



INFRASTRUCTURE
CLIENT GROUP

Improving Infrastructure Delivery

2014/15 work programme

October 2014

Infrastructure UK and the Infrastructure Client Group

Infrastructure is the backbone for the UK economy. It provides the networks and systems that supply and support reliable and cost effective transport, flood protection, energy, communications, water and waste management. These are vital to ensuring that the UK remains a competitive force in the global race.

The government is committed to establishing a long-term sustainable plan for infrastructure investment. **Infrastructure UK** (IUK)'s Cost Review Report 2010 identified the opportunity to improve infrastructure delivery. It set a target to remove wastage and make efficiency savings of at least 15 per cent by 2015 across public and private sector infrastructure delivery. The government's Construction 2025 Strategy goes further, setting a target of lowering costs by 30 per cent and reducing time by 50 per cent.

The government, through IUK, continues to work with industry to drive improved productivity and remove wastage in the delivery of infrastructure investment. These measures are providing better value for money for taxpayers and consumers. Across public and private sectors, these combined efforts are starting to yield success. However, there is no room for complacency. There is still much to be done to match the levels of efficiency and productivity seen in some other sectors.

The **Infrastructure Client Group** is demonstrating the value of effective collaboration between government and industry to support the development and exchange of best practice and delivery improvement. Initially brought together by IUK to support the Infrastructure Cost Review work, the membership of this group is representative of the major infrastructure clients. It has been instrumental in setting a common agenda for change and supports a programme of activities and applied knowledge transfer across the public and private sectors. The success of this initiative has been made possible by the continued and valuable support from industry and academic partners.



Summary

Over the three years of the Cost Review programme, good progress has been made improving infrastructure delivery with evidence of changed behaviours and cost savings, but significant opportunities to build on this work remain. The government, through IUK, will work alongside the Infrastructure Client Group to maximise the value of the UK's economic infrastructure by driving effective asset performance and improving the initiation and delivery of new infrastructure.

This document sets out the priority themes and the projects that make up the 2014/15 programme of work. Whilst set out as discrete projects, IUK and the ICG will seek to promote the benefits of initiatives that cut across the programme, such as client capability, innovation and industry wide behavioural change. The programme will be implemented transparently and clients will be encouraged to demonstrate how they are adopting ICG recommendations.

In future years we will consult, each autumn, on the work programme for the following year. The main **themes** and **projects** are:

THEME: Improved pipeline visibility and certainty:

Project 1 - Published pipelines and work programmes

Project 2 - Reducing the impacts of cyclical and stop-start investment

THEME: Improving project initiation and procurement:

Project 3 - Re-launch and implement the Project Initiation Routemap

Project 4 - Procurement 'common principles' and new models

Project 5 - Collaborative project teams

THEME: Whole life planning and cost control

Project 6 – Incentivising whole life planning and delivery outcomes

Project 7 - Managing risks and contingency

Project 8 - Modelling and mitigating the risk of cost inflation

Project 9 - Infrastructure carbon

Project 10 - Standards and codes

THEME: Supply chain skills and construction delivery

Project 11- Modelling and mitigating supply chain 'pinchpoints'

Project 12 - Supplier performance measurement

The ICG shares the ambition of the government's Construction 2025 strategy to continue the progress achieved by industry to improve site safety. All 12 of our 2014/15 projects will consider the potential impact of their outputs on health, safety and welfare performance.

This document also sets out links to related government initiatives, groups and work programmes seeking to improve capability and delivery.

Theme	Improved pipeline visibility and certainty		
Project Title	Published pipelines and work programmes (Project 1)		
ICG lead	Infrastructure UK	Target organisation/ project(s)	All infrastructure providers
Other participants	n/a		
Issue	Build on the publication of the national infrastructure pipeline and continue to improve forward visibility across sectors. Encourage government, regulated and private infrastructure providers to plan and group projects as programmes and provide forward visibility of these work programmes.		
Output/Measure of Success	<ul style="list-style-type: none"> • More regular updates of the NIP pipeline and interactive map • Improved utility and use of the National Infrastructure Pipeline by industry and other stakeholders • Regulated companies, local government and other stakeholders publish their own more detailed pipelines • Individual infrastructure providers regular publish or share detailed pipelines and work programmes with their supply chains www.gov.uk/government/organisations/infrastructure-uk www.uk-cip.org.uk		
Initial planned outputs	1	Increase the frequency of NIP pipeline updates to twice a year.	Completed summer 2014. Next update Q4 2014
	2	Encourage other stakeholders to share/publish pipelines and work programmes e.g. Greater Manchester Construction Pipeline published Nov 2013	Ongoing
	3	Increased utilisation of pipeline as an aid to smoothing investment and work programmes across ICG projects and programmes	Ongoing
	4	Utilisation of the pipeline for modelling inflation risks and supply chain pinch-points	Project 8 and Project 11
	5	Use of the pipeline as a baseline for monitoring delivery performance and early identification of delivery issues and interventions	Ongoing through the IUK Major Infrastructure Tracking Team

Theme	Improved pipeline visibility and certainty		
Project Title	Reducing the impacts of cyclical and stop-start investment (Project 2)		
ICG lead	Infrastructure UK	Target organisation/ project(s)	Regulated infrastructure providers
Other participants	Water sector task and finish steering group chaired by Richard Coackley		
Issue	<p>In regulated sectors smooth out the impact of fixed funding cycles on pipeline delivery and investigate options for extending some elements of work beyond current planning periods</p> <ul style="list-style-type: none"> • Reduce cyclical impacts of fixed budget control period as a means of driving efficiency • Extended certainty for non-contentious works beyond fixed budgeting cycles • Roll out across other economically regulated sectors, and improved understanding of impact on efficiency of annularity and cyclical to inform future funding settlements www.ice.org.uk/topics/Industry-initiatives/Best-practice-documents		
Output/Measure of Success	<ul style="list-style-type: none"> • Reduced cyclical spend in water sector in transition from AMP 5 to AMP 6 • Clear measurement of benefits from water sector as enabler of best practice into other economically regulated sectors • Supporting evidence for wider discussions with HMT/infrastructure clients around the value of longer-term budgeting and planning 		
Initial planned outputs	1	Introduce new mechanism for AMP5/6 transition in water sector	completed Q1 2014
	2	New mechanism taken up by companies for AMP6	Q4 2014
	3	Implement other recommendations from IUK Report	Ongoing
	4	Extend methodology to other sectors, working with the UK Regulators Network here appropriate	From Q2 2015

Theme	Improving project initiation and procurement		
Project Title	Re-launch and implement the Project Initiation Routemap (Project 3)		
ICG lead	Infrastructure UK	Target organisation/project(s)	ICG member projects and TOP40 priority infrastructure projects
Other participants	IUK chaired Routemap steering group including University of Leeds, ICG client members and other stakeholders		
Issue	<p>Insufficient consideration of Project Complexity in relation to organisational capability is a key contributor to projects failing to deliver their intended benefits. (NAO report – Initiating Successful Projects). The Project Initiation Routemap aims to support infrastructure providers optimise the delivery environment for projects and programmes. The Routemap supports and aligns with Departmental Capacity Reviews and enhanced commercial skills.</p> <p>www.gov.uk/government/publications/improving-infrastructure-delivery-project-initiation-routemap</p>		
Output/Measure of Success	<ul style="list-style-type: none"> • Key enabler of 15% savings target for infrastructure costs • Adoption of the Routemap by Government and non-Government Infrastructure clients • Greater confidence in project deliverability at Strategic Business Case and Outline Business Case stages • Capture and dissemination of best practice across infrastructure clients • Increasing the number of projects that deliver their intended business case benefits 		
Initial planned outputs	1	Re-launch of the Project Initiation Routemap and supporting modules	Completed Q3 2014
	2	Establish editorial Steering Group and mechanism for knowledge capture	Q4 2014
	3	Implementation on a further 6 projects/programmes by Q4 2015	Ongoing
	4	Publish additional Routemap modules (Asset Management, Risk Management and incentivisation approaches, Output Specifications)	Q4 2014 to Q3 2015
	5	Work with Major Projects Authority to explore how to incorporate the Routemap into their review and assurance processes.	From Q4 2014

Theme	Improving project initiation and procurement		
Project Title	Procurement 'common principles' and new models (Project 4)		
ICG lead	Infrastructure UK	Target organisation/project(s)	ICG member projects and TOP40 priority infrastructure projects
Other participants	Cabinet Office. ICG member support for Alliancing Guide		
Issue	<p>Consistent with the IUK Routemap activity and Cabinet office work on new models, the aim is to identify specific and deliverable measures to address ongoing industry concerns regarding the inconsistent adoption of best practice principles which support faster, smarter procurement and more effective risk allocation. The best practice principles we are seeking to encourage include: Collaboration; Supply Chain Integration; Transparency; Standardisation; Effective Risk Transfer; and Continuous Improvement and Innovation.</p>		
Output/Measure of Success	<ul style="list-style-type: none"> • Establish a Common Government approach to improving construction and infrastructure procurement • Accelerate the adoption of best practice principles • Faster procurement - avoiding unnecessary expense and waste • Smarter procurement - improved Client understanding of how to improve the procurement process • More effective risk allocation and mitigation alongside effective incentivisation • Identification with Industry of the specific areas of inefficiency and unnecessary cost in the procurement cycle and specific areas for Government intervention • Establish best practice principles for new models supporting these principles (e.g. Alliancing guide) 		
Initial planned outputs	1	Initial mapping and survey to consult on 'Common Principles'	Complete Q3 2014
	2	Launch Alliancing best practice guide	Q4 2014
	3	Launch procurement 'Common Principles' with KPI measures and targets	Q1 2015
	4	Identify specific actions for government, procuring authorities and industry	Q2 2015

Theme	Improving project initiation and procurement		
Project Title	Collaborative project teams (Project 5)		
ICG lead	TfL	Target organisation/ project(s)	ICG members/projects
Other participants	University of Reading, UCL and MBS		
Issue	Many of the more intractable problems infrastructure clients encounter in getting project teams to perform to their full potential occur at the interfaces between the teams, the organisations that create them and the suppliers and sub-contractors that work with them. With the right behaviours, clients can assemble a collaborative project team and develop the management systems, work practices and controls they need to deliver improved outcomes.		
Output/Measure of Success	<ul style="list-style-type: none"> Improved understanding of 'organisational networks' within projects and their impact on improving delivery of projects Improved knowledge of the factors that shape suppliers' perceptions of their relationships with the companies and their collaborative project teams Improved productivity by adopting collaborative planning, production management and logistics techniques in design and construction. Improved understanding and use of information and digital technologies such as BIM to enable sustainable improvements in the processes of design and construction within collaborative project teams Understanding of the role of the infrastructure owner in enabling collaborative teams to perform effectively and definition of the skills and experience needed for the key owner roles. 		
Initial planned outputs	1	Capture and apply early knowledge on TSB funded organisational network analysis between UCL and TfL on the Bank project	Q2 2015
	2	Supply chain relationship report and best practice guidance	Q3 2015
	3	Competency/capability framework for assessing the readiness for infrastructure clients to transition to an information and digital construction economy	Q3 2015
	4	Document best practice in collaborative planning and production management and encourage ICG application	Q4 2015
	5	Report on the roles of the infrastructure owner and guidance on identifying and developing people for these roles	Q4 2015

Theme	Whole life planning & cost control		
Project Title	Incentivising whole life planning and delivery outcomes (Project 6)		
ICG lead	Infrastructure UK	Target organisation/ project(s)	All infrastructure providers (initial focus on roads and floods)
Other participants	HMT, TfL, Highways Agency, Environment Agency, regulated providers		
Issue	Investment appraisal processes and the move to longer-term funding should encourage a whole life approach and the application of best practice asset management principles. However, obstacles remain to whole life planning, delivery and optimising the benefit of assets to end users. For example, in the regulated sectors asset management planning remains anchored to funding cycles.		
Output/Measure of Success	<ul style="list-style-type: none"> Build on long term funding settlements and improved pipeline visibility and adopt best practice asset management and whole life principles Evidence and guidance on key enablers to delivering whole life outcomes (including regulated sector TOTEX approach) Reduced whole life cost outcomes and improved end-user value realisation Improved understanding of capital and revenue planning (for budgeting and government spending reviews) Better understanding and specification of sponsor outcomes 		
Initial planned outputs	1	Gather evidence and case studies of whole life delivery benefits across sectors – quantify in end user, cost and whole life terms.	Q2 2014
	2	Consider implications and options for funding regimes, controls and other identified barriers.	Q4 2014
	3	Capture and publish best practice on specifying and incentivising whole life outcomes and optimising end user value.	Q1 2015
	4	Develop and pilot 'whole life' delivery models with the supply chain	Q3 2015
	5	Consider piloting measures and new approaches alongside long term plans in Roads and FCRM	Q3 2015

Theme	Whole life planning & cost control		
Project Title	Managing risk and contingency (Project 7)		
ICG lead	TfL and the Infrastructure Risk Group	Target organisation/ project(s)	All infrastructure providers
Other participants	The Infrastructure Risk Group set up under the Institute of Risk Management to take 2013 Report recommendations forward		
Issue	<p>To improve approaches which UK infrastructure providers take to the estimation, allocation and management of cost uncertainty (including optimism bias) and cost contingency in projects/programmes</p> <p>Following publication of the Risk Group report in 2013 and the associated Green Book supplement, implement these recommendations through the Infrastructure Risk Group.</p> <p>www.ice.org.uk/topics/Industry-initiatives/Best-practice-documents</p>		
Output/Measure of Success	<p>IUK will work with the Infrastructure Risk Group (IRG) on to implement the recommendations of the Managing Cost Risk and Uncertainty in Infrastructure Projects report, to ensure best practice for the transparent assessment and management of risk and contingency is adopted across projects to deliver:</p> <ul style="list-style-type: none"> • Improved corporate investment decision-making • Improved project control • Reduced project cost out-turns (improved value for money) • More efficient use of corporate capital budgets 		
Initial planned outputs	1	Launch Risk Group report and Green Book supplement	Completed Q4 2013
	2	Establish Infrastructure Risk Group to deliver recommendations	Completed Q4 2013
	3	Benchmarking of risk data: Creating a pooled database from infrastructure clients of project performance and building a cross sector understanding of the key risk managed by all levels of the supply chain on infrastructure projects	2016
	4	Identifying the management and incentivisation approaches that support effective risk management outcomes to form a new Routemap module	Q2 2015

Theme	Whole life planning & cost control		
Project Title	Modelling and mitigation the impacts of cost inflation (Project 8)		
ICG lead	Infrastructure UK	Target organisation/ project(s)	Initial focus on public sector funded providers
Other participants	HS2 and DfT		
Issue	<p>In light of improving market conditions and significant increased investment, particularly in infrastructure construction, a sharp rise in construction tender costs is anticipated. It is important that appraisal assumptions assess the impact of cost inflation on projects and consider properly informed commercial decisions on pricing strategies or indexation assumptions.</p>		
Output/Measure of Success	<ul style="list-style-type: none"> • Realistic forecasting of potential scale of cost inflation pressures • Review of appropriate indexation assumptions for business case modelling • Clear guidance to inform commercial decisions on projects and programmes • Policy measures to mitigate the impacts of inflation • Smoothing of the investment pipeline to avoid 'spikes' in demand 		
Initial planned outputs	1	Appointment of external advisers	completed Q3 2014
	2	Initial modelling of scenario outputs based on NIP pipeline demand	Q4 2014
	3	Develop related guidance and further work on mitigation	Q4 2014
	4	Develop potential policy measures to support mitigation	Q1 2015
	5	Final baseline model report and regular updates on infrastructure inflation	Bi-annual from Q2 2015

Theme	Whole life planning & cost control		
Project Title	Infrastructure Carbon (Project 9)		
ICG lead	Anglian Water	Target organisation/ project(s)	All infrastructure providers
Other participants	Infrastructure Carbon steering board chaired by Chris Newsome (Anglian Water) is a sub-group of the Green Construction Board		
Issue	<p>The Infrastructure Carbon Review set out recommendations that support both lower carbon solutions and reduced costs for the construction and operation of infrastructure assets. The report identified the opportunity to reduce emissions by 4 MtCO₂e/year of capital carbon and 20 MtCO₂e/year of operational carbon by 2050, representing a net benefit to the UK economy of up to £1.46 billion/year.</p> <p>www.gov.uk/government/publications/infrastructure-carbon-review</p>		
Output/Measure of Success	<ul style="list-style-type: none"> Reduce both embedded carbon and costs of delivery Unlocking innovation and driving better design solutions Establish UK as global leader and leverage export potential New standard Publicly Available Specification to support implementation 		
Initial planned outputs	1	Publish the Infrastructure Carbon review and implementation plans	Completed Q4 2013
	2	Prepare and publish new PAS as part of GCB's Infrastructure Working Group	Q4 2015
	3	Establish KPIs and targets with ICG members for carbon reduction across projects and programmes	Q4 2015
	4	Consider and report on the case for incorporating embedded carbon reduction in Green Book and sector specific investment appraisals	Q3 2015

Theme	Whole life planning & cost control		
Project Title	Standards and codes(Project 10)		
ICG lead	Infrastructure UK	Target organisation/ project(s)	Initial focus on public sector funded providers and HS2 work with BSI and RSSB
Other participants	HS2 and Industry Standards Group		
Issue	<p>Following the publication of Specifying Successful Standards in 2012, there is still evidence of certain standards blocking effective delivery and an inconsistent approach from clients to setting out their technical requirements that will support whole life outcomes and enable innovation.</p> <p>A new industry working group – linked to ICE – will consider potential approaches for embedding “output specifications” into infrastructure to unlock innovation delivering whole life value.</p>		
Output/Measure of Success	<ul style="list-style-type: none"> Identify and remove unnecessary, duplicative or redundant codes and standards Embed report recommendations for more effective processes for specifying standards and dealing with departures and derogations Embed output from output specifications working group into a module under Infrastructure Routemap. HS2, working with BSI and RSSB are undertaking a review and update of the standards most likely to yield a cost saving benefit to the project <p>www.ice.org.uk/Information-resources/Document-Library/Specifying-Successful-Standards</p>		
Initial planned outputs	1	Launch targeted “Red tape challenge” to identify and remove standards and codes that stifle innovation and increase costs	Q4 2014
	2	Investigate potential to revise Highways standards to encourage use of recycled aggregate across strategic and local highways estate	Q1 2015
	3	Investigate potential to revise Specification for the Reinstatement of Openings in Highways (SROH) Code of Practice to allow for micro-trenching	Q1 2015
	4	Preparation and publication of Routemap module for output specification	Q2 2015
	5	HS2 report/outputs of work with BSI and RSSB	Q4 2015

Theme	Supply chain skills and construction delivery		
Project Title	Skills gaps and market capacity (Project 11)		
ICG lead	Infrastructure UK	Target organisation/ project(s)	All infrastructure providers
Other participants	A Task and Finish steering group has been set up to support this project chaired by Dr Diana Montgomery (CEO of CPA)		
Issue	The NIP identified the need for Government and industry to do more address current and future risks to delivery of the infrastructure pipeline arising from skills gaps and national or regional capacity shortfalls. Major projects and programmes have tended to leave the preparation and support for the supply chain until too late in the planning process and industry fragmentation and pipeline uncertainty continue to act as a barrier to investment or smoothed workplans.		
Output/Measure of Success	<ul style="list-style-type: none"> Improved supply chain capacity to deliver the infrastructure pipeline Reduced risk to individual projects and programmes from failure of supply chain to meet specific project/programme requirements Improved productivity assumptions and reduced delays arising from workforce disruption Remove skills blockers to innovation, for example DFMA and BIM opportunities Better strategic engagement with supply chains, including SMEs Smoothed work programmes across sectors 		
Initial planned outputs	1	Procurement of consultants and establishment of Steering Group	Completed Q2 2014
	2	Interim report to Ministers on key supply chain pinchpoints	Q4 2014
	3	Draft policy strategy and interventions plan for Autumn Statement	Q4 2014
	4	Wider consultation with key stakeholders	Q1 2015
	5	Finalise modelling tool and publish report	Q1 2015
	6	Further engagement on implementation planning	From Q2 2015

Theme	Supply chain skills and construction delivery		
Project Title	Supplier Performance Measurement (Project 12)		
ICG lead	Infrastructure UK	Target organisation/ project(s)	Initially ICG client members
Other participants	Crossrail, Network Rail, TfL, Highways Agency, Environment Agency, Carillion		
Issue	<p>Measurement of supplier performance by clients on infrastructure projects is undertaken inconsistently across sectors, despite common performance themes and similar supply chains. There are opportunities to share how measurement can incentivise the supply chain and how best practice can be shared between clients and suppliers to drive improved performance and delivery outcomes.</p> <ul style="list-style-type: none"> Client The client gains the advantage being able to exchange knowledge and best practice, offers opportunities for a more joined up approach to measuring and driving improved delivery performance. Potential use of output data to assist prequalification decisions. Supplier Through the system of common measurement suppliers can expect reduced levels of bureaucracy and improve their awareness of relative performance and engage collaboratively to focus on key areas for performance improvement. Government Improved outcomes are realised through collaboration between clients and suppliers, driving efficiency improvements to reduce costs. 		
Output/Measure of Success	<ul style="list-style-type: none"> Development of a simplified high level supplier performance report that can be aggregated and shared across infrastructure clients IUK to work with infrastructure clients to collate and publish a new supplier performance measurement tool which can inform supplier selection / prequalification and act as a catalyst to improve infrastructure delivery 		
Initial planned outputs	1	Summary of existing measurement systems and performance workshops	Completed Q1 2014
	2	Develop and agree content of performance tool and IUK's ongoing role as independent broker	Q4 2014
	3	Further consultation and launch of Infrastructure Supplier performance tool.	Q2 2015

Related work programmes

There are other government and industry initiatives aimed directly, or indirectly, at improving the delivery of infrastructure projects and coordinated through a number of bodies and groups. In relation to construction delivery many of these initiatives come together through the government's **Construction Leadership Council**.

Whilst not exhaustive the following table references some of the wider initiatives related to the IUK Cost Review and ICG work programme.

Theme	Other initiatives and groups	Lead organisation
Infrastructure strategy and investment planning	Defining and implementing the wider UK National Infrastructure Plan policy and objectives	IUK
	Industry input to the NIP coordinated through the National Infrastructure Plan Strategic Engagement Forum (NIPSEF)	IUK/ACE
	Initiatives to support infrastructure finance including administering the UK Guarantees scheme	IUK
Interdependencies and collaboration across infrastructure sectors	Programme of work to understand and address infrastructure interdependency risks and delivery issues	IUK
	Improving strategic collaboration across regulated sector through the newly formed UK Regulators Network (including interdependencies)	UKRN
	Tracking delivery of infrastructure performance and reporting to Ministers on progress and issues by the Major Infrastructure Tracking Team (MIT)	IUK MIT team
Infrastructure planning and consents	Ongoing improvements to the major infrastructure planning regime	DCLG
	Introduction of the new infrastructure planning court	DCLG/MoJ
Construction sector strategy coordination	Implementing the government's industrial strategy for construction through the Construction Leadership Council	BIS
	The Government Construction Board and implementing actions from the 2011 Government Construction Strategy	Cabinet Office
	Green Construction Board (GCB) and the GCB Infrastructure Sub-Group	BIS
Sector Industrial strategies	Offshore Wind Industry Council Nuclear Industry Council	BIS and Sector Councils
Digital construction and BIM	Ongoing delivery and roll-out of BIM Level 2 and planning for Level 3	BIS

Where to find out more?

Further information on the Cost Review programme and the Infrastructure Client Group can be found by following these links:



HM Treasury

www.gov.uk/government/collections/infrastructure-cost-review



www.ice.org.uk/topics/Industry-initiatives/About



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