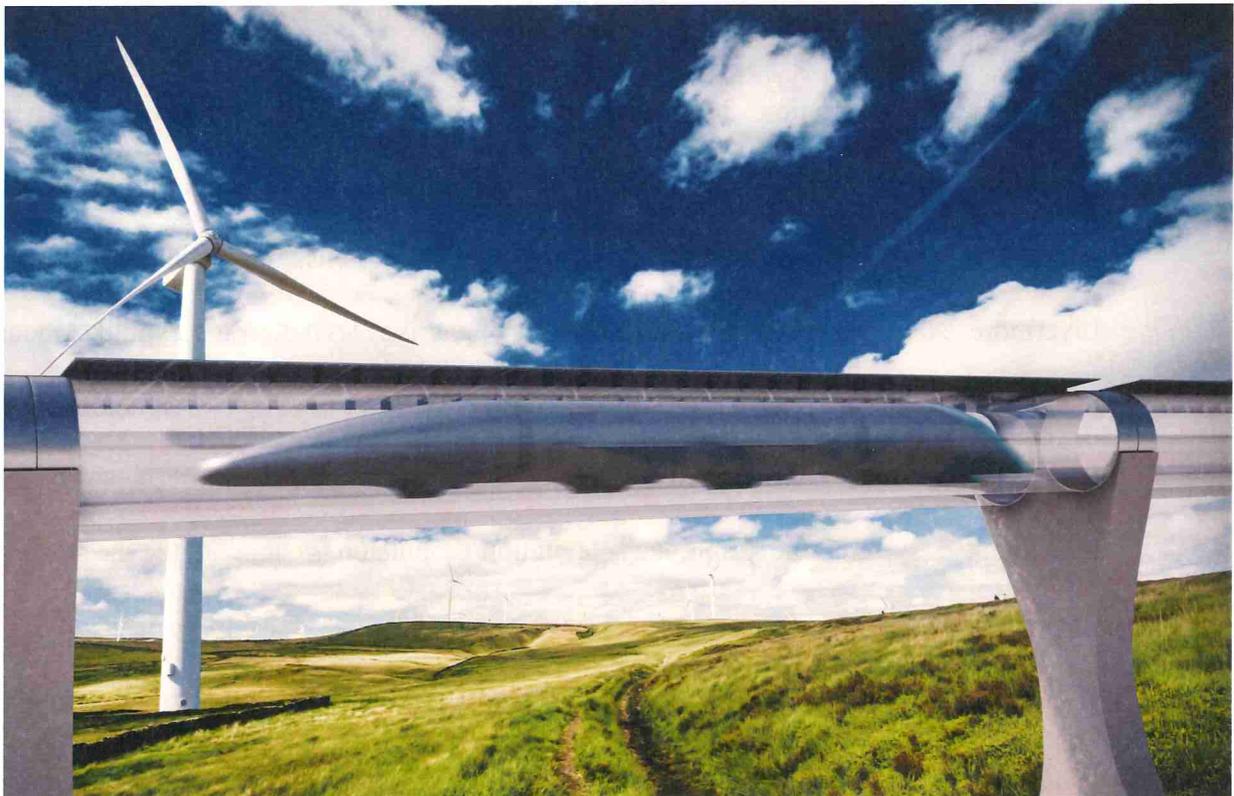


## The State of Utah | Hyperloop Transportation Technologies

### WHAT IS THE HYPERLOOP?

- Hyperloop™ is the name coined by Elon Musk, for a new rapid transit modality. The idea dates back >100 years and has enjoyed high-profile support from Robert Goddard and the Department of Transport in the 1920's and 1960's respectively.
- Hyperloop is levitated passenger or cargo capsules travelling within evacuated tubes powered by solar power, built on environmentally integrated pylons to avoid the need for a contiguous easement and wide swathes of unusable land (compared with High Speed Rail (HSR)).



- Economics – Hyperloop™ is cheaper to build than HSR, much cheaper to operate and offers close to departures-on-demand.
- Silent, clean, fast (eventually close to the speed of sound), weather independent, energy efficient (potentially energy-positive) and safe, Hyperloop™ offers the opportunity to shrink travel times dramatically and change the dynamics of human lives.
- Hyperloop is becoming a practical reality because of the convergence of cost-effective, proven technologies – many technical questions have been answered, some remain in resolution.

## Building the Hyperloop

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### HYPERLOOP TRANSPORTATION TECHNOLOGY

- Hyperloop Transportation Technologies (HTT) is the first company that began developing the core technology; the firm is a collaborative corporate entity and consists of more than 800 professionals globally, supported by organisations including Lawrence Livermore National Laboratories (proprietary passive levitation), Leybold (vacuum pumps), UCLA, MIT, Atkins (civil infrastructure), Textron, CAMI (FAA), Anomaly, and Paul Hastings. HTT has licensed 11 patents from Lawrence Livermore supporting the Inductrack™ system, the proprietary levitation/propulsion system at the heart of the Hyperloop™.
- HTT has signed collaboration/research agreements with national and local Governments,

including the nation of Slovakia; the city of Brno, Czech Republic; Abu Dhabi and the City of Toulouse, France. 13 other nation state/major city pair discussions are in progress.

- HTT recently announced \$100m in investment and sponsorship by Sheikh Falah Bin Zayed Al Nahyan.
- HTT plans to build a Research & Demonstration center to prove and certify integrated components of a typical Hyperloop™ such a centre could be ideally placed in Utah.

## Front Runner Provo to Ogden

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### UTAH EXISTING ANALYSIS

- In 2016, at the invitation of and in collaboration with UTA, HTT conducted a *pro bono* initial feasibility analysis of the Front Runner Provo to Ogden line. The results were presented to UTA in late summer
- The results in summary suggested a two-way Hyperloop could be built for approximately \$2bn (comparable to a second rail line), and deliver greater than 70% time savings, whilst yielding far lower operating costs, no pollution and a “little/no need for” subsidy guarantee.

## Utah Hyperloop R&D Center

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### THE OPPORTUNITY

- HTT now proposes to match funds (in cash and kind) to a maximum of \$500,000 for the cost of a formal feasibility study (anticipated cost \$1m), conducted over approximately 4 months with external expert partners contributing specialist expertise to deliver a detailed proposal, including:
  - Route analysis and options for Hyperloops in Utah – this may include such city pairs as Las Vegas – Salt Lake City, or Salt Lake City - Denver
  - Operating efficiency and energy balance
  - Technical options and standards
  - Geotechnical and energy analyses
  - Demand analysis
  - Costings, including joint venturing on passenger pod manufacture and R&D center

