US INFRA – RIPE FOR DISRUPTION

AUDACITY AND DISRUPTION ARE BADLY NEEDED IN THE US INFRASTRUCTURE MARKET. BY MICHAEL WHALEN, A MANAGING DIRECTOR AT BERKELEY RESEARCH GROUP AND A FORMER SENIOR ADVISER AT THE US DEPARTMENT OF TRANSPORTATION'S BUILD AMERICA BUREAU.

Disruption is the preferred expression of tech entrepreneurs, venture capitalists and TED Talk speakers in describing transformational shifts in market structures. It is a word not generally associated with the transportation infrastructure project sector, at least with the same positive connotations. But could this change in the US infrastructure market? Two factors hint at the possibility.

First, America is well into the second year of the Trump presidency, which itself seems to thrive on a steady diet of disruption. Infrastructure was flagged as a key administration objective and its legislative principles for infrastructure were released in February.

Second, milestones for highly innovative, private-sector led infrastructure developments have been announced. Some of these projects challenge common assumptions about the implementation and approach in how US transportation infrastructure can be structured and funded. Indeed, a recent announcement is linked to one of the most heretical entrepreneurs in America today, Elon Musk.

Let's start by assessing the disruption potential of the Trump infrastructure plan.

The portents for a Trump infrastructure agenda having significant impacts looked promising enough: the goal of securing significant increases in new investment was rare common ground between 2016's competing presidential candidates, with broad support from both political parties. So, given President Trump's development- and construction-oriented background, US infrastructure stakeholders keenly awaited his administration's big moves in setting the Federal infrastructure agenda.

However, the big reveal of the administration's legislative principles deflated prior high expectations. Unfortunate timing, uncertain funding prospects, and an odd tentativeness in the plan itself on the appeal of private sector-focused solutions blunted its immediate effect.

Timing, to a large extent, is a function of the sequencing of priorities. This is particularly the case for a programme that must navigate its way through perilous legislative straits despite the Republican majorities in both the US House and Senate.

As seen in the Trump administration's first swing at the bat in the attempted repeal of the Obama healthcare laws, these majorities proved to be insufficient. Legislative efforts then were prioritised around the corporate and personal income tax agenda and a comprehensive Federal spending budget.

These latter two major efforts succeeded in passing. But all three, when coupled with slow action in the Senate, meant the congressional clock has wound down to the point where even the Trump administration admits that major infrastructure legislation will not happen this year.

Ill-fated timing also dulled the administration's publicity of its infrastructure priorities. "Infrastructure Week" became a bit of a running joke in Washington DC, as the administration relaunched its effort for thematic messaging on infrastructure about as frequently as a re-usable SpaceX rocket. By some counts, there have been at least four attempts to promote common infrastructure-themed weeks of White House messaging since June 2017. Many of these were hijacked by various off-script Trump comments or political controversies.

But sequencing also had implications on the funding basis for the Trump administration plan. Although the headline figure of US$1.5trn in the outline appeared to be meet the target of being a sufficiently big upsize from an initial US$1trn target, the figure represents overall "stimulated" infrastructure investment over a 10-year period. The Federal portion proposed for this was US$200bn, with the remainder of investment to be funded by the states via a variety of non-Federal funding sources.

Even the US$200bn Federal share presents a challenge to the administration. Initial calls to link Federal infrastructure funding to one-time tax revenue windfalls from the Federal corporate tax reform – eg, from the repatriation of untaxed US corporate overseas profits - were not taken on board.

The overall hit to projected Federal revenues in the final tax package, coupled with a big bump in Federal spending in the final comprehensive budget, means additional

central government largesse for infrastructure spending would further aggravate those politicians already reeling from the recent increases to US budget deficits. An opposition plan offered by the Democrats in the US Senate supersized direct Federal infrastructure spending on the back of the complete repeal of the enacted Republican tax cuts has no imminent legislative viability.

Time and money are always limited resources. Any executive policy initiative will have to battle for enough of either. More surprising is that – for an administration that shows no qualms about being disruptive about the status quo on so many fronts – the Trump infrastructure plan eschews any dramatic pivot toward private infrastructure investment as a primary or even preferred tool.

The plan does offer core concepts: regulatory reform, state or locality responsibility for prioritisation and funding, and promotion of rural infrastructure.

Administration representatives have emphasized the plan's call for significant streamlining of US environmental permitting and approvals. Rigorous requirements and liberal access to judicial review and appeals demonstrably delay US projects, pushing up total costs.

The plan also strongly gravitates toward state responsibility for funding infrastructure needs. Of the US$200bn in proposed Federal funding, half is for a new grant programme to states and localities designed to incentivise the development of new non-Federal revenue streams.

The plan is not prescriptive on what these non-Federal sources might be. They could include gas taxes, sales taxes, user fees and other revenues sources.

The Federal agencies offering these grants are supposed to weight development of such new non-Federal revenue sources by 70% in their overall evaluation criteria. Awarded Federal agency grants can be no more than 20% of the new revenue sources developed for the projects, which can include surface transportation and passenger rail, airports, ports and waterways, flood control and water management facilities.

The administration's plan reserves US$50bn of the programme to new rural infrastructure grant programmes such as "farm-to-market" transportation.

It also promotes the sale or leasing of certain Federal infrastructure assets, seeks to enable more meaningful investment in airport infrastructure, and increases subsidised financing access via higher appropriations for the Federal Transportation Infrastructure Finance & Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Financing (RRIF) programmes and expanded private project access to tax-exempt municipal bonds.

What's not in the plan? Perhaps reflecting President Trump's statements before the release of the infrastructure principles that questioned the benefits of prior and current US public-private partnerships, there is no major push toward the PPP model or any other private sector-oriented solutions for state or local infrastructure needs.

Is this a bug or a feature? Administration representatives argue that the plan focuses on ensuring that state and localities have skin in the game on their infrastructure needs and that the Federal agencies should be indifferent as to whether this is via local tax increases, usage fees, or funds raised via private sector concession fees.

As such, any of the myriad yield-hungry private capital investors hoping the plan would call for a major influx of US infrastructure asset opportunities via an Australian-style asset-recycling programme – ie, a sufficiently large Federal match for state or local proceeds from selling or leasing existing infrastructure that is then reinvested in new infrastructure – were likely disappointed.

For now, major action on the Trump plan is uncertain. DJ Gribbin, a former appointee to the US Department of Transportation and Macquarie banker, shepherded the administration infrastructure plan into reality before leaving the National Economic Council in April. To-date, no one has replaced him or taken up a similar role at the White House level.

If the Trump plan seems to be stuck in traffic, Elon Musk is charging ahead. Chicago Mayor Rahm Emanuel announced in June the selection of Musk's The Boring Company as the builder and operator of an 18-mile, 12-minute rapid transit connection between O'Hare International Airport and Chicago's downtown Loop.

Musk's plan is unconventional. It would be the first to deploy the company's proposed skate platforms - which move vertically to and from the surface to the subterranean route. There, up to 16 passengers per vehicle would be autonomously sped to their destinations at speeds of up to 150 miles per hour.

Unlike most US cities, Chicago already has a direct transit rail link between its major airport and its downtown. For US$5 and a journey of approximately 37 minutes, riders can avoid the long peak road traffic jams by taking the Chicago Transit Authority L system. Although the current transit is geared more for strap hangers than airport passengers, it will be interesting to see the value of time implications for the proposed US$25 fare for the Loop Express.

For project financiers, the Jetson-style skates may not even be the most breathtaking aspect of the announcement. According to the reports, The Boring Company has taken both completion and financing risk.

To conventional participants, unknown underground risks hold the same appeal as a dish of Forty Garlic Clove Chicken at a

vampire's dinner party. What's more, The Boring Company's estimated cost of tunnelling – under US$56m per mile – is significantly less than other US underground transit costs.

How does Musk plan for The Boring Company to radically alter the cost structure of digging tunnels? Clearly, Musk is convinced of SpaceX-style cost disruption in his goal of building tunnels at least 14 times faster than previous efforts through juiced up boring machines, automated tunnel reinforcing, and smaller diameter bores than historical projects.

It's an audacious approach. Given looming questions about Musk's Tesla car company debt burden, it's reasonable to ask where financing for The Boring Company's commitments will come from. But those who scoff about the implausibility of Musk being successful might consult with the executives and rocket engineers at Arianespace and United Launch Alliance about how strongly they made the case that SpaceX's re-usable rockets scheme was going to be a technical and market failure.

Musk's vision for The Boring Company as a private sector infrastructure enterprise that embraces tunnelling, traffic and technology risk to deliver radically new transit solutions may not be as grand as his stated corporate objective of human migration to Mars for SpaceX. But the potential for near-term market disruption in reaching for these may be similar.

Elon Musk is not the only one advancing bold private sector-based, fully risked investments. All Aboard Florida, backed by Fortress Investment Group, has already opened its first phase of the Brightline intercity rail service from Miami to West Palm Beach. The next stage of the project would extend its service to Orlando.

It is the only private train service offered in the United States since 1983, with a total system cost estimated at US$3.7bn. Initial funding was based on a December 2017 US$600m private activity bond issue rated BB- by Fitch. Additional funding is expected to be sought from the US Department of Transportation's RRIF programme and additional private activity bond issuances of up to US$1.15bn.

The US$3.5bn Transform 66 project in northern Virginia scored the state government a noteworthy upfront payout of US$500m for the Cintra-led consortium's right to build and operate express lanes on Interstate 66 outside the Washington, DC Beltway in late 2017. The 50-year concession incorporates revenue risk based on its dynamic tolling and congestion avoidance structure and secured a US$1.23bn direct loan from TIFIA and US$737m in investment-grade rated private activity bonds.

And in the development phase is Texas Central Partner's high-speed rail between Houston and Dallas. This private-sector venture would compete with intercity aviation and highway services by offering Japanese bullet trains on grade-separated tracks.

Project developers are keen to distinguish between their efforts and those of the government-led California high-speed rail project between Los Angeles and San Francisco, the cost of which has ballooned from the initial US$40bn budget to a range of US$78bn to US$100bn based on the government authority's March business plan.

Audacity and disruption are badly needed in the US infrastructure market, with its fragmented market structure, entrenched stakeholders, conflicting political constituencies, and uneven outcomes.

The infrastructure gap in American states and localities can often be attributed to an inability to maintain existing infrastructure or to replace exhausted existing system capacity. States, with whom the bulk of the responsibility lies, have seen their finances squeezed by seemingly inescapable growth in pensions and support programme obligations.

Indeed, the Chicago Express Loop announcement comes when the state of Illinois is under extreme fiscal pressures, with the Moody's and S&P credit rating agencies holding it one notch above junk status. Both warn of the limited fiscal space available to the state given its massive unfunded pension liabilities.

Meanwhile, the Trump administration has not addressed looming inadequacies in the Federal Highway Trust Fund. The fund, which is allocated to the states for interstate highway maintenance and investments, collects excise tax on vehicle fuel as a form of a usage fee. However, fuel efficiency gains and expected electric vehicle adoption diminish its effectiveness relative to highway system demand and use.

It seems foolhardy to rely entirely on government initiatives, funding and programme management to address the US infrastructure needs … even less so if innovative private initiatives in the mix prove to be viable.

The Trump White House has been battling with the mostly Democratic members of the New York and New Jersey Congressional delegation about the proper level of Federal funding of the proposed US$20bn Gateway project. This project seeks to expand the trans-Hudson River tunnel system as well as other related facilities for this critical transportation link.

The fight over Trump's effort to limit Federal grants and financing for the mega-project may indeed be proxy battles over whether Trump can secure Congressional support for his own infrastructure proposals.

In light of Musk's Express Loop venture, it's interesting to remember that the existing two Hudson River tunnels, as well as four East River tunnels, New York-New England bridge crossing and the late lamented neoclassical Pennsylvania Station in Manhattan, were constructed for a current dollar value of under US$3bn without governmental support by a single company – the Pennsylvania Railroad Company, arguably the SpaceX of its age. ■