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In thinking about the London tunnel debate, if I were a participant, I would be interested in the following questions, with the obviously implicit answers based on our extensive and on-going experience with Green Stormwater Infrastructure in Philadelphia. Nobody should underestimate the challenges of implementing Green in a major urban area, but with the potential payoff so high, the effort is proving more than worth it.

Why would the government support a project with a miniscule benefit - cost ratio over a project with a relatively high benefit - cost ratio? In Philadelphia, the tunnel option estimated cost of over \$5 billion would only produce an estimated value of \$189 million dollars. The Green option estimated cost of \$2.4 billion would produce an estimated value of \$2.8 billion.

Why would the government support a project with limited, short term employment of primarily overseas companies over a project providing more jobs for primarily local contractors? The economic multiplier effect of Green is significantly higher than the tunnel option. In Philadelphia, projects have already employed 16 separate, local based engineering and design firms and dozens of local contractors, employing hundreds of Philadelphians, and the program is just getting started.

Why would government allow one of the largest environmental investments in the coming decade to select an alternative without a comprehensive evaluation study? In Philadelphia, due diligence meant developing hydraulic models capable of fully simulating all alternatives including green, doing a complete Triple Bottom Line study to better compare alternatives, fully engaging the regulatory agencies to jointly settle on the correct decision, and selecting an alternative that represents the future of sustainable cities, rather than solutions of the past century.

In these times of economic volatility, why would the government opt for a massively expensive, completely inflexible solution over one that provides maximum flexibility in timing, spending rates, and total cost? In Philadelphia, it was clear that the tunnel needed full financing, with no value attached until complete. Green provides immediate, incremental benefits, with full ability to adjust to changing economic, climate, and regulatory changes.

Why would the government choose a solution that meets regulations that are currently being rethought around the world? Though tunnels have been the solution of choice in the US since the 1970s, the past 10 years have seen a complete change of mind on the national and state level, with Green solutions being recognized as the superior approach.

Why would the government choose a solution that concentrates capital investment in a limited number of primarily overseas investors instead of a diverse base of local businesses? In Philadelphia, it was recognized that large scale tunnelling expertise and winning bids would go to foreign companies. For a city in slow economic recovery, the economic stimulus of the Green solution was a key advantage.

Why would the government believe that Green solution can't work in London with no evidence to either prove or disprove the claim? If Green is being successfully implemented in Philadelphia, New York, Washington, Chicago, Cleveland, Cincinnati, Indianapolis, San Francisco, is London so different?

Why is the efficacy of Green solutions still being questioned? There are thousands of green stormwater infrastructure projects in major cities around the world. Monitoring in Philadelphia alone has shown that we are underestimating the stormwater capture potential of these projects, with infiltration and evapo-transpiration exceeding our initial estimates.

Why would the government not make use of the growing trend in public-private partnerships to solve a major environmental problem? These partnerships are a growing trend to help cash strapped governments to harness the private sector for shared financing. In Philadelphia, the cost share to date has been weighted more towards the private sector than the public, and this is likely to continue in the future.

Sincerely,



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