## My Reflections on "Large Infrastructure Projects" by John Slater, P&SC.

Well done to P&SC for another very informative meeting on Monday 12<sup>th</sup> November. We met in the Grimmond Room with every seat filled.

Guest Speakers were Sir Terry Morgan, Chair of Crossrail, and now also Chair of HS2, and Steve Gooding of the RAC Foundation.

Sir Terry gave us a fact laden presentation on Crossrail and then HS2, pointing out the enormous scale of the projects and of each transport system. The major difficulties of Crossrail have been in the Central London section trying to fit tunnels, platforms and stations around existing underground systems along with other utilities such as gas, water, electricity and under ground rivers. London being based on clay meant that the weight of the additional line and stations has caused inevitable movement in the buildings above which has presented several major civil engineering challenges - one reason why there has been a delay in the completion of the project.

What was particularly interesting was Sir Terry's strategic overview in both projects, seeing the need to involve local labour and manufacturing to recruit over 1000 apprentices and set up academies to train them. He also showed sensitivity to issues such as gender and race balance throughout both projects.

Much of what Sir Terry said was echoed and supported by Steve Gooding who again looked strategically at large infrastructure projects and their management, particularly in his case, road systems. He explained clearly and indepth the difficulty in managing cost and benefit on one side with disruption and accountability on the other. He stressed the need for all major infrastructure projects to be both inspirational and aspirational. Accountability, particularly locally and to interest groups, frequently cut across both of these. This is why he saw a very real need for local and national political involvement from the very beginning of such schemes.

Steve pointed out that with the Stonehenge project the goal posts had been moved six times between 1991 and 2018 before final agreement was reached and the original estimate of £200 million has now grown to £1.4 billion. Clearly in these circumstances a very long tern view has to be taken over cost benefit.