

# Hugh Carr

## Director of Strategic Procurement



## Development of Ayr Town Centre's Active Travel Network





Alexander McNaughton  
Principal Engineer, Active Travel

LinkedIn®

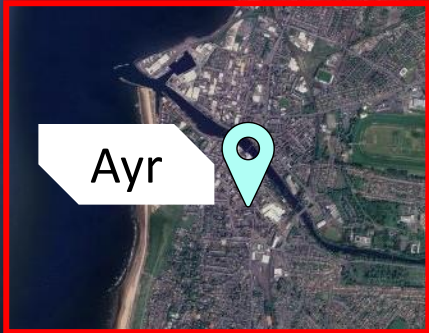


# How to improve Ayr's Town Centre and meet the futures sustainable travel needs?





Prestwick



Ayr

*south*  
**AYRSHIRE**  
COUNCIL





Sports Centre 

Race Course 

Bus Station 

Town Centre 

Beach Promenade 

Ayr College 

Ayr Station 

UWS 



13<sup>th</sup> Most Deprived in Scotland



Need for Change

High Street Improvements  
Expand to realise the  
benefit





# Scotland Excel

## Adapting to Change

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Engineering and Technical Consultancy Framework  
Lot 2 – Transportation and Traffic

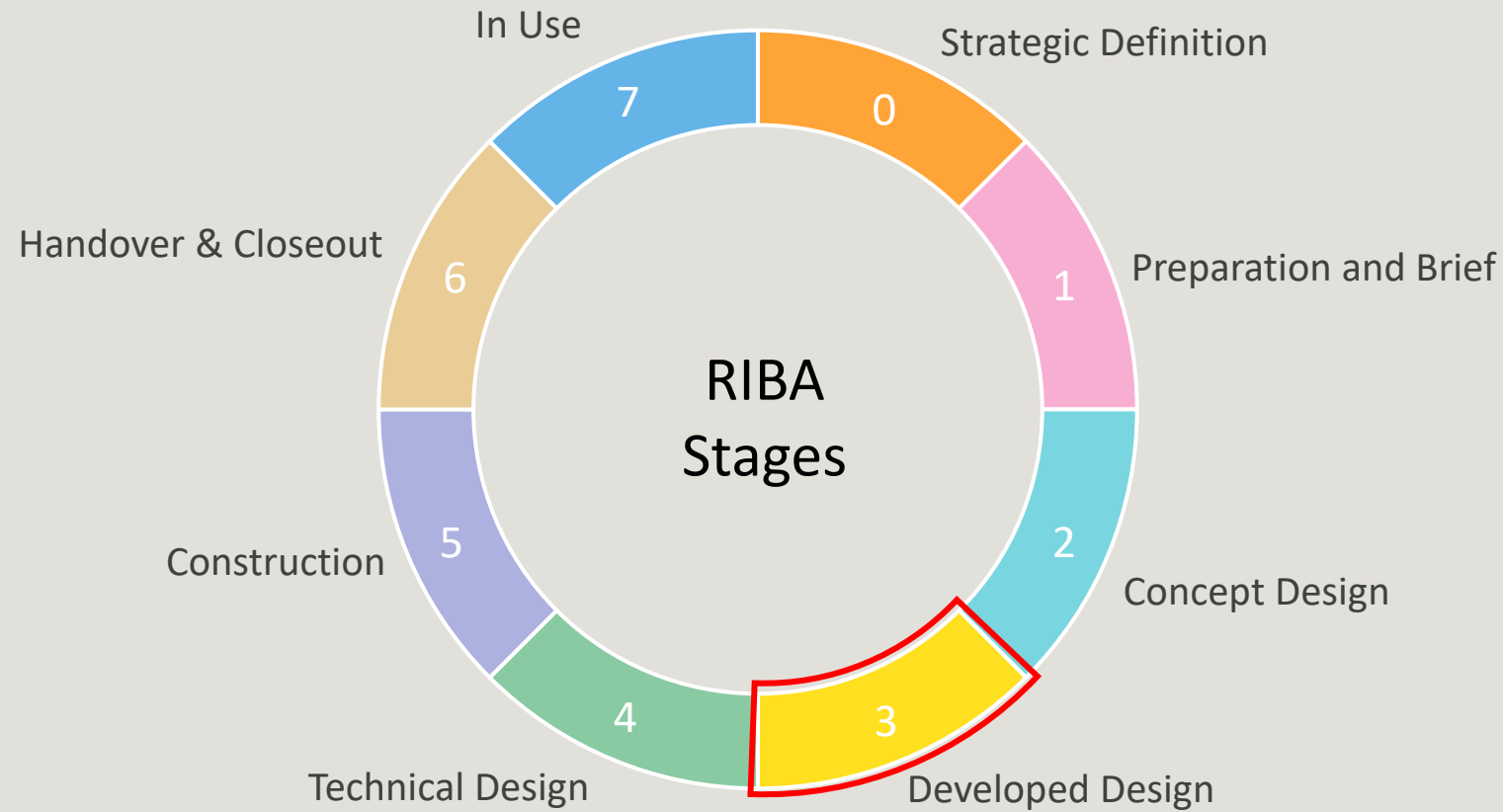
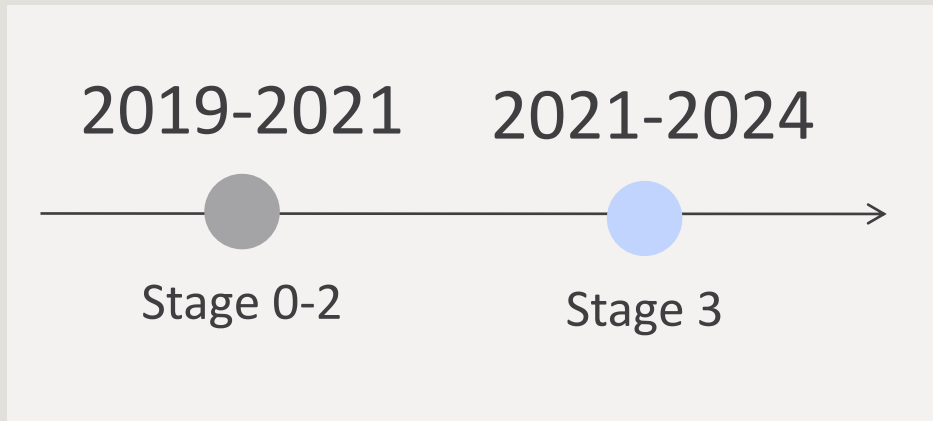
### Scotland Excel allowing:

- Cost Savings
- Efficiency (Streamlined)
- Quality
- Flexibility
- Innovation
- Compliance
- Sustainability

**SCOTLAND**  
**EXCEL** 

*south*  
**AYRSHIRE**  
COUNCIL

# Accessible Ayr Project Timeline





Beach Link  
Total Length 900m

Bi-Directional Cycle Track  
Total Length 2.7km



High Street Improvements  
Total Length 900m



Burns Statue Square  
Separate Project

Investment



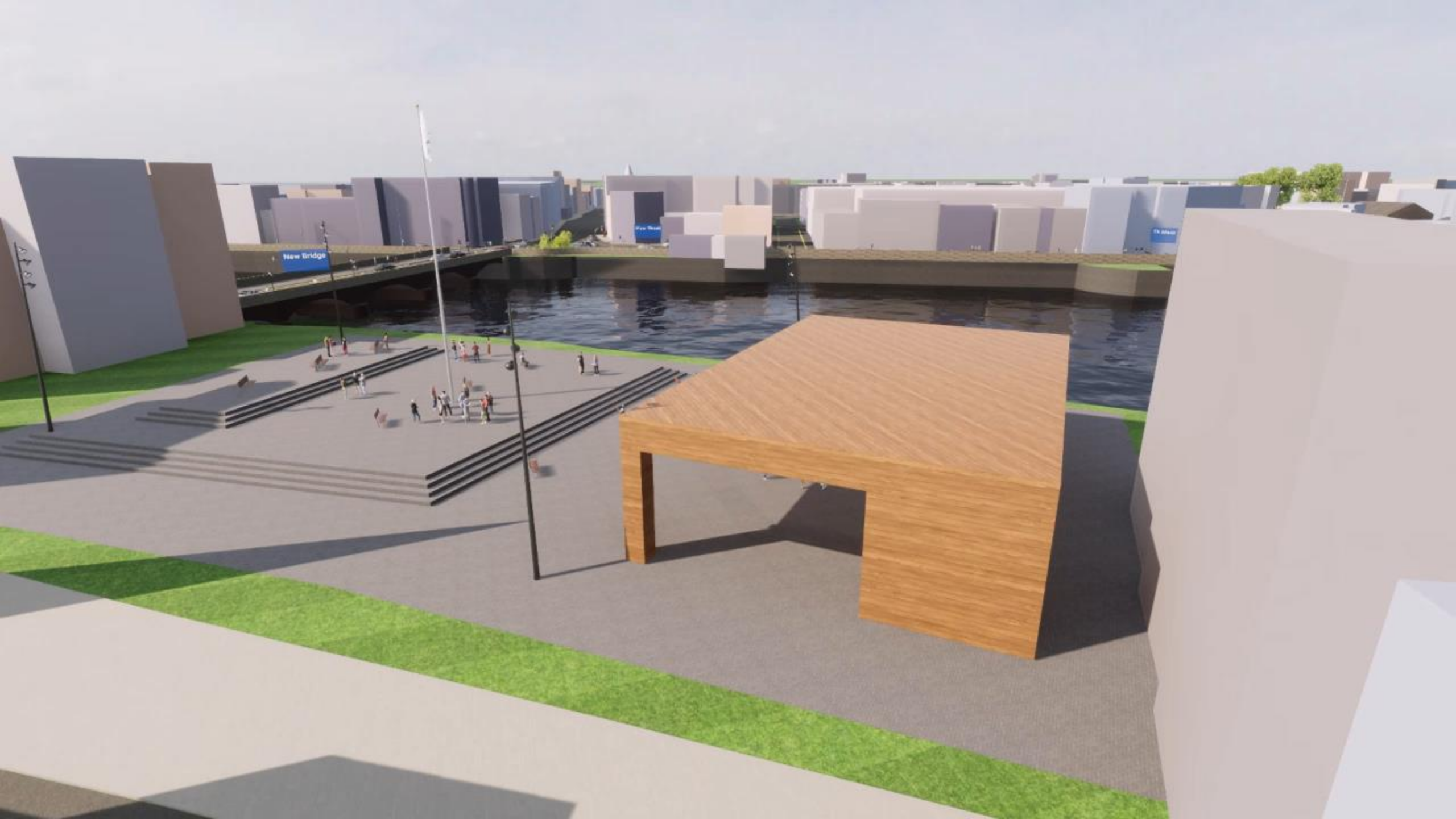
Benefits to  
Ayr



Increased Footfall  
Public Realm  
Property Values  
Accessibility  
Turnover  
Jobs  
Health  
Safety  
Connectivity

Integrated Impact Assessment





before

after



Sandgate

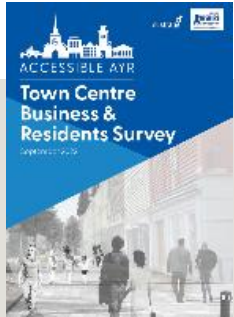
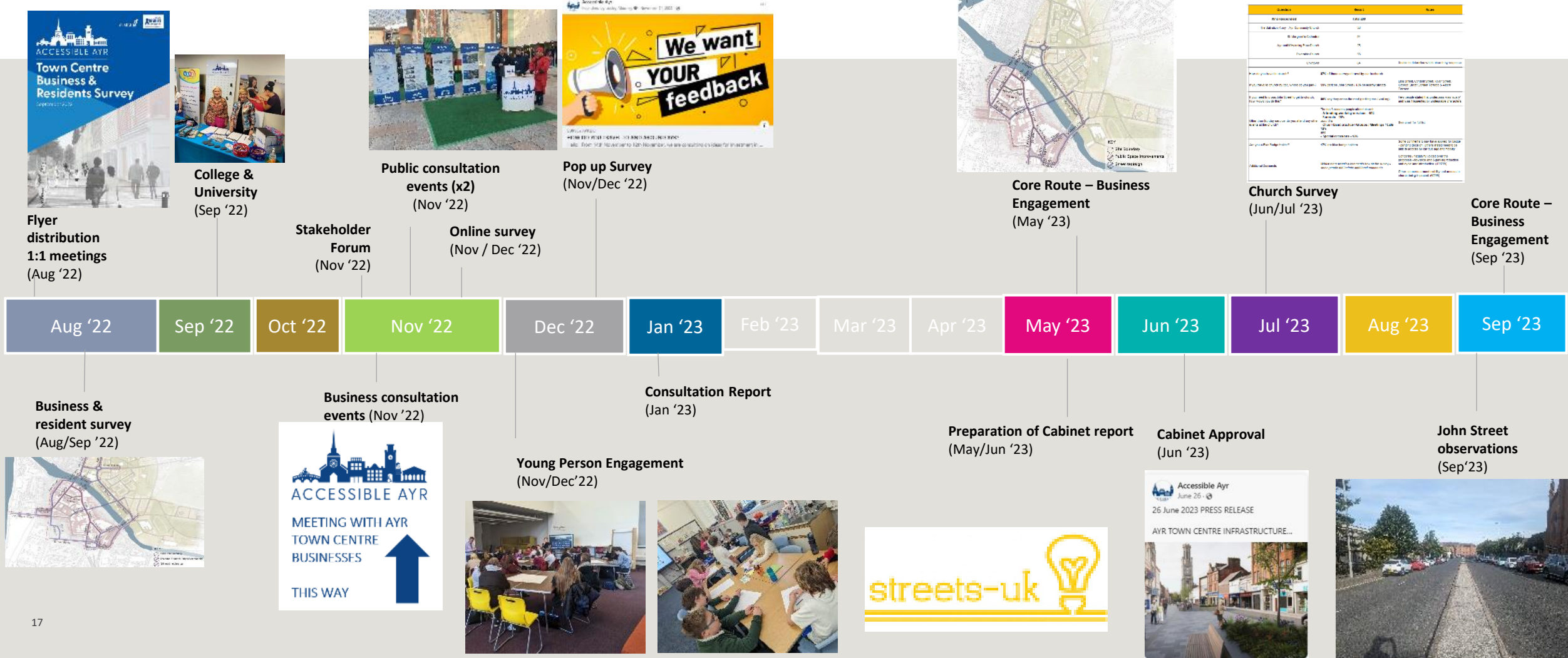
before



Sandgate



# Accessible Ayr Engagement



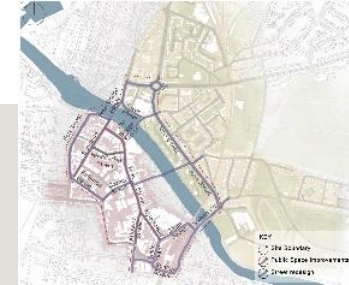
College & University (Sep '22)



Public consultation events (x2) (Nov '22)



Pop up Survey (Nov/Dec '22)



Core Route – Business Engagement (May '23)

Category	Item	Status
Business Engagement	Business Consultation	Completed
	Business Survey	Completed
	Business Meetings	Completed
Church Survey	Church Survey	Completed
	Church Meetings	Completed
Core Route	Core Route Business Engagement	Completed
	Core Route Business Meetings	Completed

Church Survey (Jun/Jul '23)

Core Route – Business Engagement (Sep '23)



Business & resident survey (Aug/Sep '22)



Business consultation events (Nov '22)



Young Person Engagement (Nov/Dec '22)



Preparation of Cabinet report (May/June '23)



Cabinet Approval (June '23)



John Street observations (Sep '23)



Beach Link  
Total Length 900m

Bi-Directional Cycle Track  
Total Length 2.7km

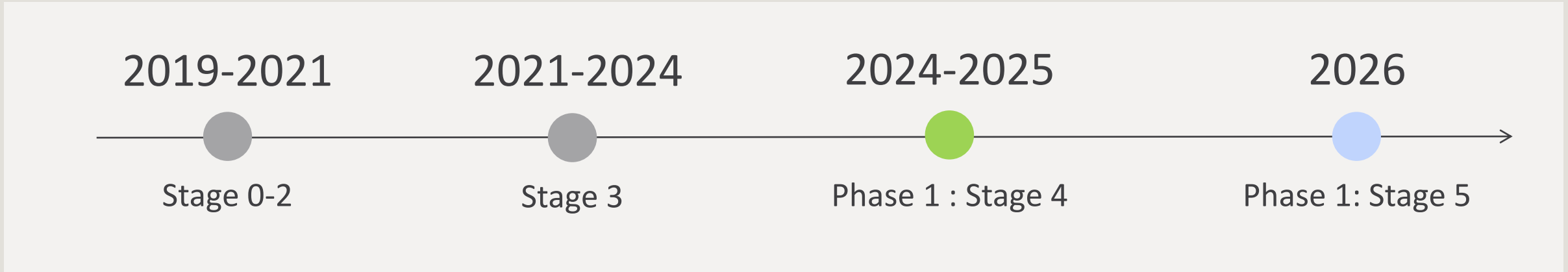


High Street Improvements  
Total Length 900m



Phase 1

# Accessible Ayr Project Timeline



# Questions?

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# NEW HOUSING BUILD

.....Delivery & Futures.....

## Professor Sean Smith

Chair of Future Construction,  
School of Engineering  
Director – Centre for Future Infrastructure  
Edinburgh Futures Institute  
University of Edinburgh



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THE UNIVERSITY of EDINBURGH  
School of Engineering



Always evolving

Commercially focused,  
Community driven



## OVERVIEW...

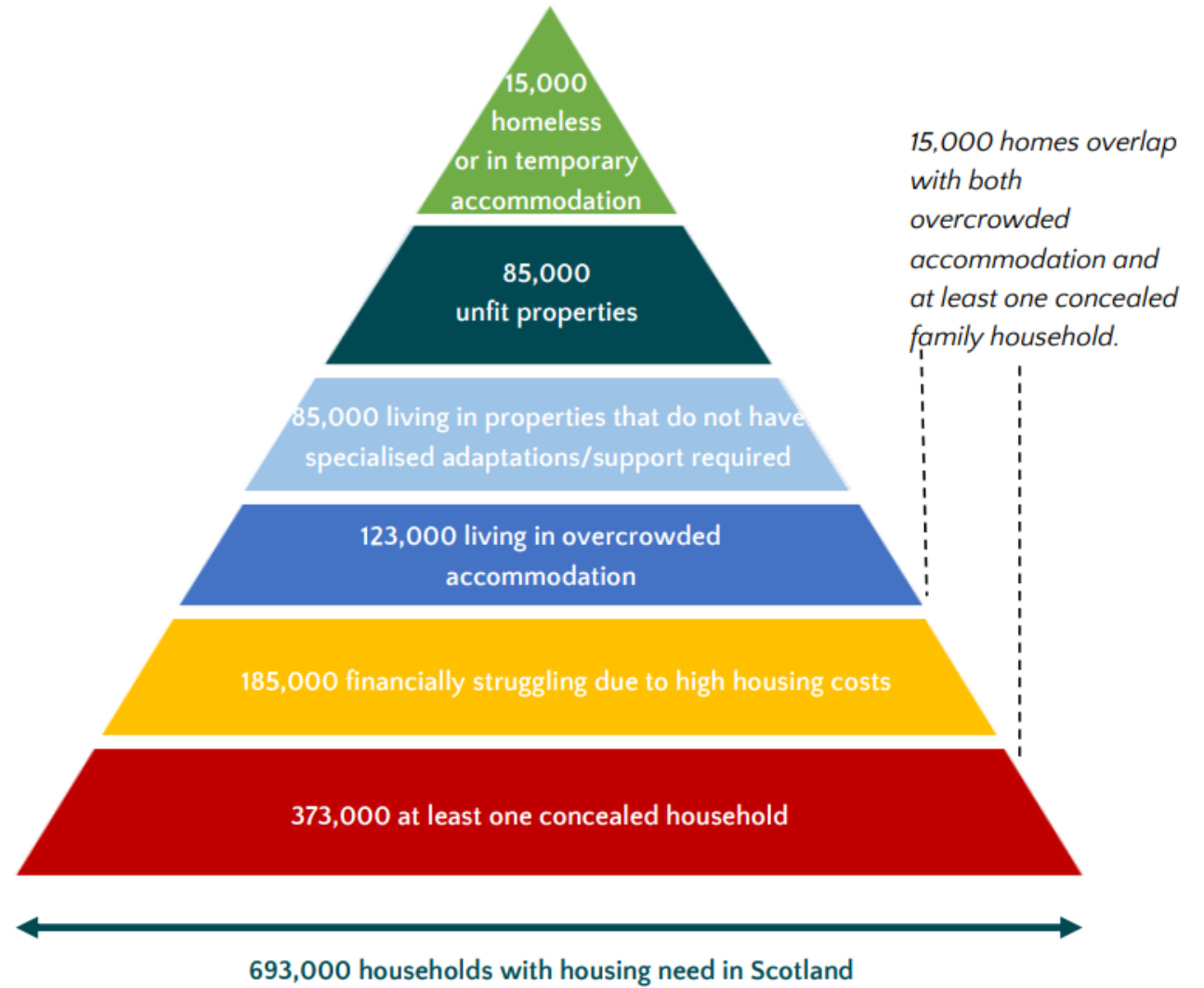
- Scale of task ahead – Global
- Housing delivery – Scotland
  - Growth requirements
  - Skills – Scotland
    - Offsite futures
    - Materials & Performance



## Existing Housing Need in Scotland

A survey commissioned by Homes for Scotland  
Report by The Diffley Partnership and Rettie & Co  
January 2024

FINAL REPORT



Source: Diffley Partnership/Rettie & Co

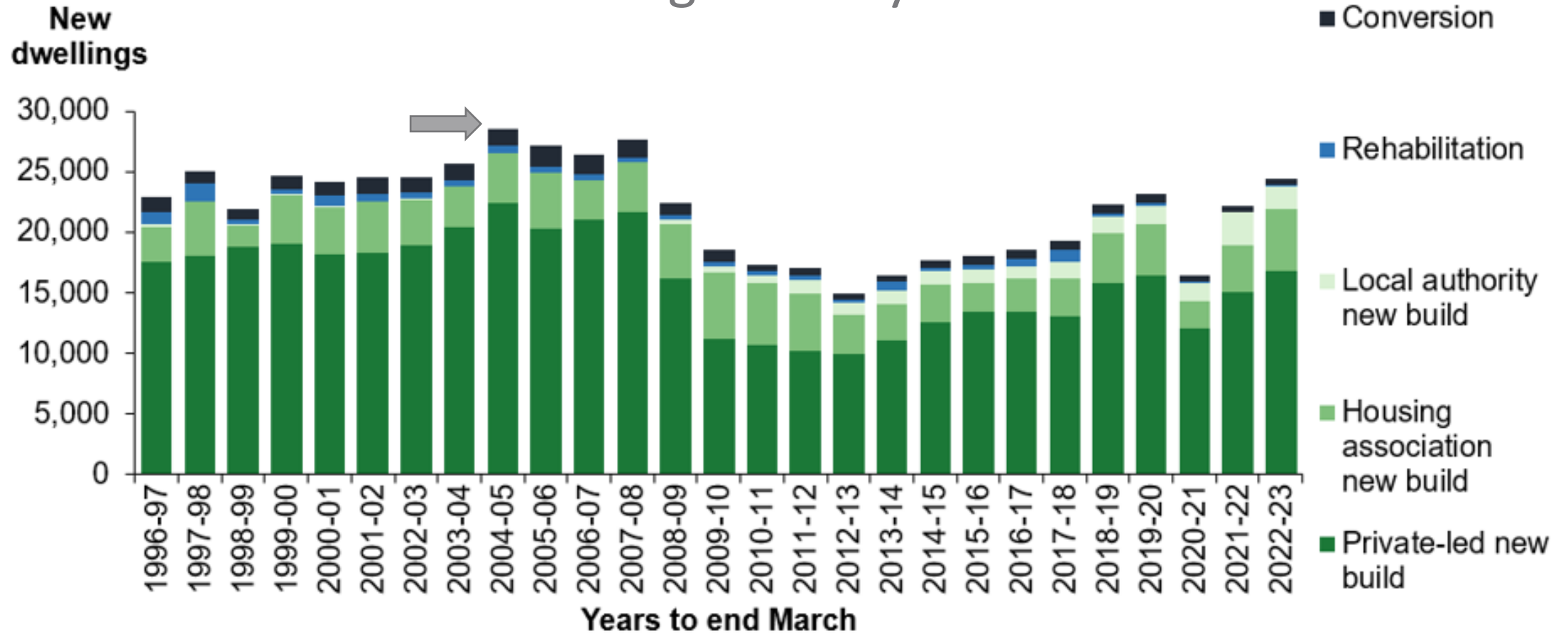
LINK:

<https://homesforscotland.com/download/existing-housing-need-in-scotland/?wpdmdl=4635&refresh=66d983fcb1f981725531132>

# Housing Delivery – Scotland



## All New Housing Delivery – Scotland

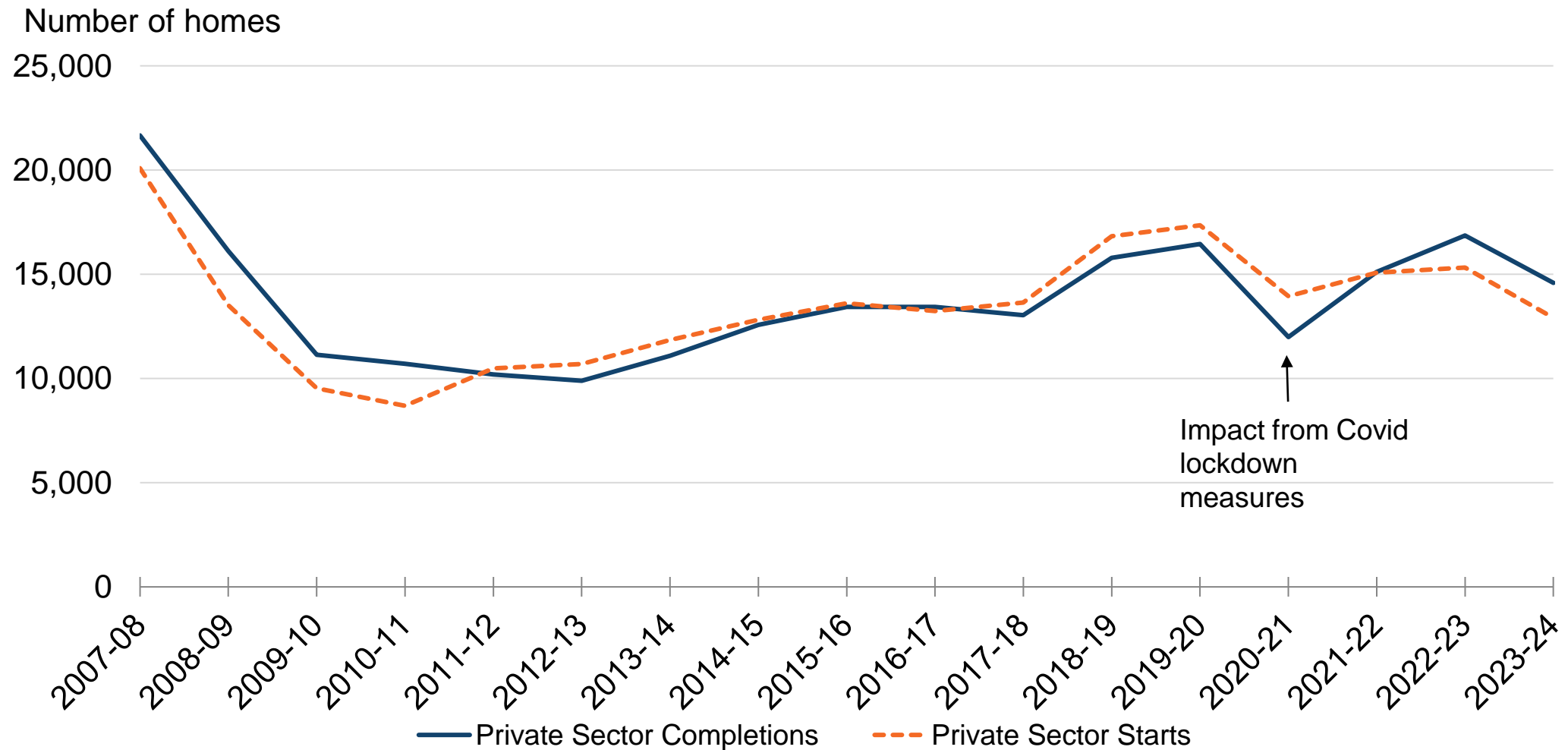




# Housing Delivery – Scotland



## Private Sector New Housing

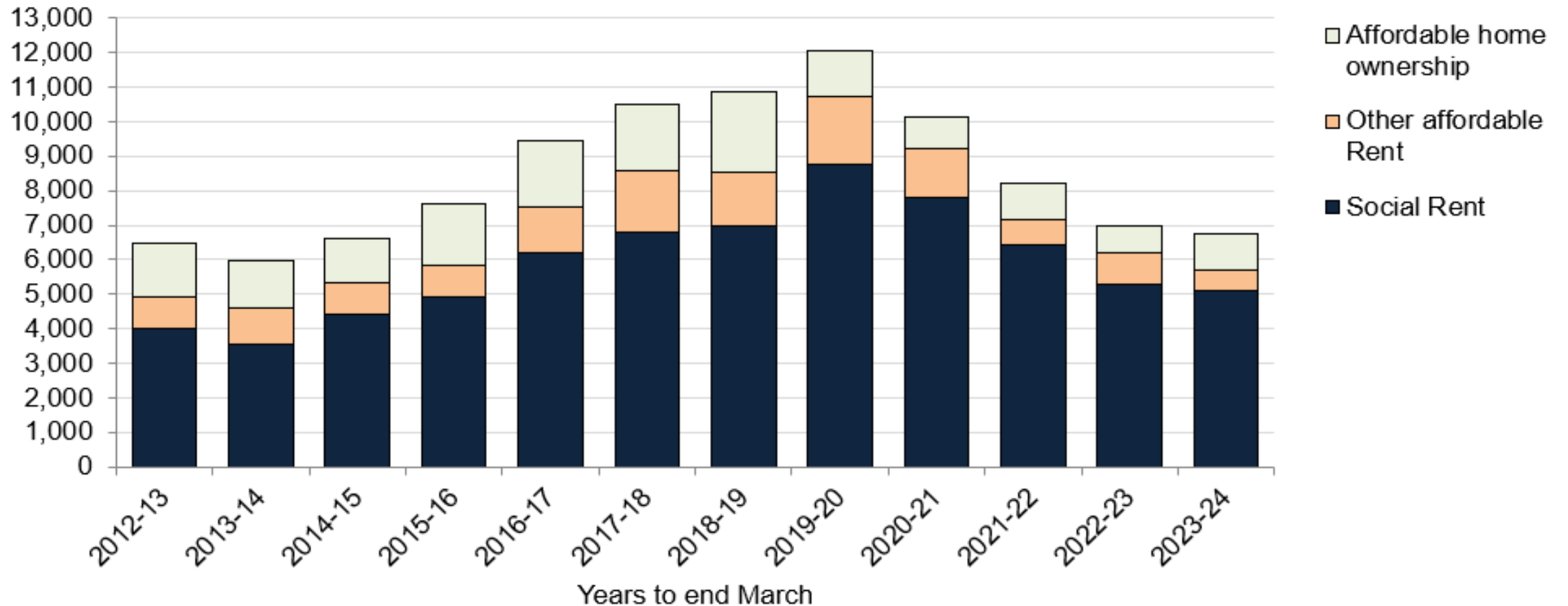


# Housing Delivery – Scotland



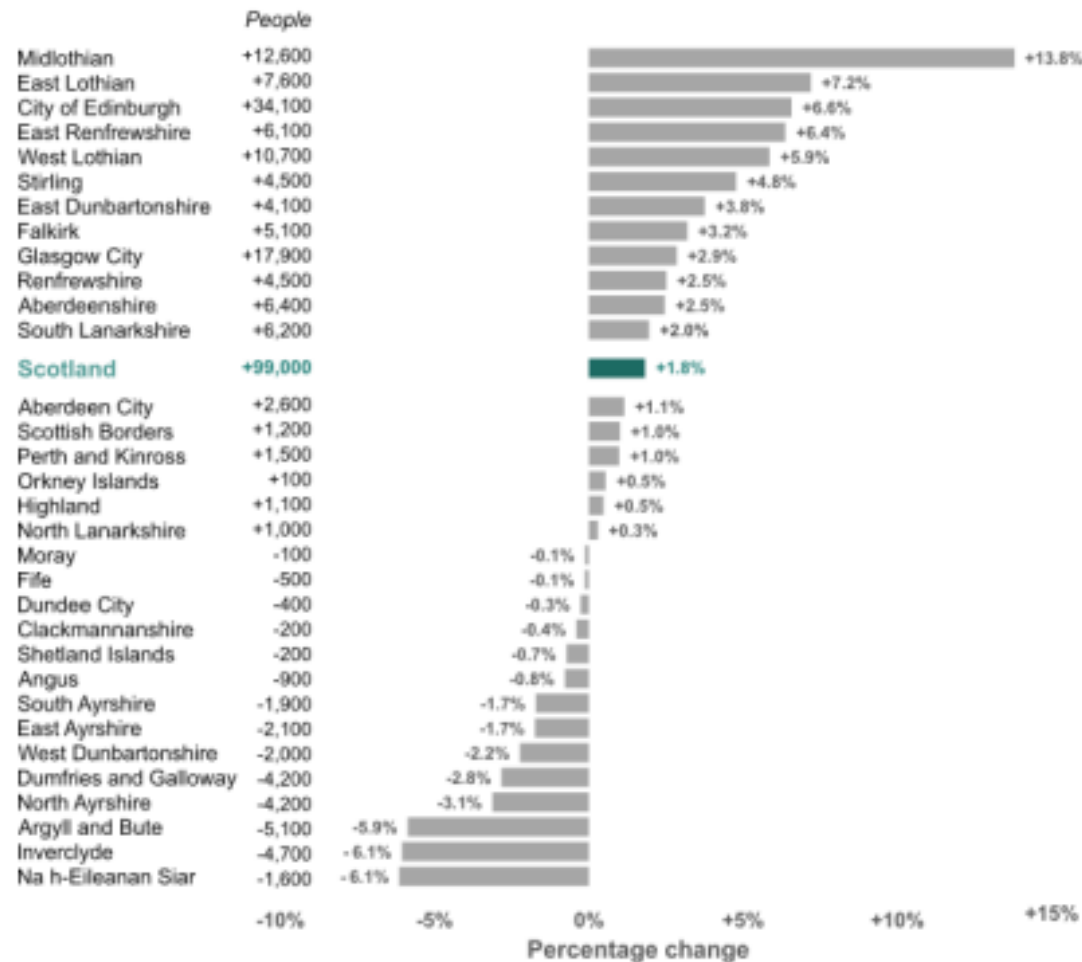
## Social Housing Starts

Number of homes started



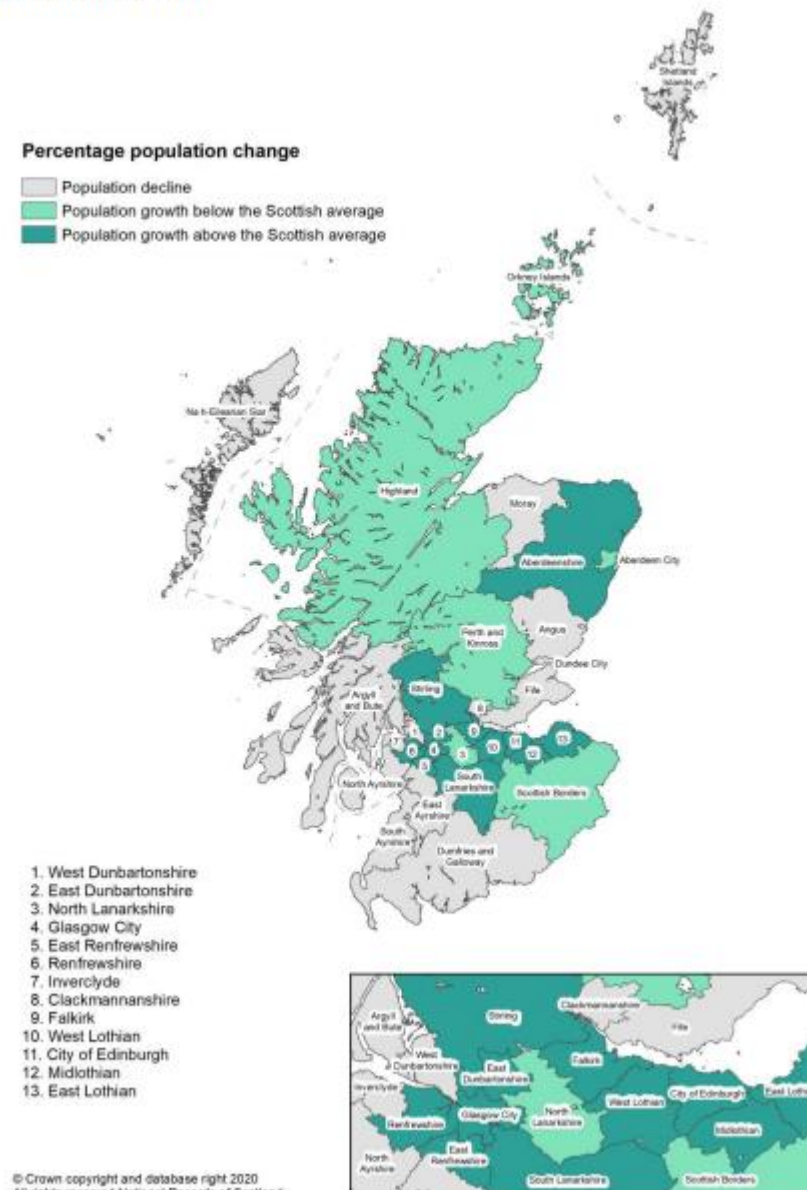
# Growth Requirements

**Figure 2: Projected percentage change and number of people in population, by council area, mid-2018 to mid-2028**



[Report \(nrscotland.gov.uk\)](http://nrscotland.gov.uk)

**Figure 3: Projected percentage change in population, by council area, mid-2018 to mid-2028 (Map)**

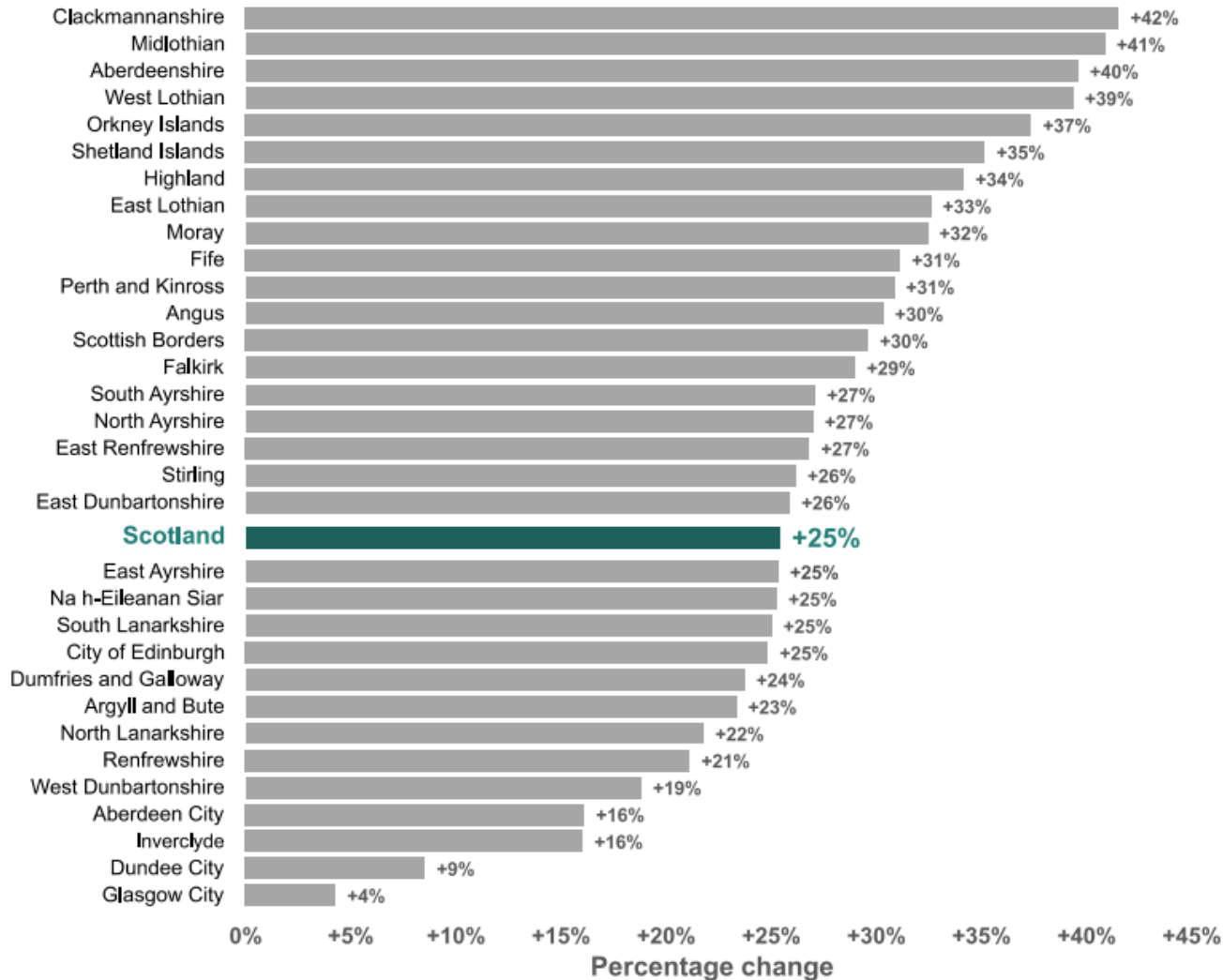


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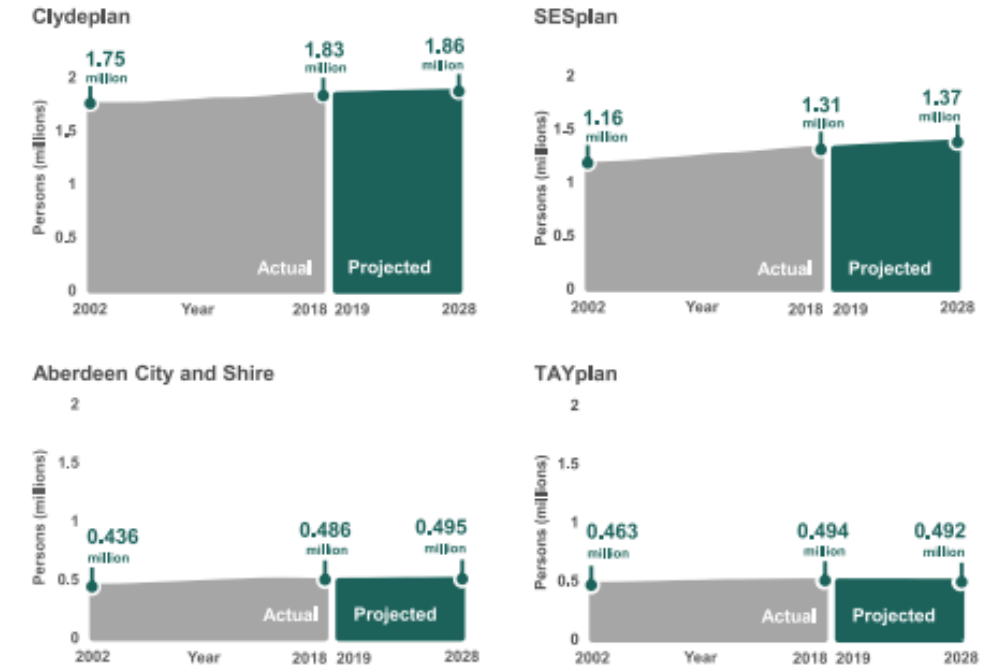
# Housing Demand – Futures



**Figure 7: Projected percentage change in population aged 75 and over, by council area, mid-2018 to mid-2028**

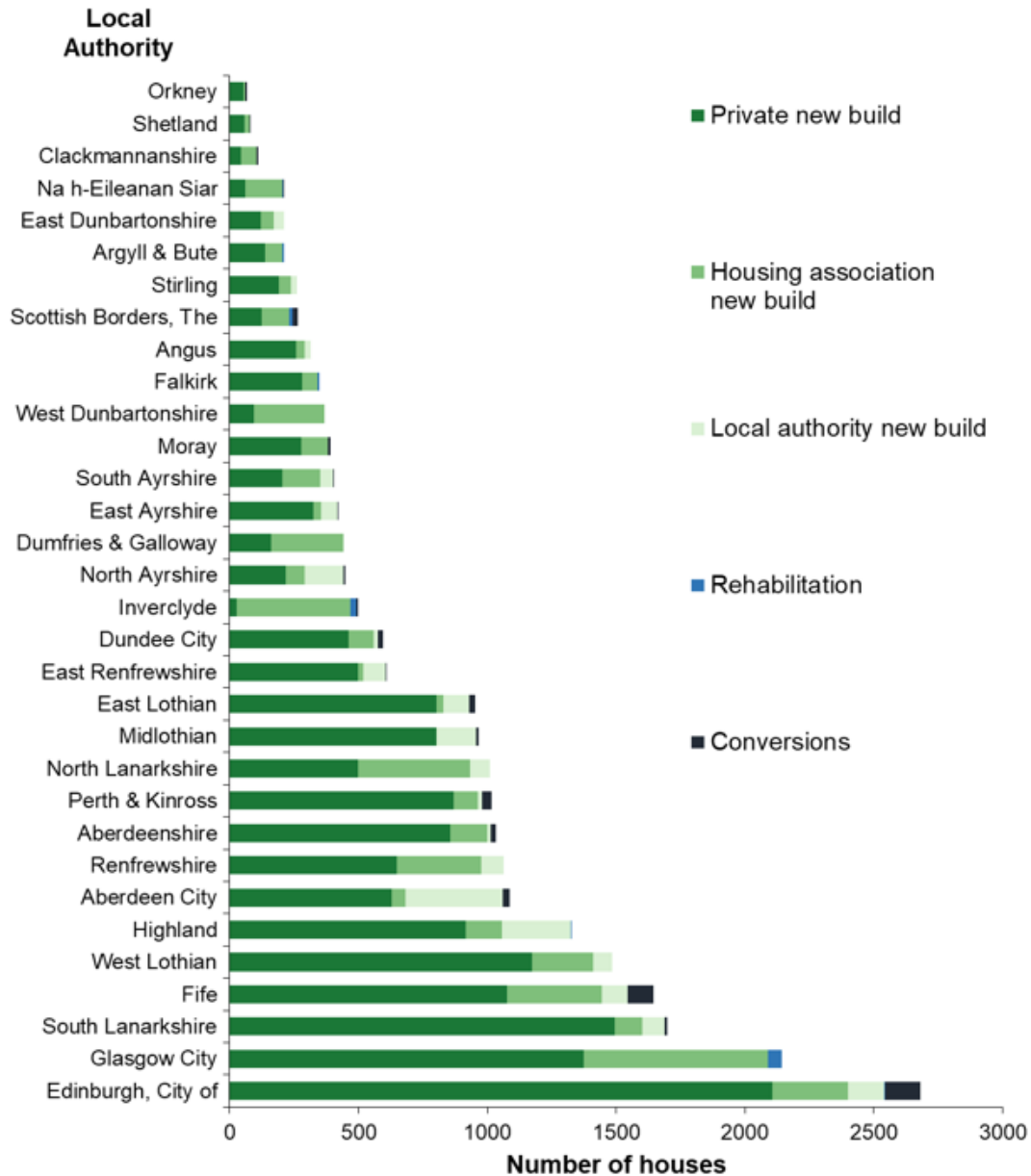


**Figure 11: Estimated and projected population of Strategic Development Plan areas, mid-2002 to mid-2028**



**Clydeplan: 30,000**  
**SESplan: 60,000**

# Housing Delivery – Scotland & SE

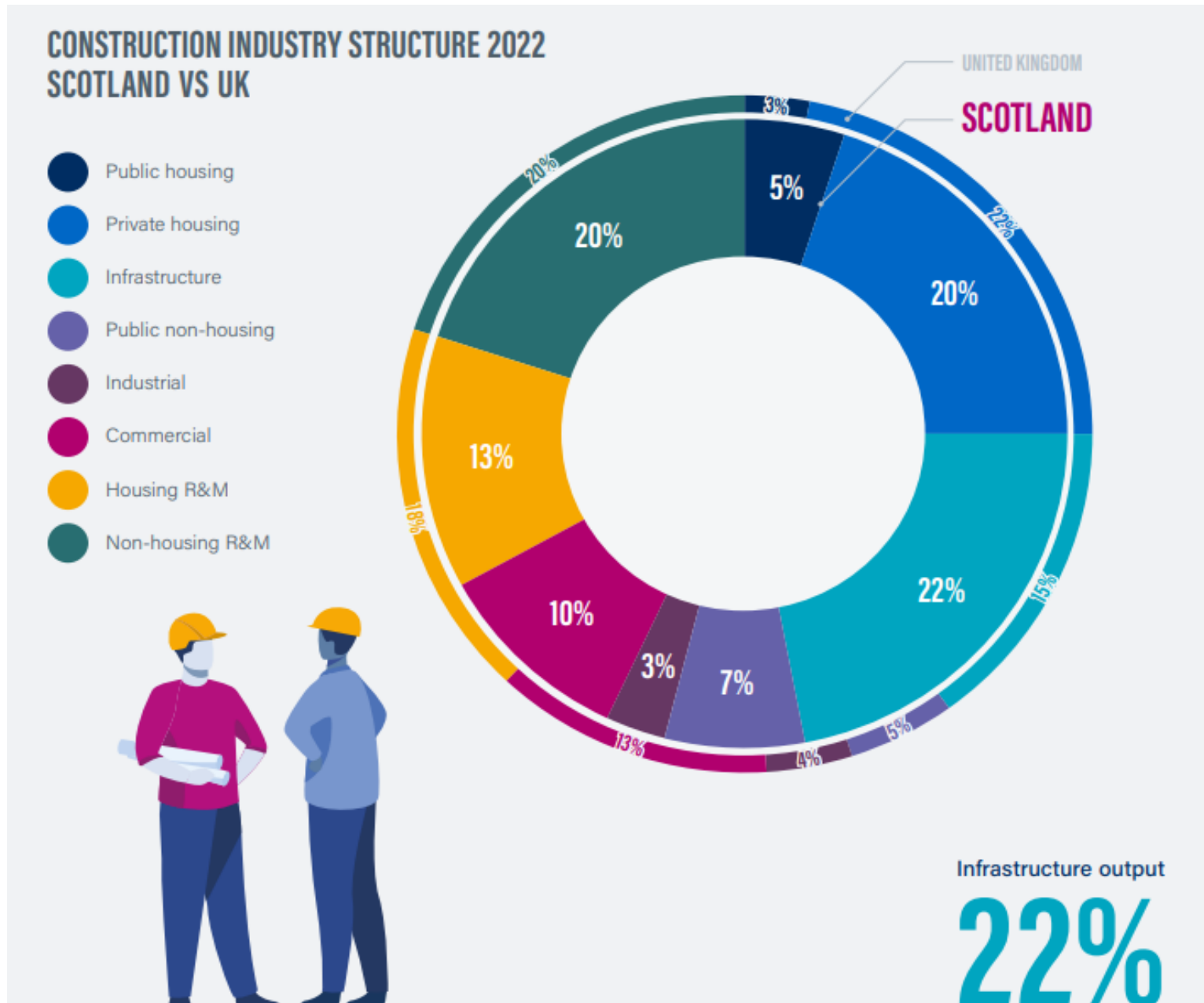


	Housing Target	Homes Per Year	Equivalent in Scale to ...
Lothian Structure Plan 1994 (1992-05)	36,500*	2,800	East Kilbride (13 yrs)
<i>*Excludes Scottish Borders south Fife</i>			
Lothians Structure Plan (2001-2015)	76,000*	5,070	Dundee (15 yrs)
<i>*Excludes Scottish Borders south Fife</i>			
Strategic Development Plan 1 (2009-2024)	107,560	7,170	Aberdeen (15 yrs)
NPF4 (2023-33)	72,300	7,230	Dundee (10 yrs)

	Strategic Site Name	Capacity
1	Blindwells	10,000
2	Calderwood	4,000
3	Dunfermline	8,000
4	Edinburgh's Waterfront (Granton 3,500)	10,000
5	Shawfair	4,500
6	Tweedbank	300
7	Winchburgh	4,500
	<b>Total</b>	<b>41,300</b>

# SKILLS

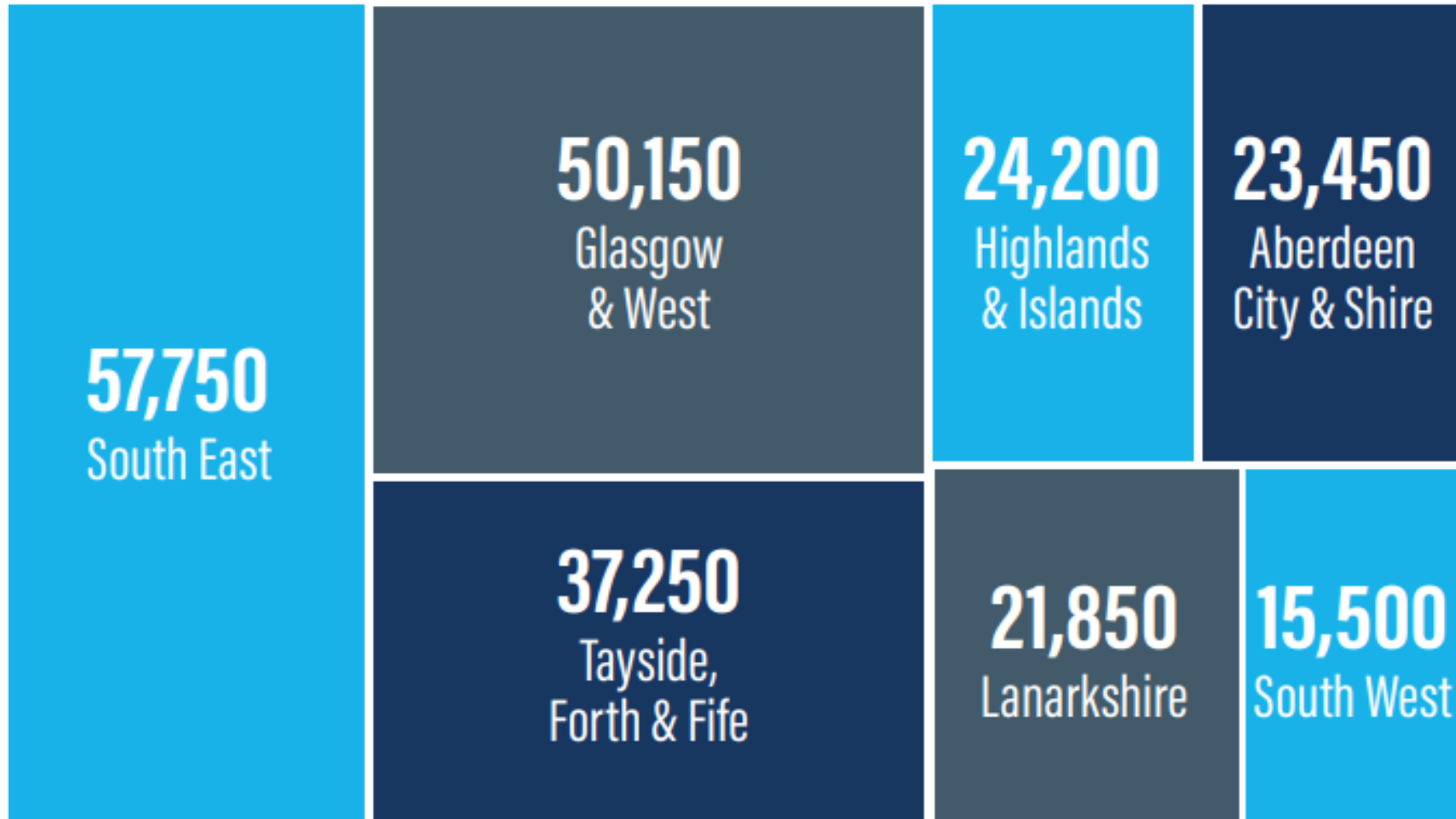
## Workforce



# SKILLS – Workforce



Figure 2: Labour demand by local area, Scotland, 2022



# SKILLS – Workforce



**Table 7:** Gap analysis breakdown by local area, Scotland

Occupational Group	Aberdeen City and Shire	Glasgow and West	Highlands and Islands	Lanarkshire	South East	South West	Tayside, Forth and Fife
Construction Managers and Supervisors	-700	-1,450	750	2,400	-3,300	1,250	1,300
Construction Professional/Technical	-650	-1,450	1,100	2,450	-3,900	1,300	1,450
Labourers	-200	-450	100	600	-700	350	400
Non-construction trades	-50	-150	50	200	-300	100	150
Skilled trades - bricklaying	-100	-200	200	300	-600	150	250
Skilled trades - electrical	-450	-950	500	1,400	-1,900	700	850
Skilled trades - other occupations	-650	-1,600	700	2,200	-3,100	1,250	1,500
Skilled trades - painting and decorating	-150	-350	150	400	-650	250	300
Skilled trades - plumbing & HVAC	-200	-500	350	650	-1,050	350	450
Skilled trades - wood occupations	-400	-900	650	1,350	-2,150	700	850
Support staff - office based	-600	-1,300	850	2,100	-3,250	1,150	1,200
<b>Total</b>	<b>-4,250</b>	<b>-9,250</b>	<b>5,400</b>	<b>14,150</b>	<b>-21,050</b>	<b>7,450</b>	<b>8,750</b>

<https://www.citb.co.uk/media/tgsiuvlr/local-skills-scotland-report-2023.pdf>



# Other Housing Sectors



## Scotland's Housing Retrofit Sector

- 2.7 million homes
- Need 128,000 homes/annum retrofit

## SE Scotland

- 720,000 Homes
- (Approx 400,00 flats)
- Circa 40,000 homes / annum retrofit

## Stone Tenements

- 240,000 many requiring repairs

## Maximising Efficiency

- Infrastructure first
- Accelerate site readiness
- Underpinning education / health infrastructure
- Accelerate retrofit using Archetype approaches
- Increase College / Training Capacities
- Expand Apprenticeship Support
- Potential for Offsite approaches

# CENTRE for NET ZERO HIGH DENSITY BUILDINGS



THE UNIVERSITY  
of EDINBURGH



University of  
**Strathclyde**  
Glasgow



Edinburgh Napier  
UNIVERSITY



**BE—ST**

Built  
Environment  
—  
Smarter  
Transformation

## 58 Partners

**Industry:** SMEs, Major Contractors, Utility Companies, Product Manufacturers, Innovators and Industry Organisations

**Public Sector:** Local Authorities, City Region Deals, Government Agencies (Enterprise, Housing, Heritage, Building Standards)

**Skills / Training:** Colleges (FE Sector), Training Academies & Upskilling

**Networks:** Industry, Housing, Net Zero, Retrofit, University Estates, Energy Efficiency, District Heating, Battery Technologies and Housing Associations

# The Challenge – Net Zero for High Density Buildings



**Highly Complex; Multi-Factorial; Modern & Historic; Existing Infrastructure Restrictions; Occupant Diversity**

40% of Embodied Carbon from Construction; 22% of Emissions from Buildings;

**Many Key Workers & Low Income Families Live in High Density Buildings – underpinning GREEN ECONOMY JUST TRANSITION**

# Our Vision

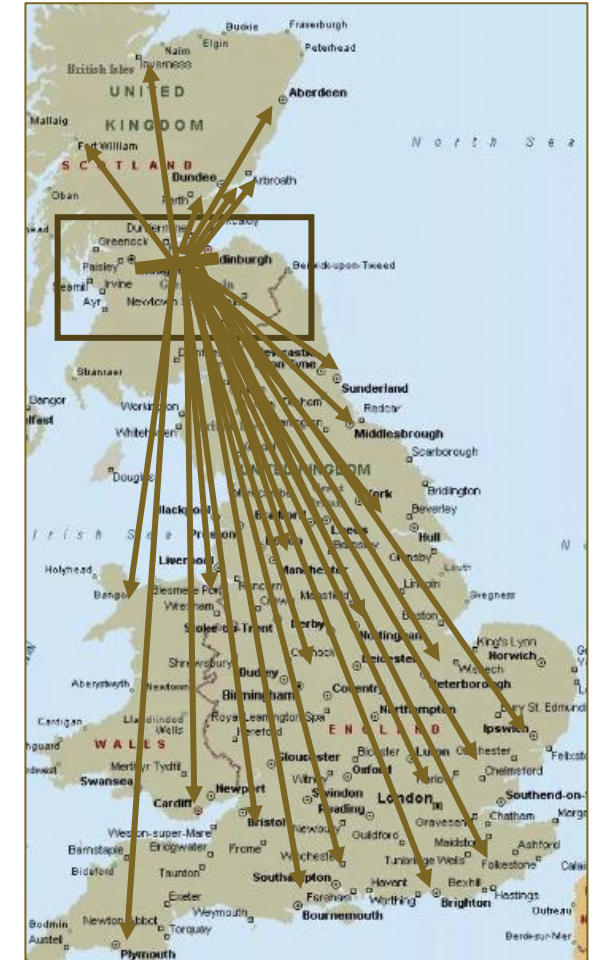
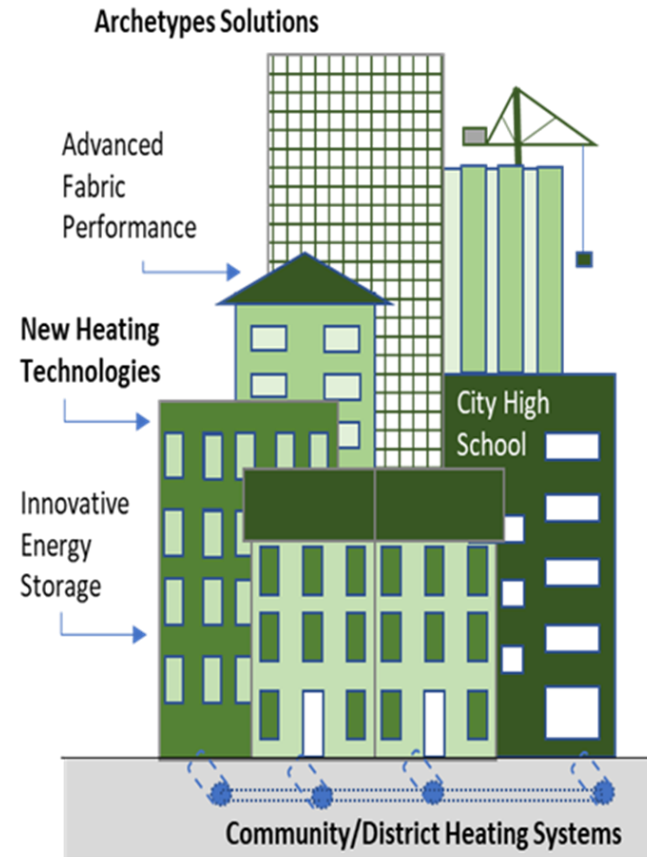
## CENTRE for NET ZERO HIGH DENSITY BUILDINGS CeNZ-HighDB – The Vision

### Partnering & Reach:

- 5 regional universities
- 2 city regions
- 8 cities network
- 32 local authorities
- 14 industry networks
- 8 research alliances
- 5 major public bodies
- 7 regional colleges
- 20 colleges network
- 60 housing associations
- Multiple communities
- Pan-UK utility companies

### Leadership & Co-ordination:

- 50+ partners
- 50+ projects
- Major archetype solutions
- Linking 2000+ supply chains
- 6500 jobs upskilled
- 2600 new jobs
- New manufacturing
- Archetype Retrofit Handbook
- Local to international reach
- Targeting £50M investment
- Underpinning £35B future retrofit pipeline



*“A vital new Centre”*

*“extremely significant”*

# Key Themes – System Approach

Delivering Net Zero green economy outcomes

Centre for Net Zero High Density Buildings			
<b>CORE TWGs: Green Materials &amp; Technology</b>	TWG-I. Building Fabric and Performance	TWG-II. Heating- Cooling & Energy Storage within Buildings	TWG-III. District & Community wide Heating-Cooling
<b>Cross-Cutting TWGs</b>	TWG-IV. Modelling & Data Analysis		
	TWG-V. Occupant Needs & Behaviour		
	TWG-VI. EDI, Skills & Training		

Energy Use Reduction - Circular Economy – Waste Reduction  
Embodied Carbon – Operational Carbon



Creator: Liam Anderstrem

Credit: Liam Anderstrem / Airborne Lens

## Edinburgh Granton - Net Zero

- Delivery...At Scale
- Using offsite methods of construction
- Creating archetype approaches
- Maximising knowledge transfer

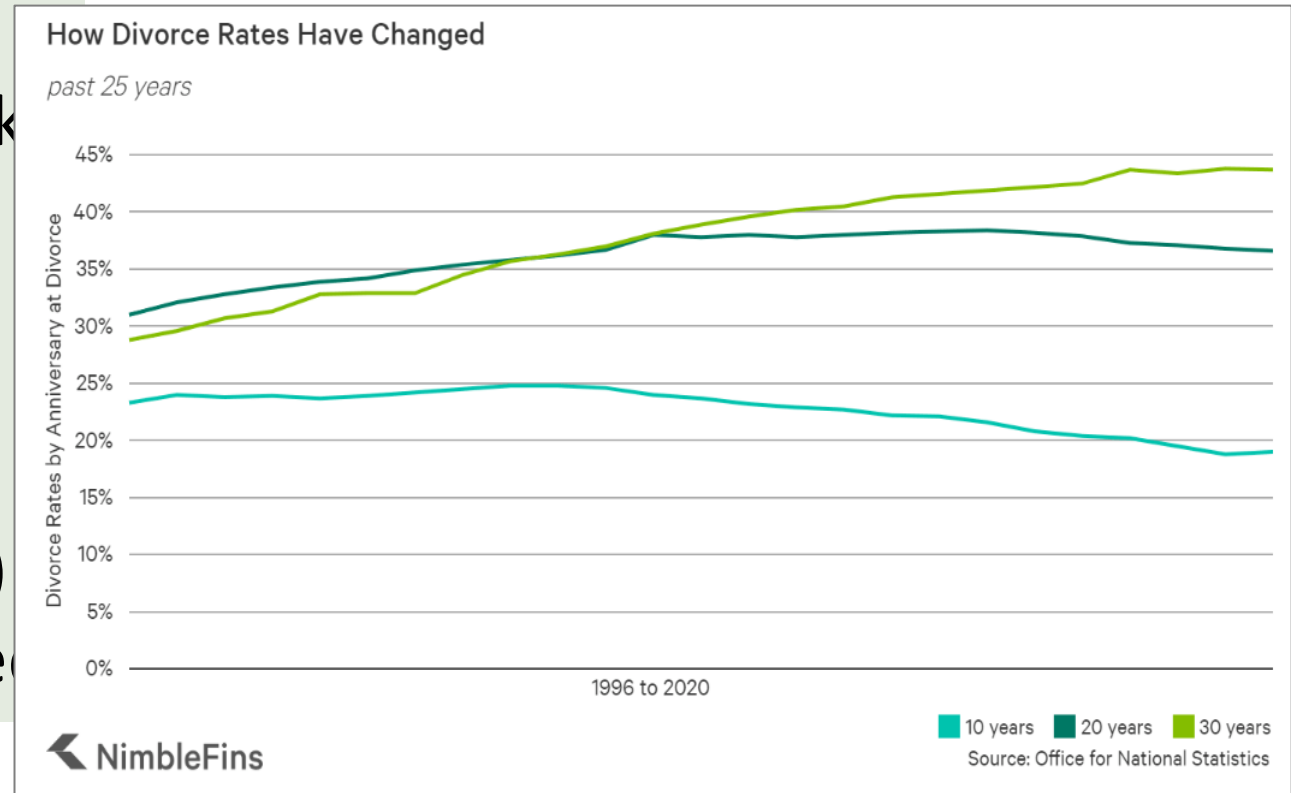


## Materials & Performance

- Don't just consider Operational Carbon (OC)
  - Also consider Embodied Carbon (EC)
  - **Combine OC+EC**
  - ❖ With digital designs in new build many of these EC can be calculated quickly
  - ❖ Lets make that step change!
- Maximising Circular Economy outcomes
  - Design for Deconstruction
  - Complex sites
  - Must use more % of construction from offsite approaches

## CURRENT – 2023 (2.72M Homes)

- Vacant Homes – 92,500
- Second Homes – 24,000
  
- 1 Person Homes (1PH) – 37% (930k people)
- Biggest rise 1PH (>55years)
  
- ❖ Divorce rate (10k/annum)
- ❖ However, much higher rate (14%+) in older age groups getting divorce







## FUTURES – 2045

- 20k new homes / annum
- 400,000 Homes
- 5,49M population (5.53M in 2033)
- People aged 65+years (30% increase)

- Likely need is closer to 600,000 new homes
- Or 510,000 new homes (-Vacant homes)
- 25k new homes per year till 2045

# SUMMARY

- Practically impossible to deliver new build and meet housing retrofit demands at scale required
- Significant increase in offsite housing delivery required for new build
- Early pre-investment in new build site infrastructure
- Aware of the impending retrofit works to come - plan now for new housing delivery

# NEW HOUSING BUILD

.....Delivery & Futures.....

## Professor Sean Smith

Chair of Future Construction,  
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School of Engineering



Always evolving

Commercially focused,  
Community driven

# Holehills High Rise to Dykehead Road

James Stevenson  
Housing Development Manager

# New Supply Programme

## Our Ambition

‘To make North Lanarkshire the place to live, through the provision of high-quality housing and support in sustainable communities, that enable people to thrive and prosper’

- Increase supply of quality housing
- Tackle climate change & fuel poverty
- Homes fit for the future
- A range of housing options & supports
- Vibrant, sustainable communities





# 1,500

## New Build Homes since 2010



## Dementia Design development principles included in all homes since 2017



# 44

sites developed across North Lanarkshire

# 2,055

## construction jobs created (Gross, Person Year Equivalent)



# 100%

## Housing for Varying Needs Compliant



## Dementia Design development principles included in all homes since 2017

# 95%

## of NLC 'design & build' projects on Brownfield Sites



# 780

## additional homes purchased through the Empty Homes & Open Market Purchase Schemes.



# 8%

## of homes built to full wheelchair standard



# Over £218m

## Invested in building new homes



# Over £90m

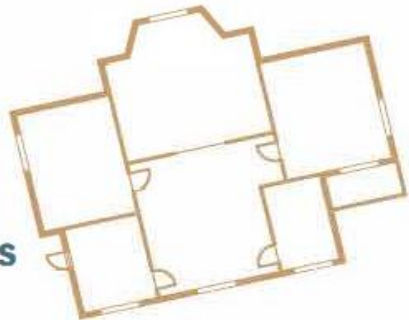
## of Scottish Government funding utilised



## Homes ranging from

# 1-5

## bedrooms in size



# EPC Band B(90)

## Average Energy Efficiency Rating



[Scottish average is Band D(61)]

# 100%

 Secured by Design

# 210

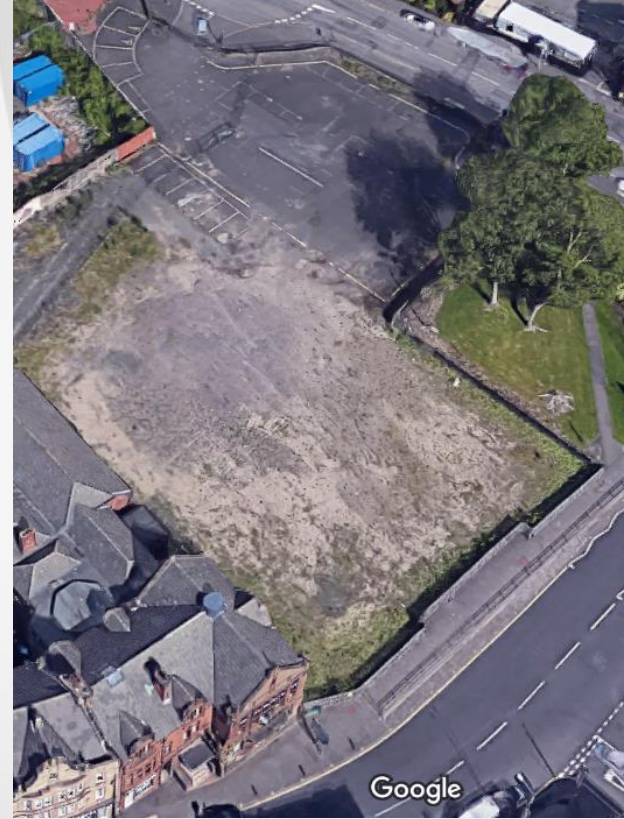
 Community Benefit activities delivered

# New Supply Programme

## Town Centre & Re-Provisioning

The strategic intention of the council is to focus on town centre locations and regeneration of existing area of high-demand

- Re-provision programme which includes demolition of 48 high-rise tower blocks (4000 properties) & low-rise stock
- Redevelopment of building of special historical or architectural interest
- Development of former industrial brownfield sites



# New Supply Programme

## High-Rise Flats, Holehills



Original buildings constructed between 1964-1969



Re-roofing & Re-Cladding 1993





# New Supply Programme

## Demolition Phase

- Contract Vale: £755k
- Contract Duration: 65 Weeks
- Programme: January 2020 to April 2021
- Procurement Route: Scotland Excel Framework
- Contract: SBCC Minor Works 2016
- Contractor: Central Demolition Ltd

<https://vimeo.com/564562579/96ac57d96c>



# New Supply Programme

## The Proposed Development

- Contract Vale: Circa £30m
- Programme: June 2021 to February 2024
- Procurement Route: Scotland Excel New Build
- Contract: Design & Build
- Contractor: CCG Scotland Ltd

### Employers Requirements

131 homes to Silver Level of sustainability, achieving a minimum of EPC rating of 86. 19 homes to Enhanced (Net Zero Carbon Standard).

Housing for Varying Needs, Secured by Design, Designing Streets and Dementia Design compliant.



Existing Site



Cleared Site – 5.4ha





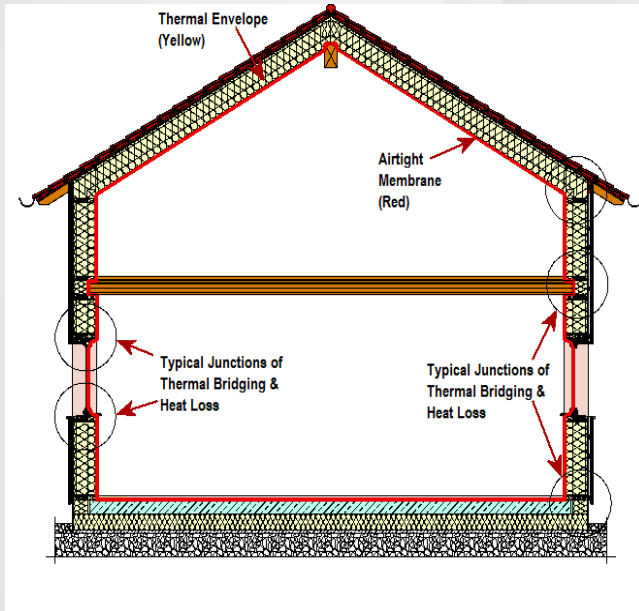
# North Lanarkshire – Future Proofing

## Net-Zero Homes & Renewables – Renewable Options



‘Tackling climate change & fuel poverty’

<https://www.youtube.com/watch?v=a0GxkQoFtIE>



Enhanced insulation standard including 63mm IWI, 450mm mineral wool loft insulation and insulated pre-cast floor



4kw Solar Panels



EV Charging Points



13.5kw Powerwall



Mitsubishi Ecodan PUF & hot water cylinders



Triple Glazing  
0.9W/m<sup>2</sup>k



**IRE  
ICIL**  
A TUATH



**LIVE  
LEARN  
WORK  
INVEST  
VISIT**

**Questions?**

# Lunch & Exhibition