

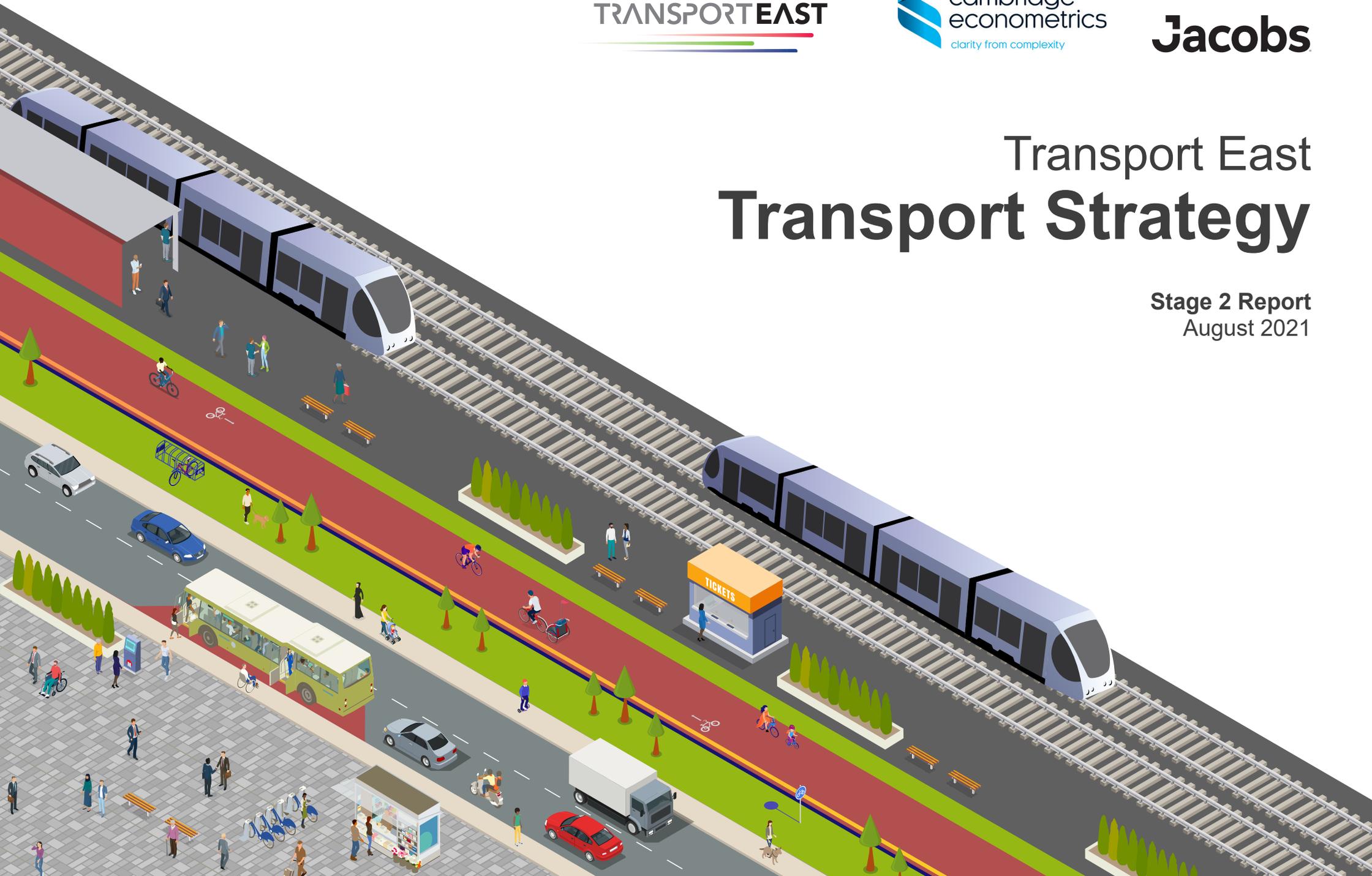
TRANSPORTEAST



Jacobs

Transport East Transport Strategy

Stage 2 Report
August 2021



Transport Strategy Evidence Base



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Executive Summary

Transport East is the Sub-national Transport Body for the East of England, comprising public and private sector partners across Norfolk, Suffolk, Essex, Southend and Thurrock, providing a 'Single Voice' for transport policy and strategy and investment priorities in the region. The partnership is developing its inaugural Transport East Strategy, to provide the strategic framework for the transport investment required to help achieve its ambitious and inclusive economic, social and environmental goals from now to 2050.

As endorsed at the Transport Forum on 22nd July 2020, Transport East is taking a three-stage approach to completing the strategy. This report summarises the findings of the second stage of the strategy development. Drawing on the collation of evidence-based analysis, scenario testing options to refine the Transport Outcomes, the identification of an overall Strategic Approach, through to the development of pathways, all of which combined support the achievement of Transport East's overall vision of:

'A thriving economy for the East with fast reliable and resilient transport infrastructure driving forward a future of inclusive and sustainable growth for decades to come'.

Transport Outcomes

Building upon on the strong foundation in Stage 1 of the strategy development, e.g. evidence based deep dives and identification of Wider Outcomes, the next stage of work was undertaken to understand the Transport Outcomes and their measurability. First, a desktop review of current and future transport outcomes at national, regional and local levels of government enabled these to be collated into themes. Next, a set of Transport Outcomes were defined and analysed as to how they could become Specific, Measurable, Achievable, Realistic and Timely (SMART), to ensure their applicability throughout the strategy development and implementation. In addition, and equally as important, the applicability of the transport outcomes to the Transport East region was considered to reflect the unique characteristics of the area. Partners were

engaged throughout this process, culminating in six Transport Outcomes being agreed and which aligned with the Wider Outcomes, to plan and aid in the testing of future transport scheme scenarios. The Transport Outcomes can be seen below:

- Improving accessibility levels in our re-energised coastal and rural communities
- Improved transport connectivity to our International Gateways
- Reduced demand for travel and increased sustainable mode share to and within our major towns and cities
- A fully safe and secure transport system for every person in our region
- Reduce the negative impacts of transport on the environment to net zero
- Ensure sustainable transport supports growth in homes, jobs and businesses across our region and the wider UK.

Further detail can be obtained from the Stage 2A Transport Outcomes Technical Note, but also Stage 1A Wider Outcomes Technical Note.

Scenario Testing Outcomes

The Stage 1 (further detail can be obtained in Stage 1C Scenario Testing Technical Note) work also identified a series of future scenarios to be tested to quantify the link between the scale and distribution of economic activity and subsequent patterns of transport demand, as well as to explore the implications for the transport strategy. Two spatial growth scenarios (Dispersed/Centralised) were tested across three economic trajectories (Central/High/Low), in two workplace scenarios (Back to Normal/Remote). The results of the economic analysis showed that the 'remote centralised' scenario was the optimum in terms of delivering the best outcomes against the four key themes with 52% of people living in the East's 13 largest urban areas and 32% of people working remotely for at least 50% of the week. However, the impact of this optimum scenario was dependent on a high trajectory of growth and investment. Given the strong interrelationship with the Transport Outcomes the results of scenarios were also tested against the transport outcomes, in effect meaning that Stage 1C of the strategy development bridged Stages 1 and 2. The following table provides a summary of the impacts of the scenarios on the four key themes:

 Positive  Neutral  Negative	Transport East Key Themes				Indicative Overall Score
	Energising Rural and Coastal Areas	Connecting Towns and Cities	Decarbonisation	Unlocking International Gateways Connectivity	
Scenario					
Remote Centralised, High Investment	Higher Skills and Wages, Local Consumption, Some Bustling Coastal Areas	Fast Growing, Bustling urban areas – Urban Living Vision	Fewest longer distance / dispersed trips to decarbonise	Greater growth potential	+4 *optimum vision
Remote Dispersed, High Investment	Higher Skills and Wages, Local Consumption, Bustling Villages and Coasts	Fast Growing, but Quieter urban areas	Fewer trips, more difficult to decarbonise	Greater growth potential	+2 *2 nd best option
Back to Normal Centralised, High Investment	Higher Skills and Wages, Quiet, Calm Villages	Fast Growing, Bustling urban areas -Traditional Central Business Districts	More trips, less difficult to decarbonise	Greater growth potential	+2 *2 nd best option
Back to Normal Dispersed, High Investment	Higher Skills and Wages, but Dormitory Villages	Fast Growing, Busy urban areas but potentially high levels of congestion & house prices	Most difficult trips to decarbonise	Greater growth potential	0
Remote Centralised, Central Trajectory	Local Consumption, Some Bustling Coastal Areas	Bustling urban areas – Alternative Vision	Fewest longer distance / dispersed trips to decarbonise	Moderate growth potential	+2 *2 nd best option
Remote Dispersed, Central Trajectory	Local Consumption, Bustling Villages and Coasts	Quieter urban areas	Less trips, more difficult to decarbonise	Moderate growth potential	+1
Back to Normal Centralised, Central Trajectory	Quiet Villages	Bustling urban areas - Traditional Central Business Districts	More trips, less difficult to decarbonise	Moderate growth potential	+1

 Positive  Neutral  Negative	Transport East Key Themes				Indicative Overall Score
	Energising Rural and Coastal Areas	Connecting Towns and Cities	Decarbonisation	Unlocking International Gateways Connectivity	
Scenario					
Back to Normal Dispersed, Central Trajectory	Dormitory Villages	Busy urban areas but potentially high levels of congestion & house prices	Most difficult trips to decarbonise	Moderate growth potential	-1
Remote Centralised, Low Investment	Increased Local Consumption	Increase in Urban Living	Fewest longer distance / dispersed trips to decarbonise	Limited growth potential	0
Remote Dispersed, Low Investment	Increased Local Consumption	Urban Stagnation	Less trips, more difficult to decarbonise	Limited growth potential	-1
Back to Normal Centralised, Low Investment	Rural Stagnation	Traditional Central Business Districts continue	More trips, less difficult to decarbonise	Limited growth potential	-1
Back to Normal Dispersed, Low Investment	Low Growth, Dormitory Villages	Low Growth, potentially high levels of congestion	Many difficult trips to decarbonise	Limited growth potential	-3 Worst case scenario

Strategic Approach

The next logical stage was the development of a Strategic Approach taking into account the Stage 1 evidence base collation and the scenario testing outputs. Coupled with the integration of the Wider Outcomes, Transport Outcomes and the already identified Transport East Key Themes, it enabled four strategic ‘pathways’ to be developed which sought to achieve Transport East’s aims to 2050. Each pathway identifies a method of connecting the Transport East Key themes with the aims (whether these be national or regional aims e.g. net zero) and the key actions or activities plots a trajectory to achieving Transport East’s outcomes. Thus, setting out a detailed rigorous assessment of each theme, with an ambitious and appropriate action plan, as agreed with Transport East Senior Officer Group (TESOG) partners. The following graphics shows the pathways at a high level it should be noted that the International Gateways Pathway has been split into Ports and Airports given differing issues and opportunities:

DECARBONISATION PATHWAY

Achieving net zero emissions from our transport system at the earliest opportunity

GOAL 1

Zero Carbon Growth by supporting authorities and developers to plan, locate and design new development that reduces the need for people to make carbon-intensive transport trips in the future.

GOAL 2

Reduce demand for carbon intensive transport trips through local living by making it easier for people to access services locally or by digital means

GOAL 3

Shift modes by supporting people to switch from private car to active and passenger transport, and goods to more sustainable modes like rail

GOAL 4

Switch Fuels with all private, passenger transport, fleet and freight vehicles switching to net zero carbon fuels at the earliest opportunity

Net Zero emissions from the region's surface transport system by 2040



CONNECTING OUR GROWING TOWNS & CITIES

Enhanced links within and between our fastest growing places and business clusters

GOAL 5

Improve connectivity and accessibility within our towns and cities for walking, cycling and passenger transport to support sustainable access to services, education, training, employment and leisure.

Connected to the rest of the UK
Enabling the East to function as a coherent economy and improving UK productivity and post-COVID recovery

GOAL 6

Deliver faster and more reliable transport connections between our growing towns, cities and economic corridors, and to the rest of the UK, to support business growth, skills development and employment.



GOAL 7

Fully integrate transport networks, services and operations across the Transport East region, through a customer-focused approach, enabling seamless and safe end-to-end journeys by sustainable modes that are attractive to all people

Connections between our growing towns and cities that are as fast and frequent as all other regions in the UK

A realistic sustainable option for every person for every trip

Delivering our ambition to become the UK's foremost all-energy coast. Levelling up the critical inequalities in our rural and coastal communities

ENERGISING RURAL AND COASTAL COMMUNITIES PATHWAY

A reinvented, sustainable coast and thriving rural communities for the 21st century

GOAL 8

Increase accessibility to education, training, services and employment for rural communities:

1A

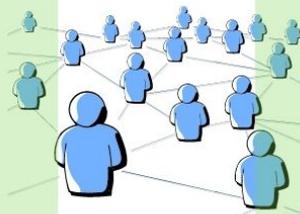
Better ways of taking people to places sustainably through switching modes and utilising alternative fuels where rural trips need to be made by car.

1B

Supporting local communities to make more trips locally by encouraging more local provision of goods and services

1C

Support regional partners and the digital sector to provide alternative options to travel for people through better digital communications.



GOAL 9

Improve connectivity along our 500 miles of coastline, and connect our coastal towns and communities to the rest of the region and UK, to support levelling-up, and boost our coastal industries, including Energy, Shipping and Tourism

Eradicate all 'transport deserts' from the region
Every person to have access to ultra fast broadband
Faster connections from our coastal economies to the rest of the UK

UNLOCKING INTERNATIONAL GATEWAYS PATHWAY: PORTS

Part A

Better connecting our 13 ports and 3 airports, helping UK businesses thrive and boosting the nation's economy.

GOAL 10

Improve capacity, journey time and reliability for freight and passenger surface access to ports

Connecting the UK to international markets and attracting Foreign Direct Investment post-Brexit.

GOAL 11

Support our ports and the freight sector to increase their use of alternative fuels through supporting infrastructure, electrified / hydrogen-powered rail routes and road vehicles, and supporting innovation in new and emerging fuels

GOAL 12

Modal Shift of freight from road to rail or short sea shipping, and increase sustainable mode share of employees and passenger using port facilities

100% electrification of all rail routes to ports in the East of England

Zero carbon port side operations

Improved journey time reliability for surface access to ports

UNLOCKING INTERNATIONAL GATEWAYS PATHWAY: AIRPORTS

Part B

Better connecting our 13 ports and 3 airports, helping UK businesses thrive and boosting the nation's economy.

GOAL 13

Improved passenger and employee connectivity to airports through better connected and more sustainable surface access options

Connecting the UK to international markets and attracting Foreign Direct Investment post-Brexit.

GOAL 14

Support the government and aviation industry through the Jet Zero approach and other mechanisms to deliver net zero emissions from aviation by 2050



GOAL 15

Shift modes by supporting people to switch from private car to active and passenger transport, and goods to more sustainable modes like rail

Significantly increase mode share by rail, bus, coach and other sustainable modes to and from our three international airports.

Achieve Net Zero carbon emissions from aviation in the East of England by 2050

These pathways will ultimately feed into the Stage 3 work, developing long list
These pathways will feed into the Stage 3 work, developing long list scheme assessments, and a multi criteria assessment framework, measurable against Wider and Transport Outcomes but ultimately will form the cornerstone of the Transport East Strategy and associated Investment and Delivery Plan. Further detail on the detail of the pathways can be found in the Stage 2B Strategic Approach Spreadsheet.

Next Steps

Following this Stage 2 report, further stages of the strategy development will be published during Spring and Summer of 2021

- **Stage 3A/B** will investigate in collaboration with TESOG and wider Local Authority partners the types of schemes and initiatives which will contribute to meeting the Key Themes from now and to 2050.
- **Stage 3C** will seek to understand how in general schemes and initiatives can be delivered in a better and more efficient manner using case studies from not only around the region but also beyond.
- Finally, the **Stage 3 report** will be published following completion of the investment priorities and better ways to deliver them.
- Following the completion of Stage 3 the building blocks for the Transport Strategy and Investment Delivery Plan will be set and will enable to construction of a comprehensive and robust transport strategy for Transport East to 2050.

1 Introduction

This Stage 2 summary report takes the development of the strategy into a crucial stage, as it defines and summarises the work undertaken to develop the transport outcomes and, critically the approach the strategy will take in order to deliver the necessary changes to overcome the challenges as identified in Stage 1 of the strategy. As mentioned in the Stage 1 report the development of the Transport East Strategy to 2050 comprises of these three stages:

- Stage 1 – understanding the role of transport and the potential for change
- **Stage 2 – develop an evidence driven strategic approach (this report)**
- Stage 3 – define a package of strategic measures and better ways to deliver.

Ultimately the work undertaken through this three-stage approach will be used in the writing of the Transport East Strategy to 2050.

Deep Dives

Transport East had already published its Decarbonisation Evidence Base in 2020, and the Regional Evidence Base in 2019 to understand the role and impact of transport. To complete the evidence base, deep dives set by Transport East, which specifically focussed on understanding ‘The role of transport in unlocking international gateways’, ‘The role of transport in the Economy’ (including analysis into the impact of COVID-19 and Brexit) and ‘Levelling Up our Rural and Coastal communities’.

These deep dives were informed by extensive partner engagement conducted between December 2020 and February 2021, in the form of workshops, one-to-ones and round table events. This engagement sought to understand the current issues and challenges facing economic growth and recovery, coastal and rural communities in the region, and how the Transport Strategy could help to address them. In the context of international gateways, partners were asked to input on how to improve regional and global connectivity to drive exports and foreign direct investment.

They key conclusions and recommendations taken from each of the deep dive topics are outlined below:

Unlocking International Gateways

- Freight cargo is the primary function of ports and minor function for two airports. Roll on Roll off (Ro-Ro) freight is dominant at two ports with the potential for expansion of unaccompanied freight. Bulk freight is dominant across the region, likely resilient to economic fluctuation and supportive of regional infrastructure projects.
- Ports and airports are reliant upon the resilience and reliability of the road and rail networks. More resilience and better recovery from closures is required to support gateway expansion, encourage sustainability and encourage intra-regional connection. Specific issues include:
 - Rail network operations are close to or at operational capacity for freight and passenger movement.
 - Rail connectivity is London centric, with a lack of east-west connections.
 - The Strategic Road Network is essential for major ports, and the local road network is essential for regional ports. Many of the key routes have varying levels of infrastructure with unreliable journey times and are lacking resilience.
- Passenger movements are the primary function of airports in the region and minor function for some ports in the region. Much of passenger movement is London centric, with a need to boost accessibility catchments within the region, and so boosting tourism.
- There is a need for the development of integrated logistics and manufacturing in the region to support growth at ports and airports, attracting inward investment within the region, and boosting jobs and regional exports.
- Brexit will have fundamental impact on how freight moves through international gateways.
- COVID-19 has posed one of the most significant challenges to freight and passenger movements in recent history with long-term consequences.
- The national decarbonisation agenda is a key consideration for gateways, with a progression towards NetZero. Support is needed to lower operational, surface access and supply chain emissions.
- Ports and airports can be the driving force for NetZero, with the promotion of decarbonising supply chain and distribution, reducing vehicle miles, promoting rail and water transport for freight and passengers.

Connecting our Growing Towns and Cities

- The Transport East Regional Evidence Base (2019) provides baseline information on multi-centred growth, key transport corridors and future mobility.
- Transport has a role in wider placemaking, closely coordinated with spatial planning and industrial strategy.
- Although economic growth within the region suggests that while international connectivity and north-south connectivity were above average, issues include poor east-west connectivity as well as some pockets of poor north-south connectivity, a lack of first mile-last mile options in some areas, and high levels of car dependency.
- Growth constraints include skill levels in the region being below the UK average and relatively low levels of innovation and entrepreneurialism.
- High-quality transport infrastructure has a role to play in tackling constraints by attracting skilled workers to the region, and better connecting residents to employment and education opportunities.
- Alignment with existing strategic plans and the greatest opportunities for high-value cluster development revolve around offshore renewables, agri-food, ICT, modern construction, high-tech manufacturing, tourism, and logistics.
- The impacts of both macro-economic (e.g. Brexit), social (e.g. growth in remote working) and technological (e.g. automation) factors will be felt on both firm strategies and location decisions.
- Resident migration and commuting patterns, both need to be carefully considered in any strategies transport plan whether this be dispersed or centralised growth plans.
- Transport planning must be integrated with wider spatial planning and sectoral development plans wherever possible.

Levelling Up (Energising) Coastal and Rural Communities

- The policy focus on Levelling-up can be a facilitator to more efficient business and modern living in rural and coastal areas.
- Strengths & opportunities include the energy sector, tourism, working from home and Agri-tech industry.
- Focus should centre on the most rural areas and coastal towns, enhancing transport and digital infrastructure and retaining skilled workers with ready access to key services.

- The future of work and housing should be taken into consideration to make working from home more palatable for all, as well as encouraging businesses to the area.
- Coastal areas are significantly more likely to be below the average for England for many of the Index of Multiple Deprivation (IMD) indicators, with rural areas tending to perform better in relation to these indicators, with exception to education.
- Strategies to level up coastal and rural communities need to be different due to different challenges and opportunities.
- Providing transport and digital infrastructure will encourage jobs and tourism to communities with the potential to improve IMD indicators.
- Supporting the energy sector should be a focus for the East's coastal investment.
- Encouraging active travel should form part of the strategy, not only for the health of the population, but to help people identify alternative modes of travel to the car in order to improve the environment.
- Rural areas' main issues are around retaining skilled workers particularly with a lack of real and perceived transport options to gain access to education, training and employment.
- Providing enhanced transport and digital infrastructure for rural areas will improve job prospects for rural areas, encouraging skilled workers to stay in the area.

Decarbonisation

Decarbonisation – and specifically the goal to achieve NetZero emissions from transport - had already been identified by Transport East as an emerging priority through the publication in 2020 of the Decarbonisation evidence base and strategic recommendations for the East region. The findings from this report will be fully integrated into the strategy, including the three key opportunities to support progress towards NetZero; mode shift, reducing the need to travel, and alternative fuels. The report explored the scope to leverage these opportunities in the Maritime, Logistics & Freight, and Agriculture & Construction sectors. A range of primary and secondary benefits were identified from the decarbonisation of the region: improving air quality, health benefits, economic growth, improving regional employability prospects, and operational efficiencies enabled through digital technologies.

Wider Outcomes

The starting point for the strategy was to identify and agree the region's wider economic, social and environmental outcomes, for which transport is an enabler. Using a four-stage approach, priorities and outcomes were identified from a range of publicly accessible policy documents and strategies from across the region and neighbouring areas. These priorities and outcomes were analysed and were subject to intensive engagement with districts and transport authorities, LEAs, Chambers of Commerce and other partners to create seven wider outcomes as follows:

- Reducing carbon emissions in the East of England to NetZero;
- Promoting active, healthy and safe lives;
- Promoting and supporting a productive and diverse economy – highlighting the region's role as a place to work, do business and transport goods efficiently, to drive up regional productivity and contribute to the wider UK economy;
- Supporting skills attainment, retention and social inclusion across the region with accessibility to education, training and employment opportunities;
- Supporting the energy sector, in particular offshore wind, renewables, nuclear, alternative fuels and electrification;
- Enhancing locally important growth areas (rural, urban and coastal) ensuring they grow sustainably and provide high quality, distinctive places to live, work and visit; and
- Protecting and enhancing the built and natural environment.

Key Themes for Transport East

The combination of deep-dive evidence base priorities, the seven wider outcomes, and engagement with the partners, as identified during stage 1 has driven the confirmation of Transport East's four key themes. These will be the focal point for the strategy and make the case for investment to funding bodies such as the Department of Transport to support the delivery of the wider and transport-based outcomes.

These Transport East key themes are:

- Unlocking Global Gateways – Better connected ports and airports to help UK businesses thrive; boosting the nation's economy through better access to international markets and facilitating Foreign Direct Investment.

- Connecting our Growing Towns and Cities – Enhanced links between our fastest growing places and business clusters. Improving access for people to jobs, supplies, services and learning; enabling the area to function as a coherent economy and improving productivity.
- Energising Coastal and Rural Communities – A reinvented sustainable coast for the 21st century which delivers on the region's ambition to become the UK's foremost all-energy coast, as well as growing our attractive visitor offer.
- Decarbonisation to Net-Zero – Working to achieve net zero carbon emissions from transport, building on our status as the UK's premier renewable energy region.

This report provides a summary detailing all aspects completed in Stage 2 specifically:

Section 2 – Transport Outcomes development, overview and measurability

Section 3 - Scenario testing outcomes

Section 4 – Developing the Strategic Approach

2 Transport Outcomes

This section summarises the strategy's Transport Outcomes, how they were derived and agreed upon, and their various indicators to measure their progress. More detail about the formation of the Transport Outcomes, and the Transport East specific evidence around each outcome can be found in the Stage 2A report: Transport Outcomes. The Transport Outcomes provide the framework around which to measure the success of the strategy in delivering against the activities contained in the pathways for each key theme.

2.1 Methodology

The transport outcomes were derived from the basis of the wider outcomes, engagement with partners and were found to support the already identified four key themes for Transport East. The methodology by which the Transport Outcomes were derived is briefly summarised below:

- A desktop review of the current and future transport themes at national, regional and local levels of government existing / emerging policy and strategy followed by a collation exercise. A compliance check for the transport outcomes against the wider non-transport outcomes was undertaken to ensure there were no conflicts or contradictory outcomes. Documents reviewed were:
 - National Infrastructure Strategy (HM Treasury Nov 2020)
 - Transport Investment Strategy (DfT, Jul 2017)
 - Decarbonising Transport (DfT, Mar 2020)
 - The Inclusive Transport Strategy (DfT, Jul 2018)
 - Gear Change (DfT, Jul 2020)
 - Bus Back Better (DfT Mar 2021)
 - Future of Mobility Strategy (DfT Mar 2019)
 - Highways England Road Investment Strategy (HE 2014)
 - Rail Network Enhancements Pipeline (NR 2018)
 - England's Economic Heartland (SNTB)
 - Midlands Connect (SNTB)
 - Transport for the North (SNTB)
 - Transport for the South East (SNTB)
 - Western Gateway (SNTB).

- Defining the transport outcomes in more detail considering how they can be made **Specific Measurable, Achievable, Realistic and Timely** (i.e. SMART), and finally determining any conflict or influences;
- Undertaking engagement with Transport East Senior Officer Group (TESOG), District Representatives and the Transport East Forum to check and challenge the ambition, feasibility and ensure the emerging parameters are supported by evidence and that they are relevant to the Transport East region.

As mentioned, decarbonisation is a key theme across all sub national transport bodies as it is indeed with Central Government, closely followed by reducing the need to travel and encouraging modal shift onto more sustainable modes of travel or through alternative ways of doing things with technology. Resilience of networks and connectivity were also high priorities.

In identifying the Transport Outcomes several key principles were applied to ensure that they were robust namely:

- Are SMART (Specific, Measurable, Achievable, Realistic, Timebound), yet ambitious and bold.
- Are seen to explicitly link to the wider outcomes and four key themes.
- Based on existing evidence base documents
- Are appropriate at the Transport East Partnership scale
- Take into account the diversity across the region – i.e. urban, rural, coastal communities and international gateways
- Are not solutions but provide a framework for prioritisation and assessment of schemes and initiatives coming forward from partners in both public and private sector organisations.

2.2 Engagement and Consensus with Partners

During the development of the Transport Outcomes a number of key engagement activities took place to help in the process of producing SMART Transport Outcomes:

- 1st December 2020 TESOG: to provide an initial look at the Transport Outcomes in draft
- 15th January 2021 Wider TESOG further session to taking on board comments from the initial session
- 22nd January 2021 TESOG follow up top further refine the Outcomes
- 27th January 2021 Final TESOG session ahead of the Transport East Forum

- 24th February 2021 Transport East Forum providing an update on the overall development of the strategy and to confirm the Transport Outcomes stage.

TESOG along with partners from the region and the Transport East Forum felt that throughout the engagement the outcomes developed were the right ones, particularly surrounding decarbonisation. The group also highlighted the interwoven nature of the wider outcomes, transport outcomes and Transport East’s Key Themes, aptly termed the ‘golden web’. Further sessions were used to continually refine the outcomes in an open and collaborative manner leading to the Transport East Forum in February, where the Transport Outcomes were signed off.

2.3 Defined Transport Outcomes

Table 2.1, below, details the final Transport Outcomes that have been agreed upon by TESOG. The table also includes the performance indicators/measures for each outcome, this is because it is important to have in place a robust monitoring and performance framework.

Table 2.1: Defined Transport Outcomes and with potential SMART indicators

Transport Outcomes	Indicators	High Level Trajectory
Improving accessibility levels in our re-energised coastal and rural communities	Reduction in percentage of areas classified as a ‘transport desert’	▼
	Increased percentage of people that have access to services, education, training, and employment by non-car modes in rural/coastal areas	▲
Improved transport connectivity to our International Gateways	Improve journey time reliability to key ports and airports	▲
	Mode shift of containerised freight from road to rail	▲
	Increased mode share of sustainable surface access for passengers to our ports and airports	▲
Reduced demand for travel and increased sustainable mode share to and within our major towns and cities	Increase mode share of sustainable modes for trips to and within urban centres particularly for shorter journeys (2 miles for walking and 5 miles for cycling)	▲
	Increase numbers of people undertaking 20 minutes of active travel a day	▲
	Increase patronage and mode share for passenger transport modes including rail and bus	▲
	Zero people killed or seriously injured on the transport system by 2050	▼

Transport Outcomes	Indicators	High Level Trajectory
A fully safe and secure transport system for every person in our region	Reduction in people experiencing threats to their personal security on our transport network	▼
Reduce the negative impacts of transport on the environment to net zero	Reduce to zero the numbers of AQMAs where transport is identified as the primary source	▼
	Increase the percentage of vehicles powered by alternative fuels	▲
	Reduce carbon emissions from transport to net zero by 2040	▼
Ensure sustainable transport supports growth in homes, jobs and businesses across our region and the wider UK.	Faster journey times for inter-urban journeys within the region and to other parts of the UK	▲
	All of our own transport network/ vehicles to be powered by energy from our own offshore wind and renewables	▲
	Increased reliability of journey times on our strategic transport network	▲

In order to demonstrate the linkages between the outcomes and the Transport East Key Themes the Wider Outcomes contribute to the Transport East Key Themes and the Transport Outcomes assist in delivery of these key themes. Figure 2.1, below, shows the inter-relationship and compliance between the Wider Outcomes, the Key Themes, and the Transport Outcomes.

Wider Outcomes

Promoting and supporting a **productive and diverse economy** - highlighting the sub regions role as a place to work, do business and transport goods efficiently, to drive up regional productivity and contribute to the wider UK economy.

Protecting and enhancing the **built and natural environment** - ensuring the region retains and enhances its varied and important landscape, heritage and biodiversity features.

Focussing on **locally important growth areas** (rural, urban and coastal) ensuring they grow sustainably and provide high quality, distinctive places to live, work and visit.

Promoting **active, healthy and safe** lives.

Supporting our UK **energy coast** sector, in particular, off-shore wind, but also other low carbon sources (including nuclear, alternative fuels and electrification).

Supporting **skills attainment, retention and social inclusion** across the region with accessibility to education, training and employment opportunities, e.g. through “travel to learn” facilities.

Reducing carbon emissions in the East of England to **net zero**.

Key Themes

Global Gateways

Connecting our Towns and Cities

Energised Coastal and Rural Communities

Decarbonisation

Transport Outcomes

Improving accessibility levels in our re-energised Rural and Coastal Communities

Improved transport connectivity to our Ports and Airports

Reduced demand for travel and increased sustainable mode share to and within our major towns and cities

A fully safe and secure transport system for every person in our region

Reduce the negative impacts of transport on the environment to net zero

Ensuring sustainable transport supports growth in homes, jobs and businesses across our region and the wider UK

Figure 2.1: Alignment of Transport Outcomes with TE Key Themes and Wider Outcomes

3 Scenario Testing Outcomes

This section summarises the scenario analysis undertaken to quantify the link between the scale and distribution of economic activity and subsequent patterns of transport demand, and to explore the implications for the transport strategy of differing assumptions around:

- How high will population and employment growth be in the future?
- Will housing be centralised in urban areas or dispersed across rural areas?
- Will the trend towards remote working accelerate or revert?

The following combination of scenarios were tested, and are shown in Figure 3.1:

- Three economic trajectories,
- Two spatial scenarios,
- Two workplace scenarios.

		Workplace scenarios			
		Centralised	Back to Normal	Remote	
Economic trajectories	Central trajectory	Spatial Scenarios	Centralised	Back to Normal	
			Centralised		Remote
			Dispersed	Back to Normal	
	High trajectory	Spatial Scenarios	Dispersed		Remote
			Centralised	Back to Normal	
			Centralised		Remote
	Low trajectory	Spatial Scenarios	Dispersed	Back to Normal	
			Dispersed		Remote
			Centralised	Back to Normal	
			Centralised		Remote
			Dispersed	Back to Normal	
			Dispersed		Remote

Figure 3.1: Scenarios tested

3.1 Economic Trajectories

The economic trajectories were developed to represent three different potential outcomes about the future Transport East economy. These trajectories are:

- Central: Baseline trajectory representing a ‘business-as-usual’ case. The regional and local impacts depend on the historic precedent of low local sectors have historically performed relative to their national or regional equivalents.
- High: Based on the targets set by the relevant Local Enterprise Partnerships, Local Authority Districts and Local Indicating Housing Need, the High trajectory represents future where the ambitions of local stakeholders are achieved.
- Low: This trajectory is intended to represent a situation in which it is assumed that both investment in the region and workers are lost to other areas of the UK who have taken more proactive steps to develop their region, resulting in a more pessimistic outlook for the East.

3.2 Spatial Scenarios

The spatial scenarios are based on changing population growth rates of the 13 largest urban economies (shown in Appendix A), based on number of jobs. These 13 urban areas contain approximately half the population of the Transport East Region. The two spatial scenarios are:

- Centralised:
 - The urban population growth rate in 2036-2050 doubled
 - Population growth in remaining areas is scaled down accordingly
- Dispersed:
 - Urban population growth rate in 2036-2050 halved
 - Population growth in remaining areas is scaled up accordingly

3.3 Workplace Scenarios

The two workplace scenarios assume that:

- Back to normal: share of given occupation working remotely will return towards 2019 levels.

- Remote: share of given occupation working remotely will remain at the levels of April 2020.

The workplace scenarios are interacted with the spatial scenarios for each economic trajectory, with adjustment of location of service sectors to serve the everyday population.

3.4 Results

Table 3.1 shows the scenario outcomes in 2050.

Table 3.2 compares the results of the scenarios when compared to Transport East's Key themes in order to ascertain whether the scenarios have a high, medium, or negative benefit on the key themes.

The scenario model identified a number of factors that in isolation increase the likelihood of key outcomes being obtained:

- High levels of investment and housing growth are highly likely to be beneficial for the region, providing homes and jobs for a new, younger workforce, and increasing productivity, prosperity and wage levels.

- A more centralised spatial plan is necessary to reduce car dependency – identified as an existing weakness of the region in attracting and retaining younger workers – and to help reduce carbon emissions – an urgent priority.
- High levels of remote working are possible in the region. These would be extremely beneficial for both the revival of local communities and in fuelling a much-needed decrease in daily transport demand and should therefore be encouraged and facilitated.

When combined, these factors have synergies and interdependencies that combine to produce an economic geography vision for the region that is greater than the sum of its parts.

This combination – identified as the “15-minute living” narrative in table 3.1, scored significantly higher than any other combination of scenario assumptions when appraised against the key objectives and thematic metrics. With its focus on attracting and retaining young graduates in the region, providing high amenity offers and local community revival across all geographical areas, and both restraining daily commuting growth and shifting it to more sustainable modes, it provides a complementary strategy that is environmentally sustainable, socially inclusive, and economically prosperous.

Table 3.1: Scenario Descriptions

Scenario	Narrative	Where do people live?	Where do people work?	Where are people going?
Remote Centralised	“15 minute living”	Urban living: 52% of people live in the 13 largest urban areas	32% of people work remotely at least 50% of the week	1.4m movements per day, 45% of which are urban-urban or urban-external
Remote Dispersed	“local revival”	Rural living: 47% of people live in the 13 largest areas	32% of people work remotely at least 50% of the week	1.4m movements per day 40% of which are urban-urban or urban-external
Back to Normal Centralised	“urban regions”	Urban living: 52% of people live in the 13 largest urban areas	Just 15% of people work remotely	1.8m movements per day, 45% of which are urban-urban or urban-external
Back to Normal Dispersed	“alternatively fuelled future”	Rural living: 47% of people live in the 13 largest areas	Just 15% of people work remotely	1.8m movements per day, 40% of which are urban-urban or urban-external
2020 (comparison)		48% of people live in the 13 largest urban areas	(pre-pandemic), just 13% of people worked remotely	1.4m movements per day, 40% of which are urban-urban or urban-external

Table 3.2: RAG Table of scenario outputs against key themes

Scenario	Transport East Key Themes				Indicative Overall Score
	Energising Rural and Coastal Areas	Connecting Towns and Cities	Decarbonisation	Unlocking International Gateways Connectivity	
Remote Centralised, High Investment	Higher Skills and Wages, Local Consumption, Some Bustling Coastal Areas	Fast Growing, Bustling urban areas – Urban Living Vision	Fewest longer distance / dispersed trips to decarbonise	Greater growth potential	+4 *optimum vision
Remote Dispersed, High Investment	Higher Skills and Wages, Local Consumption, Bustling Villages and Coasts	Fast Growing, but Quieter urban areas	Fewer trips, more difficult to decarbonise	Greater growth potential	+2 *2 nd best option

 Positive  Neutral  Negative	Transport East Key Themes				Indicative Overall Score
	Energising Rural and Coastal Areas	Connecting Towns and Cities	Decarbonisation	Unlocking International Gateways Connectivity	
Scenario					
Back to Normal Centralised, High Investment	Higher Skills and Wages, Quiet, Calm Villages	Fast Growing, Bustling urban areas -Traditional Central Business Districts	More trips, less difficult to decarbonise	Greater growth potential	+2 *2nd best option
Back to Normal Dispersed, High Investment	Higher Skills and Wages, but Dormitory Villages	Fast Growing, Busy urban areas but potentially high levels of congestion & house prices	Most difficult trips to decarbonise	Greater growth potential	0
Remote Centralised, Central Trajectory	Local Consumption, Some Bustling Coastal Areas	Bustling urban areas – Alternative Vision	Fewest longer distance / dispersed trips to decarbonise	Moderate growth potential	+2 *2nd best option
Remote Dispersed, Central Trajectory	Local Consumption, Bustling Villages and Coasts	Quieter urban areas	Less trips, more difficult to decarbonise	Moderate growth potential	+1
Back to Normal Centralised, Central Trajectory	Quiet Villages	Bustling urban areas - Traditional Central Business Districts	More trips, less difficult to decarbonise	Moderate growth potential	+1
Back to Normal Dispersed, Central Trajectory	Dormitory Villages	Busy urban areas but potentially high levels of congestion & house prices	Most difficult trips to decarbonise	Moderate growth potential	-1
Remote Centralised, Low Investment	Increased Local Consumption	Increase in Urban Living	Fewest longer distance / dispersed trips to decarbonise	Limited growth potential	0
Remote Dispersed, Low Investment	Increased Local Consumption	Urban Stagnation	Less trips, more difficult to decarbonise	Limited growth potential	-1

 Positive  Neutral  Negative	Transport East Key Themes				Indicative Overall Score
	Energising Rural and Coastal Areas	Connecting Towns and Cities	Decarbonisation	Unlocking International Gateways Connectivity	
Scenario					
Back to Normal Centralised, Low Investment	Rural Stagnation	Traditional Central Business Districts continue	More trips, less difficult to decarbonise	Limited growth potential	-1
Back to Normal Dispersed, Low Investment	Low Growth, Dormitory Villages	Low Growth, potentially high levels of congestion	Many difficult trips to decarbonise	Limited growth potential	-3 Worst case scenario

4 Strategic Approach

The strategic approach has been developed following the Stage 1 evidence base collation and identification of the most appropriate scenario along with the defined transport outcomes. This evidence base together with the outcomes provides robust insight to the challenges, opportunities and gaps in current transport infrastructure across the region, in alignment with Transport East's four key themes.

Each pathway plots a trajectory to achieving Transport East's goals to 2050, setting out a detailed and rigorous assessment of each theme, ensuring actions are appropriate, ambitious and complimentary across all themes, as agreed with TESOG partners (see following pages).

The development of the Pathways was split into four distinct stages:

- 1 Alignment of pathways to Transport and Wider Outcomes
- 2 Identify activities (steps) necessary to deliver the key theme
- 3 Identify the specific actions or action plan needed to deliver the steps along the pathway
- 4 Develop a strong narrative for each of the Transport East Key Themes – understanding whether actions feed into the development of planning/regional products, delivery of a project, influence or ambition; and how these align with the Transport Outcomes and their measurability.

There is a fifth step which is around developing and bringing forward schemes and initiatives which support the steps and activities contained in the pathways. As a result, any activity identified as a planning/regional product or delivery of a scheme or initiative, would feed into a long list of options for further appraisal and prioritisation.

Pathway Engagement

In order to gain consensus on the approach and resultant content a series of engagement events with TE and TESOG partners were undertaken to help to shape the development of the concept of the pathway approach and latterly the pathways themselves. This helped in identifying the focus of pathways, the key actions and informed the action plan as it developed.

Engagement commenced on the 9th February 2021 and focused upon whether the Decarbonisation pathway should act as an overarching and leading thematic pathway or whether it would sit alongside the other pathways as a key theme. It was agreed that Decarbonisation has strong linkages with all other pathways and so would be a standalone thematic approach with the remaining pathways focusing on geography.

Engagement on the 15th April 2021 focused upon draft pathway actions and action plans to understand how these could be improved or adapted ensuring the appropriate level of ambition and realism. A workshop was undertaken for each pathway ensuring the approach was correct and that any gaps in action plans were identified.

Engagement with TESOG also focused on what challenges partners were currently experiencing associated with each pathway, what they were already working towards and whether they had identified any opportunities for the future which Transport East could support with achieving. The resulting action plans associated with each of the key theme pathway actions was informed by Government and local authority targets and ambitions (supplemented by TESOG engagement), the evidence base reporting, principles aligned with the Decarbonisation pathway, the Transport East Passenger Transport (PT) Study and the SUSTRANS Active Travel Strategy.

Decarbonisation Pathway

This pathway was developed from a thematic viewpoint, understanding that all elements of the transport system in the region will suffer challenges associated with decarbonising the transport system. The overall aim of this pathway is to outline the steps to NetZero by 2040 and a fully decarbonised transport system by 2050, on the wider understanding that the region is intending to 'achieve NetZero from the transport system at the earliest opportunity'.

In order to develop the actions in this pathway, Transport East has adapted an approach developed by the Royal Town Planning Institute (RTPI). The RTPI together with Vectos transport consultants conducted some research into developing a place-based approach to achieve net zero carbon transport in order to develop better places and healthier, happier, more resilient communities. The approach emphasised the role of the place in reducing the need to travel before considering trips made by alternative modes and finally

trips that do need to be made by private transport that these trips are undertaken using alternatively fuelled vehicles.

RTPI and Vectos as a result developed a basic hierarchy known as the 'Sustainable Accessibility and Mobility (SAM) Framework'¹, the tool is designed to assist planners and designers to prioritise interventions in the following order:

- 1 Substitute Trips: Replace the need to travel beyond your community
- 2 Shift Modes: For longer trips, use active, public and shared forms of transport
- 3 Switch Fuels: For any trips that must be made by car, ensure the vehicle is zero emission

Put more simply in the following diagram:

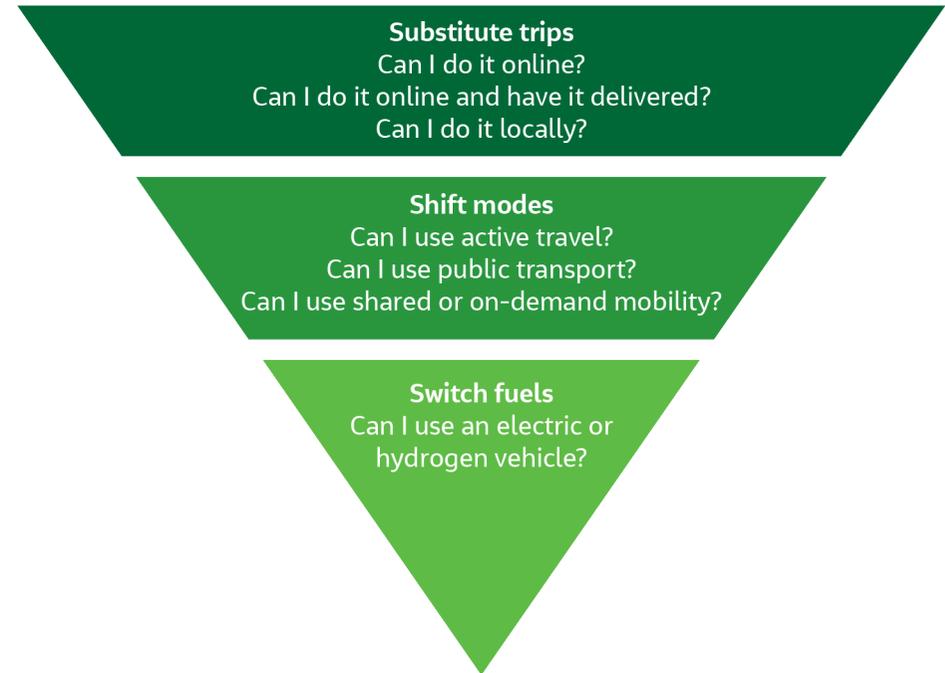


Figure 4.1: RTPI/Vectos Sustainable Accessibility and Mobility Framework

Given the relevance of this approach shown in Figure 4.1 it was agreed by Transport East and TESOG to adapt this model in the development of four strategic pathways based on the key themes. This model would also integrate the Wider and Transport Outcomes and be designed to map out the achievement of Transport East's overarching vision for 'A thriving economy for the East, with fast, reliable and resilient transport infrastructure driving forward a future of inclusive and sustainable growth for decades to come'.

¹ <https://www.rtpi.org.uk/research/2020/june/net-zero-transport-the-role-of-spatial-planning-and-place-based-solutions/>

The action plan associated with each of these actions was informed by Government and local authority targets and ambitions (supplemented by TESOG engagement), engagement with partners, the KPMG Decarbonisation report and its specific recommendations, the Transport East PT Study and the Sustrans Active Travel Strategy.

Energising our Rural and Coastal Areas Pathway

This pathway was developed with a geographic focus, assessing rural and coastal challenges separately.

The overall aim of this pathway is to outline the steps to ‘A reinvented, sustainable coast for the 21st Century’ which delivers on Transport East’s ambition to become the UK’s foremost all-energy coast. Levelling up the critical inequalities in our rural and coastal communities’, by ensuring there are no ‘transport deserts’ in rural and coastal areas, and that every person has access to ultra-fast broadband by 2050.

The actions in this pathway were informed through the Stage 1 evidence base (specifically the Role of transport in levelling up coastal and rural communities report), as well as engagement with partners. These actions reflect getting people to places, getting services to people, substituting trips with digital, and the connectivity of coastal areas.

International Gateways Pathway

This pathway was developed with a geographic focus, assessing ports and airports challenges separately.

The overall aim of this pathway is to outline steps to ‘better connect the East’s 13 ports and 3 airports, helping UK businesses thrive and boosting the nation’s economy. Connecting the UK to international markets and attracting Foreign Direct Investment post Brexit.’

The intention for ports is to ensure electrified surface access to major ports in the region, implement zero carbon port side operations, and improve journey time reliability for surface access to ports by 2050. For airports, the intention is to achieve NetZero and ensure at least 60% sustainable surface access for all airports by 2050.

The actions in this pathway were informed through the Stage 1 evidence base (specifically the Unlocking International Gateways Deep Dive), as well as engagement with partners. For both airports and ports, these actions reflect improving connectivity to the port/airport, mode shift, and alternative fuels.

Connecting our Towns and Cities Pathway

This pathway was developed with a geographic focus, utilising Stage 1 scenario assessment. The pathway reviews the opportunity for inter-urban and intra-urban focus.

The overall aim of this pathway is to outline steps to ‘achieve NetZero emissions from our transport system at the earliest opportunity’, by reducing journey times by a set percentage and ensuring a sustainable option for every person for every trip by 2050.

The actions in this pathway were informed through the Stage 1 evidence base, as well as engagement with partners. These actions reflect identification of centres, intra-urban connectivity and accessibility, inter-urban connectivity and accessibility, and mode shift.

The following figures show the pathways themselves and outlines at a high level the steps to achieving the pathway ambition or end state for that particular key theme. The figures also show the relevant wider and transport based outcomes. It should be noted that given the differences in challenges and opportunities that Ports and Airports have two distinct pathways under the International Gateways heading.

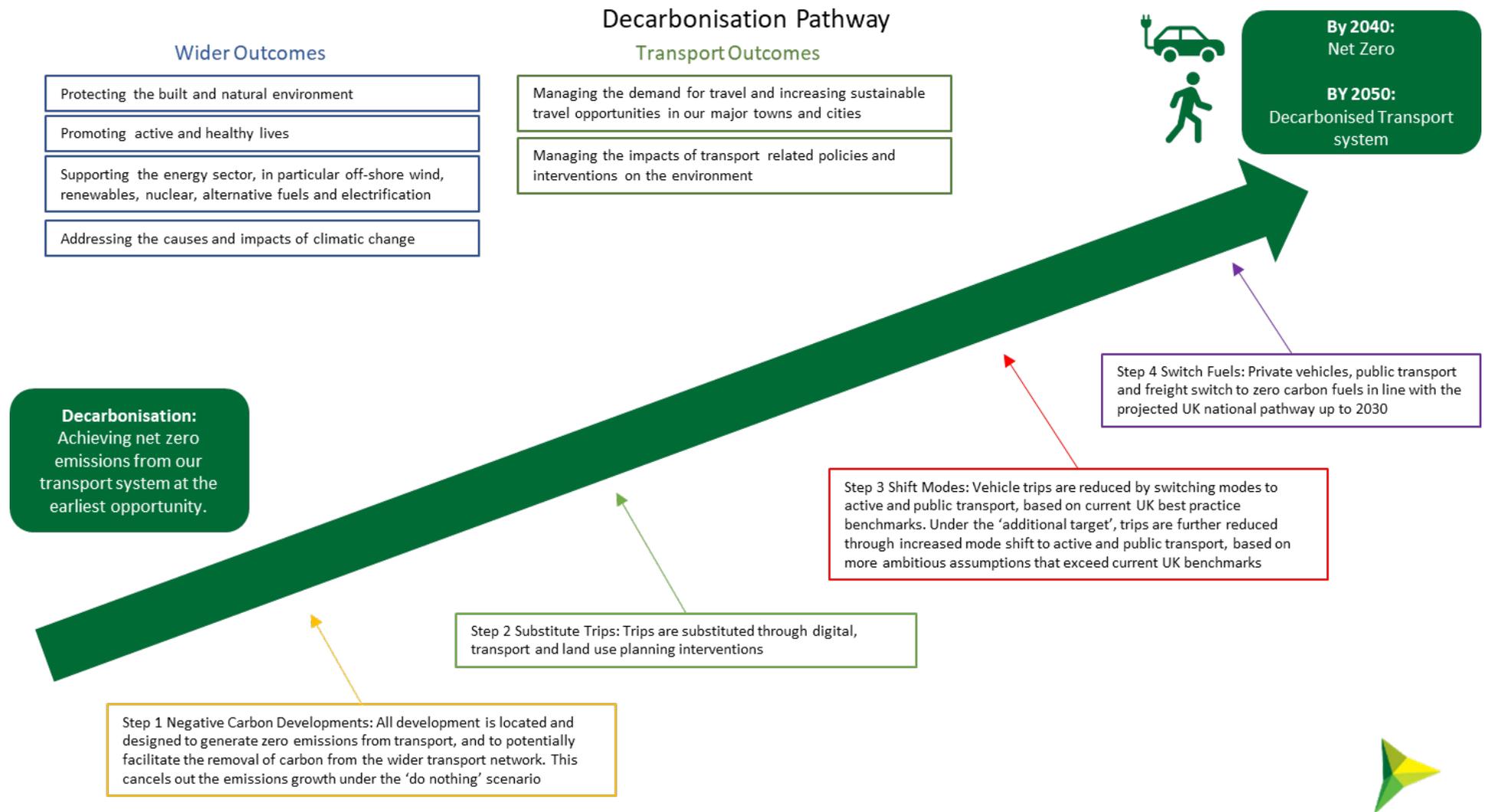


Figure 4.2: Decarbonisation Pathway

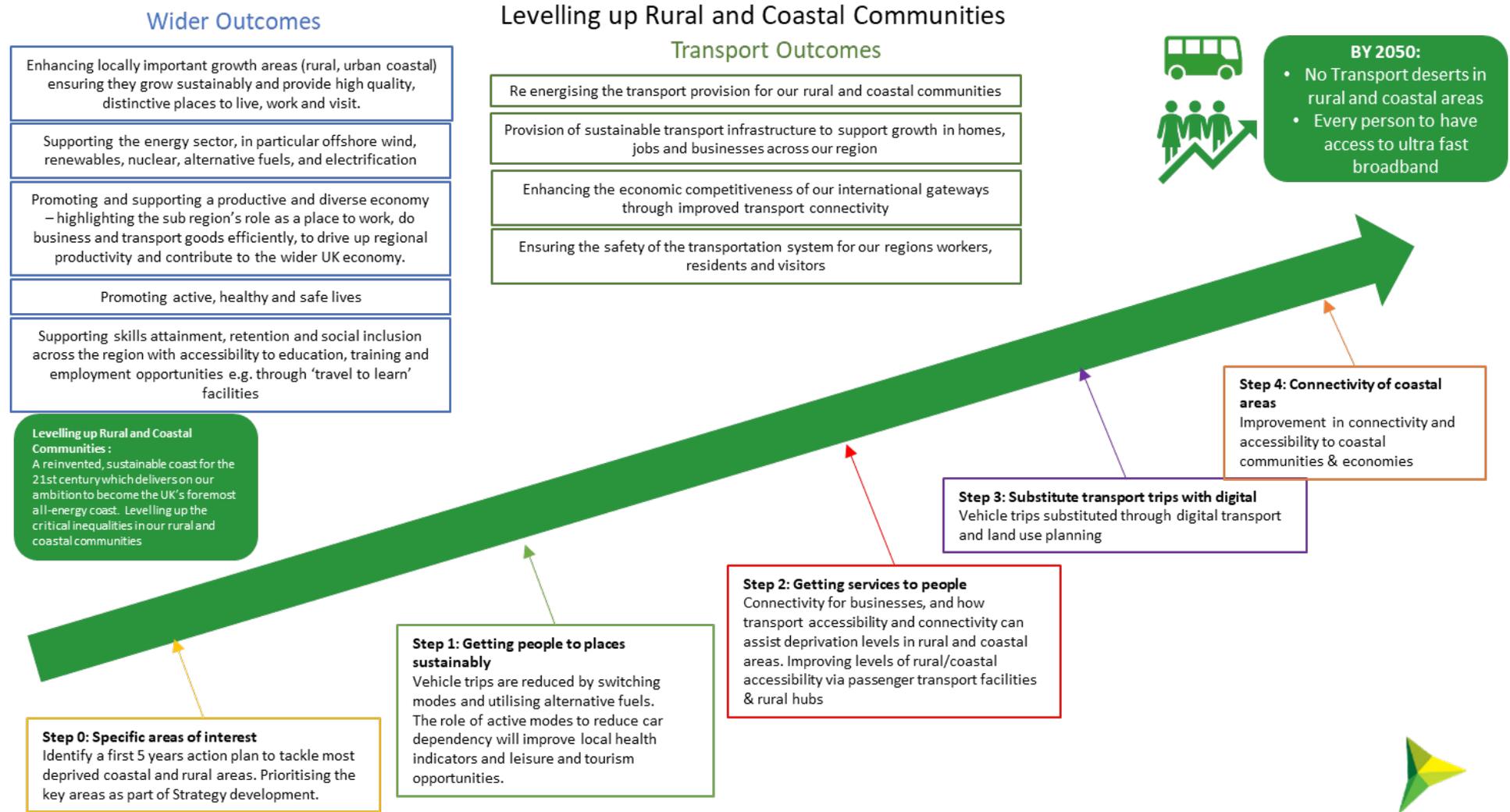


Figure 4.3: Levelling up Rural and Coastal Areas Pathway

International Gateways

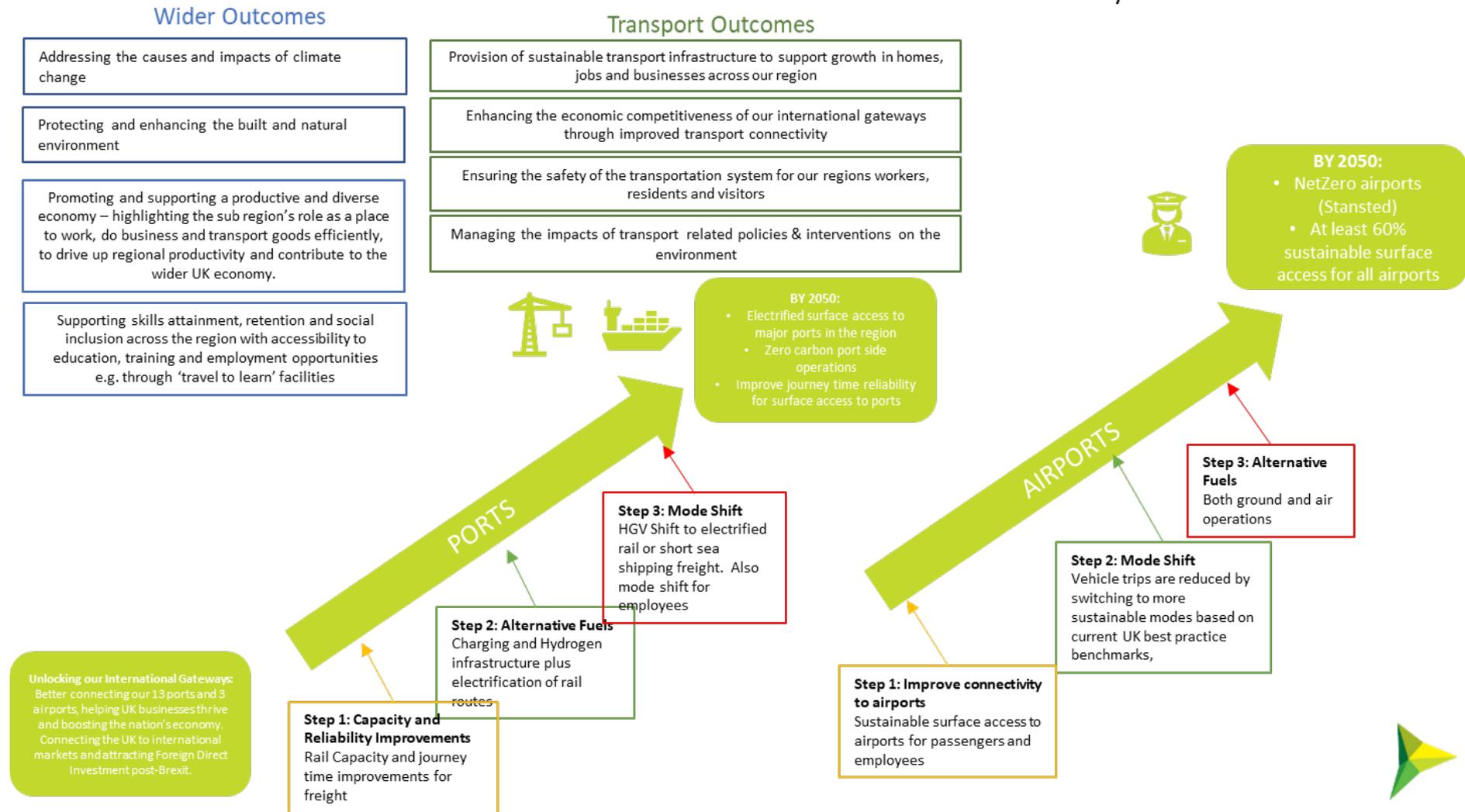


Figure 4.4: International Gateways Pathway (split by Ports and Airports)

Connecting our Towns and Cities

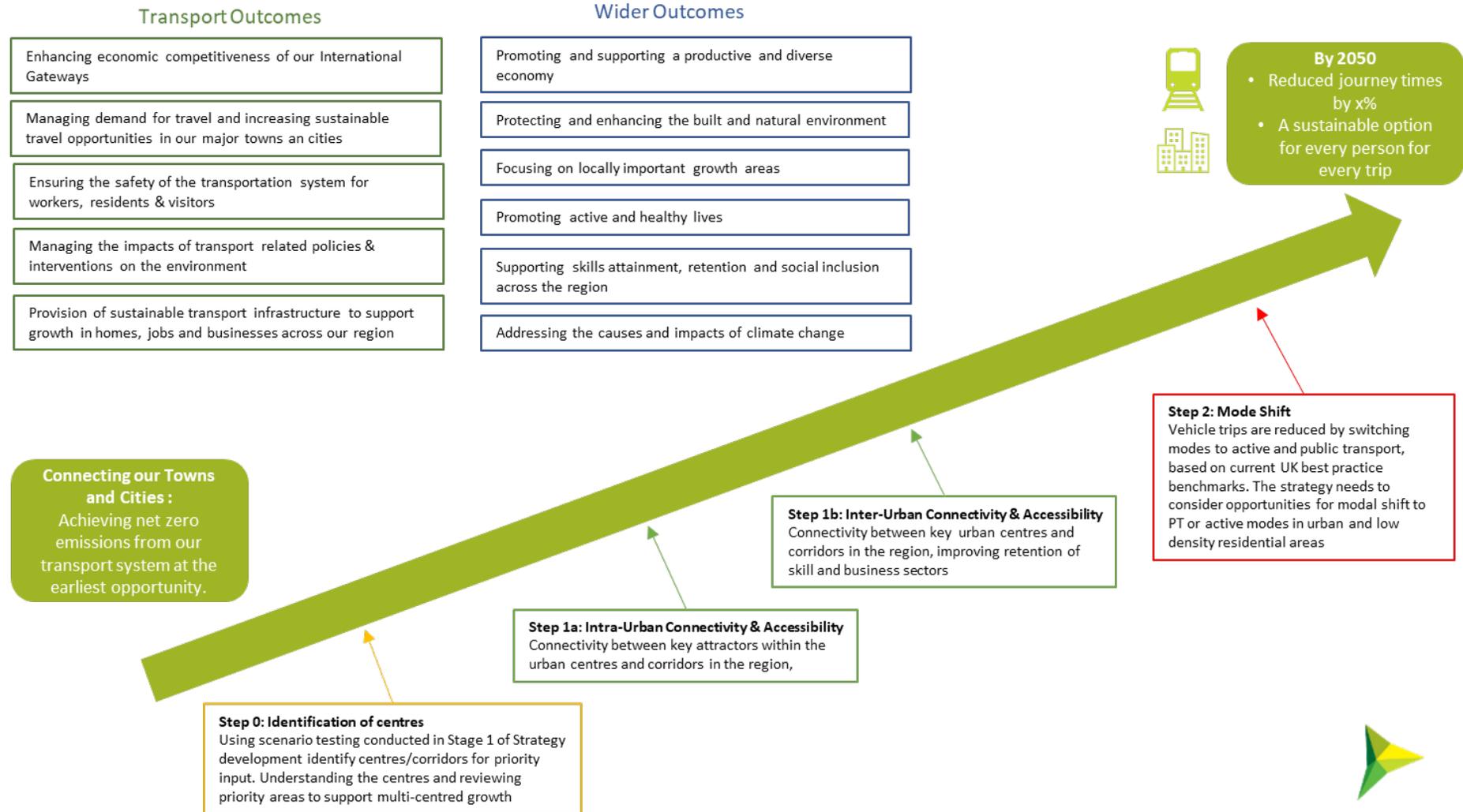


Figure 4.5: Connecting Towns and Cities Pathway

5 Conclusion

This report has built upon the key findings, challenges, ambitions, and priorities/recommendations associated with each of Transport East's key themes in developing a robust strategic approach. With these themes acting as a focal point or cornerstone for the strategy and case for investment, the work undertaken as part of Stage 2 strategy development, provides an integral pathway and action plan to achieving Transport East's aims to 2050.

Building upon Stage 1 work on Wider Outcomes, an additional piece of work was undertaken to understand the Transport Outcomes and their measurability, following a desktop review of current and future transport themes at national, regional and local levels of government. Collation of these themes was followed by the definition of Transport Outcomes and a detailed understanding of how they could become Specific, Measurable, Achievable, Realistic and Timely (SMART), to ensure their applicability throughout strategy development. Partners were engaged with this process, culminating in six Transport Outcomes being agreed and aligned with the Wider Outcomes, to plan and aid in understanding the transport impacts of different economic geography scenarios tested.

Stage 1 work outlined scenarios to be tested to quantify the link between scale and distribution of economic activity and subsequent patterns of transport demand, and to explore the implications for transport strategy. Two spatial scenarios (Dispersed/Centralised) were tested across three economic trajectories (Central/High/Low) and two workplace scenarios (Back to Normal/Remote). The result of the economic analysis shows that the high growth remote centralised scenario was the best performing scenario in terms of delivering against the four key themes and has the highest benefit across all of the key themes. It focusses on '15 minute living', with 52% of people living in the 13 largest urban areas and 32% of people working remotely for at least 50% of the week.

The Strategic Approach was developed taking into account the Stage 1 evidence base collation and the scenario testing outputs. With the integration of the Wider and Transport Outcomes, a series of four strategic pathways have been developed to achieve Transport East's aims to 2050.

Each pathway plots a trajectory to achieving Transport East's goals, setting out an assessment of each theme, with this underpinned by an ambitious and appropriate action plan, as agreed with TESOG partners.

These pathways will feed into Stage 3 work, developing long list scheme assessments, measurable against Wider and Transport Outcomes. The outcome of which will feed into the final Transport Strategy.

Further details of each of the interim pieces of work making up Stage 2 of the Transport Strategy are as follows:

- Transport East Scenario Modelling Technical Note (1C)
- Transport East Transport Outcomes Technical Note (2A)
- Transport East Pathway Action Plans (2B)

Appendix A. Transport East's 13 Largest Urban Economies

