

ADEPT

LIVELABS

ADEPT SMART Places Live Labs



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#LiveLabs

MOBILISING AN INNOVATION PROGRAMME (DURING THE COVID-19 PANDEMIC)

Introduction

This white paper is the first in what will be a regular series of outputs from the £23million DfT-funded ADEPT (Association of Directors of Environment, Economy, Places & Transport) SMART Places Live Labs innovation programme. The white papers are part of our commitment to transparency and are intended to share learnings and insights as they happen. This will allow industry colleagues to capitalise on work done through what is a wide-ranging programme covering the smart materials, energy, communications, and mobility spectrum. More details on our Live Labs cohort and their individual programmes can be found at the Live Labs website.

The content presented has been developed through a series of 'Chatham House rules' one-to-one discussions with our local authority Live Lab leads, and we thank them for their openness in sharing their experiences to date. We hope that this and future white papers are useful and will help accelerate innovation for local authorities across the transport, planning and environment sectors.

This paper focuses on the period from bidding through to the beginning of the delivery phase. Like almost everything else in society, Live Labs has been impacted by the global pandemic of COVID-19. In preparing this paper, we discussed COVID-19 impacts through the lens of an innovation programme in order to capture any early thoughts on lessons learnt and how such a programme could be resilient to future shock events.

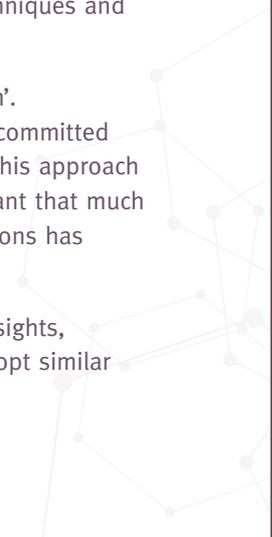
The early days of Live Labs

The Live Labs grew out of a desire to accelerate innovation in the local roads sector. Initial research through the ADEPT SMART Places programme recognised that opportunities for innovation in the sector were often being missed, and where they were occurring were not necessarily consistent.

Following discussions with ADEPT local authority and commercial partners on how a potential innovation programme could form, a streamlined competitive approach was developed, and a prospectus published. The prospectus was not prescriptive in its requirements. It described a vision for innovation for the sector encompassing the four pillars of smart materials, energy, communications and mobility, thus allowing for real innovation and exploration of techniques and solutions new to the UK to deliver measurable outcomes.

In late 2018, a shortlist of bidders pitched their ideas to an independent 'Dragon's Den'. Recommendations were then made to the sponsor, the Department for Transport. DfT committed £23million to the two year programme, with funding coming on stream in May 2019. This approach of a lean competition, focusing on innovation and the downstream outcomes, has meant that much of the usual development that would be part of the 'bid' stage in traditional competitions has effectively moved to the mobilisation stage.

At the heart of the programme is our ethos of taking an 'open' approach to sharing insights, learning and application, to ultimately allow others to develop business cases that adopt similar innovations building on the developed evidence base.



After the elation of winning, the wait for funding

After the eight successful Live Labs had been notified, there was a delay in funding coming on stream, as occurs in many similar innovation programmes. Given the nature of the approach in Live Labs (moving up front development into the mobilisation phase), this meant that some programme activities continued ‘at risk’ until final confirmation was achieved. Our enthusiastic cohort continued to prepare during this period, but the short breathing space did provide the conditions for organic change and reflection to occur.

Several Live Labs refined their proposals further, especially important given the fast pace of innovation. This has resulted in some flexing of proposed technical solutions and, in some cases, changes of geographical deployment. With the programme being focused on outcomes, this did not present a problem and allowed teams to capitalise on parallel industrial innovation across the period. One leader described how the flexibility of the approach to specification allowed for this innovation, something that might not have been possible with a more traditional approach.

Turning to the human factors that are the ‘glue’ that holds all programmes together, some of the cohort were challenged internally with balancing initial ambitions against the realities of delivery or managing different views on scope and approach. These discussions were not necessarily possible with an immediate start. However, inevitable external changes, for example one Live Lab lost an enthusiastic political champion due to a portfolio change, illustrate some of the softer issues that wrap around innovation. In a similar view, one authority commented that the period allowed for new ideas to be embraced more readily than had been the norm previously.

An unexpected challenge for one of the Live Labs came in the form of a parallel announcement: the commencement of their Future Mobility Zone (now Transport Zone) funded through a different governmental innovation stream. In this case, the success of two parallel innovation funds has meant the careful management of potentially overlapping programmes with similar ultimate outcomes.

Some takeaways:

- A flexible approach can allow teams to capitalise on parallel industrial innovations
- Delay period between winning and funding could enable teams to balance ambitions against the realities of the project, and more freely discuss (and implement) new ideas
- Care is needed to ensure similar innovation programmes do not overlap excessively



Mobilising after the lean bid process

Mobilisation for any innovation programme can be daunting. Given that the Live Labs programme had at its heart public and private sector partnerships, external suppliers, SMEs, academics and other specialists, and the fact that each of the eight are very different from each other, the mobilisation journey has been complex and resulted in a wide variety of approaches.

One programme lead commented that “having funds in the bank” had been a particular challenge – they were not used to having a free reign on innovation, with the internal expectation being that outcomes needed to be clearly defined and measured against, which in a programme of this type was difficult. Conversely, another felt that the unrestricted approach had actually helped them define their innovations.

A major challenge has been the perennial issue of capital funds being used for activities that have traditionally been considered revenue. Tangible assets have not been the issue, but where assets aren't physical or 'touchable', data being a case in point, this has tested officers. Similarly, research activities, central to many of the innovation programmes, have traditionally been considered as revenue-funded activities.

A common thread has been the collective view that getting finance and procurement colleagues on board as early as possible in the process, is now seen as essential. With highways managers not generally being technologists, and complex programmes and concepts being at the heart of proposals, new solutions have had to be developed in some cases resulting in a wider benefit for lead authorities.

Unlike other established national innovation programmes, Live Labs was not prescriptive on the contractual approach to be adopted, reflecting the open nature of the competition call. As boilerplate contracts were not specified, each Live Lab has had to approach its own circumstance and needs within the context of its deliverables. Given the breadth of innovation from materials to data sensors and all in between, this has resulted in different models being adopted.

In some cases, what should have been a simple approach through existing term maintenance processes has been protracted. In one case, a lead officer reflecting it might have been quicker to embark on an OJEU process for their needs. Those differing viewpoints, objectives and business models have also been the background to some complex negotiations between sectors that normally do not come together in local roads.



For instance, a highways maintenance contract, which was developed to deliver volume-based improvement, may not be the best vehicle to procure bespoke innovation including academic or SME research. This isn't necessarily a fault when those arguably 'traditional' approaches are being stretched in an age of innovation, especially when perhaps underlying business models were not envisaged with such requirements in mind. That said, without fail, our gang of eight Live Labs have overcome these challenges with help from their procurement, legal and finance colleagues.

The realities of resourcing an innovation programme, has also been the subject of a variety of approaches. Some authorities have drawn upon the resources and expertise of their business improvement teams to drive the programme; others have drawn upon private sector support (through consultants) or decided to deliver as part of the day-to-day, and a few have secured new roles. The latter has been a challenge for one team, where the time to recruit was lengthy (due to internal processes) and then difficult to secure in a highly competitive technical marketplace. The headspace needed to mobilise was also a factor that some teams struggled with, especially with other parallel responsibilities and small teams.

Active partnerships have been central to those that have been able to mobilise quickly, as has appointing the right project manager with the right skill set and attitude to succeeding. These factors have helped translate those initial aspirations into programmed reality, which has been vital given the breadth of technology and because of partners who, in many cases, have never worked together.

As one Live Lab pointed out, the continuity between the bid and execution teams is essential, and whilst the learning curves have been significant for all parties, it has been done with grace and enthusiasm.

Some takeaways:

- Having free reign on innovation is not one size fits all – under these conditions, some found it difficult and some found it easy to define expectations and outcomes
- Capital funds being used on intangible assets can challenge programme officers
- Get finance and procurement colleagues on board early reaps dividends
- Differing viewpoints, objectives and business models can lead to complex negotiations between sectors that may not normally cross paths
- The realities of resourcing can be approached from multiple angles
- Active partnerships may be the key to quick and successful mobilisations



Live Lab teams, their challenges, successes and failures to date

The Live Labs programme is predicated on pushing the boundaries in the local roads sector, using new approaches, solutions and techniques, but as importantly, recognising that failure could occur. Those learnings, positive and negative, are hugely valuable and at the centre of our ongoing monitoring and evaluation, which feeds our communications and learning workstreams. We asked our Live Labs to be honest about their experiences to date and the findings are illuminating.

From the pressure to complete contracts with sectors with which negotiations were new, to the learning curves for programme teams and the need to brief senior officers and members, time has been a constant challenge. Articulating the aspirations and envisaged benefits to those beyond initial bid teams has been a recurring theme, underlining the need for unambiguous internal communication. One Live Lab has had the added challenge of an internal restructure coinciding with mobilisation, bringing external and unanticipated pressures.

Stepping into the innovation-at-scale space has also been a challenge for some – where local authorities have been comfortable with incremental, low level innovation, moving into the multi-million-pound space has not been easy. One of our cohort eloquently described “moving from being risk averse to risk aware” as being key.

Quick and early engagement from partners has been a common issue too, be that term maintenance or external providers. That said, once engaged Live Labs are reporting high levels of enthusiasm and commitment within their teams. However, that excitement does have its own challenges – one leader highlighted that there was real disappointment when one of their project team had to leave, another describing the challenge of scope creep once colleagues were onboard contributing new ideas.

The collaborative approach at the heart of the Live Labs programme seems to be an emerging seam of success – the potential for innovation to become ‘Business As Usual’ is recognised within programme teams and across their local authorities. One Live Lab described the “light bulb moments” of realising new ways of doing things, beyond those initially envisaged within the programme. Others were excited about the new working relationships developing between local authority teams, consultants, academics and commercial partners. Whilst initially a challenge, this is now seen as a success.



A major challenge for the programme has been encouraging collaboration between Live Labs, with one leader saying that in his experience it wasn't normal to ask for help from another local authority. Our programme level 'stand-up sessions', which take place every other week, have helped to break down these inhibitions with sharing, comparing and requests for help being much more normal.

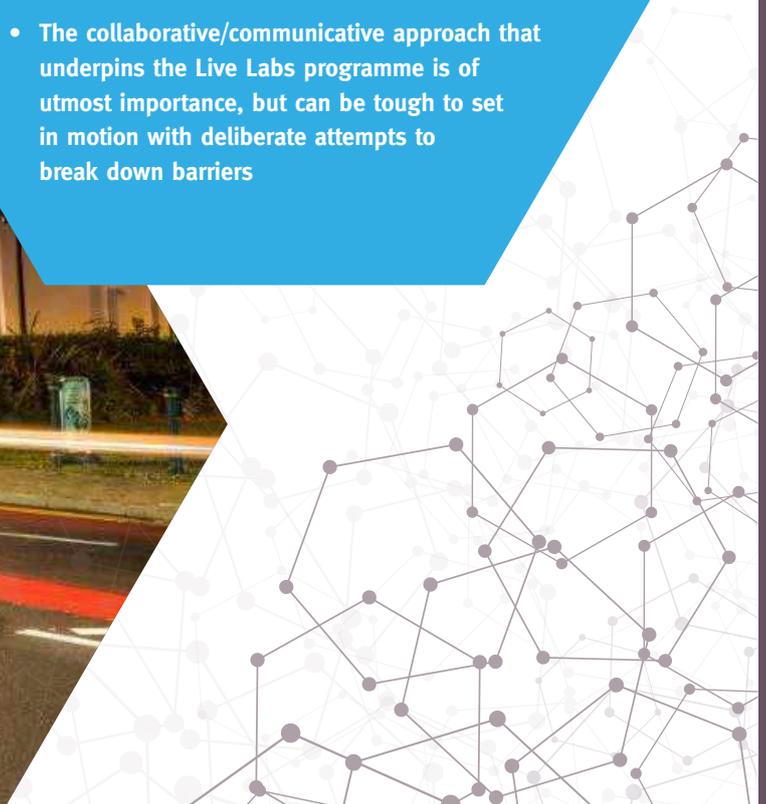
That importance of communicating – whether across the programme, with individual teams, internal with local authorities or externally with partners and industry – is something that had arguably been overlooked by many of our Live Labs but is now important and seen as something to strive for. In a similar vein, defining ambition and setting the scene clearly, is seen by some as essential in retrospect.

A standout moment from the one-to-one discussions was when one leader was asked to define success for their project. They described it as “the freedom to explore, the desire to make things work and the second waves of innovation resulting from the initial specification”.



Some takeaways:

- Time is a constant challenge, particularly when juggling multiple pressures
- Some local authorities are not prepared for the shift from small incremental change to multi-million-pound innovation programmes
- Quick and early partner engagement is vital, and bears fruit in the form of excitement and commitment
- The collaborative/communicative approach that underpins the Live Labs programme is of utmost importance, but can be tough to set in motion with deliberate attempts to break down barriers



Hindsight, an unaffordable luxury?

It is important to recognise that innovation is a journey. And on any journey, it is good to stop and reflect. We therefore asked our Live Labs a deliberately provocative question, to consider what they would change if they could go back in time. These views varied across the group:

- Not trying to cover all bases just because the prospectus had four areas – one Live Lab concluded they really didn't need to cover them all
- Thinking through the detail of how to mobilise, and now recognising that almost anything can be done with the right people and partnerships in place
- Managing with a local authority project manager, not a contractor, control being important
- 'Selling' the innovation programme internally to get wider buy-in
- Allocating the necessary time to plan for resources much earlier in the process
- Getting the mindset right for research versus a traditional capital project, noting that flexibility doesn't necessarily come easily for local authorities
- Not getting stuck in the detail, being authentic and consistent in approach, and learning by doing

Once more turning to the human side, one leader said that the process to date has been great for learning about when to ask for help. Another said that it had helped them try to be less pessimistic about the Live Lab, feeling that optimism is more likely to get the job done.

As described earlier, the model adopted for the Live Labs competition was deliberately non-prescriptive and lean in its approach. We asked our leaders what they thought could have been done differently to achieve better outcomes to date.

A couple of Live Labs suggested that a paid discovery phase might have been useful, perhaps after being announced as winners, to help crystallise ideas. This would have provided the thinking time necessary and the processes needed to deliver and to really develop the partner relationships.

Others commented that with complete freedom comes the challenge of defining clear goals, an unexpected consequence of our agile process. Finally, some questioned whether the model of standard procurement and legal process would have helped mobilise the Live Labs more quickly.

Some takeaways:

- The opportunities are endless with the right people and partnerships in place
- Selling the innovation programme convincingly to partners and local authorities is difficult but absolutely necessary
- Approaches and opinions on the programme vary between project – what one project leader views in hindsight as an advantage may be viewed differently by others

Advice for those considering an innovation programme

Advice for those considering an innovation programme

Finally, we asked our cohort if they had any advice for others considering moving into the perhaps daunting innovation space, in particular future programmes similar to Live Labs:

- Go for it, be flexible and enter with your eyes wide open
- Speak to those who have done it before
- Failure is not a bad thing
- The more preparation you can do the better
- Look at your lessons learnt and don't ignore them
- It's an opportunity to be really innovative
- Communicate the what and the why
- Have an open mind and be willing to be flexible and change your approach
- Innovation by its very nature means you may not know the outcomes
- Understand what an innovation programme entails and how it's different from an infrastructure project
- Understand your legal position and contractual relationships
- Get a good partner
- Get a full-time project manager and establish a strong project plan
- Be fleet of foot
- Think big!



Some takeaways:

- Don't be conservative in your approach – enter with an open mind, appreciate that failure is not a bad thing, and lessons can be learned as a result
- Know your brief before beginning – what do you want to achieve and why? Understand what an innovation programme actually involves, understand your legal and contractual position, establish good partners and a full-time project manager in the early stage of building a project plan

**Aim high,
dream
BIG!**

An unwelcome addendum, Covid-19

When the Live Labs initiative was launched, no one could have predicted the unprecedented times we find ourselves in with the COVID-19 pandemic. Live Labs is one of the only innovation programmes that started before, will go on after, and like most of society, has been significantly impacted by COVID-19.

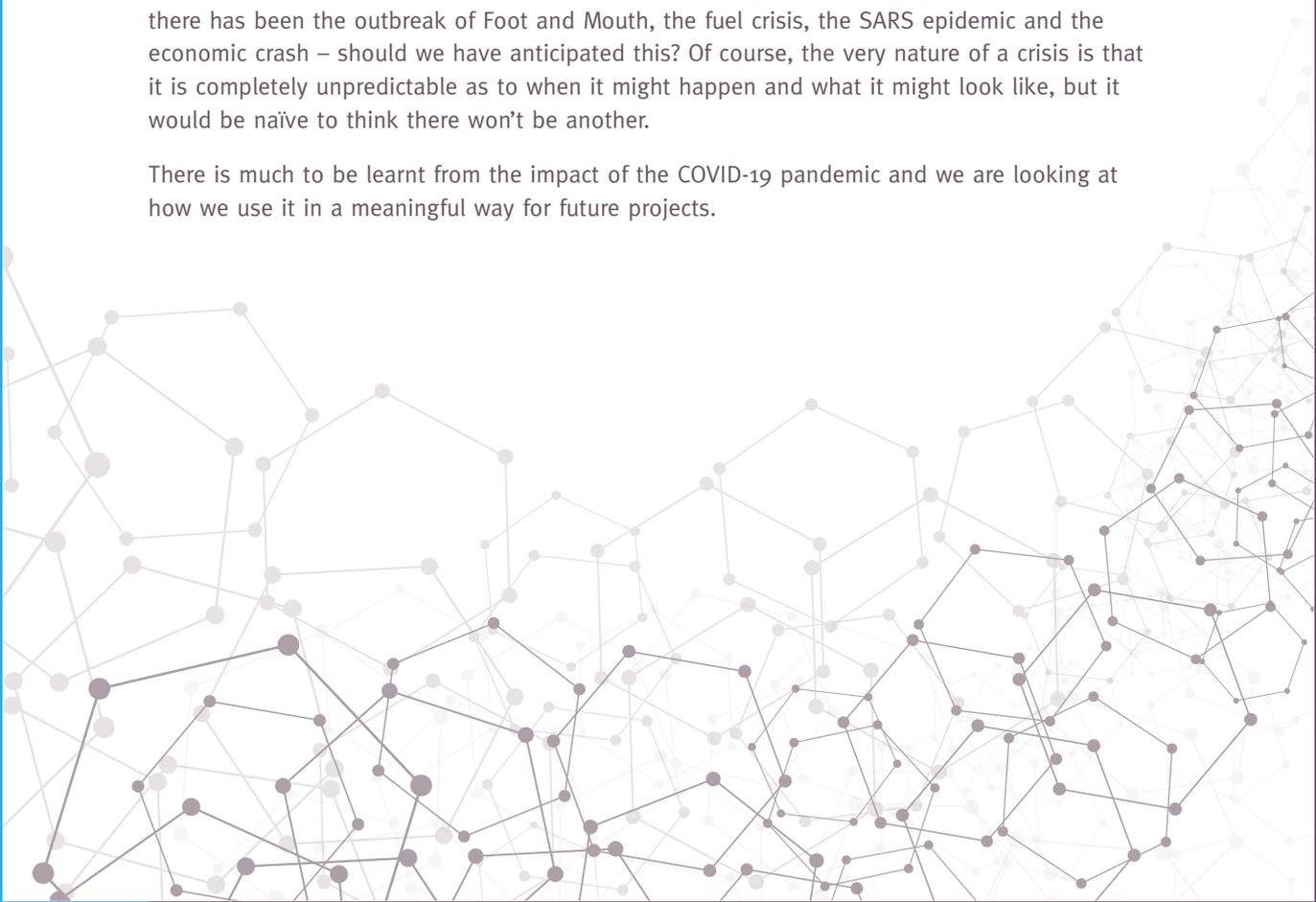
While the situation presented challenges such as having equipment held in depots because transportation had ceased, closures in the supply chain and not being able to get operatives to site because of social distancing issues, it has also offered our Live Labs the opportunity to revisit the programme. For example, one that focused on using innovation to mitigate the effects of rising traffic i.e. air pollution and safety, is now focusing on locking in the reduced traffic and improved air quality benefits COVID-19 brought about.

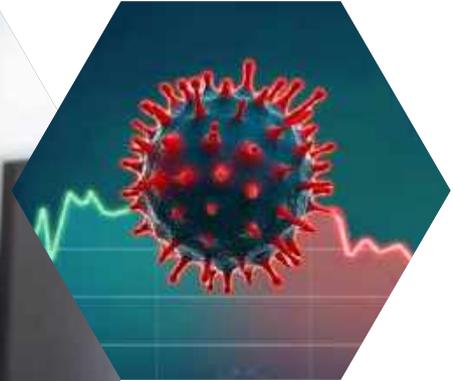
DfT has officially extended the programme to November 2021, but some of our Live Labs are still working towards the original deadline of May 2021. They are not looking at it as an extension, merely a buffer if they need it, particularly so they can capture some of the COVID-19 impacts as part of the monitoring and evaluation process.

The teams have also had to adapt to a new way of working, which has brought unexpected benefits. Because everything has had to move online, many teams have found that working remotely means they are working more smartly. Some commented that there is less of the dead time normally incurred by travelling to meetings, so projects have been able to be accelerated. Yes, there have been delays but time has been recovered in other ways.

One of the things we have asked ourselves is could we have prepared ourselves for such a cataclysmic event? Yes, we know that an innovation programme is going to be buffeted by low level things like technology and staff changes. But looking back over the past two decades, there has been the outbreak of Foot and Mouth, the fuel crisis, the SARS epidemic and the economic crash – should we have anticipated this? Of course, the very nature of a crisis is that it is completely unpredictable as to when it might happen and what it might look like, but it would be naïve to think there won't be another.

There is much to be learnt from the impact of the COVID-19 pandemic and we are looking at how we use it in a meaningful way for future projects.





Over the last few months we have seen incredible enthusiasm and energy from the Live Labs teams, with a real determination to continue to deliver these projects.

The resilience of the people involved has been impressive. It has brought the teams together and collaboration across the projects has intensified – everyone is reaching out to each other to find new ways of delivering.

We need to capture this and build on the positives, so that we can be equally agile and resilient when the next shock event comes our way.

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