

Use of Industrial Symbiosis in HE project and working with our supply chain October 2015

The Challenge

In total, we are investing £15.2bn

- to enhance, renew and transform the network,
 - over 100 major schemes in next 4 years.
 - Competing with other programmes of work for resources
- Do we have the resource to do this?
 - How can we be as efficient as possible?
 - How can we use Industrial Symbiosis to help?

Application of Industrial Symbiosis Principal to our work

Project
Programme
Design

Project Level

- Some suppliers have been doing this for years but.....
- It is not consistent across suppliers
- Some are **very good** some are **very poor**
- Suppliers do this for their own bottom line benefit.
- One supplier saved the Agency **£18 million** as well as **3.5 million tonnes of material** from land fill.
- Our projects are long and linear which make material management more difficult.
- Obviously we want all of projects to be built with the optimum amount of materials with the least environmental impact.
- But is there a greater prize to be had

Programme Level

- This is a new challenge for HE
- Working at programme level is what our Road Investment Strategy is all about
- HE undertook a trial 1 year ago looking at a number of schemes with the East Midlands – the outcome we the following
- *Potential for between **1-7.5%** saving on scheme costs equivalent to between **£151 million to £1.13 billion** up to 2020 for the RIS ;*
- *Demonstrated potential for **£8.1 million** savings across 5 schemes valued at £281 million;*
- *Demonstrated potential to save **1,160 tonnes of carbon**;*
- *Area 7 schemes generate **1.5 million tonnes surplus material** with a disposal cost of **£135 million** and a need for **1.4 million tonnes of materials**;*
- **BUT.....**

It need to be driven to be successful the following were see as barriers to adoption

- **Ownership:** A single owner is essential;
- **Vision:** What the Agency wishes to achieve and the contributions expected by others;
- **Values:** Acceptance of materials efficiency objectives;
- **Policy:** Long term policies for supply chain alignment;
- **Skills:** Smart and efficient information management;
- **Tools:** Templates, **data records** and knowledge to inform decisions;
- **Governance:** Reporting and validation procedures to demonstrate value from materials efficiency;
- **Location** – many of our projects are large and linear as well as being geographically remote re each other.

Design

- Early influence on the design is essential
- Need to constantly scanning for innovation
- Clear requirements of what is required in the design
- Need to talk to standard holders to get there buy in for early adoption of innovation



Harder to achieve

Design

Many opportunities for synergies in the design

Programme

At programme level it you can obtain greater value but you are still fixed into the design

Project

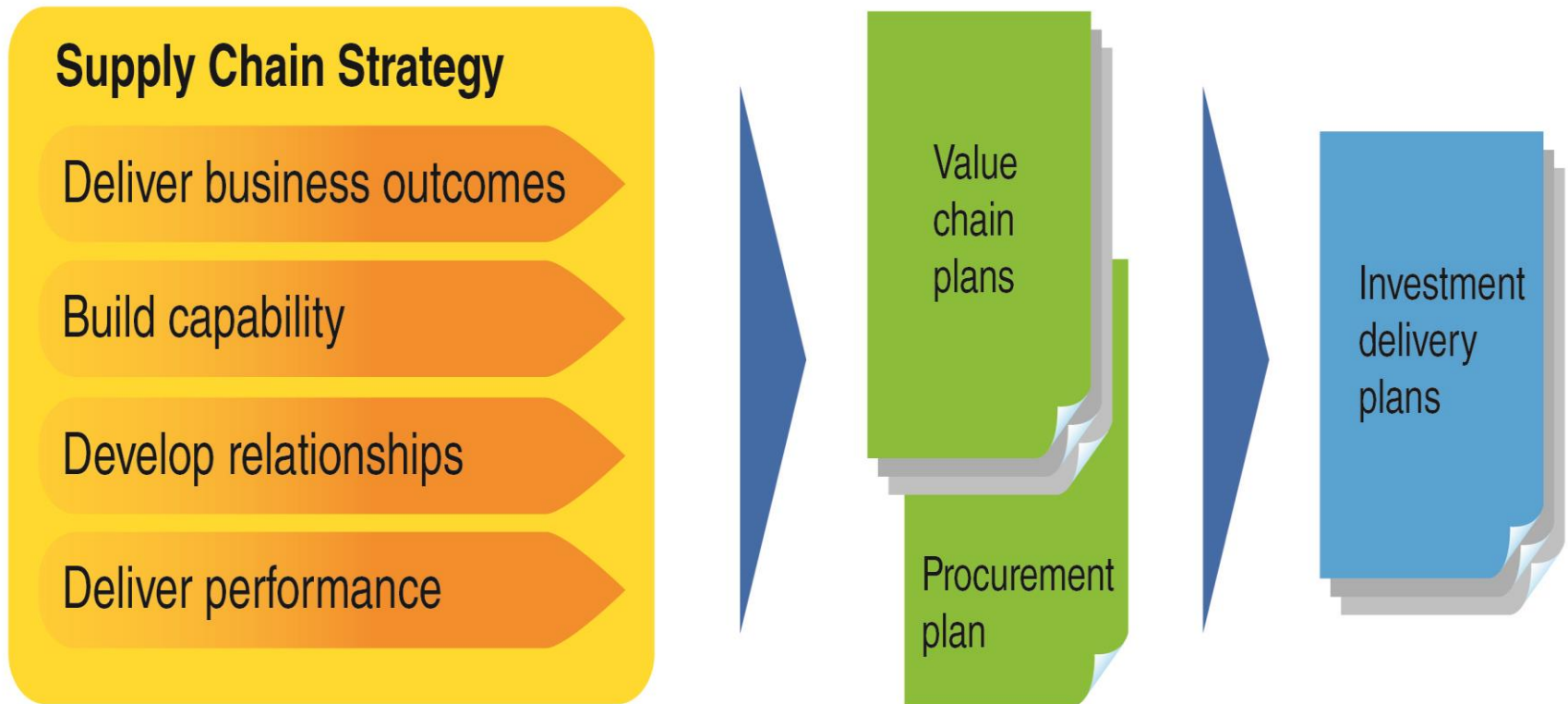
At project level many of the synergy applications are locked out because of earlier decisions

What have we started to do?

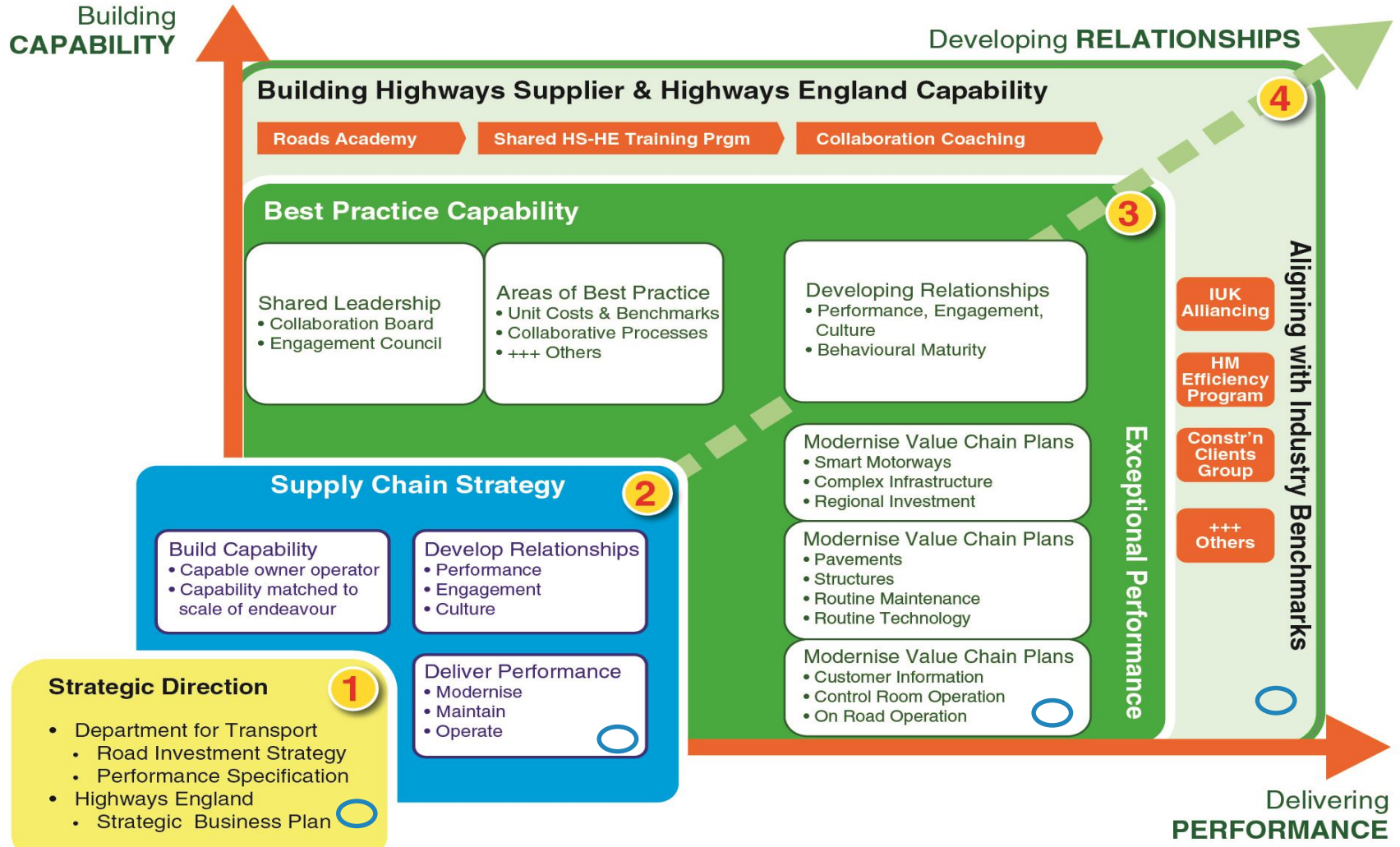
Programme delivery
Supply Chain Strategy
Create a vision

But more work is required in other areas....

Overall Approach:



Collaborative Relationships Implementation



Sustainable Development Strategy Aspirations

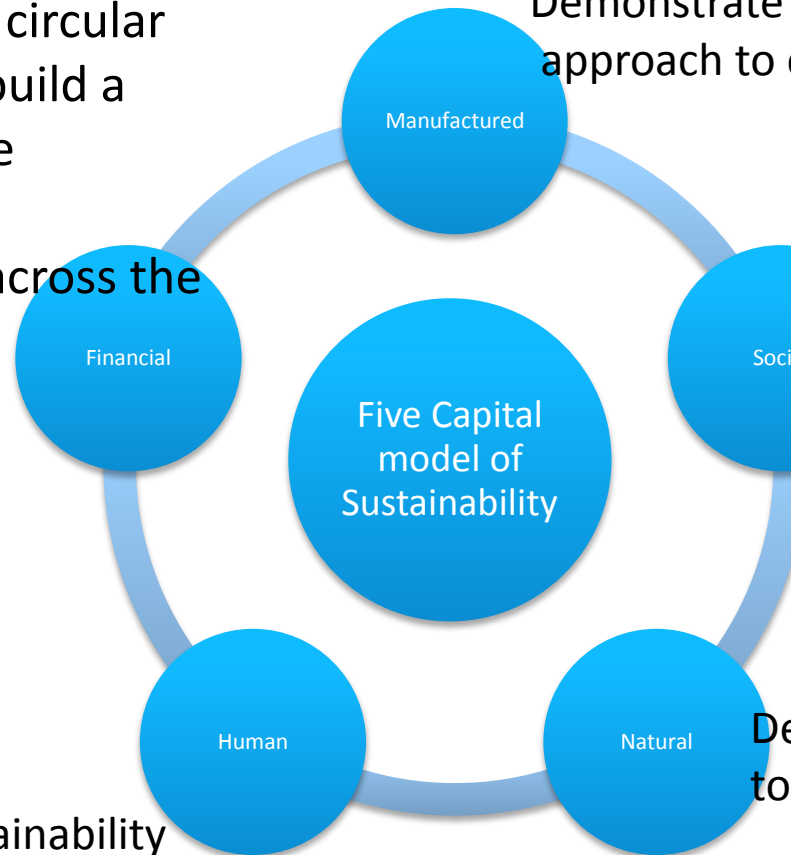
Develop corporate circular economy to help build a culture of resource efficiency and effectiveness across the organisation

Demonstrate an effective approach to climate change

Define good practice for responsible sourcing and drive sustainability in our supply chain

Deliver meaningful contribution to UK Gov carbon reduction levels

Make Sustainability everyone responsibility



Summary

There is a big challenge to deliver the programme

Application of Industrial Symbiosis can help

But requires a change in attitude from projects for success across the programme,