Appendix I
Enabling Sustainable Places Engagement

PHASE 2: DELIVERY FINDINGS REPORT

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April to June 2020

Introduction

The second phase of the Commission's review was aimed at the 'how' of infrastructure delivery, building on the "what and why" of the 30-year infrastructure vision developed through Phase 1. The Enabling Sustainable Places workstream used the concept of place, from which to illuminate the challenges and opportunities in achieving effective delivery of infrastructure. Place was seen to be an appropriate theme from which to understand the opportunities and challenges of infrastructure delivery. The discussions mainly focused on the earlier strategic lifecycle areas of strategy & prioritisation and planning & infrastructure[1].

The engagement process involved over 20 video-conference interview sessions of around 90-minute duration, engaging almost 50 participants from over 30 organisations. Many of the participants were adapting their work patterns to the Covid-19 pandemic and the national lockdown, and gave their time for discussion about the longer-term future while responding to a challenging situation. The sessions were led by members of the Commission Secretariat, who began the conversations by asking for any general reflections on Covid-19 and the work of Phase 1. A consistent theme was how the urgency and necessity of the Covid-19 pandemic had forced dramatic levels of change, which would almost certainly have a bearing on future infrastructure requirements in Scotland. This included the widespread use of video-conferencing, raising the immediate issue of digital infrastructure, and the danger of severe social exclusion without adequate resources and investment.

> "The issue of the moment is how does the local authority use Place to deliver a 'New Normal' in public service with better investment, doing much more with less,"
>
> **a local government senior officer.**

While another local authority planner spoke about the importance of using solutions which emerged during the crisis to deliver more rapid outcomes.

> "Light-weight and flexible infrastructure is definitely something we should be learning from this whole situation,"
>
> **said a local government officer.**

In most interviews, participants expressed a range of views that the prolonged impact of Covid-19, in terms of employment and training is likely to fall hardest on the lower and unskilled sector, and in areas previously recognised as areas of poverty and deprivation. Equally however, it also highlighted the potential of communities, in provision of vital services and in determining their priorities.

> "One of the positives of the Covid-19 lockdown, it that is has brought home to more people the power and potential of their local communities and the importance of local green spaces,"
>
> **said a local government officer.**

There were seen to be a number of considerations, in addressing this task, including that resources across Scotland were limited (and likely to be more so as the nation recovers economically from the Covid-19 crisis). Despite this challenging context, the recommendations from Phase 1 were seen to be even more important, including priorities needing to be defined from a framework of inclusive net zero carbon; and that more should be done with existing infrastructure, with better planning and higher levels of collaboration.

The stakeholder conversations investigated the delivery of place from three themes: Systems & Behaviours; Enabling Digital Technology; and Resources. A number of recurring themes emerged from the various discussions.

> Climate emergency remains a pressing national issue related to infrastructure. From the low-lying machair of Lewis and Harris, to the flood plains of the Forth and the Clyde, flood defence, and natural green barriers must be considered a priority.

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1 The five stages of the lifecycle of infrastructure are **strategy & prioritisation**; **planning & structuring**; **delivering a thriving construction sector, operations & maintenance, de-commissioning & evaluation.**

> Collaboration agreements between stakeholders must be enshrined in guidance, legislation or regulation, obliging good practice. All participants should be engaged from the outset and sign up to shared and collective outcomes.

> There is an urgent need for a single open-source repository which shares best practice, know-how, specialist resources and has up-to-date three-dimensional mapping data and information for the whole of Scotland.

> Housing need and demand is an important area of data-gathering for local place and infrastructure planning. The good practice example of the Registers of Scotland was highlighted, whose database moved to a fully digital service in nine weeks because of Covid-19.

> Professionals need to help in the development and training of Place/community volunteers and anchor organisations, to ensure the delivery of inclusive local outcomes. There is also work to be done on the relationship between Community Planning and new Local Place Plans.

> Chief Planners could become the champions for Place.

> Small amounts of funding to pump-prime Place projects can sustain community involvement and enthusiasm throughout the duration of projects.

> Much more can be done with existing infrastructure, through upgrade and improvement, rather than demolishing and simply building from scratch.

> Digital infrastructure needs to be dramatically improved in remote and rural areas to allow new ways of working and reduce unnecessary car journeys and carbon emissions.

> The skills shortages in Scotland across critical areas of construction, including a range of professional specialism, need to be tackled urgently. Sharing of skills should be a focus going forward.

> Overlay plans into a single over-arching set of plans and prevent duplication of resources.

> Resources, in whatever sphere, will be limited, so duplication must be prevented.

> The use of exemplars and best practice to share knowledge and examples of success is welcome. [See appendix]

Systems & Behaviours: Instilling A Stronger Sense of Place Across Scotland

Phase one recognised that to make effective and sustainable places, practitioners need to work together collaboratively and the systems need to work together better. This was again emphasised through discussions, with a focus on the legislative and structural framework. A dominant theme was the value of the Place Principle and the need for the concepts and tools of place to be more consistently used. It was felt that the concept of place should be enshrined in all planning policy and embedded in national frameworks, alongside local development plans, to help drive collaboration. It was also noted that this needed to be done not as a "tick box" exercise, but in a way that would enable and drive change.

Planning was suggested to be still too reactive, when it should be 'front-loaded' for proactive participation. It was felt that if you embed the 'Place Principle' then planners and developers can become engaged earlier, bringing different ideas on how to develop a collaborative route-map for place. While it was agreed that place goes beyond the planning system, there could be a role for the new chief planning officers to become champions of place. Balancing obligation and further process was however felt to be important. For example action plans must be embedded but what is not required is another set of plans laid on top of those already existing.

There is a distinction between the Place Principle, which has a broader perspective, focused on a shared understanding of a place, and 'Place-making', which is not as powerful, having a more narrow physical design focus. There is a need to re-iterate this point to infrastructure planners and developers. However, one participant from the utility industry felt Place-making has to be properly quantified, so investment decisions take this into consideration.

> "If Place is the outcome we are after, then at some point, we need an appraisal for any investment decision and need to value it," he stated.

This value is not necessarily a sterling value but consistent with the way carbon emissions and social and natural capital is being evaluated. Increasingly, investment evaluation must take into consideration net zero carbon and social inclusion. By adding place, it starts to become complicated when it is unclear how this can be measured and evaluated.

"If we're not clear about what do we mean by place, this will be the easiest one not to do something about it,"

said a public sector official.

This is about prioritisation and weighing the different needs and required outcomes.

"If you want to think about place in a holistic terms, then you have to have an ability to align decision-making at the place level. There is very little point of bringing the community in to ask them what they want, if the different architecture of decision-making simply can't deliver that,"

a local government senior officer.

Systems & Behaviours: National Planning Framework 4 (NPF4)

It was suggested that ongoing planning reform in Scotland will help meet the goals of sustainability, social inclusion, wellbeing and the priorities of the Place Principle. Scotland's strategic planners feel there are already existing solutions available and they want them to 'emerge more purposefully' to ensure an improvement in the quality of our places.

"There is so much in the review of planning to support the Commission's work. I can't remember a time where we were more aligned in terms of our central government policy development, almost in timing as well, across key areas, such as infrastructure, transport, climate change and now economic recovery,"

a public sector official.

This level of goodwill and cooperation was welcomed, but there was no escape from the complexity of aligning many diverging interests. Nevertheless, a key factor is how community planning matters can be moved up the scale, while national planning issues from Scotland, covering the whole nation, can be cascaded down. The links between the different spatial tiers must be clearly articulated and balanced across local and national geographies. Participants working in the sphere of urban regeneration argued for the creation of a vacant land taskforce, which can give ratings of all brown-field sites, including remediation work required and economic development potential. This was seen to help drive funding prioritisation.

Strong leadership came through as a necessity, including how does Scotland facilitate stronger leadership skills within communities, to enable better decisions from the bottom-up? While Local Place Plans are now actively being developed, participants felt financial resources have to be put behind this. Discretionary local authority funds, often of modest amounts, to stimulate local involvement in community project needs to be revisited. Partners in Planning Group (partnersinplanning.scot) was highlighted as a positive example of involving all interested parties in learning and sharing information.

NPF4's early engagement phase is nearing completion. However, the Bill is not expected to go to Scottish Parliament until 2021. The NPF and the LDP together will be the statutory development plan with the regional work emerging over a longer time scale as a more flexible bridge between national and local. NPF4 is likely to set out more clearly how regional planning interfaces with the national strategy. Participants welcomed work being done to capture distinct local characteristics, including geography, history and story-telling, and how they can be melded together in coherent narrative. This is intended to allow planning to deal with changing circumstances and tailored to fit what works in different parts of the country. It is a complex strategy designed to be more fluid than the present state and informed by regional collaboration. There is ongoing work with planning authorities working on regional groups to prepare 'indicative spatial strategies'. These will be developed over the coming months and will be brought together to consider how it informs a national spatial strategy and how it coherently relates to each region, and vice versa. NPF4 was therefore seen to be an opportunity to improve collaboration and place, however concerns were raised that the focus and resourcing for a more co-produced NPF4 was not yet evidenced.

Another challenge which was raised, was being too prescriptive at a national planning level in allowing local development of projects of national interest. However, there is was also seen to be a danger

of duplication, for example with too many innovation hubs, centres of excellence, and innovation districts all competing for scarce resource in a small nation such as Scotland. The structures and prioritisation regime to balance the trade-offs between national and local were seen to be essential.

Systems & Behaviours: Making Collaboration a Necessity

Participants agree that the glue which binds the Place Principle is the vital combination of People and Skills, with collaboration a clear focus, although this can be a complex challenge.

> "The duty to collaborate within the UK planning system has the right intentions but is not necessarily delivered with enough strength. If a duty to collaborate is properly articulated, this duty should be clearly set out to all participants and measured. The issue is, if it is not there and enshrined, you don't have to do it, ''
>
> **said a senior planning expert.**

However, this 'duty to collaborate' is not so easy to compel or to enforce, because the very nature of collaboration should be about a willingness to be open, honest and wide-ranging.

> "There is an inherent tension between the approach and language of collaboration and obliging people to collaborate,''
>
> **said a public sector official.**

One exemplar was felt to be through the infrastructure asset work of the Glasgow Region City Deal, which is developing a framework involving eight local authorities and a number of private sector companies, including utilities. This approach is more likely to advance the provision of different types of infrastructure because of increased trust and firmer relationships between all the bodies involved. It has allowed engagement on projects, before, not after, decisions have been made on which projects should go ahead.

Utility companies are having useful dialogue before, not after, projects start, so that each is aware of the aims and priorities. In some cases, utilities have taken action to resolve issues before public sector involvement, because of better relationships.

Other areas where greater collaboration was needed included sharing of knowledge, for example on the use of local community purchase agreements for energy supplies.

> "You need someone locally as a facilitation point to enable it and make it work for the community. If it works in one area it can work in other areas. We're not good enough at sharing good practice. I see a lot of inconsistency across local authorities,''
>
> **one community planning officer.**

Enabling Digital Technology

Participants agreed Scotland's focus should be on developing and making better use of digital data. This primarily focused on geospatial data. Effective deployment of accurate data was felt to have significant value, leading to more successful outcomes. Work at the CDBB (Centre for Digital Built Britain in London) is looking at whether raw data is fit for purpose and has a value. Effective data can enable decisions to be made faster and at less cost to the overall project. The Digital Team in Scottish Government is looking at data to support public sector reform and the use of Big Data in infrastructure. Good data was felt to cut through political barriers to the right investments.

> "Upskill decision-makers to focus on data as opposed to gut. Give fewer places to hide from good evidence".
>
> **Data innovation expert.**

However, one over-arching theme raised by participants from across sectors was the curating and management of data in the appropriate way, to allow for shared value and decision-making.

> "[A] lot of agencies involved hold a small part of the data you need for planning and assessment stage. [There aren't] sufficient incentives to share or manage that data to be collectively useful to all.
>
> **Data innovation expert.**

The use of a central multi-disciplinary repository that can be drawn upon across all levels in decision-making, to provide a resource for better decision-making and implementation was discussed. A shared repository of data can aid mapping and become a central source, while the addition of horizon scanning can ensure that infrastructure is appropriate to define future needs. For example, when looking at brownfield sites and their viability for infrastructure, clarity of development is needed, particularly on strategic sites.

This bringing together of data was felt to need greater leadership, supported by effective standards. Leadership requires the alignment of data across organisations and spatial areas; and clarity on why data was being developed, balancing possible future need with the existing resource to gather and curate.

> "Better data facilitates better decisions, but lots of data out there [is] looking for a solution to help"
>
> **said a utility provider.**

It was felt to be important that horizon-scanning data is shared with other participants to identify the dominant issues to be addressed, as well as managing the resource for effective scenario modelling. One issue felt to be of importance was understanding the housing demand for the future population.

> "Housing need and demand is the single most important bit of data-gathering for local Place planning and Infrastructure planning. It is about how many houses we are going to have to build in this Place over the next five years? Once that data is assembled and put into a plan it has huge legal and statutory weight. Frankly, the data on which a lot of that kind of vital information and policy is developed is often quickly out of date and contested. Which means planning battle after planning battle all based on the vexed issue of housing need and demand,''
>
> **said a planning expert.**

Participants agreed that information sharing, as a minimum, is the key to successful partnership working, particularly information sharing before development decisions are taken. However, barriers still exist. For example, utility companies were seen to be reluctant to share information which could impact on commercial concerns. Yet, councils would like legal access to utility information as that would inform better development decisions.

Utility companies would also like early information on proposed projects, such as housing or business developments, before planning decisions are taken. This would allow them to align with council requirements, rather than put up barriers to projects that have already been granted permission on cost grounds. Early sight of proposals would allow better and more effective planning of investments. Councils would benefit by unlocking upfront investment for priority sites. It was noted that some of the data that would be useful to access is considered personal data for GDPR, creating an un-anticipated barrier to a useful evidence-base. Yet ownership and the commercial benefit it can provide was also discussed and how communities, whose data may be used, can receive some of that benefit. The commercialisation of data was however seen to be a barrier to open access where organisations, including the public sector, were reliant on the revenue from data. Considering alternative routes was suggested as important, such as making the lodging of information fee-based, but the access free.

Addressing commercial sensitivity was also felt to be essential and could be done via returning value to organisations who participate, de-risking their provision of data.

Innovative uses of data were seen to be extensive. One digital information sharing development currently being adopted is digital twinning. This involves virtual replicas of physical devices — such as water treatment plants, energy developments or public transport networks — that data scientists and IT professionals can use to run simulations before actual devices are built and deployed. Through digital twin analysis, operators can learn and adapt and allow interaction with other digital twins, so twinning is of real value in helping to manage systems.

> "This is an asset and system-level digital twin. Connection is simply shared data. [An] eco-system of connected digital twins – not one almighty model of everything. Connect twins together."
>
> **Data innovation expert.**

Digital twins are a key tool of the Fourth Industrial revolution – they have the potential to be disruptive digital technologies which change the way we live. Federations of digital twins, joined together via securely-shared data – an obstacle at present – will enable infrastructure professionals to make better project decisions, with a significant impact on places, while developing the future skills for our economy.

> "[There are a] lot of sectoral skills [for digital]. If articulated [there is] an opportunity for the sector. [There is] no greater incentive for a company to invest in technology than a clear roadmap which sets out how the future looks."
>
> **Innovation Expert**

> "…the demand on data evidence has never been higher; and case for building clearer."
>
> **a public sector official.**

Resources: Reskilling and Upskilling

If Scotland wants an infrastructure fit for a modern economy, it requires the appropriate level and range of professional skills to both plan, maintain and build infrastructure in whatever form it takes. A national infrastructure skills investment plan was suggested to be over-due.

The skills shortage undermines local authorities' ability to make and fulfil plans. Vital knowledge and strategic planning experience, particular in the public sector strategic planning department, have been hollowed out over the last ten years. Unless addressed, this will have a serious impact on delivering Place in the future.

Participants discussed how skills can be more effectively shared, addressing the skill gaps, particularly within the public sector.

> "Resources a key area…. everybody will shout for projects to be funded, but what is missing is people."
>
> **- said an infrastructure expert**

The development of a national multi-disciplinary team was discussed, which could support local stakeholders, working alongside them, to achieve their objectives. One participant suggested a 'Skunk Works' approach, based on the US aerospace industry, where a small group of experts can be brought together to solve a major technology issue. This shared resource would be an efficient response to the lack of skills, acknowledging that some of these skills are only required when large projects are being developed. This was felt to be even more relevant as an approach, post-Covid, due to resource pressures. Sharing resources would be a pragmatic solution, to mitigate the worst effects on resources.

This sharing of skills was felt to extend to issues such as horizon-scanning, to ensure the knowledge and related data is shared and agreed amongst stakeholders. The skills within communities was also discussed and how to effectively collaborate in a way that recognises those skills. This included ensuring there was true

collaboration, building trust first, thereby supporting legitimacy of any team.

Elsewhere, there was seen to be a serious skills gap emerging in construction and the construction sector was seen to be unpopular as a career choice, partly because of the boom and bust of the economic cycle. Widespread parental perceptions require changing: construction is no longer primarily about brickies on building sites and greasy overall and oily rags for engineers. The construction industry requires a range of new and emerging skills, and needs to encourage greater diversity.

> "Too many Scottish parents don't want their children working in the construction industry. The perception of construction among the public does not reflect the modern requirements and the variety of career options,"
>
> **said a Scottish skills professional.**

The skills shortage is in both building site trades, such as Ames taping, and in certain newer specialisms, including new digital surveying. However, there has been difficulties among major contractors about how to tackle this shortage. More needs to be done to align a commitment for skills development with the award of regional and national contracts.

> "For some construction firms it is not implicit and Skills and People are overlooked until it is too late. Many firms are obsessed with landing a contract, spending a great deal of time securing the work, then when they have won it, they start to think about the People & Skills. That is not right,"
>
> **a construction industry executive.**

A welcome development is the creation of more vocational pathways going onto higher educational level, with Foundation Apprenticeships allowing young people to see construction as a positive career before leaving school. A positive note was suggested to be that the College/Further Education sector is now better organised with 13 regional colleges and the infrastructure is in place to develop a competent skills structure for the construction trades, taking into account new specialisms.

The Construction Industry Training Board (CITB) as an institution was suggested to have a role in responding to the skill shortages, however its role in Scotland has been weakened. There are concerns that a lot of sector skills councils went to the wall with a change of funding at a UK level, impacting on CITB's ability to deliver nationally. Skills Development Scotland however continue to contract directly with them for their skills programme. Field officers would help companies with their recruitment programmes and have good working relationships with the colleges. Strategic investment and planning for skills is weak. For example, the only large scaffolding training facility, at the National Construction College, at Inchinnan, which trains 70 scaffolders a year plus top-up training, is being sold off. Yet such skills are of vital important for on-site health and safety.

SDS has introduced a work-based Graduate Apprenticeship scheme which has traction with employers, while a technical expert group is looking at how the national curriculum could be adapted and improved.

> "Scottish firms desperately need stronger mathematical competence for the civil engineering [recruits], and [there are] question marks over the level of maths being taught in Scottish Universities. Some trainees from universities coming off degree programmes have never been on a live building site and therefore able to use their theoretical skills,"
>
> **said a Scottish Enterprise participant.**

High-level action plans for infrastructure skills development were felt to be required. If specialist gaps in skills are identified, then the Scottish Funding Council and Scottish college sector must direct provision to that area. Actions plans need to be properly resourced and given priority.

The relationship between the public and private sector was also discussed and the need for greater commercial knowledge within the private sector and equally, greater understanding of public sector constraints by the private sector. Building greater cross-sectoral skills was felt to be important.

> "Surveyors, planners etc when going through pre-recognition period, should they be required to spend a week or two of that in another sector, so that they have different experience".
>
> **said an economic development expert.**

Example: Scotland's Rail Industry

There is no college provision for railway signalling in Scotland, yet there have been two major colleges set up in England for the arrival of High Speed Two. The rail industry is also facing skill shortages in a number of niche areas. It has been seen that skills required in the rail sector are similar to those being sought in other sectors, including digital data analysis and IT, which are in huge demand in this sector.

Strategic decisions such as constructing a railway bridge in one piece rather than build it on site, were noted as not only contributing to the improved delivery of infrastructure, but go some way to address recruitment barriers. Off-site construction has been seen to achieve a better gender balance, reflecting gender preferences for less anti-social hours and easier travel to work in pre-fabrication firms, rather than going on various sites across Scotland.

Appendix:
Exemplar projects mentioned by participants.

Major projects:

In February 2017, the eight Glasgow City Region councils launched an ambitious joint Regional Economic Strategy and Action Plan. Between now and 2035, the goal is to realise a strong, inclusive, outward-looking city region economy, benefiting people, communities and business. A key focus is a commitment to working more closely than ever before with public sector partners, utilities, universities and colleges, the business community and the private sector. Utility and infrastructure providers represented at a summit were Scottish Water, Scottish Power Energy Networks, SGN, SEPA, BT Scotland, Openreach, Virgin Media, Transport Scotland, Scotrail Alliance and Scottish Futures Trust.

A prime example of collaboration and partnership was the building of the Athletes Village on derelict land for the Glasgow Commonwealth Games 2014. This involved redevelopment of an 86-acre site in the east end of the city, providing accommodation for 8,000 athletes and, subsequently, 1400 homes, many of them with low affordability. One participant described how this project had been successfully achieved through setting firm delivery timescales, backed by partnership working and a leadership team which had clarity of purpose and vision. This delivered sustainable "place", emphasising that "silo thinking" is no longer acceptable in delivering complex infrastructure projects.

An anchor organisation, such as Clyde Gateway, in the east end of Glasgow, is vital in building up a collaborative plan and multi-disciplinary teams from both private and public sector.

North Ayrshire Community Planning Partnership, driven by council leader Joe Cullinane, and involving NHS, Ayrshire & Arran, has built upon work in Preston, establishing a community wealth building approach, supported by the £250 million Ayrshire Growth Deal. Kilbirnie and Glengarnock Community Development Trust has used community involvement in building a wind turbine.

'If there is capacity in local area and people come together they can drive forward developments, such as wind turbines, hydro, seen in similar models in the Highlands, and if you get it right, it brings about £10 million over next 20 years paying everyone back. It's a no-brainer if you can get the bits of the jigsaw fitting in.''

The Drumchapel surface water management plan to mitigate the effects of surface water sheet run-off by using existing water courses was aided by new infrastructure. Working with Scottish Water lowered costs for the company as it did not have to build its own surface water storage facilities, demonstrating the benefits of partnership working. SEPA brought the different groups together and the partnership has flourished. One utility participant said we can't dig up streets and put in bigger sewers and drainage infrastructure, so we need to tackle surface water removal in a different way, involving blue and green infrastructure, such as the 1,000 Water Garden Scheme in Glasgow.

In Edinburgh, a Local Place Plan has been prepared for Wester Hailes in West Edinburgh, where there are 20,000 citizens. The Local Place Plan creates a progress report for improvement, opportunity and making Wester Hailes a better place to live. A new access hub with space for new activity in West Edinburgh using canals and cycle-ways and space for new activities. The Local Place Plan, which benefited from a Scottish Government secondment of the Chief Architect, fits into the wider City plan for the West side of the city and for Edinburgh City Plan too, with future thinking around strategic economic development and housing investment.

Elsewhere local authorities in Falkirk, Fife, Moray and West Dunbartonshire has been developing community Place Plans, while the North Glasgow Integrated Water Management System (Smart Canal), project sees collaboration between councils, Scottish Water and Scottish Canals. Advance warning of heavy rainfall through sensors will automatically trigger a lowering of canal water level to create capacity for surface water run-off from business and residential sites, aiding urban regeneration.

Important lessons to learn from the Metropolitan Glasgow Strategic Drainage Partnership, running for ten years and a 'great partnership where money was put together'. This learning, helped by the City Deal, was seen to be influencing the Edinburgh & Lothian Drainage Partnership.