

# Barnsley Town Centre

URBAN DESIGN  
LOW CARBON  
POST COVID  
STRATEGY

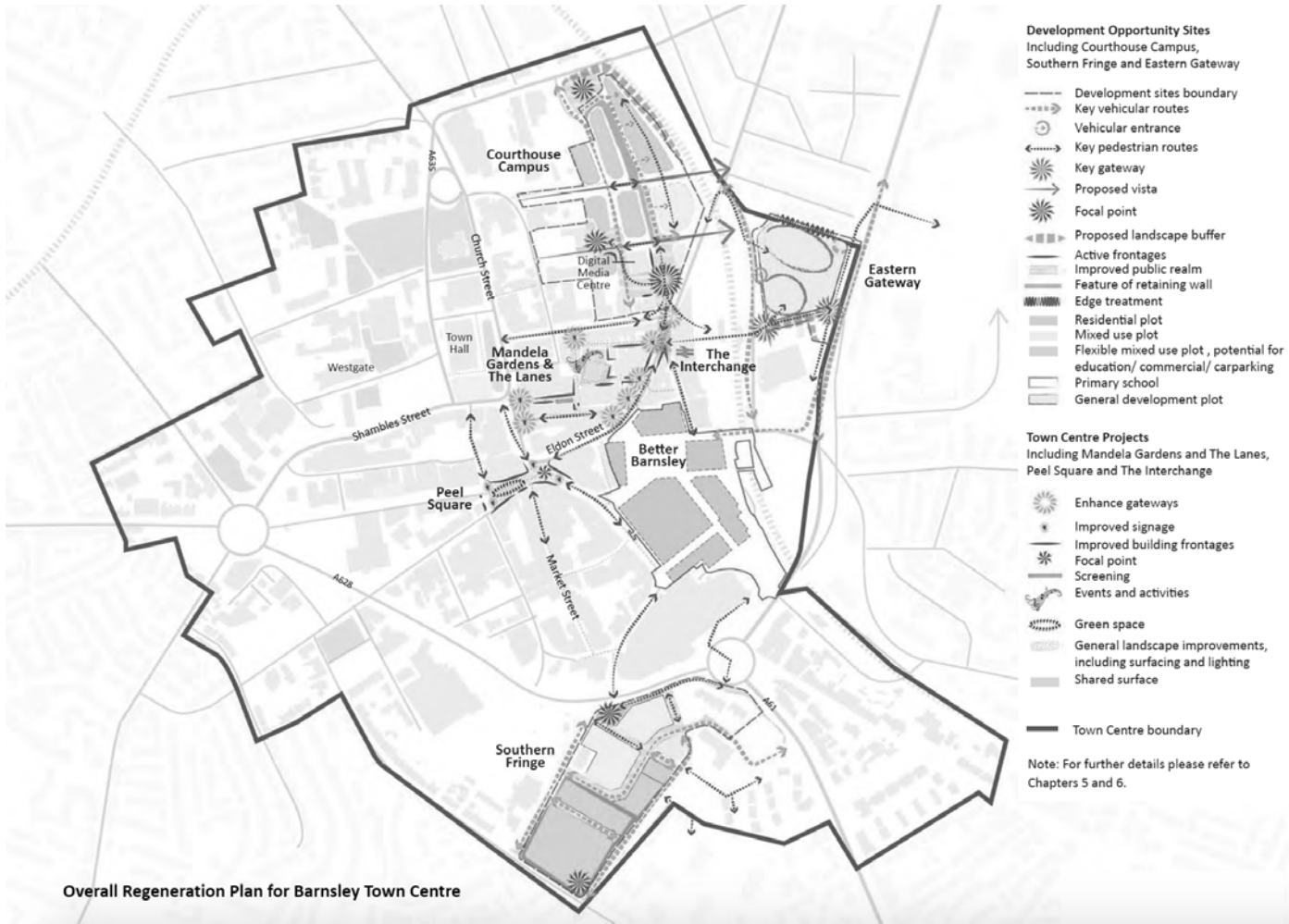


# **Baseline Findings**

## Urban Design

# Progress Against Previous Strategy

## ARUP Regeneration Plan

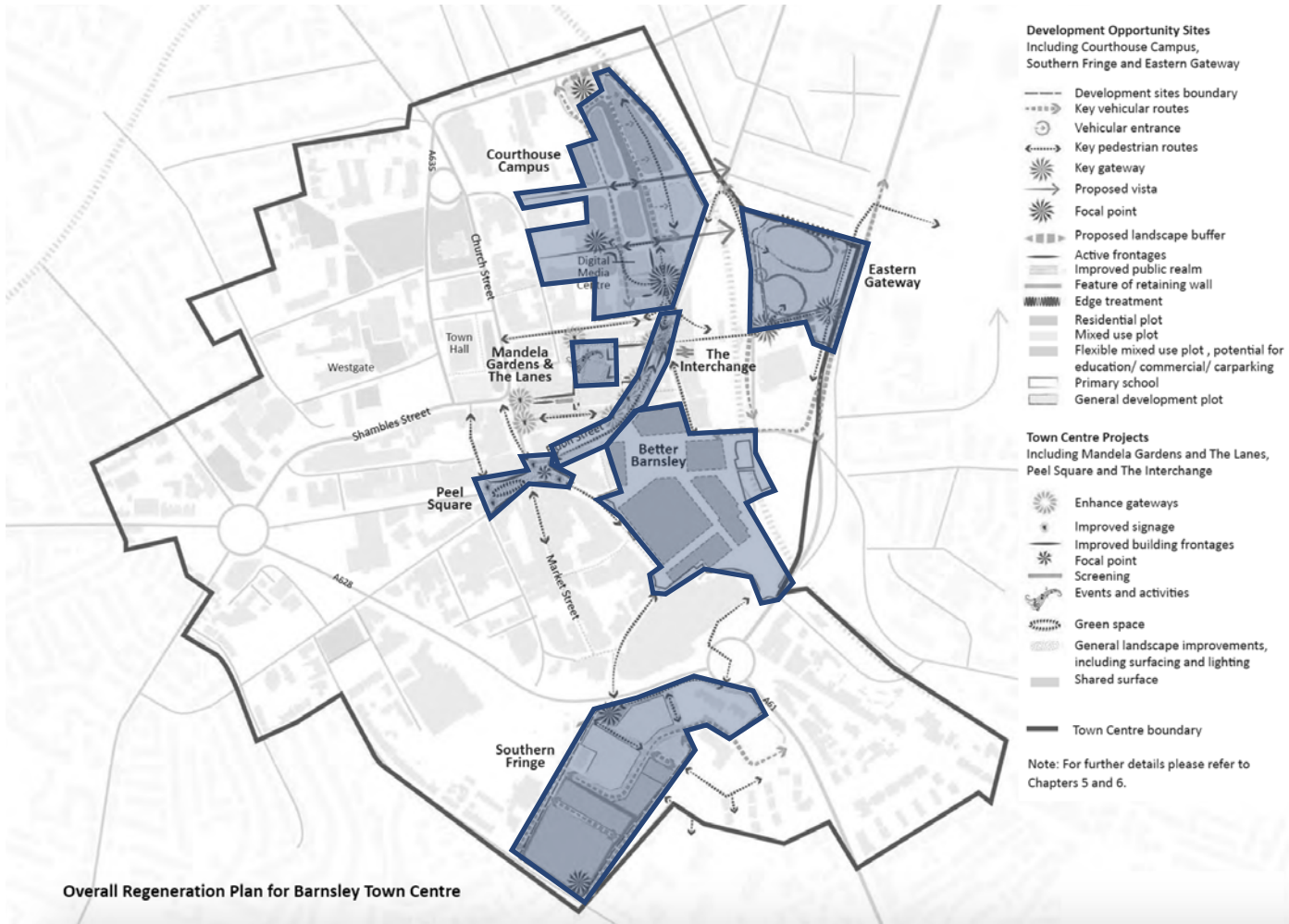


Overall Regeneration Plan for Barnsley Town Centre

# Progress Against Previous Strategy

## ARUP Regeneration Plan

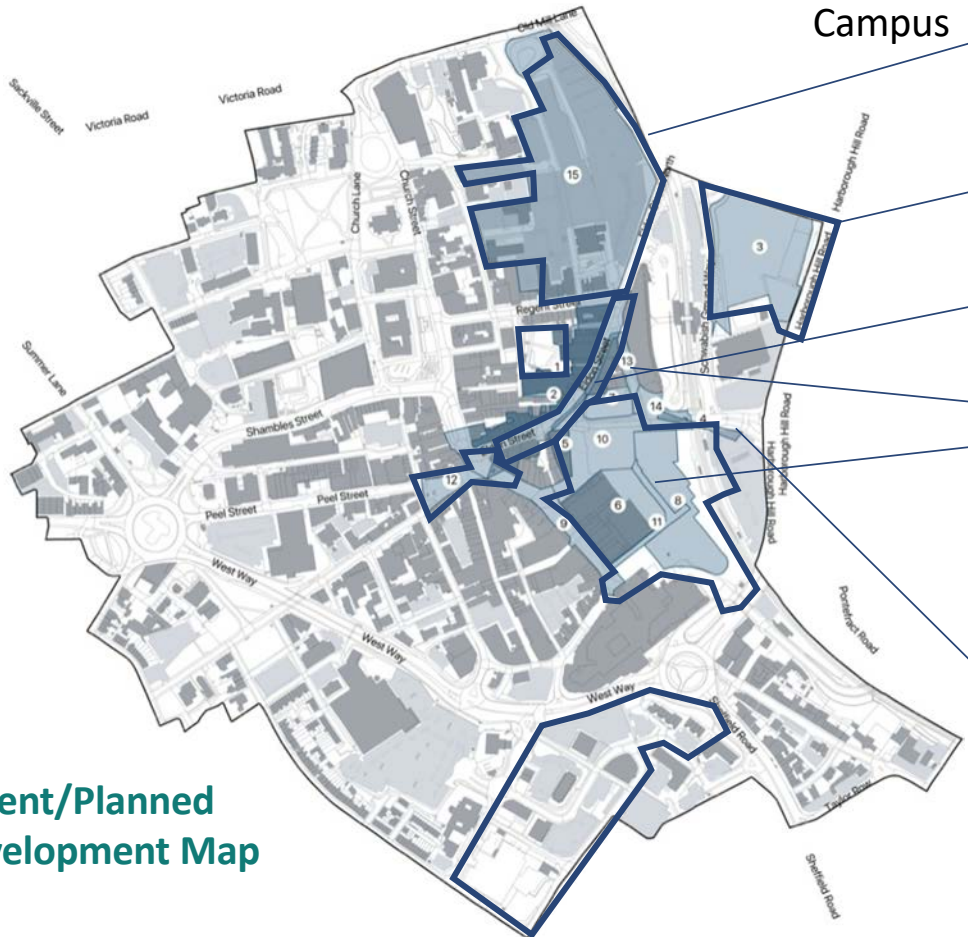
### Key Areas



Overall Regeneration Plan for Barnsley Town Centre

# Progress Against Previous Strategy

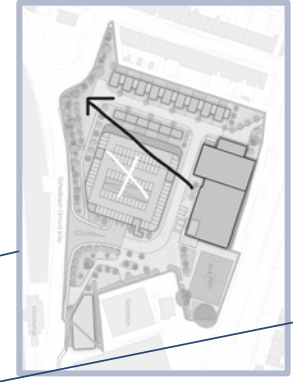
## The Seam Digital Campus



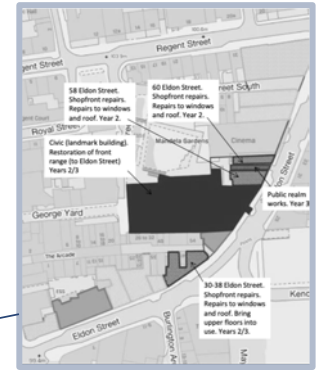
Recent/Planned Development Map



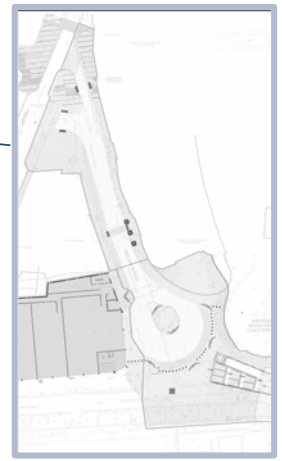
Eastern Gateway



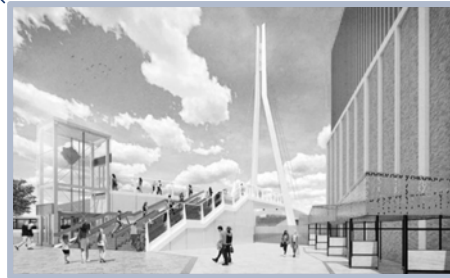
Eldon St



Glassworks



Midland Street

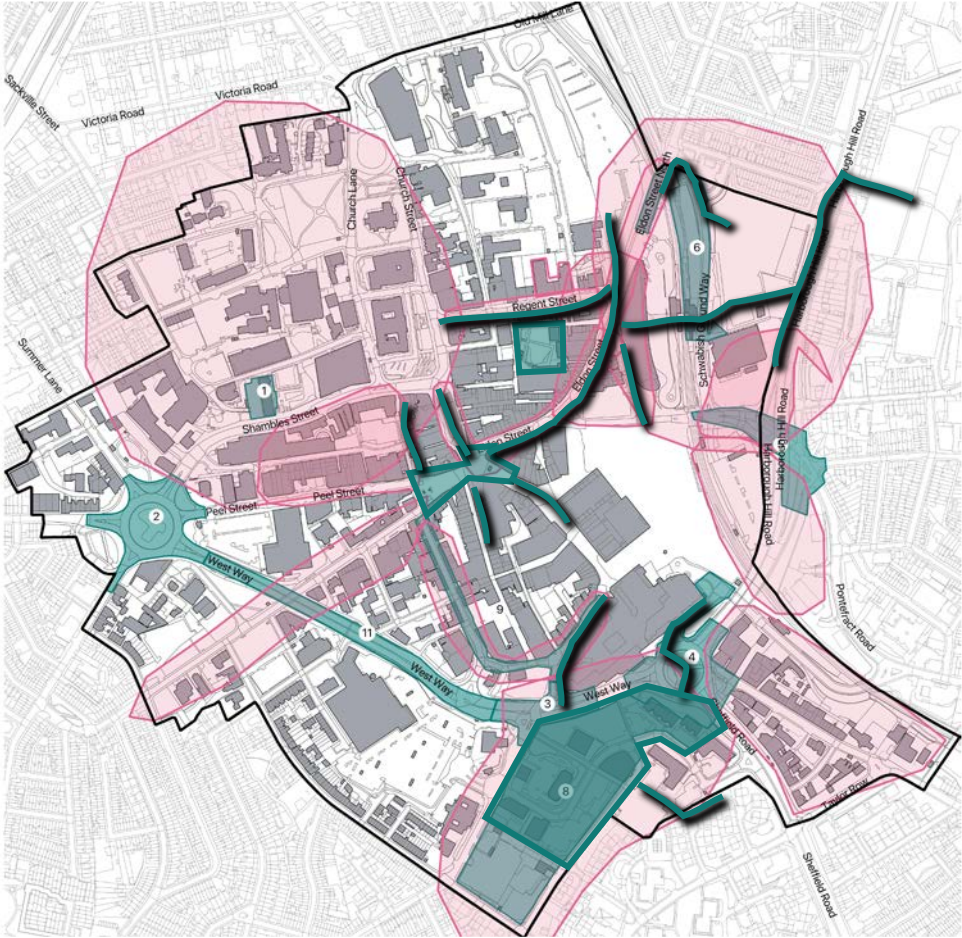


Market Gate Bridge





# Previously Suggested Opportunity Areas



**Outstanding ARUP Sites**  
+  
**Missing Connections**  
+  
**Opportunity sites identified in previous work**  
  
= what we're working with.



# Population – Headline Findings - Revisited

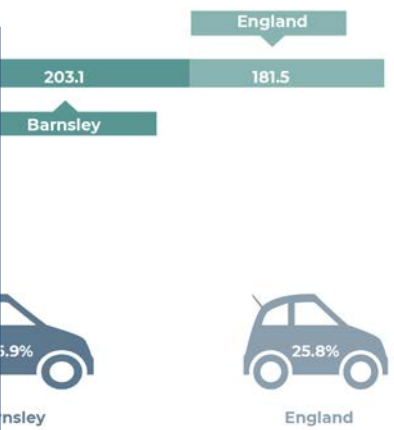
Overall Population

12,290

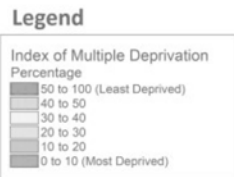
Up 9.6% since 2011



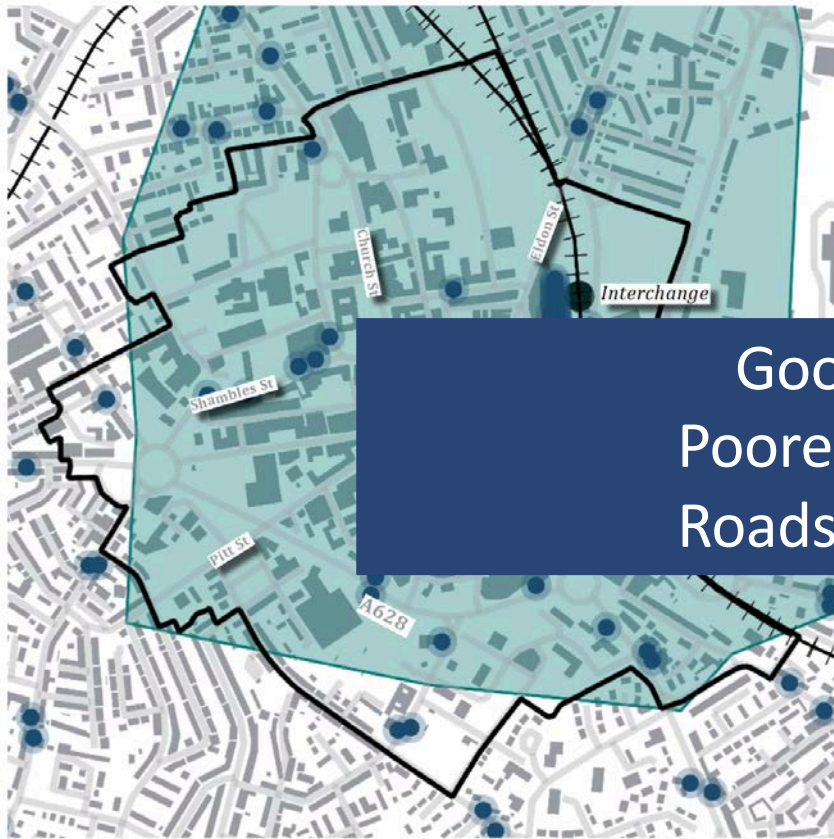
Population increasing  
 Higher % working age pop  
 Higher deprivation/preventable mortality  
 Lower home ownership  
 Lower private vehicle ownership



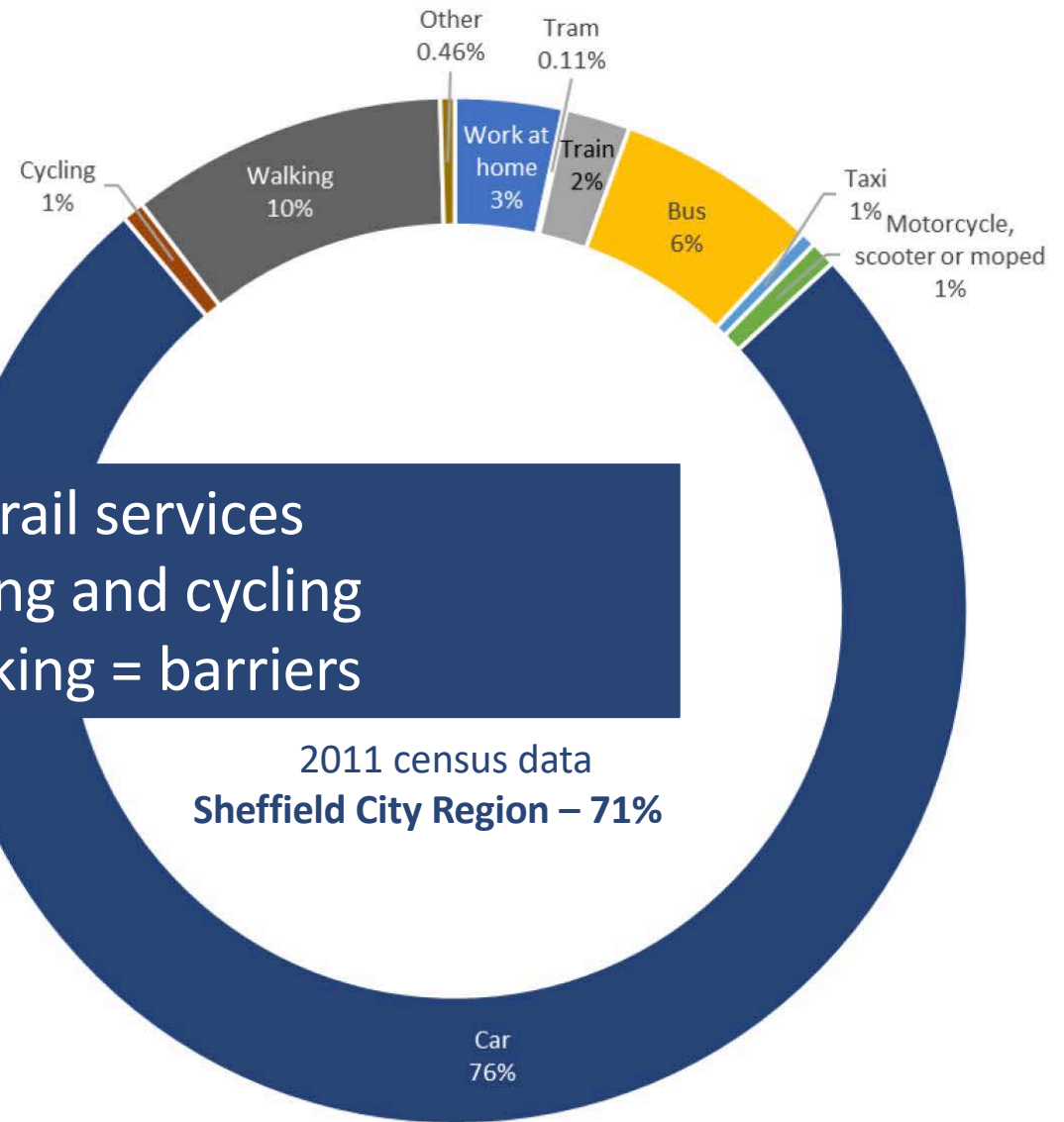
Index of Multiple Deprivation 2015  
 Central Ward LSOAs  
 Relative to England  
 (DCLG, 2015)



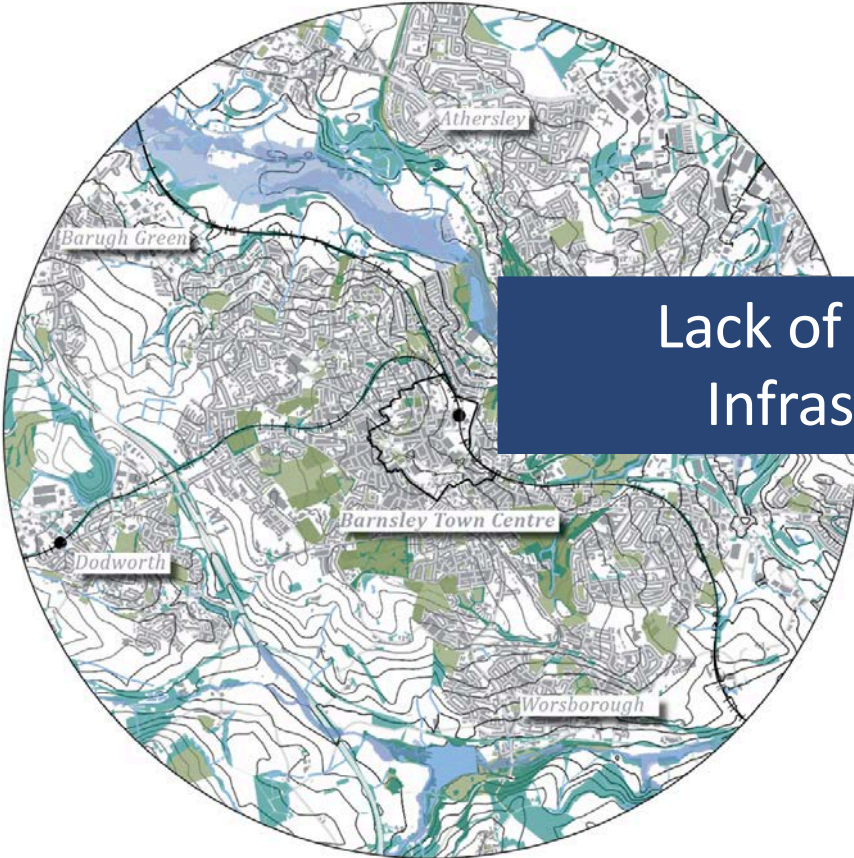
## Transport – Headline Findings - Revisited



Good bus/rail services  
 Poorer walking and cycling  
 Roads + parking = barriers



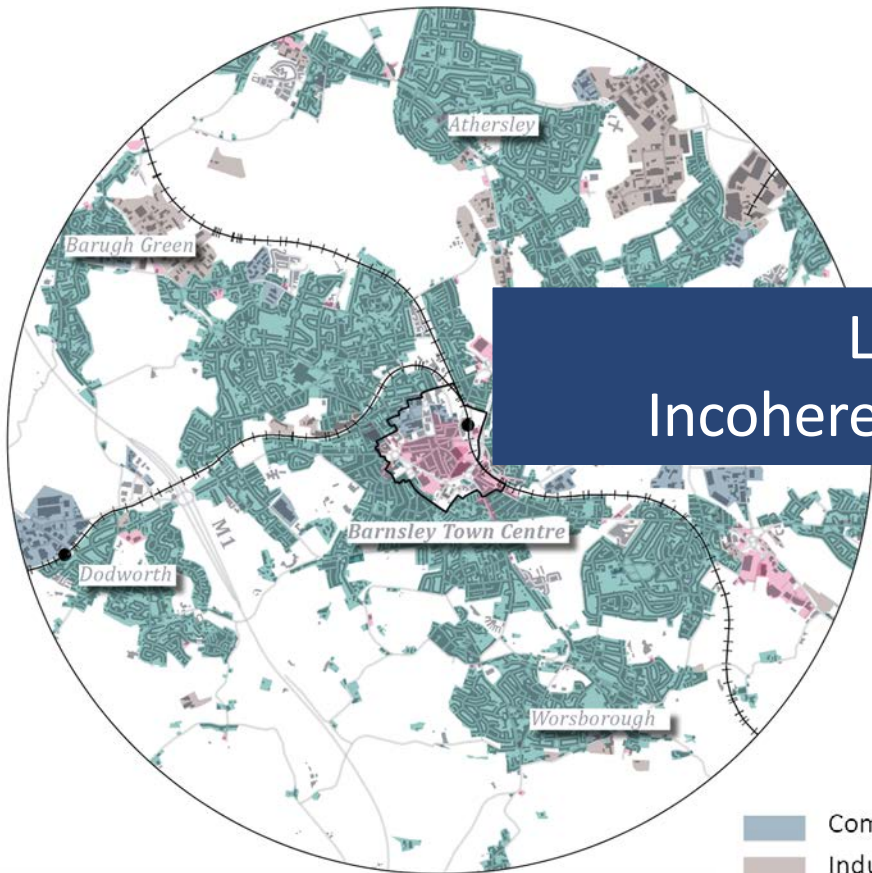
# Greenspace – Headline Findings - Revisited



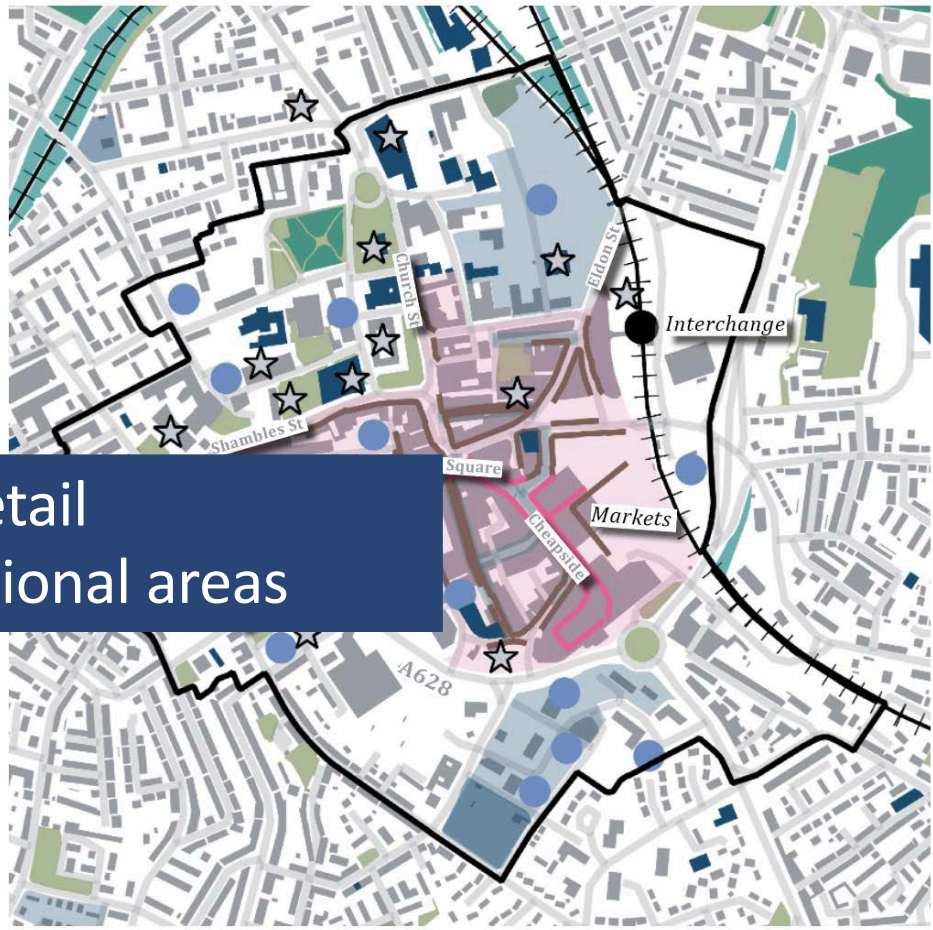
Lack of Green Space/Green Infrastructure in Centre



# Landuse – Headline Findings - Revisited



Lots of retail  
Incoherent functional areas



- Commercial
- Industrial
- Residential
- Retail

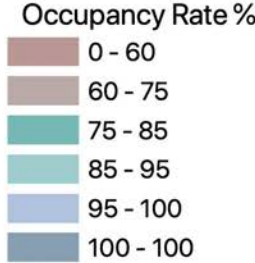
- Main Shopping Area
- Primary Shopping Frontage
- Secondary Shopping Frontage
- Community Asset
- Landmark Building

- Greenspace
- Brownfield Land
- Car Park

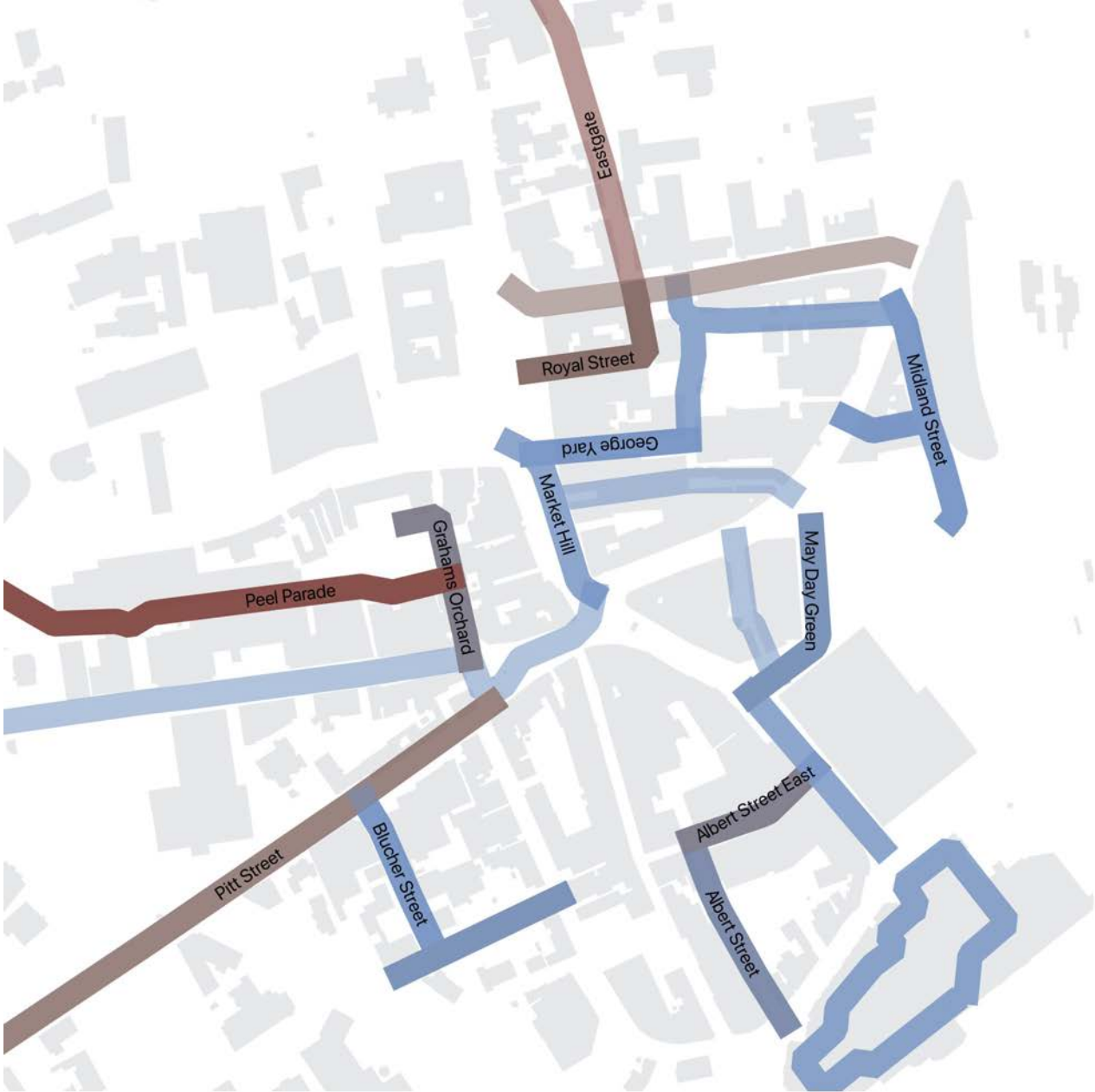
# Vacancy Rates by Street and Year



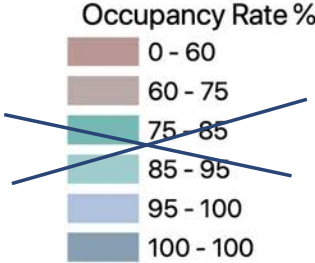
Oct 18 -  
Oct 20



# Vacancy Rates by Street and Year



Oct 18 -  
Oct 20



# Baseline Findings

Economic

## Update to local economic data - contents

20 page report covering the following:

- Update to key economic data
  - structure of employment
  - economic participation
  - spending power
- Covid impact on population
- Covid impact on retail and leisure
- Covid impact on the office market
- Indicators of Covid recovery
- Temporary versus structural changes
- Implications for the town centre plan

Work still required:

- Consultation with agents
- Combine emerging data and intelligence



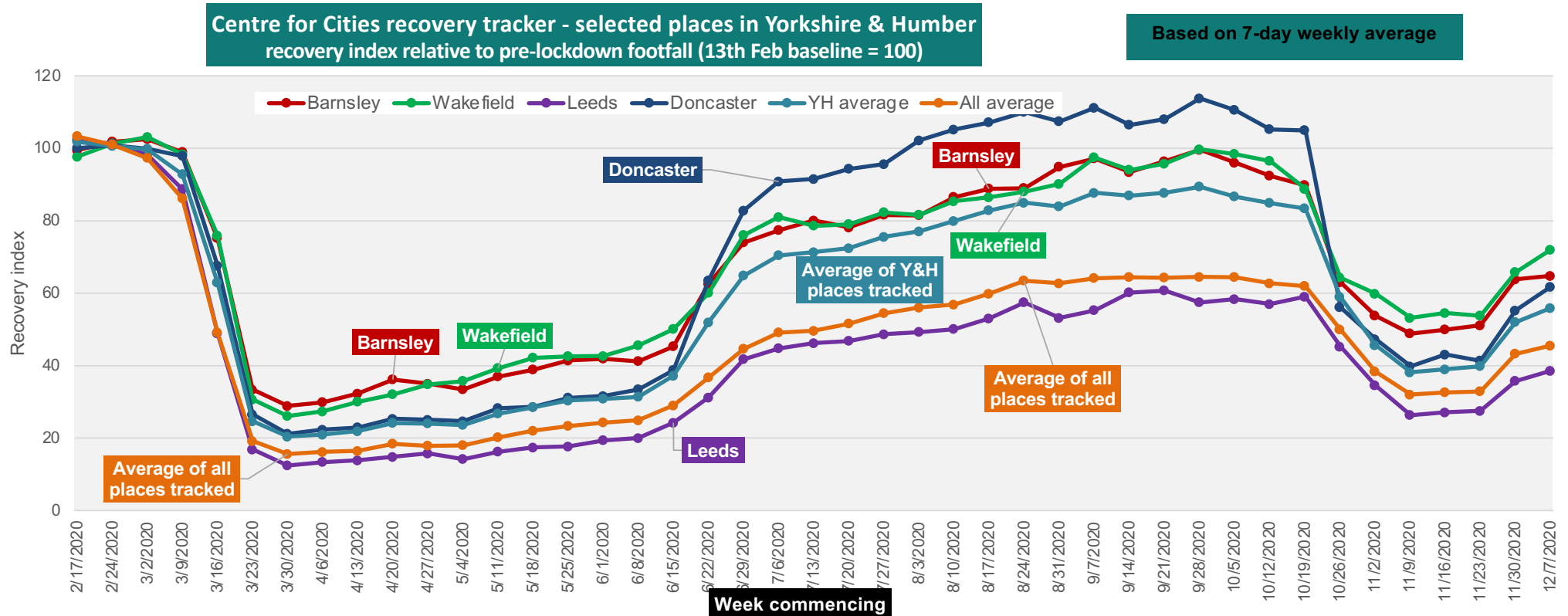
## Covid impact – during lock down

- Claimant count doubled, but remains below national increase
- Impact most acutely felt in manufacturing sector (Covid and Brexit combined)
- Lockdowns affected town centre, but less than other towns and cities
- Restriction on non essential retail an obvious impact, but also:
  - Reduced officer workers
  - Reduced food and beverage supply chains
  - No football
- Extent of impact on retail will not be known until we come out of lockdown (staff still on furlough, redundancies expected)
- Office market depressed, and expected to remain depressed

## Covid impact – recovery (short term)

- Based on recovery from first lock down, we would anticipate a strong short-term retail recovery relative to wider UK. Driven by:
  - Lower than average out of town visitors
  - No reliance on cultural anchors which will likely remain closed
  - No reliance on student population which may not return as quickly in other towns
  - Low exposure to national chain closures

# Covid recovery – reasons for optimism



## Structural changes to the economy – longer term

Nobody quite knows the full long-term impact on the high-street

Major chain retailer no longer trading

Lots of different sources, but all expect on-line retail to stay

Centre for retail research

Year	Food sales	Non-food sales	On-line sales	Online share of retail
2019	2.40%	1.30%	10.70%	19.10%
2020	5.40%	-12.40%	30.20%	29.80%
2021	-1.60%	15.10%	-9.10%	27.10%

KPMG expects high-street retail space to fall by 20% - 40%

## Structural changes to the economy – longer term

Mitigation	Cause for concern
Lower reliance on office market	No strong cultural anchor
Local economy less exposed to home working impact	Increase in floorspace when demand will contract
Improved quality of retail offering 'may' mitigate fall in demand	
Increased footfall driven by cinema and Glass Works attractions	

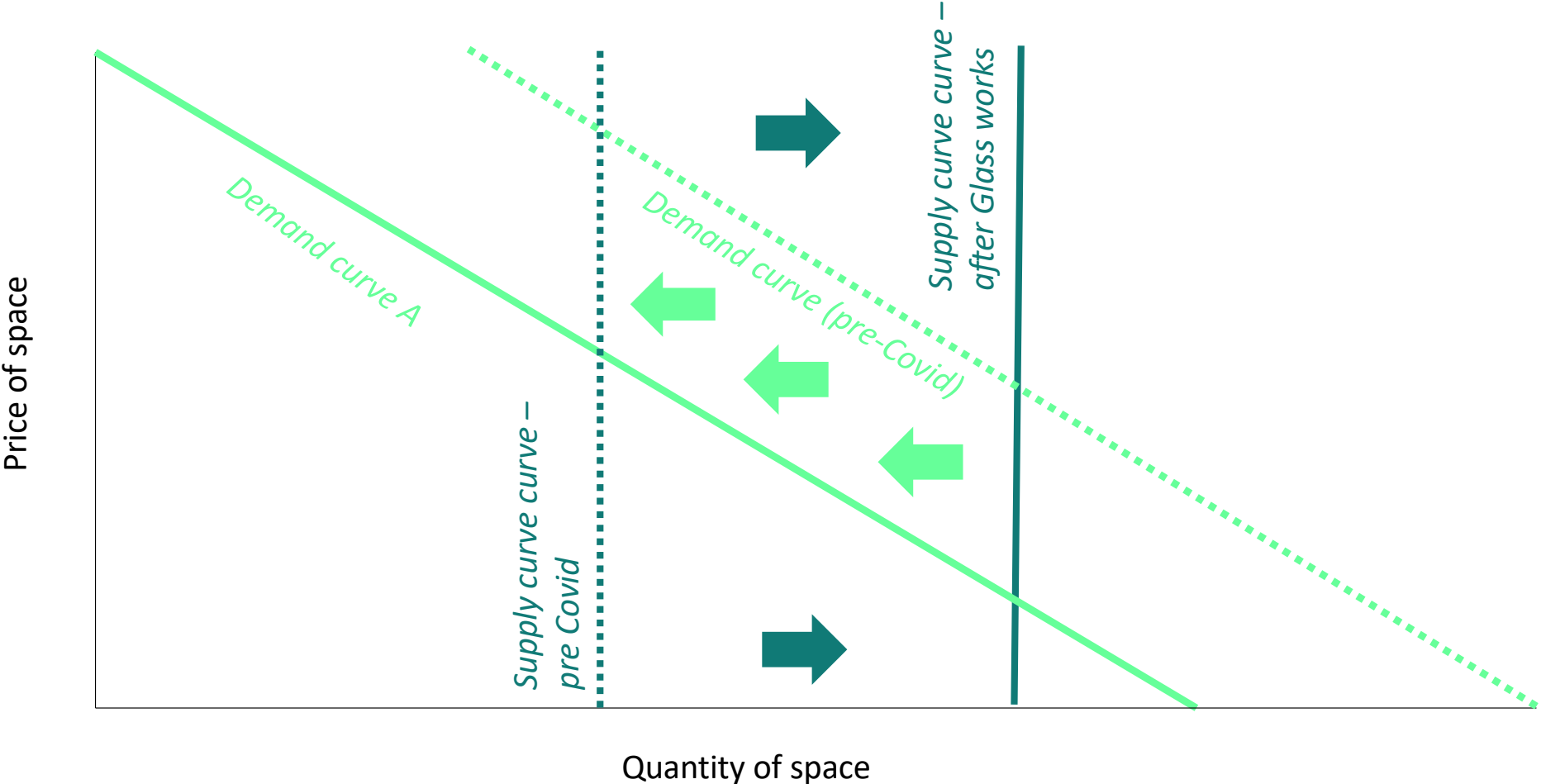
## Context for Barnsley

- Experian data tells us 2020 floorspace in Barnsley of 1.24 m sqft
- Contraction from 1.50m sqm in 2012
  - Health occupancy

- Glass Works adds 0.27 m sqft
- Taking totals close too 2012 levels
- 26 out of 39 units yet to be let in Glass works

- Predictions of 20% - 40% contraction in high-street space
- Could leave Barnsley with 0.25 m - 0.50 m sqft of surplus space
- In context, all of Cheapside and Alhambra is 0.27 m sqft of retail space

# Frame interventions on supply and demand curve



# Baseline Findings

## Low Carbon



## LEDA Refined Baseline Analysis

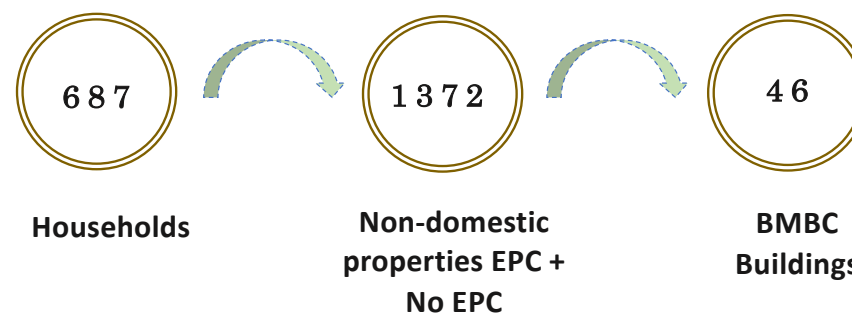
### New Baseline –Key Findings

A new baseline to more accurately account for the number and type of properties within the TC using several different energy data sets including EPC records to analyse each of the main sectors.

- **Domestic sector** – EPC records for the town centre provided by BMBC (checked with open source EPCs)
- **Non-Domestic sector-**
  - Open source EPC records
  - Non-EPC data (Records of business rates) used to predict energy use
- **BMBC Public buildings-** Heat and Gas energy consumption data sets (council sets)

## Baseline Carbon emissions for the TC

Building sector	Gas consumption (GWh)	Electricity consumption (GWh)	Gas emissions (Kt CO <sub>2</sub> /yr)	Electricity emissions (Kt CO <sub>2</sub> /yr)	Sub-Total emissions (Kt CO <sub>2</sub> /yr )
Domestic	2.8	5.7	0.6	1.6	<b>2.2</b>
Non-Domestic (EPC)	38.7	79	7.9	22.4	<b>30.3</b>
Non Domestic (No EPC)	29.9	22.6	6.1	6.4	<b>12.5</b>
BMBC Buildings	9.1	5.7	1.9	1.6	<b>3.5</b>
<b>Sub-Totals</b>	<b>80.5</b>	<b>113</b>	<b>16.5</b>	<b>32</b>	<b>48.4</b>

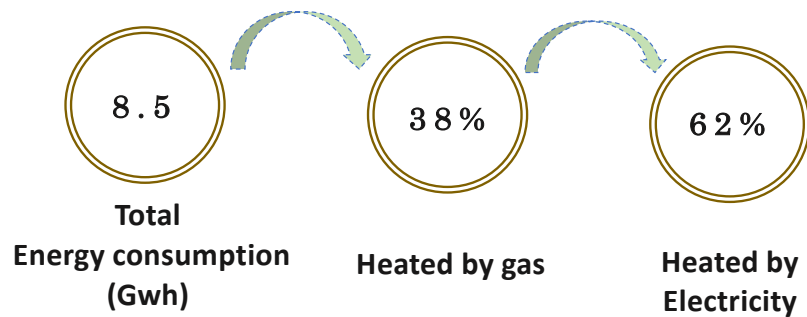


## LEDA Refined Baseline Analysis

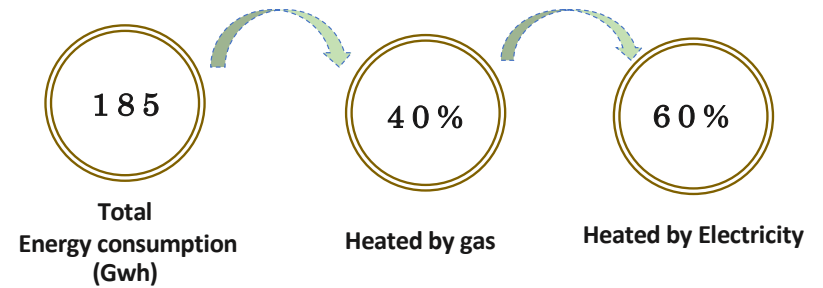
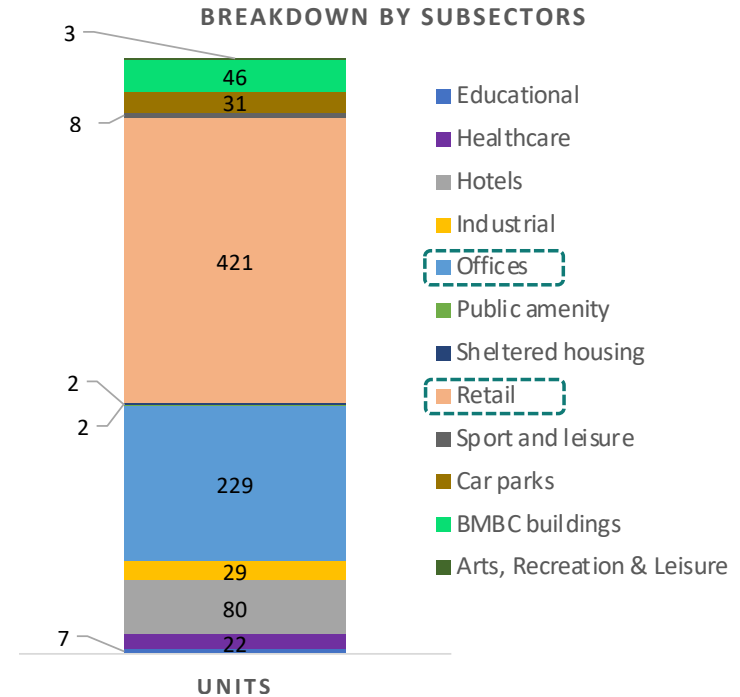
### Domestic sector–Key Findings

EPC data extracted based on postcodes in the Town Centre

- 11,174 kWh – Avg. gas per household
- 6,320 kWh – Avg. electricity per household



### Non-Domestic sector–Key Findings



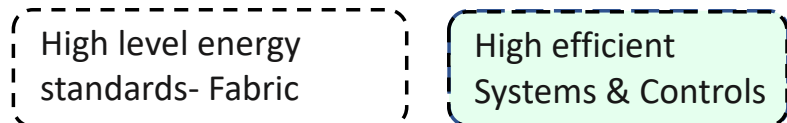
## LEDA Baseline Analysis – Key Findings

### Zero Carbon Programme

Projection Periods	2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045
% of CO <sub>2</sub> Reduction	0	20	30	30	15	5
Net GHG Emissions	<b>48.4</b>	38.7	24.2	9.68	7.26	Zero

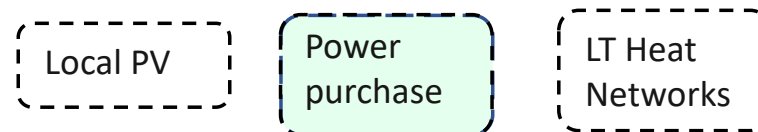
### Pathways to meet Targets - Reduce demand

- **Removal of energy demand**
- *By changing the building uses or removing buildings altogether.*
- **Reduce demand of existing and new buildings**



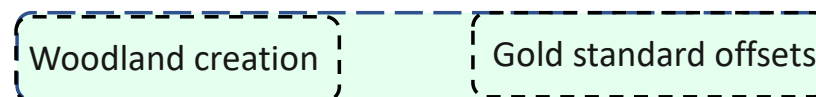
### Pathways to meet Targets – Increase renewable supply and offset residual

- **Decarbonize energy supply**



- *A Corporate Power Purchase Agreement (CPPA) - a long-term contract where a business agrees to buy electricity directly from a renewable energy generator - may be a significant part of organisations strategy to meet decarbonisation targets.*

- **Offset residual emissions**



- Choose robust and persistent offsets for residual emissions.

Note 2-Based on BEIS Gas statistics. Includes big energy users.

## LEDA Baseline Analysis – Headline Findings

### Achieving Carbon Neutrality

To meet with the upgraded *Zero carbon programme* and its 5 year' plan reduction targets, aligned main Key Action plans have been applied to:

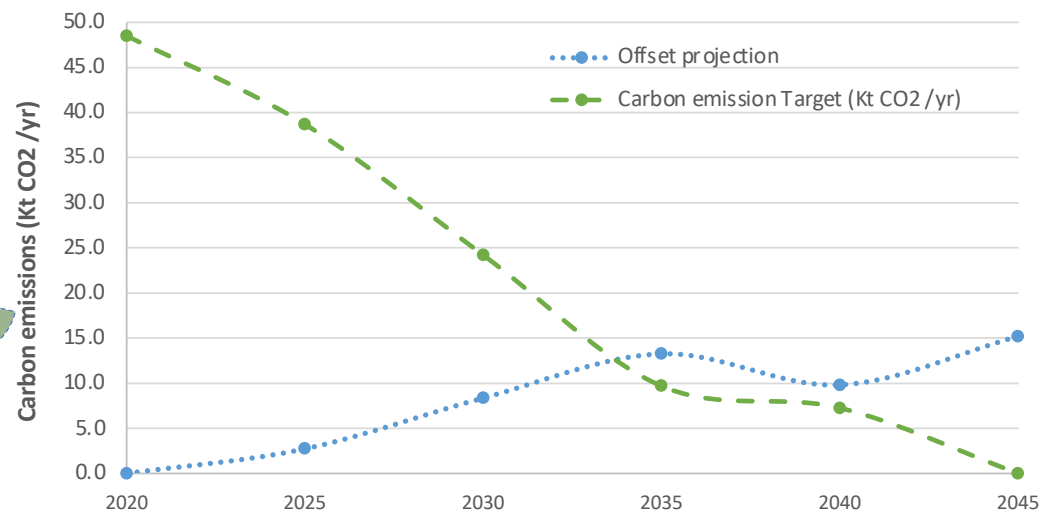
- Analyse the impact on energy use
- Reflect carbon emission reductions
- Evaluate first key findings & prioritize strategies

Emissions to Zero Carbon (kte CO <sub>2</sub> /yr.)	2020	2025	2030	2035	2040	2045
Domestic Gas	0.6	0.56	0.54	0.53	0.53	0.52
Domestic Electricity	1.6	1.46	1.18	0.79	0.56	0.46
Non-domestic gas	15.9	14	11.14	7.51	5.6	4.94
Non-domestic Electricity	30.4	25.4	19.71	14.11	10.39	9.28
<b>Total (kte CO<sub>2</sub> /yr.)</b>	<b>48.5</b>	<b>41.4</b>	<b>32.6</b>	<b>22.9</b>	<b>17.1</b>	<b>15.2</b>
<b>Cumulative Offset projection</b>	<b>0.0</b>	<b>2.7</b>	<b>8.4</b>	<b>13.3</b>	<b>9.8</b>	<b>15.2</b>
<b>Carbon emission Target (kte CO<sub>2</sub> /yr.)</b>	<b>48.5</b>	<b>38.7</b>	<b>24.2</b>	<b>9.7</b>	<b>7.3</b>	<b>0.0</b>

Table 1. Carbon emission reductions

### Key findings to meet targets

- ✓ Prioritize retrofits from high energy use buildings (**Bands G-D**)
- ✓ Masterplan **demand removals** to offload cumulative emissions
- ✓ **Monitor** carbon savings to plan future areas of intervention
- ✓ Consider a **Power Purchase Agreement (CPPA)** strategy
- ✓ **Focus on Offsetting** residual emissions by the end of each period



Graph 1. Carbon emission targets and offset projections

# LEDA Baseline Analysis – Headline Findings

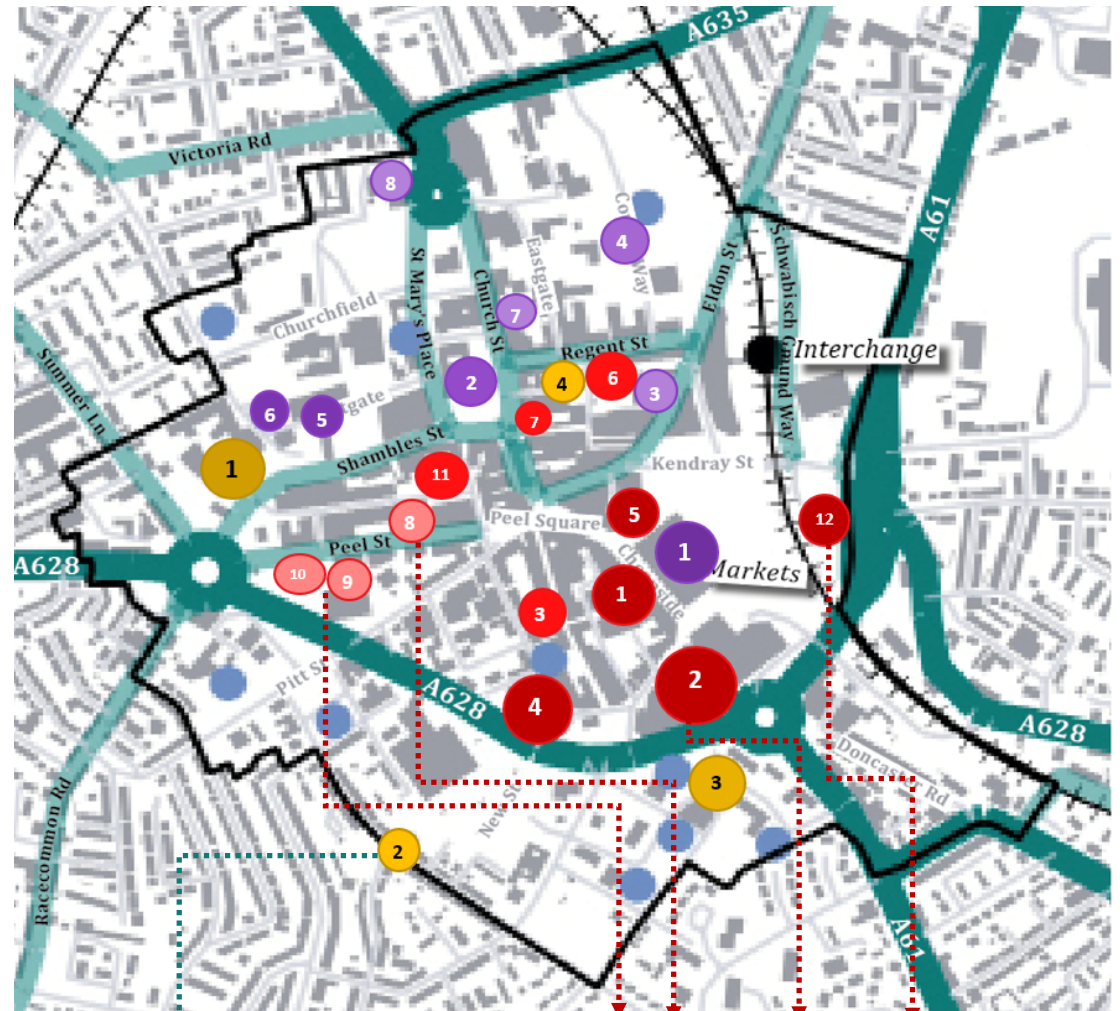
Moving towards to Heat Maps- Data analysis + Visualization

- Identify high energy consumers and areas with high carbon emissions density
- Visualize Areas of intervention
- Prioritize strategies
- Visualize current and future scenarios

Indicative number	Domestic Buildings -Main consumers	Postcode	Sub-Total emissions Gas& Electricity (Kt CO <sub>2</sub> /year)
1	PLAZA QUARTER	S70 2RF, 2RH, 2RP, 2RQ	0.57
2	PRINCESS STREET	S70 1PJ, 1PF	0.25
3	SKYLINE FLATS	S70 1DL, 1LW	0.28
4	REGENT HOUSE	S70 2AT	0.13

Indicative number	Postcode Non-Domestic EPC	Sub-Total emissions Gas& Electricity (Kt CO <sub>2</sub> /year)	Indicative number	Postcode Non-Domestic EPC	Sub-Total emissions Gas& Electricity (Kt CO <sub>2</sub> /year)
1	S70 1RR	2.01	7	S70 2AB	1.22
2	S70 1SB	2.48	8	S70 2RA	0.73
3	S70 1SL	1.16	9	S70 2RE	0.87
4	S70 1SW	2.31	10	S70 2RL	0.78
5	S70 1SX	1.39	11	S70 2SW	0.99
6	S70 2EG	0.78	12	S70 1AY	0.97

Indicative number	Buildings -Main consumers	Postcode BMBC Buildings	Sub-Total emissions Gas& Electricity (Kt CO <sub>2</sub> /year)
1	Markets-part of Glassworks	S70 1GW	0.76
2	Town Hall	S70 2TA	0.32
3	Civic Hall	S70 2JL	0.08
4	Digital media centre	S70 2JW	0.19
5	Westgate plaza one	S70 2DR	0.37
6	Gatwey plaza, floor 4-9	S70 2RD	0.34
7	Cooper Gallery	S70 2AH	0.04
8	Buckley house- Berneslay homes	S70 HX	0.23



**High energy demand –Domestic EPC**  
Terraced and apartment bloc housing

**High energy demand Non-domestic EPC Buildings –e.g.**  
Gala Club , Alhambra Shopping centre, Peel street, Cheapside street, Shambles street.

# **Baseline Findings**

## Bringing it Together

# Overall Spatial Picture

- High Energy Consumers
- High Vacancy
- Low Vacancy
- Broad Opportunity Areas
- Recent/In Progress Development



## Key Challenges and Opportunities

- High amount of retail space
- Intensified by impact of covid
- Need to reduce carbon esp. high emitters
- Low office provision
- Incoherent TC functions
- Poorer health outcomes/deprivation
- Limited green space in centre
- Need for better walking and cycling links
- Land take of road/car parking

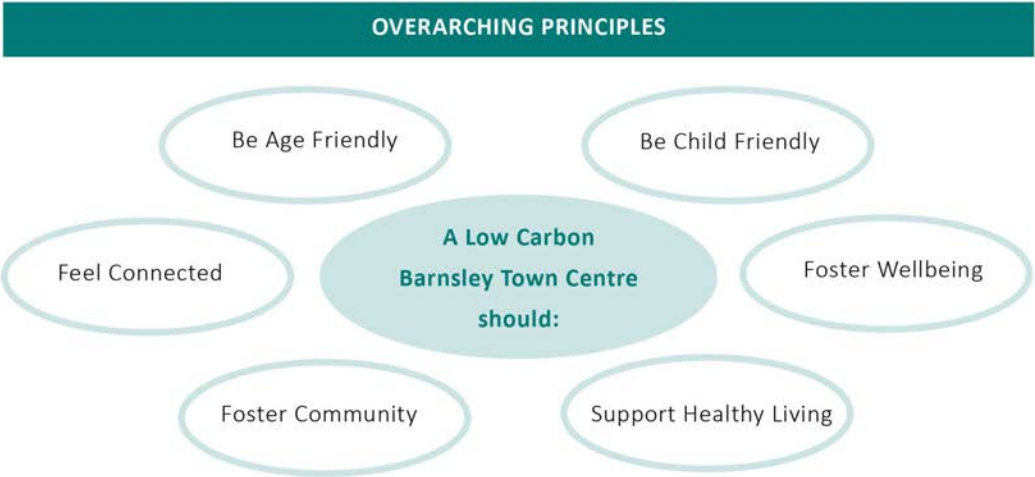
- **Resilient Reduction** – Retail shrinkage, use class flexibility, opportunities for rationalisation and carbon reduction
- **Town Centre Living** - Growing resident population inc older people + links to densified suburbs
- **Future of Work** - Good public transport connectivity/housing affordability/access to surrounding greenspace = attractive for home/co-working
- **Healthy Communities** – better walking and cycling routes, more green space
- **Skilled Workforce** – high % working age pop, digital campus +vocational opportunities/apprenticeship
- **Cultural Attraction** - regionally significant draw to the town centre



## **Stage 2**

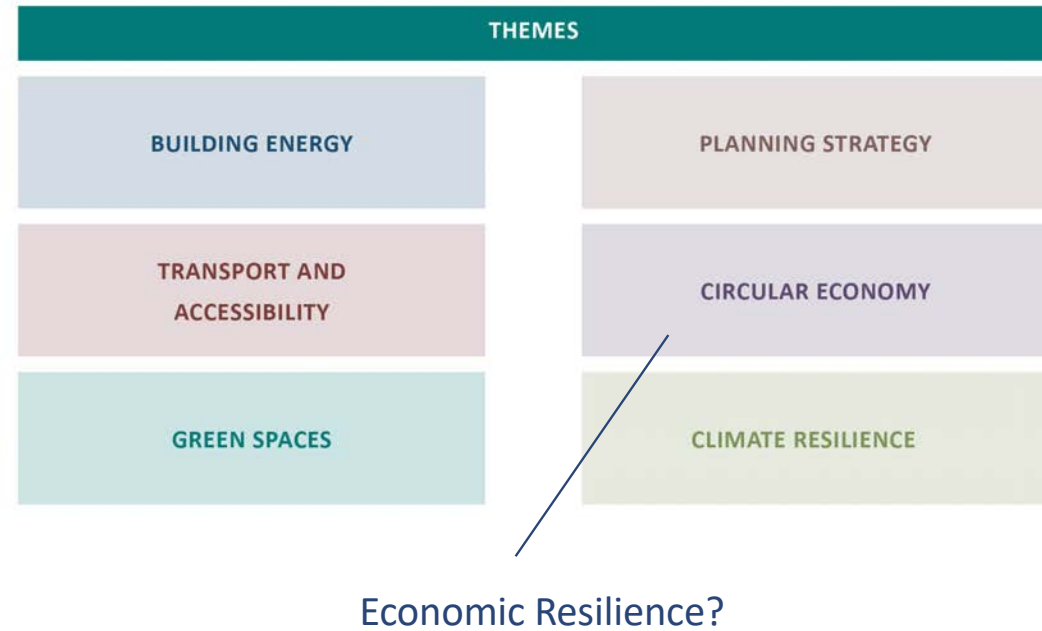
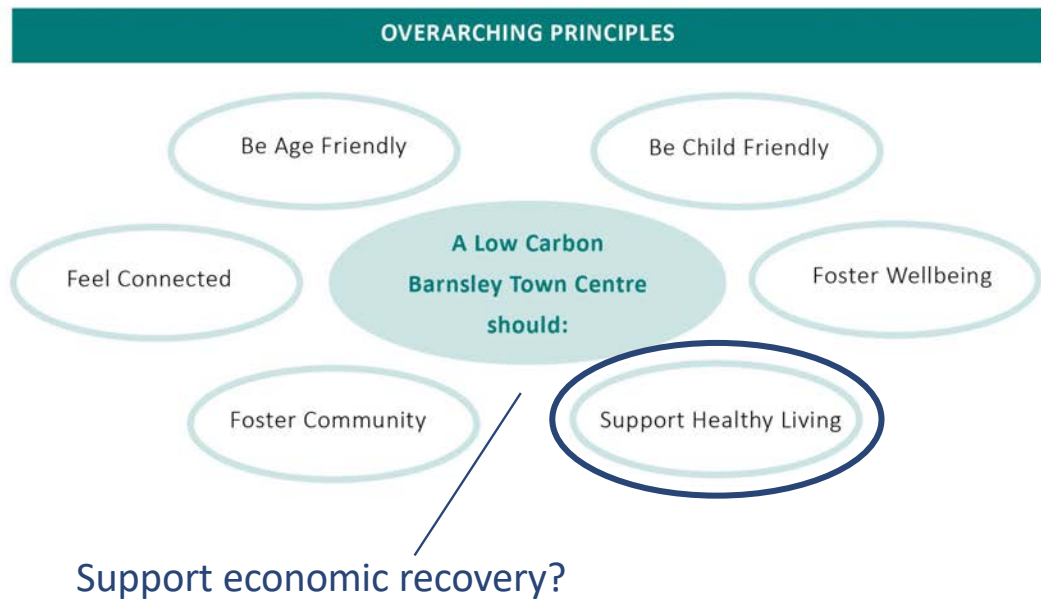
Proposed Approach

# Review Key Principles Post Covid



## Review Key Principles Post Covid

# A sustainable , inclusive recovery?



## Ideas

Increase  
Town Centre  
Housing

Cultural  
attraction

Woodland  
Carbon  
Code

Co-  
working/  
home  
working

Connecting with  
other places to learn  
best practice

Corporate Power  
Purchase  
Agreements

“15  
Minute  
Town”

Green TC –  
Managed  
change of  
use

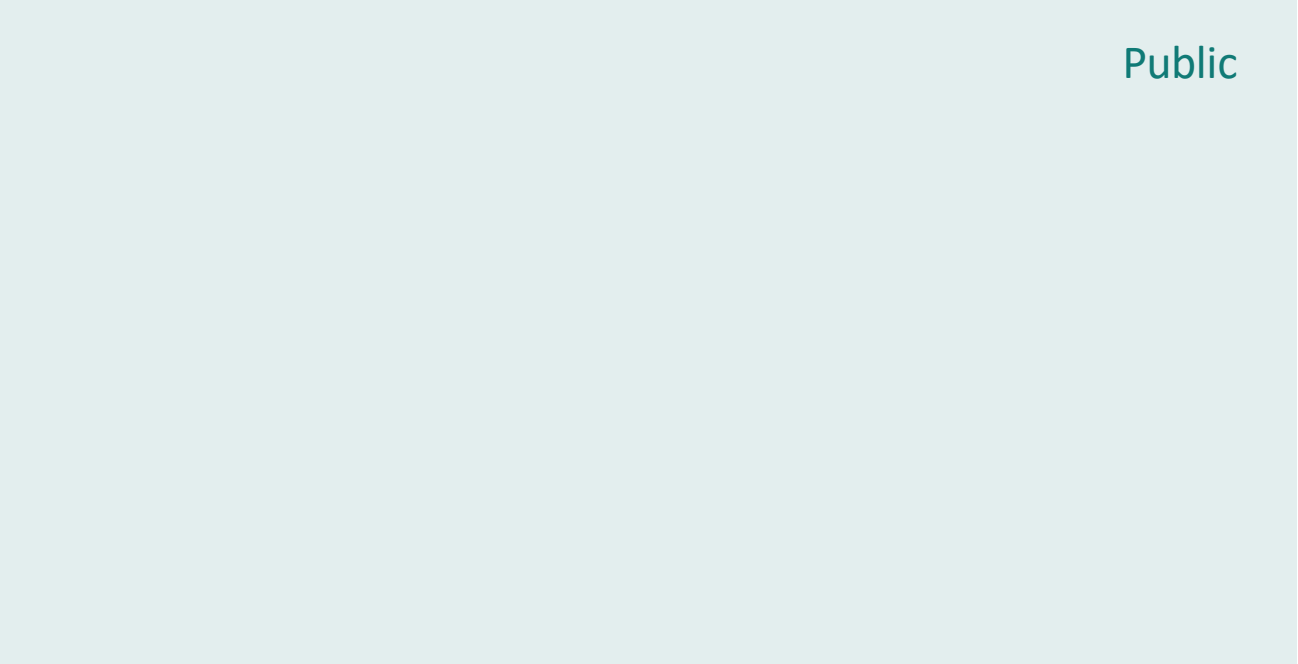
Attract  
sustainable  
businesses

Flexible  
Town  
Centre  
Uses

# Approach to Consultation

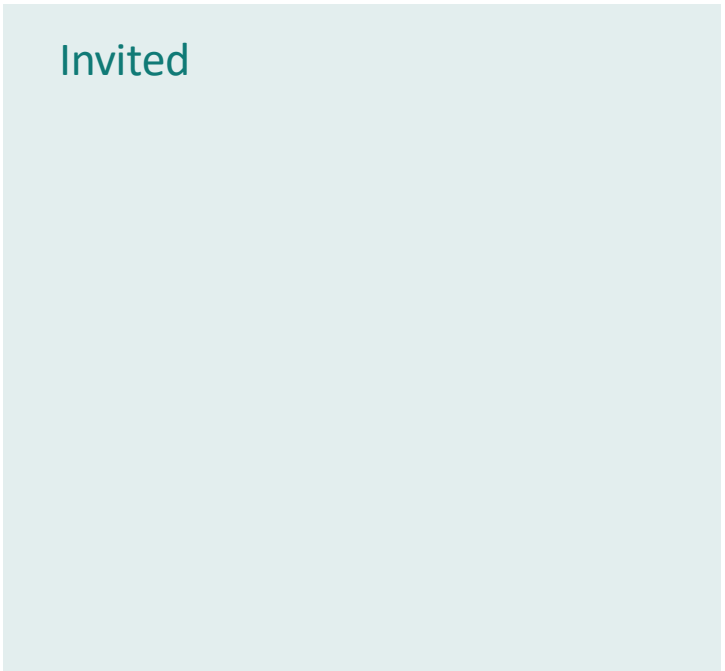
## 1 Consultation: End of Options Stage

Public



+


Invited



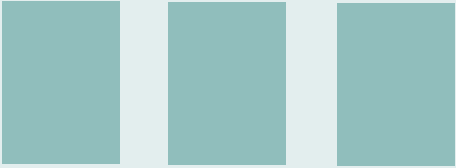
# Approach to Consultation

## 1 Consultation: End of Options Stage

Town centre display

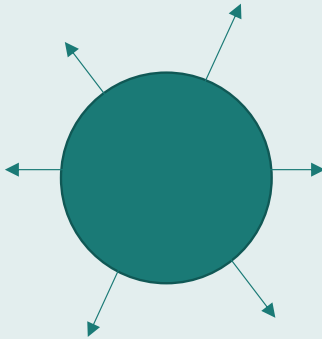


Online



Info Boards – to view digitally and in TC location

Public



1 Online drop-in “broadcast” presentation – available to watch back

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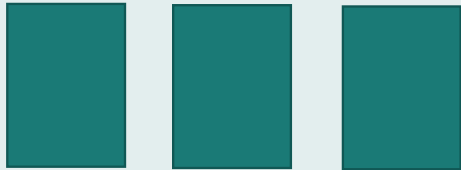
Invited

Responses: Online survey + email/letter

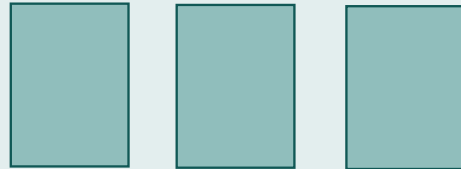
# Approach to Consultation

## 1 Consultation: End of Options Stage

Town centre display

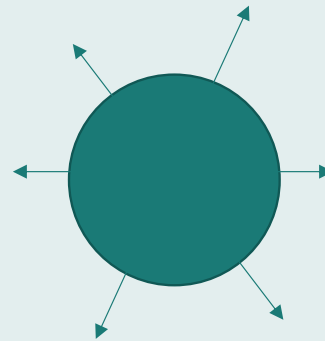


Online



Info Boards – to view digitally and in TC location

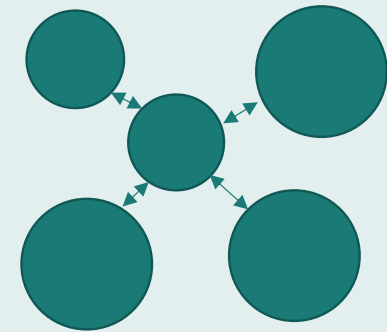
Public



1 Online drop-in “broadcast” presentation – available to watch back

+

Invited



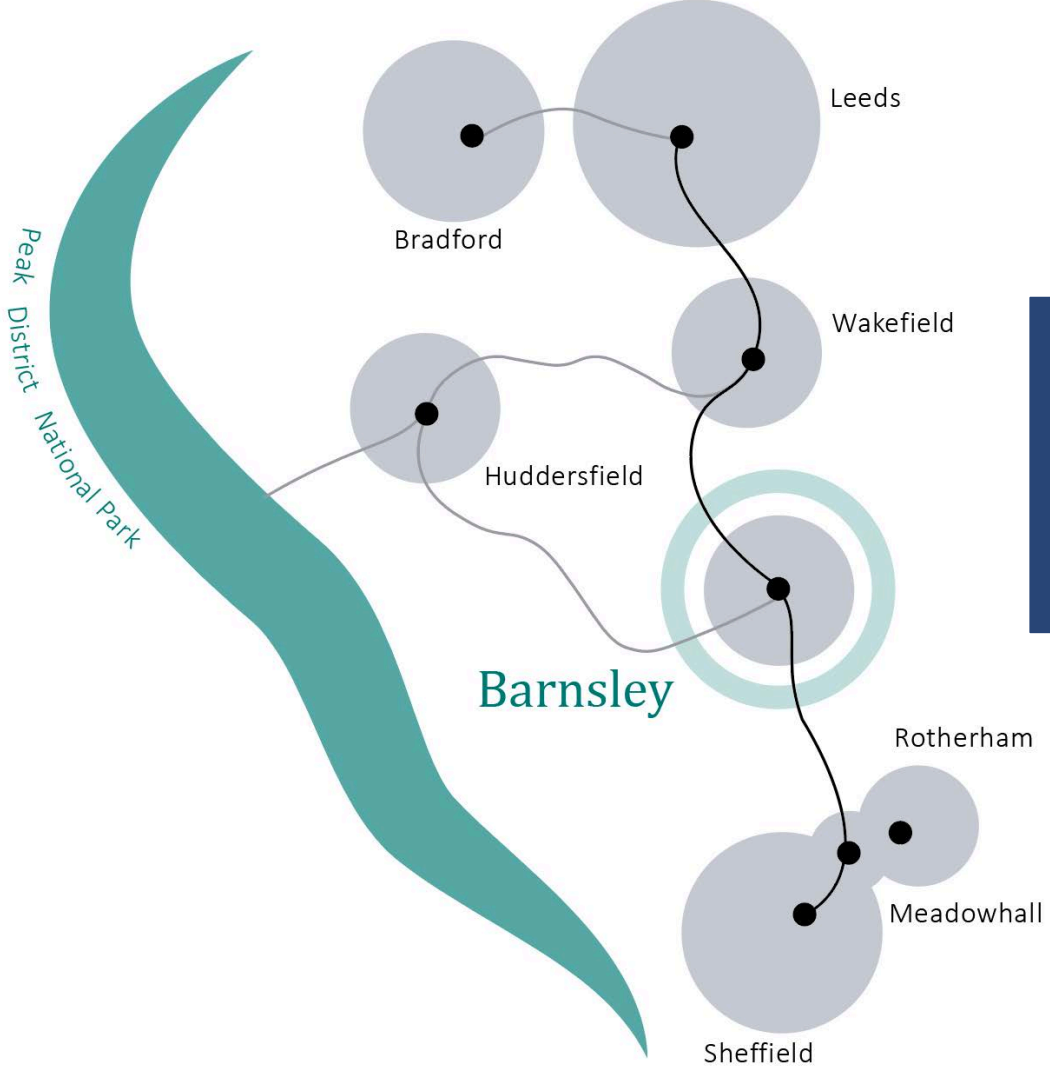
Presentation/discussion with key stakeholder groups

Responses:

Online survey + email/letter

Recorded by facilitator

# Inputs for Economic Blueprint



What does this mean at City Region level?  
Inputs by 19<sup>th</sup> Feb



# Discussion

## Prompts

1. Agree with key findings? Anything we have missed?
2. Response to Challenges and Opportunities – are they right? Anything missing?
3. Response to emerging ideas/thoughts on approach to Stage 2?
4. Big move + “sensible” approach?

# Barnsley Town Centre

SUPPORTING  
INFORMATION



## Corporate Power Purchase Agreements (CPPA)

For many of the organisations that operate premises within Barnsley Town Centre, a Corporate Power Purchase Agreement (CPPA) may be a significant part of their strategy to demonstrate compliance with their corporate social responsibility strategy and carbon targets.

A CPPA is a long-term contract where a business agrees to buy electricity directly from a renewable energy generator rather than the traditional approach of simply buying electricity from licensed electricity suppliers.

As the UK moves towards decarbonisation, there is a constant need to build the next generation of renewable assets to meet demand and these long-term agreements help to finance renewable energy projects, giving generators a guaranteed buyer and revenue stream for the energy they produce.

Power Purchase Agreements give organisations budget certainty (including potential discounts) and help with transparency and accountability in demonstrating that net zero goals will be met and showing corporate social responsibility. They allow organisations to demonstrate where their power is generated and prove that it is from renewable resources.

For smaller businesses, an intermediary organization to aggregate the needs of the businesses and engage a suitable scale generator in a CPPA may be needed.

A generator in this context may be local to Barnsley TC where a direct CPPA may be possible or remote in which case an indirect CPPA would be used with the licensed electricity supplier 'sleeving' the power between the generator and the consumers.

## Woodland Carbon Code

Estimating the carbon that can be removed by planting trees is not straightforward as the CO<sub>2</sub>e/year reduction varies through the life of the trees, peaking at around 25 years and then reducing again.

The Woodland Carbon Code <https://woodlandcarboncode.org.uk/> is a voluntary standard for when claims are being made for carbon sequestered by woodlands.

An example project case study for woodland creation in the Yorkshire dales <https://woodlandcarboncode.org.uk/case-studies/woodland-carbon-projects/yorkshire-dales-woodland-restoration>



Picture: YDMT

## Do everything else first and only then offset

How can the town centre procure renewable energy and carbon offsets with certainty that they are having the positive impact intended.

<https://www.ukgbc.org/news/ukgbc-consults-on-renewable-energy-procurement-and-carbon-offsetting-guidelines/>

Where carbon offsetting has to be used, high quality offsets such as Gold Standard <https://www.goldstandard.org/> should be used to ensure that carbon reductions are verified and persistent.

## Connecting with other areas to share best practice

### **Carbon Neutral Cities Alliance**

Achieving deep decarbonization is a daunting task with few clear roadmaps, and leading global cities have pursued this in relative isolation from each other. That's why the Carbon Neutral Cities Alliance was created. By sharing resources and ideas and collaborating on strategic approaches, CNCA cities can accelerate progress in meeting their aggressive goals; develop more rigor and consistency with which these plans are developed; garner support among key stakeholders critical to their success; and inspire other cities to reach for similarly aggressive goals by providing them with tested, "leading edge" know-how.

This report on the CNCA Framework identifies strategies for driving change

<https://carbonneutralcities.org/wp-content/uploads/2018/04/CNCA-Framework-for-Long-Term-Deep-Carbon-Reduction-Planning.pdf>

### **Place-Based Climate Action Network**

The Place-based Climate Action Network (PCAN) is about translating climate policy into action 'on the ground' to bring about transformative change

<https://www.pcancities.org.uk/>

Leeds is one of the PCAN cities and recently published its Pathway to Net-Zero Carbon Roadmap

<https://leedsclimate.org.uk/news/climate-commission-shows-moving-net-zero-emissions-can-help-leeds%E2%80%99-post-covid-recovery>

PCAN has also been developing work on Yorkshire and Humber wide carbon reduction

<https://leedsclimate.org.uk/news/yorkshire-wide-approach-carbon-reduction-needed>

## Aim to promote and attract sustainable businesses

### **B Corp**

How many Barnsley based businesses are B Corps <https://bcorporation.uk/>. Certified B Corps are a new kind of business that balances purpose and profit. They are legally required to consider the impact of their decisions on their workers, customers, suppliers, community, and the environment. This is a community of leaders, driving a global movement of people using businesses as a force for good. Example: The Body Shop at 42 Cheapside S70 1RU

### **Science Based Targets**

How many Barnsley based businesses have set Science Based Targets <https://sciencebasedtargets.org/> and therefore lead the way to a zero-carbon economy, boost innovation and drive sustainable growth by setting ambitious, science-based emissions reduction targets. Examples: Vodafone at Cheapside S70 1SB, Sainsbury's (although not in the TC) and M&S at 7 Queen Street S70 1RL



## Levers and Strategies for Reducing Carbon in Building Systems

From <https://carbonneutralcities.org/wp-content/uploads/2018/04/CNCA-Framework-for-Long-Term-Deep-Carbon-Reduction-Planning.pdf>

LEVERS	STRATEGIES	ACTIONS
Voluntary Action	Encourage Improved Energy Efficiency Performance of Existing Buildings	<ul style="list-style-type: none"> <li>• Conduct building energy performance challenges</li> <li>• Promote building energy rating systems (commercial and residential)</li> <li>• Promote voluntary energy use benchmarking programs</li> <li>• Promote voluntary "stretch" building energy conservation codes and green-building principles by providing information, technical assistance</li> <li>• Promote "cool roofs" — coating of rooftops white to reduce building energy use — and other low-cost approaches</li> <li>• Support best practice information sharing among building owners</li> </ul>
	Promote Energy Conservation Behaviors by Building Occupants/Tenants	<ul style="list-style-type: none"> <li>• Work with utilities to improve customer access to energy-use data</li> <li>• Conduct public education programs and campaigns that promote energy-saving measures</li> <li>• Promote green leasing for commercial buildings, which enable a fair proportion of costs/benefits to be allocated to both tenants and landlords</li> </ul>
Price Signals	Increase Access to Financing	<ul style="list-style-type: none"> <li>• Improve access to specialized financing to pay for efficiency improvements</li> </ul>
	Support/Provide Rewards for Performance	<ul style="list-style-type: none"> <li>• Provide regulatory and zoning relief for projects meeting certifiable high standards (e.g., LEED)</li> <li>• Promote supportive market mechanisms such as building appraisal and mortgage underwriting that capture the value of investments in energy efficiency</li> </ul>
	Subsidize Capacity Improvements for Building Management	<ul style="list-style-type: none"> <li>• Support efforts to train building operators in energy efficiency best practices</li> </ul>

# Levers and Strategies for Reducing Carbon in Building Systems

From <https://carbonneutralcities.org/wp-content/uploads/2018/04/CNCA-Framework-for-Long-Term-Deep-Carbon-Reduction-Planning.pdf>

	Expand capacity of efficient heating and cooling	<ul style="list-style-type: none"> <li>• Develop and expand low- to no-carbon district heating and cooling systems</li> <li>• City piloting of new building technologies</li> </ul>
	Invest in Technology Development and Deployment	<ul style="list-style-type: none"> <li>• Support Municipal Strategic Energy Management programs</li> </ul>
Public Investment	Model the Behavior- Invest in Energy Retrofitting of Government Buildings	<ul style="list-style-type: none"> <li>• Conduct deep retrofitting combined with installation of on-site renewable energy supply</li> <li>• Improve building operations and preventative maintenance</li> <li>• Improve energy efficiency of public/government-owned housing</li> <li>• Require all rehabilitation projects financed by city to include "green" capital needs assessment</li> </ul>
Mandates	Mandate Reporting	<ul style="list-style-type: none"> <li>• Adopt Building Energy and Reporting Disclosure ordinances</li> <li>• Require energy audits and disclosure</li> <li>• Require sub-metering</li> <li>• Require building rating system</li> </ul>
	Mandate No- to Low-Carbon Standards for New Construction	<ul style="list-style-type: none"> <li>• Adopt/phase-in building and energy conservation codes based on carbon neutral, zero net energy, Passive House, Living Buildings, and other cost-effective high-efficiency approaches</li> </ul>
	Mandate Performance Improvement of Existing Buildings	<ul style="list-style-type: none"> <li>• Require targeted buildings (e.g., commercial above certain amount of floor area) to benchmark (measure and disclose) energy performance, and/or conduct energy audits, and/or install energy sub-meters for large tenants</li> <li>• Require "deep" retrofitting of buildings at designated intervention points: time of sale/purchase, financing, major renovation of building or space, and rebuilding</li> <li>• Require upgrades to commercial/industrial buildings' lighting systems</li> <li>• Require higher standards for energy efficiency of appliances</li> <li>• Require certification of building operators</li> </ul>

