible and inclusive.
6. Resilience: Ensure the Aberdeen transport network is more resilient and can react to unplanned circumstances and extreme weather.
7. Technology: Ensure Aberdeen has a transport network that can better adapt to

changes in technology and capitalises on existing technological opportunities.

8. Modal Shift: Reduce the need to travel and reduce dependency on the private car in Aberdeen.

The transport planning objectives are linked to fourteen outcomes up to 2030 and a further sixteen outcomes beyond 2030. Outcomes up to 2030 focus on reducing car journeys and car km travelled in Aberdeen, reducing emissions from cars and vans, as well as larger vehicles such as buses, improving air quality and removal of Air Quality Management Areas in Aberdeen and a reduction in children and adults killed or seriously injured using the transport network. Further outcomes focus on resilience and maintenance of the transport network, improved interchanges with opportunities to switch mode, improved accessibility, improved access to healthcare, improved information about the network for users and planners, and early adoption of supportive technology.

Policies, linked to transport planning objectives are detailed across forty areas. These include climate, air and noise quality, reducing the need to travel, active travel, public transport, shared vehicles, low carbon vehicles, parking, roads, shipping and ferry services, air services, freight, travel awareness and information, land use planning, travel plans, City Centre, Biodiversity and green space, traffic management and road safety, enforcement, school travel and young people, new technologies initiatives, intelligent transport systems[1], road, carriageway and footway maintenance, winter maintenance, structures, resilience, contingency planning and utilities and lighting.

A supporting spatial narrative makes the case for strategic traffic to be routed around rather than through Aberdeen city centre enabling the city centre to become a destination rather than route. It also presents the need to make the key corridors between the city centre and the periphery “multi-modal,” to cater for a wider range of users.

The draft LTS will be subject to a further impacts assessment, including environmental and equalities impact assessments. A draft LTS will be presented to Committee for consideration in August 2023 with a recommendation to take the document out for public and stakeholder consultation for 8 weeks. It is anticipated that a final LTS will be reported back to Committee in Spring 2024.

[1] Intelligent Transport Systems (ITS) are a range of tools used for managing the road network, helping road users to make better informed decisions about journey planning and improving the service provided to road users.

Summary

This is a report from a virtual workshop held via MS Teams on 29 June 2023 to discuss potential impacts on health of the proposed Aberdeen Local Transport Strategy (LTS).

Workshop participants were from the local authority Aberdeen City Council, Public Health Scotland, NHS Grampian, and NESTRANS. Collectively the group had specialist skills in public health, equalities, planning and transport, and expert knowledge of the locality, including local concerns, needs and priorities, and the policy landscape. They had read and reflected on the draft LTS before the workshop.

Workshop participants agreed with LTS vision. They aimed to use this structured workshop to identify potential impacts, positive, negative and areas of uncertainty, of the LTS if implemented as proposed. A health impact checklist was used in a facilitated discussion to identify how the proposed LTS was likely to affect different populations and health determinants.

This report details **potential** impacts of LTS identified by participants. Further evidence is needed to investigate and support these hypothesised impacts.

This report includes:

- Summary of key points
- Suggestion and recommendations
- Research questions
- Detailed workshop discussion

Summary of Key Points

The discussion included reflections on accessibility, acceptability, availability, and affordability of transport now to identify issues that if addressed could support future delivery of equitable and sustainable transport choices for citizens.

A core function of transport is to provide access to health, social care and other services, education, skills, training and employment, leisure, social and cultural opportunities.

Good transport is a building block for physical and mental health and wellbeing, improves social and economic outcomes, reduces inequalities, and builds social capital. Transport should be considered in wider initiatives in a range of policy areas.

Vulnerable people and groups are more likely to rely on active or public transport. Poorly connected, inaccessible, unreliable, and unresponsive public and active transport routes can contribute to social exclusion and exacerbate inequalities, to the detriment of the whole of society.

Use of active and public transport may be associated with stigma (self, perceived or societal). Normalising active and public transport as healthy, sustainable, and fun choice for people and the planet can challenge stigma. Schools are likely to be an important setting for this.

The LTS should support choice within travel. Choice reflects personal circumstances and journey contexts. As active and public transport are promoted and normalised, people unable to shift modes for all, or part, of their journey should not face stigma or discrimination.

There are barriers to modal shift from solo driver private car use to active and public transport beyond infrastructure. These include affordability, accessibility, and concerns about safety (real or perceived) in public spaces that may affect the acceptability of active and public transport.

Some people and groups may be disadvantaged by the current lack of availability of transport and supporting infrastructure including people incarcerated in, newly released from, or visiting HMP Grampian, people living in remote and rural areas, the Gypsy, Roma and Travelling Community, people living in deprived neighbourhoods and shift workers including those contributing to the night-time economy.

The current ‘hub and spoke’ model of the transport system does not accommodate lateral journeys so well. Some people and groups, especially women and caregivers, may need to make multi-stop journeys. Where interchanges are required, these should be smooth, feel safe and comfortable.

Integrated ticketing and real-time journey planning could support multi-stop and multi-modal journeys using active and public transport if digital inclusion is considered.

The accessibility of active and public transport is likely to be a key concern for children and young people, older people, and disabled people. Foot and cycle paths may be too narrow, uneven, blocked by parked vehicles or other obstructions, poorly signposted and poorly lit. Lighting, improvements to surfaces and enforcement to keep paths clear could increase accessibility.

Bike hire and recycle schemes offering free or low-cost bikes with Bikeability training to increase capacity and confidence could increase the affordability and acceptability of active transport.

People need accessible information about changes to transport infrastructure and systems, including routes, timetabling, and ticketing. This information must be culturally and linguistically sensitive and consider literacy, numeracy, and digital inclusion. Information must be tailored to need.

Some people and groups may not understand how the transport system or road safety work in Aberdeen, for example refugees, asylum seekers and newly settled Scots. Others may find changes challenging to adjust to, for example older people or people with additional support needs. A support and learning offer is needed.

Modal shift to active and public transport could deliver climate and health co-benefits including increasing physical activity, improved air quality and reduced noise pollution. A reduced volume of traffic may make the city centre more attractive and a safer place for people with fewer accidents.

The low emission zone (LEZ) may disproportionately impact people who rely on private car use for necessary journeys to the city centre, but whose vehicles are non-compliant, such as older people and people living in financial hardship.

There is a risk of ‘displacement’ with an increase in traffic, air, and noise pollution in areas adjacent to the LEZ zone.

Car share clubs could provide affordable access to LEZ compliant vehicles for people who rely on private car use for necessary journeys to the city centre but do not own a compliant car, but to support the societal transition from fossil fuel to electric vehicles additional central funding may be required to make vehicles and infrastructure affordable.

The promotion of shared spaces for pedestrians, cyclists and vehicles could create conflict. There is a need to (re)educate the public on the highway code and the recent changes to it, so that shared spaces are inclusive and used responsibly. Where possible, routes for pedestrian and cyclists should be segregated to reduce risk.

The airport and harbour contribute to the local and regional economy but also to Greenhouse Gas emissions. Infrastructure to improve surface access to the airport and harbour areas has the potential to increase use of sustainable transport for people and goods. The adoption of emergent technology such as cleaner fuels and vehicles for shipping, air travel and freight haulage, could support net zero climate commitments.

To deliver climate and health co-benefits from increasing access to green and blue spaces, development to improve surface access for sustainable transport should protect green space.

The Aberdeen Western Peripheral Route (AWPR) could reduce traffic volume in the city centre delivering climate and health co-benefits including better air quality, less noise pollution, fewer road traffic collisions that make the city centre, and active transport within it, more attractive, but other interventions are needed to reduce city centre traffic. New infrastructure should protect green spaces, preventing 'in fill' development around the AWPR.

Collecting data to understand how people and goods move could provide information to support planning and implementation. Monitoring the LTS as it is implemented and delivered will allow positive and negative impacts to be identified and mitigating steps taken where necessary.

Suggestions and recommendations

This section of the report summarises suggestions and recommendations that emerged from group discussion. These have the potential to enhance any positive, and mitigate any negative, impacts of the LTS. Considering the needs of different population groups can help target interventions. They are as follows:

Culture change: challenging social norms and stigma

The LTS should support normalisation of the use of active and public transport. Active and public transport should be framed as a healthy, sustainable, and fun choice. Stigma associated with active and public transport use should be challenged. Schools could be an important setting, educating children from an early age, acting as a 'cultural bridge' and anchor institution in local communities.

The LTS should support normalisation of pedestrians and cyclist users being given priority over vehicles. Public information and (re)education are needed to support safe use of shared public spaces for all.

For some people modal shift to active or public transport may have health disbenefits. For others modal shift for part of a journey, or some journeys, may be an achievable incremental change. In promoting active and public transport options and discouraging unnecessary journeys by private cars, people unable to shift modes due to their personal circumstances, must not face stigma or discrimination.

Accessible, available, acceptable, and affordable active and public transport can deliver climate and health co-benefits. No one should be left behind. The LTS should seek to move beyond minimum legislative requirements for disability access. Doing so could increase social inclusion and wellbeing in vulnerable people and groups with visible and hidden disability and reduce inequalities.

Information and communication

Information about local transport services, including any proposed changes to transport infrastructure, modes, routes, or fares, must be timely, accessible, linguistically, and culturally sensitive and tailored to the needs of different population groups.

Accessible actionable information and responsive services must be available to the public so that safety concerns in public spaces, including while using active or public transport, can be raised, and efficiently addressed.

The introduction of e-ticketing, real-time travel information or journey planning for public transport, or schemes to support access to bikes or electric vehicles, must consider digital inclusion.

Transport infrastructure

Active transport infrastructure must be safe, accessible, managed and maintained. Widening and resurfacing of foot and cycle paths, enforcement to reduce pavement parking and other obstructions and street lighting in shared public spaces, could support this.

Walking and cycling routes should be segregated from vehicle routes where possible reducing the risks to those most vulnerable in the event of a collision.

Public transport infrastructure including transport hubs and interchanges should be safe, accessible, managed and maintained. Hubs and interchanges should include infrastructure that can support modal shift/multi modal journeys, for example park and ride or safe bike storage.

Improvements to active and public transport routes should include lateral travel options beyond ‘hub and spoke’ provision. Routes should be coherent, direct, and facilitate multi-stop journeys. The needs of travellers should be considered. Specific groups include shift workers contributing to the night-time economy and people living in remote and rural areas who may be poorly served by public transport, have higher transport costs, and be at risk of or living in poverty.

Green and blues spaces deliver co-benefits for human and planetary health and must be protected. Brownfield sites should be used for the development of new transport infrastructure where possible. Mitigation may be required to prevent ‘in fill’ along the proposed Aberdeen Western Peripheral Route.

Developments to improve surface access offering sustainable travel options for people and goods travelling to and from the airport and harbour should protect green spaces. The group noted that National Planning Framework 4 and Net Zero ambitions preclude further airport development.

Affordability of active and public transport

Integrated ticketing, a card system like London's Oyster card, could support multi-stop and multi-modal journeys. Cards that require pre-loading may disproportionately disadvantaged people living in financial hardship. An ability to top up in small increments could make this more affordable.

Integrating financial support for transport with other forms of support for people living in financial hardship could make active and public transport an accessible option for more people and families.

Some people and groups, for example refugees, asylum seekers or newly liberated people, experience multiple disadvantages. They may need practical and financial support to use transport and realise co-benefits. People experiencing multiple disadvantages may be in contact with a range of services and support. Transport should be considered in holistic assessment of needs and supports offered to meet these.

Car clubs offering shared use of electric vehicles may provide a viable option for people, particularly those living in financial hardship, who do not have access to a private vehicle, or whose private vehicle is not compliant with the LEZ and risk financial penalty travelling to the city centre.

Bike hire or recycle schemes could increase access to equipment to support active travel for people living in financial hardship and if linked to Bikeability schemes that can increase confidence and capability cycling, could increase uptake of active transport.

Resilience of the transport system

A resilient transport system keeps people and goods moving and ensures that key works can continue to deliver core supports and services to vulnerable people and groups. Testing the resilience of the transport system's ability to respond to scenarios like future pandemics or climate related events including flooding or extreme weather, will help to plan and prepare.

Enhanced partnership working and collaboration

Transport is a building block for health and wellbeing that can reduce inequalities and will be key to delivering Scotland's climate commitments. Joined up working can deliver co-

benefits across a range of other policy areas including health, housing, education and skills, employment, and the economy. The LTS can deliver more positive impacts if transport is considered as part of wider initiatives and a wider approach to spatial planning and community planning.

Partnerships should be developed to ensure early adoption of emergent technologies, such as clean fuels and vehicles (shipping, aircraft, haulage), as part of the LTS to contribute to net zero targets.

Partnerships should be developed with local and regional employers to advocate for actions that reduce commuter burden and discourage private car use such as flexible or hybrid working policies or use of locality work hubs with shared office space.

Sharing learning colleagues with working to develop LTS's in other localities may help identify opportunities, potential pitfalls, and mitigating actions necessary to avoid these.

Measuring and monitoring

Measuring and monitoring who, how and why people travel could contribute to building a local picture of concerns, needs and priorities and how best to meet these. Monitoring implementation and delivery of LTS will enable early identification of positive and negative impacts. Emergent learning can be applied to mitigate any negative impacts of the LTS.

Research Questions

Through facilitated discussion several questions about the impacts of the LTS emerged. These are listed below.

- What is needed to support culture change, normalising the use of active and public transport as a healthy, sustainable choice?

- Understanding how and why people travel in and through Aberdeen City
    - What are the characteristics of people travelling?
    - Where are people they are going, and why?
    - What modes of transport are they using?
    - What barriers do different populations face travelling?
    - What infrastructure and supports are needed to overcome these barriers?

- Understanding the needs of population groups who may be underserved by the current transport system.
    - What is the transport needs of the Gypsy, Roma, and Traveller community?
    - What is the transport needs of people living in, or visiting, remote island communities who use the ferry in Aberdeen City?
    - What is the transport needs of people living in remote and rural localities who may face intersecting challenges of transport poverty and financial hardship?

- Impacts of LEZ outside the LEZ zone
    - What are the impacts - positive, negative or uncertainty - of the LEZ in localities adjacent to the LEZ zone?

- What interventions will increase satisfaction with and safety (real or perceived) of active and public transport?

- HMP Grampian
    - What are the characteristics of people travelling to and from HMP Grampian?
    - What safe, accessible, and affordable options currently exist to travel to and from HMP Grampian?
    - Do these travel options meet the needs of people travelling?
    - What support (financial and practical) are available to newly liberated people leaving HMP Grampian and are these meeting need?

Emerging evidence

In discussion it was highlighted that two research projects are underway locally that could help to explore potential impacts of the LTS. The first will examine the purpose of travel and modes of transport used by a representative sample of people from Aberdeen City and Aberdeenshire. The second will consider the use of transport by people accessing outpatient clinics in NHS Grampian.

Public Health Scotland will shortly publish an evaluability study of LEZ's from which there may be transferable learning.

Detailed discussion

The group identified that the LTS was most likely to affect the following groups of people:

- People with protected characteristics such as age, gender, disability.
- People who live, study, or work in Aberdeen City.
- People who visit Aberdeen City, or Aberdeenshire, for retail, leisure, culture, or tourism.
- People who live in Aberdeenshire or adjacent localities.
- People who do not have their own to transport.
- People who travel by different modes e.g., car, active or public transport
- People concerned or worried about the climate crisis.

Impacts by Population Group

The group used the checklist to discuss potential positive and negative impacts by population group.

Children and Young people

A distinction was made between children and young people who could travel independently and those who must be accompanied by a parent/carer.

Safety (real and perceived) influences the acceptability of active and public transport. Children and young people may opt for more expensive or more dangerous modes of transport if they do not feel safe and secure in public spaces. Improving community safety could enable uptake.

Unable to drive, children and many young people are reliant on their car owning parents or caregivers, or active and public transport for travel. Improved infrastructure, alongside the National Entitlement Card (NEC) offering free bus travel for children and young people, could increase independence, providing access to education and skills training, employment, leisure, social, and cultural opportunities, improving quality of life, and physical and mental health and wellbeing.

Free Wi-Fi on bus travel may be attractive to children and young people, offering digital connectivity that may not be available at home or in other public spaces.

A potential negative impact could be an increase in unaccompanied children and young people traveling to, and congregating in, the city centre. If engaging in anti-social behaviour this has implications for community safety and policing.

Inequalities could widen if children and young people with a NEC are unable to travel unaccompanied and their parents or caregivers are experiencing transport poverty.

Increasing use of active transport could have positive physical and mental health benefits for children and young people, increasing physical activity and reducing childhood obesity.

Schools could be key setting to deliver interventions like road safety and Bikeability that have the potential to increase the knowledge, skills, capabilities, and confidence of children and young people using active transport. A gendered lens may be required to prevent widening inequalities; young girls were identified as being less likely to adopt active transport.

Footpaths and cycle paths through public spaces must be safe, accessible, managed and maintained or this could place children and young people at risk.

Car ownership is perceived by many to be a sign of wealth and high social class while the use of active and public transport, perceived to be a sign of poverty and low social class. Stigma may be a barrier to use of active and public transport. Normalising the use of active and public transport as healthy, sustainable, and fun could tackle stigma. Education settings are likely to be important in framing active and public transport.

Benefits of reduced car travel could be positive for children, as they may become more active and continue this activity as they get older. It can also make the communities which they live safer so there are more opportunities to play outside.

Older People

The purpose of travel for older people may be different from other populations. Older people may be less likely to commute but more likely to travel to access health, social care, or other services. Accessible transport to and from health care settings is particularly importantly but to deliver health co-benefits, maintaining or increasing independence and improving quality of life, transport options must be responsive to need.

Whilst recognising the importance of reducing private car use for unnecessary journeys, for some older people, private car use may be a valid choice. Accessible parking bays for older people with disabilities or those caring for grandchildren, could support necessary journeys.

The LEZ may disproportionately impact older people who own vehicles that are not compliant. A negative impact could be loss of independence, social isolation, and loneliness with negative impacts on mental and physical health and wellbeing.

Older people may be less mobile, limiting their ability to use active or public transport. Public transport that is not responsive to need could exacerbate physical and mental health problems and reduce quality of life. The current 'hub and spoke' transport arrangement may not provide the flexibility that older people need to accommodate lateral transfers.

Older people, especially those on a low income, may be more reliant on public transport more than other groups. People aged 60 years and over receive concessionary travel on public transport making this an affordable option.

Changes to public transport infrastructure, including routes, timetabling, and ticketing, could be more challenging for older people to adjust to. Older people are more likely than other groups to experience digital exclusion. Older people may need information in a range of accessible formats and media with a learning and support offer.

Gender

Women are more likely be in lower paid employment, a primary caregiver and rely on public transport than men. A gendered lens must be applied when considering transport needs.

Women may be more likely to 'trip chain.' An ability to carefully plan multi-step journeys and flexible routes could increase the accessibility and acceptability of active and public transport offering greater choice and independence.

Women in some occupations may work shifts that often start early in the morning or late at night. The LTS could support employment inclusion if active and public transport is reliable, accessible, available, affordable and women feel confidence and safe in public spaces.

Women and girls may have concerns, real or perceived, over personal safety in public spaces including on public transport. Careful consideration of bus routes and lighting on foot and cycle paths may increase perceived safety; installation of solar studs on footpaths could deliver co-benefits, reducing energy use and delivering cost saving.

In some cultures, women are not permitted to drive, and it may be unacceptable to use mixed gender public transport. Reducing private car journeys to the city centre may negatively impact these women and girls, reducing independence and increasing social isolation.

Gendered expectations of acceptable modes of transport are not limited to women. Among young men in residential areas ownership and use of modified cars for recreation may convey status. However, this can impact negatively on road safety and cause air and noise pollution. Addressing these concerns may improve how people feel about their neighbourhood.

Disabled people

Disabled people may experience stigma, which may be exacerbated if they are excluded from being able to travel.

A social model of disability applies unrealistic societal expectation that people with disabilities should be able to travel without support or will always have a travel companion. This model could create dependence, social exclusion and widen inequalities. Flexible responsive travel choice with accessible, available transport could improve quality of life, increase independence, and reduce stigma.

Disabled people may need to plan journeys carefully. Accessible information can enable and empower people to make informed choices and may widen access to active and public transport delivering co-benefits. This should be tailored to audiences with diverse needs, with learning and support to engage with new systems and associated technologies. Assisted technology may have a role but this is not always functional and could become a barrier.

Realtime journey planners such as Google Maps may recommend unsafe, inaccessible walking or cycling routes placing disabled people at risk. Timely, reliable, and accessible information could increase the safety of travel for disabled people.

Foot and cycle paths may be damaged, uneven, too narrow, or blocked by parked vehicles or other obstacles rendering these inaccessible. Ensuring these are accessible, managed and maintained and controls are in place to prevent pavement parking could increase independence and social inclusion.

Some modes of transport must meet a minimum legal requirement for accessibility, for example black cabs. For others there is no minimum legal requirement, for example private hire taxis. Inaccessible modes of transport can exacerbate poor physical and mental health and wellbeing. Using these may place disabled people at risk, although they may have little choice if those modes that have a legal requirement are unavailable, for example the limited wheelchair space on the bus is full.

If transport, including infrastructure (pavements, accessibility, inclusivity) was made accessible for people who have a disability or wheelchair users, this will also benefit all road users. Ability to walk with children, push prams etc.

Minority ethnic populations

Car ownership is considered an indicator of wealth and high social class in some cultures. Use of active or public transport may be seen as an indicator of poverty and low social class. Car ownership and use may reflect both acculturation and cultural assimilation.

Education settings could function as a 'cultural bridge' building capability and challenging cultural norms. This could increase the acceptability of active and public transport delivering co-benefits for human and planetary health.

Refugees, asylum seekers and newly settled Scots may have limited understanding of local transport infrastructure and systems but are likely to be reliant on it. Initial resettlements may be in a central locality with good transportation links. Re-housing can move people to areas with poorly served by public transport reducing access to health, social care and other services, education and skills training, leisure, social and cultural opportunities. This reduces independence and increases social isolation. The provision of linguistically and culturally sensitive information and practical support may help people understand how to access and use active and public transport in Aberdeen City and beyond.

Cultural practice and societal norms in Scotland differ from other countries. Refugees, asylum seekers and newly settled Scots may place their physical safety at risk by for example walking on busy roads, or because they do not understand the Highway Code. Learning and support for transport may be needed. Digital exclusion may be a barrier to accessing route information, ticketing, and journey planning.

Low or no cost bikes available through bike hire or recycle schemes could widen choice for people. This could be linked to learning and support such as Bikeability to build capability and confidence.

Safety in public spaces, real or perceived, may be a barrier to use of active and public transport. People may feel uncomfortable travelling alone, or they may need to travel in a large family group but feel stigmatised for doing so. Educating settled Scots on what an inclusive multi-cultural society looks likes could reduce 'otherness' that leads to stigma.

The Gypsy, Roma and Traveller community rely on road networks to support and sustain their culture and lifestyle. Traveller sites are inaccessible by public transport; this may disproportionately impact on women and girls where gendered cultural expectations around private car access and use exist. Road networks and transport infrastructure should provide the Gypsy, Roma and Traveller community with equitable access to all modes of transport.

Lesbian, Gay, Bisexual, Trans, Intersex, Queer or Questioning People (LGBTQI+)

People who identify as LGBTQ+ may have concerns, real or perceived, over personal safety in public spaces, including on public transport, at transport hubs or interchanges, especially at night. Improving safety in public places and supplying accessible information that signposts people to how to raise a concern, including reporting a hate crime, and where to get timely help and support may increase use of active and public transport by people from the LGBTQI+ community.

People living in financial hardship

Integrating financial support for transport, for example concessionary travel or providing an integrated pre-loaded travel pass, with financial support for other building blocks of health like housing, energy, and food, could increase independence, improve quality of life, improve health and wellbeing, and reduce stigma experienced by people living in financial hardship.

Transport can be a barrier to securing and sustaining employment. Improvements to active and public transport infrastructure could support employment. Workplaces may not be on axial transport routes requiring people to travel into the city centre to travel back out incurring additional cost (financial and opportunity cost).

Integrated tickets could be convenient and reduce costs for people making multi-stop trips, but only if the upfront costs of preloading an integrated travel card are affordable and can be topped up with small sums regularly. Otherwise, integrated ticketing could be a barrier.

Using technology to digitalise ticketing and real-time journey planning may increase access for some groups but people living in financial hardship may have limited access to digital technology or the digital skills needed to navigate. There is a risk that this widens inequalities.

People living in financial hardship may have older cars that are non-complaint with the LEZ. Fines accrued for entering the city centre LEZ may increase financial hardship. Shared access to compliant cars through car clubs may offer an affordable option for those who need to travel to the city centre by car. Central funding could increase the availability and affordability of electric vehicles via car share initiatives, increasing choice.

Active or physical transport may be associated with stigma. Lack of car ownership could be perceived as an indicator of poverty or low social class. Normalising active and public transport use could deliver wider societal benefits including social inclusion and challenging stigma.

Homeless and vulnerably housed people

People who are street homeless may use transport hubs including bus or train stations as warm, safe spaces to stay impacting on the public's perceptions of the safety of these spaces. Actions to increase the perceived safety of public spaces could displace street homeless people, placing them at increased risk, unless linked to wider initiatives that to meet the needs of this group.

People who are homeless or vulnerably housed may have little choice in where, or when, they are housed or rehoused. Some residential areas, especially disadvantaged areas, are poorly served by public transport, limiting the availability of public transport. As a gateway to accessing health, social care, and other services, connect with family and friends, education and skills training, employment, leisure, social and cultural opportunity, this could widen inequalities experienced by this group.

Walking may be the default option for some people who are homeless or vulnerably housed, but walking routes may be unsafe, inaccessible, or not clearly signposted. People who are homeless or vulnerably housed may not have access to bikes and secure bike storage. Improvements in foot and cycle path infrastructure, and free or discounted bike hire or ownership schemes that offer secure bike storage, could have a positive impact on those reliant on active transport.

People in contact with the criminal justice system

The LTS should ensure access by sustainable active or public transport to HMP Grampian for people who work or deliver goods and services to the site, the families and friends of people incarcerated at the site, and newly liberated people. People with a history of offending behaviours and their families are a marginalised group that experience multiple disadvantages. It is unclear how well their needs are being met or the impacts the LTS may have if implemented as proposed.

People newly liberated from HMP Grampian may have limited knowledge and understanding of the local transport system and limited funding. Accessible, available, affordable transport could provide access to a wide range of opportunities for newly liberated people including health, social care and other services, education and skills training, employment, leisure, social and cultural opportunities. This could increase health and wellbeing, improve quality of life, increase independence and social inclusion and in return reduce recidivism, but newly liberated people may need practical and financial support to realise these co-benefits.

People with low levels of literacy and numeracy

People with low levels of literacy and numeracy may experience social exclusion if information about the transport system, including routes, timetables, ticketing, and journey planning, is not accessible.

People in remote and rural areas

Many people travel to and through Aberdeen City centre from surrounding localities that are remote, rural, and poorly connected by public transport.

The LTS encourages switching modes of transport from private vehicle use to active and public transport, but this may not meet the needs of people living in remote and rural areas. Geographically and logistically, car sharing may not be a viable option to reduce the number of car journeys taken. 'Park and Ride' facilities could replace part of a journey for some, but currently require multiple ticketing. Safe interchange points with facilities to accommodate modal shift and integrated ticketing could support active and public transport.

A ferry provides transport from Aberdeen City to Orkney and Shetland. Participants had limited knowledge of the onward travel connections from the ferry and how this may impact on those living in or traveling from, remote island communities.

Carers

A distinction was made between formal carers, in a paid role, and unformal carers, in an unpaid role. For all carers, accessibility, availability and affordability of active and public transport were identified as barriers to uptake.

Formal and informal carers may not receive concessionary travel on public transport. Affordability may be a barrier to using public transport to commute to and from caring responsibilities, or to meet the holistic needs of the person/people care is provided for, potentially reducing access to services, activities and opportunities that could improve quality of life and promote social inclusion.

Foot and cycle paths may be damaged, uneven, too narrow, or blocked by parked vehicles or other obstacles, rendering these inaccessible. This would limit the ability of carers to use these to commute or during their caring role.

Many carers have multiple roles and responsibilities. They may need to make multi-stop journeys. An integrated transport system, within integrated ticketing, which allows for different modes of transport, could support carers.

Resilience in the transport system is critical to ensuring continuity of care provided by key workers and informal carers.

Staff

The LTS could increase resilience in the transport system ensuring that people are able to access their workplace during adverse events such as extreme weather or flooding.

A large commuter population travel from Aberdeenshire to Aberdeen city for work. This strains the transport system at key time points. Integrating support for modal shift, e.g., Park and Ride, could increase choice and support commuters, employer, and transport providers. Employers could be encouraged to develop policies that reduce the need to commute such as hybrid or home working policies. Work locality hubs could reduce the need to travel to city centre offices.

Aberdeen has a vibrant night-time economy. Many people who contribute to the night-time economy are low paid shift workers who need to access travel outside of peak travel times. Safe, accessible, and available active and public transport may be limited. If the needs of this group are not considered by the LTS people contributing to the night-time economy will experience disbenefits and the night-time economy may suffer.

Health Determinants

The group considered potential positive, negative, and uncertain impacts of the LTS on determinants of health and which groups might be impacted by these. This was a hypothetical discussion noting that the implementation and delivery of the LTS would determine whether impacts were positive or negative. If implemented and delivered according to the stated vision, positive impacts and many health co-benefits could be realised.

Health related behaviours

Active travel, to a lesser extent public transport, are expected to increase physical activity. The LTS could lead to an improved environment, for example less air noise and pollution and increased safety due to less traffic, which would encourage walking and cycling, setting up a virtuous cycle supporting further modal shift and higher levels of physical activity.

People reliant on private car use, for example some disabled people, may be unable to switch to other modes, and have fewer practical options as private car use becomes less acceptable. Physical activity could reduce in this group.

Potential impacts on diet and nutrition are difficult to predict. The LTS may lead to people switching to shopping locally improving diet. Conversely, people may opt for accessible fast-food options if they are unable to access affordable shops locally that meet their needs and preferences.

Transport could increase physical access to education settings improving skills, learning and employability. If the LTS does not support access to education, then this is a dis-benefit.

Education may be an important setting to challenge a narrative of private car owner, normalise the use of other modes of public transport and challenges the stigma associated with active and public transport.

If responsive to need, the LTS could increase access to health, social care and other vital services delivering health co-benefits and reducing inequalities.

Social environment

Implementation and operational delivery of the LTS will have a critical role determining whether impacts are positive or negative. The COVID-19 pandemic and associated public

health measures to stop the spread of the virus reduced traffic. An increase in acceptability of and participation in active transport, including walking and cycling, was seen when people were encouraged to walk daily and there was less traffic.

If the LTS can realise its strategic vision this would be expected to have a positive impact on the individual agency, physical and mental health and wellbeing, quality of life, neighbourhood satisfaction and safety, community capital, social inclusion and social connectedness, employment, and income, reducing deep rooted inequalities. Concerns over safety in public spaces, on public transport and at interchanges must be addressed. Negative impacts could include an increase in crime and anti-social behaviour in public spaces with worsening perception of public safety.

Physical environment

If delivered in its entirety the LTS could have positive impacts on climate and sustainability; delivered piecemeal these may be eroded.

The LTS could reduce private vehicle traffic in Aberdeen City Centre. With LEZ compliant vehicles supporting public transport there could be an improvement in air quality and reduction in noise pollution. Less traffic in the city centre may reduce the risk of injury to pedestrians and cyclists. The impact on residential zones outside of the LEZ is not known. Displacement could occur.

The City Centre plan aims to open access to natural green and blue spaces with benefits for human health; supporting transport infrastructure development on green space could result in loss of biodiversity. Green and blue spaces should be protected to deliver health co-benefits.

Modal shifts could increase shared spaces for people. This could lead to accidents and conflicts over relative priority given to pedestrians, cyclists, cars, and public transport. The Highway Code gives priority to people using active transport but awareness of this may be low. People may need (re)educated and supported to use shared spaces responsibly. Non-hearing people in shared spaces could be at risk if there are no visual signs to alert them to cyclists and vehicles.

Modal shifts could also lead to more opportunities for children to play and for adults to be physically active.

Increased mixing of people in shared public spaces could facilitate the spread of infectious diseases, as seen with COVID-19. Civil contingencies could help to plan and prepare for any future pandemic ensuring the transport system is resilient.

The AWPR could reduce the volume of traffic entering the city centre. 'In-fill,' with green space being lost to the development of retails parks either side of the bypass, as happened in Edinburgh City, is a risk that must be managed to avoid loss of biodiversity.

The LTS identifies the airport and harbour as regional economic development opportunities Airport and harbour developments are greenhouse gas (GHG) intensive industries and could give rise to health disbenefit if climate and health impacts are not mitigated. However, the group noted that NPF4 does not support any further development of Aberdeen airport, so this is very unlikely to happen. The surface access plan for the airport aims to increase sustainable active and public transport options.

Green and blue spaces deliver climate and health co-benefits. Developments to improve surface access to these by offering sustainable transport options, should not erode green space.

Emergent technology could reduce the carbon footprint of these sites, if innovative alternative fuels and technologies are rapidly adopted for shipping, aircraft, and haulage.

Access to and quality of services

If implemented as planned, the LTS could improve access to health and social care and a range of other services, with a potential to improve health and wellbeing, improve quality of life and reduce inequalities. The greatest benefits can be delivered if transport policy is joined up with policy and initiatives in other areas such as health, social care, housing, and education.

Proposed changes to freight and servicing in the LTS could result in diversions of larger vehicles from the city centre and residential areas with potential interchange to sustainable modes of transport for parts of the journey. This could reduce the volume of traffic in the city centre making safer and cleaner (less air and noise pollution) public space for people which may encourage modal shift.

Equality

The LTS should increase choice and provide equality of access and opportunity for people with protected characteristics, people living in financial hardship and those experiencing multiple intersectional disadvantages. These groups are less likely to be private car owners and more likely to rely on active or public transport.

People with protected characteristics may be more likely to experience abuse or harassment in public spaces and have concerns real or perceived, for their personal safety using active or public transport. Addressing these concerns could enable and empower members of diverse communities increasing independence, social inclusion and reducing inequalities.

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