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TRANSFORMING HOW PEOPLE ENGAGE WITH MAJOR PROJECTS

Digital tools enable a more collaborative, transparent approach to design and consenting for major infrastructure projects. AECOM's **Ross Stewart** explains how advanced digital capabilities are delivering a step-change improvement.

Stakeholder engagement and consultation with statutory bodies, local communities, businesses and the wider public is an essential process for all infrastructure projects, but especially nationally significant infrastructure projects (NSIPs) which often invite high levels of scrutiny.

However, NSIPs are struggling to maximise the potential of engagement and consultation because they rely on documents — printed on paper or as PDFs — to convey large amounts of often complex information. This 'two-dimensional' approach can lead to misunderstandings, the breakdown of positive relationships, and ultimately to more objections increasing both the

burden on project teams and the risk that development consent is refused.

Digital formats offer a more tailored and relevant engagement experience to ensure stakeholders feel valued throughout the consultation process. They allow a broad range of stakeholders to navigate a scheme's proposals with greater ease, visualise its most challenging and complex aspects, and better appreciate its potential interactions with the environment, communities and people.

Four tools for greater collaborative engagement

Recognising industry's failure to harness the power of digital formats, AECOM has developed a suite of



DIGITAL FORMATS OFFER A MORE TAILORED AND RELEVANT ENGAGEMENT EXPERIENCE

advanced digital capabilities to drive improvements in the consultation and stakeholder engagement stages of the environmental impact assessment (EIA) and the development consent order (DCO) process. It is an industry-leading approach that minimises risk and maximises positive outcomes for NSIPs.

We now provide four key digital capabilities to enhance stakeholder engagement and consultation, which are being deployed by AECOM in a cross-sector portfolio of global projects. →



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ADVANCED VISUALISATIONS: HIGHLY INTERACTIVE AND ENGAGING

The landscape and visual context of a proposed development is often difficult to understand from documents and slides. Advanced visualisation techniques, such as virtual reality (VR) and augmented reality (AR), provide a highly interactive and engaging alternative. Users can be transported into a complete 3D immersive experience that gives them an accurate and engaging appreciation of the finished project helping to dispel misconceptions that often exist about the likely landscape and visual impacts.

Advanced visualisation techniques also convey a project's potential benefits more effectively, particularly those associated with mitigatory landscaping strategies, ecological enhancements and innovative design approaches.



2/

SOUND DEMONSTRATIONS

Potential noise impacts are another critical consideration during the design stages, especially for transport and aviation schemes. Unsurprisingly, then, noise is high on the agenda throughout the EIA and DCO engagement and consultation process.

Noise has, until recently, only been communicated in technical reports, two-dimensional noise-contour plans, and in person by acoustics experts. However, these methods lack real-world context and credibility among the vast majority of non-technical stakeholders.

To address this key consultation and engagement issue, our Immersive Sound Studio¹ team has developed an industry-leading sound demonstration capability. Presented at consultation events, these demonstrations combine 'before and after' acoustics with bespoke video montages that enable stakeholders to both hear and see proposed changes in noise levels in a familiar context. The sound demonstrations used at public consultation are presented using a calibrated headphone listening system to ensure that the sound levels are exactly right.

To help communicate the benefit of this approach outside of the context of sound demonstrations at a consultation event, we have developed a 'relative change' video that demonstrates the relative change in sound from a road with and without a noise barrier.

3/

VIRTUAL PUBLIC EXHIBITIONS

Public consultation events, whether statutory or non-statutory, are an important aspect of NSIP consultation. Organised by the scheme's proposers, these events enable the public and other interested parties to meet and engage with informative materials and project representatives. However, some people are unable to attend and so miss an important opportunity to engage and have their voices heard. In exceptional circumstances, such as the coronavirus pandemic, staging a public event of this kind is simply not possible.

To bridge this gap, we have developed a Virtual Consultation² room. The 360-degree immersive experience gives stakeholders the 'feel' of being at an event and provides the same information. It also gives people the option of 'live chat' with the project team via an integrated chat function that is manned at advertised times.

The aim of the virtual public exhibition is not to replace the traditional format but to complement it by actively encouraging engagement with traditionally hard-to-reach groups, such as the young, people with busy schedules, and those with mobility restrictions. Gaining the active participation of these groups increases the diversity of a consultation base and can help achieve more widespread buy-in for major infrastructure projects.

This remote approach provides a resilient solution to the consultation process during the coronavirus pandemic.

4/

ENVIRONMENTAL ENGAGEMENT PLATFORM

Multiple reporting outputs are required throughout the lifecycle of a NSIP EIA, including scoping reports, consultation documents, preliminary environmental information reports, and environmental statements. Traditionally printed on paper or PDFs, and often described as 'obese' and 'impenetrable', these documents communicate essential information, but their weight and complexity make it difficult for stakeholders to access and digest the information that is most important to them.

AECOM's Environmental Engagement³ platform addresses this problem by converting these obese and impenetrable documents into an interactive and intuitive website. It maximises the use of spatial data, visualisations and other forms of media to deliver a significantly improved way of engaging with large volumes of complex project data and enabling far greater accessibility, digestibility and understanding.

More than a data visualisation tool, AECOM's Environmental Engagement is a platform for the centralisation, management and presentation of all forms of project data, including GIS, technical data and reporting, as well as 3D models, sound files, images and videos. Enhanced stakeholder engagement functionality allows for the capture and storage of defined and structured feedback and display of time-

series data, for example stakeholder sentiment over time. The platform not only represents a leap forward in the reporting of the EIA and DCO but also has the potential to add value to many other reporting outputs that have a spatial element, such as masterplans, transport strategies and climate resilience plans, to name a few.

Although currently seen as emerging best practice, this digital approach to reporting will eventually take over from print formats as legislation responds to new industry-led approaches and public expectation. The implications are tantalising: at one end of the scale there is the environmental benefit and cost saving of avoiding print work, while at the other end there will be enhanced analytics that give unparalleled insight into user concerns and areas of focus, with time savings associated with more efficient production workflows sitting in the middle of the scale.

As with our Virtual Consultation room, AECOM's Environmental Engagement platform can encourage meaningful engagement during social distancing, supporting our most important infrastructure projects through the planning and consenting during this critical period of uncertainty.

Setting a new industry standard

These enhanced engagement capabilities set a new industry standard and deliver a step-change improvement. By bringing together key digital techniques, clients are able to maintain positive relationships with project-critical stakeholders and actively reduce the number of objections to their schemes, while streamlining the critical consultation and stakeholder engagement aspects of the EIA and DCO process. **W**

CASE STUDY: A303 AMESBURY TO BERWICK DOWN (STONEHENGE)

Our advanced digital capabilities were implemented on the Highways England A303 Amesbury to Berwick Down (Stonehenge) highways scheme which passes through the World Heritage Site. The scheme prompted particularly high levels of scrutiny and challenge from the public, non-statutory stakeholders and statutory consultees. In such circumstances, a step-change in approach to consultation and engagement was required to effectively communicate the scheme's value and benefits, including providing a lasting legacy for future generations.

VR drive-throughs of the planned route and tunnel4 together with a photo-realistic representation of 16km² of the site and the surrounding countryside including the iconic Stonehenge monument were produced and deployed at public consultation events, as well as being given to the media for use in news features.

To complement these visualisations, an interactive 360-degree VR app⁵ was also developed for the consultation process as well as for use during field visits with project-critical heritage stakeholders. The 360-degree visualisations allowed users to switch between 'before and after' views, enabling close scrutiny and critical analysis of the potential changes to the landscape at key locations. Data from the VR app also informed the design process.

Furthermore, it was the first time that sound demonstrations were used for a major UK road scheme. AECOM's use of immersive technology was recognised by the prestigious John Connell Innovation Award for setting a new industry benchmark for stakeholder engagement. Public Health England, a statutory consultee through the DCO process, also cited its use as best practice for consultation on highways projects.

