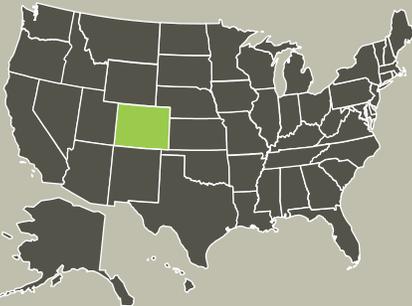


- ✓ TOLL REVENUE
- ✓ PUBLIC FINANCING
- ✓ PRIVATE FINANCING
- ✓ COMPLEX CONSTRUCTION
- ✓ MANAGED LANES
- ✓ TIFIA LOAN

US 36 MANAGED LANES



DENVER, CO

The High Performance Transportation Enterprise (“HPTE”) was created in 2009 as a government-owned business and a division within the Colorado Department of Transportation (“CDOT”). It is responsible for seeking out opportunities for public-private partnerships (“P3s”) through any available means of financing that allows for efficient completion of road and bridge projects. Under HPTE’s US 36 P3 project agreement, the private sector designed, constructed, financed and is operating and maintaining managed toll lanes on US 36 in exchange for toll revenues.

BACKGROUND + PROJECT DRIVERS

Over half of CDOT’s \$1.5 billion annual budget is dedicated to maintenance of the state’s existing highway system. There are limited resources to improve congestion and mobility: CDOT is projecting an annual shortfall of approximately \$600 million per year to maintain and expand its existing transportation system.

CDOT’s ability to keep pace with growth was constrained by state and federal gas taxes that have not increased in the last twenty years. Additionally, due to inflation and increases in fuel efficiency, CDOT is observing a decrease in fuel tax revenue.

In the meantime, CDOT needs are not stationary. As a result, CDOT has initiated several programs to try to do more with the available resources. Senate Bill 09-108, also known as the Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (“FASTER”), was passed by Colorado lawmakers in 2009. It authorized state officials to look for innovative ways to finance and construct major highway projects since traditional sources of highway funding, including federal and state fuel taxes, are insufficient.

The High Performance Transportation Enterprise (“HPTE”) was created as a result of the FASTER Act. HPTE is a government-owned business and a division of CDOT. The purpose of HPTE is to pursue P3s and other innovative means, such as operating concessions, variable tolling, availability-based contracts, and design-build contracting, to complete surface transportation projects in Colorado.

CDOT/HPTE’s first P3 project under this legislation was the US 36 Express Lanes Project (US 36). US 36 is a new 5.1 mile four-lane divided multi-modal highway project that built an Express Lane in each direction on US 36, in addition to the two free general-purpose lanes. The Express Lanes accommodate High Occupancy



FISCAL YEAR APPROVED
September 04, 2014

OPENED TO TRAFFIC
March 2016

DELIVERY METHOD
Phase I: Design Build
Phase II: DBFOM, 50 years

CAPITAL VALUE
\$497 million

FINANCING
Public / Private -Toll Revenue

TOLL RATES
Morning peak \$8.75 (\$16.33 w/o pass)

ROUTE
Multi-modal project on US36 from
Federal Boulevard to Table Mesa Drive in
Boulder

RIDERSHIP
100,000 trips per day

POPULATION (2013)
650,000 Denver
5.2m Colorado

MEDIAN INCOME (2013)
\$62,760 Denver

UNEMPLOYMENT (2015)
4.2% Denver/Colorado

Vehicles (“HOV”) and Bus Rapid Transit (“BRT”). In addition, the project replaced several bridges, built a commuter bikeway, added BRT improvements, and installed Intelligent Transportation Systems (“ITS”) for tolling, transit and traveler information, and incident management.

As a congested and rapidly growing corridor carrying between 80,000 and 100,000 vehicle trips per day and operating at nearly 90 percent capacity, the US 36 experienced three to four hours of severe bi-directional congestion daily. The need for the project was driven by the desire to:

- Improve the condition of the highway
- Replace bridges that were in poor condition
- Provide congestion relief
- Expand mode of travel options
- Increase efficiency of transit service Delivery Method Assessment

For US 36, the goals of the project included:

- Maximize scope and improvements within the project budget;
- Minimize operating and life cycle maintenance costs and provide a long term, high quality product;
- Deliver the project ahead of schedule;
- Minimize inconvenience to the public and maximize safety of workers and traveling public;
- Maximize engagement of local workers, businesses, and communities in the development, construction and sustainability of improvements.

The project was split in to two phases. Phase I was procured separately under a design-build arrangement. Phase I was a 10-mile Managed Lanes project, which opened in July 2015. The new 5.1 mile Phase II Managed Lanes opened in March 2016.

Under the US 36 P3 performance-based arrangement, the concessionaire is responsible for operations and maintenance (“O&M”) and toll collection for Phase I, Phase II and the existing 7.7 mile I-25 reversible managed lanes project. Note; the performance-based contract means that financial deductions are made for poor performance e.g. failure to meet the operations and maintenance standards such as snow plowing and travel time delays to transit.

Phase I: Design-Bid-Build:

Phase I of the project was delivered using a design-build approach. The project was funded and financed with a mixture of Federal, State and Regional Transportation District (“RTD”) funds, including a federal Transportation Infrastructure Finance and Innovation Act (“TIFIA”) loan, the repayment of which was supported by tolls. Additionally, a federal Transportation Investment Generating Economic Recovery (“TIGER”) grant, as well as direct contributions from the City and County of Broomfield and the City of Westminster. RTD’s substantial commitment to Phase I of the project came with an understanding that



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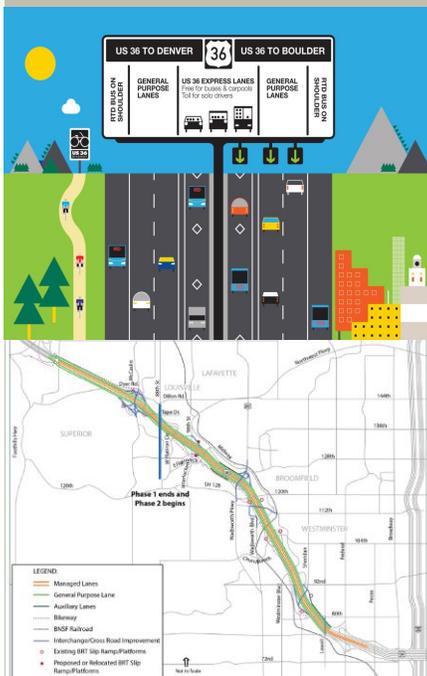
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partial completion of the corridor improvements did not fill the overall need, and commencement of Phase II should begin before completion of Phase I. CDOT and the local partners shared that view.

Phase II: Design Build Finance Operate Maintain P3:

The decision to enter into a P3 for Phase II was justified by a Project Value Analysis (“PVA”) or Value-for-Money Analysis. A PVA is a risk-adjusted analysis that shows, in Net Present Value terms, the benefits and costs of delivering a project using a traditional “public model” compared to a P3 concession model. HPTE analyzed the value that Colorado and its taxpayers would derive from having a private concessionaire build, operate and maintain the US 36 project, along with the I-25 express lanes, under a long-term agreement instead of using a traditional design-bid-build delivery. The analysis considered the level of public subsidy required, including the net revenue expected over the 50-year operating term of the concession agreement. The qualitative factors used for the P3 assessment were:

- Deliver project with lowest upfront public subsidy
- Transfer risk to concessionaire
- Relieve CDOT of Phase I O&M obligations
- Construct Phase II Managed Lanes Reconstruction of General Purpose Lanes in an effective and economical way
- Facilitate RTD’s Bus Rapid Transit programs
- Optimize asset condition over long term
- Minimize inconvenience to public and maximize safety of workers and the traveling public.

With the goal of reducing the upfront public subsidy, the P3 model was the preferred alternative. Given HPTE and CDOT’s limited financial resources, they were concerned about the potential financial exposure if revenues were lower than expected over fifty years, or other related costs were higher than forecasted. Therefore, the transaction structure that HPTE reached was to transfer the majority of the major project risks, including financing and maintenance risks, while retaining for the state the right to share in excess revenues generated by the highway if toll income exceeds forecasted targets over the life of the agreement. Over the useful life of the asset, the P3 approach was considered the best value alternative for taxpayers.

The final version of the PVA was completed in March 2014, once Plenary Roads Denver (“Plenary”) had been selected and negotiations were nearing completion.

PROCUREMENT BENEFITS

Transfer project risk to private partner:

Colorado weighed risks versus the rewards in selecting the P3 model. The preferred alternative was to transfer project risks i.e. financing, operation and maintenance, and lifecycle replacement risks, while retaining the right to share excess revenues generated by the highway if toll income exceeds pre-determined

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targets over the life of the agreement. This approach limited the state’s exposure if toll revenues were lower than expected, or if maintenance costs were higher than anticipated, yet the revenue-sharing provision allows for upside gain if toll traffic and income were more robust than predicted. There was no contractual guarantee for a minimum level of revenue for Plenary. The system uses a dynamic tolling with toll rates set by the concessionaire based on a schedule that is incorporated in to the concession agreement. Any changes to the dynamic tolling algorithm must be approved by HPTE.

Revenue sharing mechanism:

Excess toll revenue to which the state is entitled will be dedicated to ongoing transportation improvements in the corridor. HPTE signed an agreement with cities and counties in the US 36 corridor that allows them to participate in deliberations over how the state would spend excess toll revenue, should it materialize, to boost mobility and transit options in the corridor. This was an important mechanism of sharing control and gaining local support for the project.

“Freed up” public funds for other uses:

HPTE contributed a subsidy to the project to help meet the project’s affordability requirement. The upfront public subsidy was minimized and was used to pay only a portion of the total cost of the project. All other project costs will be paid with toll revenue over the 50-year concession period. This freed up cash available from public funding sources to be applied to other projects in the near term.

Project delivered sooner:

Using the P3 model, the concessionaire provides equity and debt to cover upfront project costs rather than waiting until funds become available over time from traditional public sources. As a result, the project delivery was accelerated by 20 years.



PROCUREMENT APPROACH

The 24-month procurement process included several steps which involved CDOT, HPTE and local governments. The outline of the procurement process was as follows:

- Request for Qualifications (“RFQ”) released February 2012;
- Four teams responded by April 2012. Three were short-listed;
- Final Request for Proposals (“RFP”) released August 2012;
- Submissions were evaluated on the technical proposal, financial capacity, experience and qualifications of team;
- Plenary selected April 2013;
- Commercial Close July 2013;
- Financial Close February 2014.

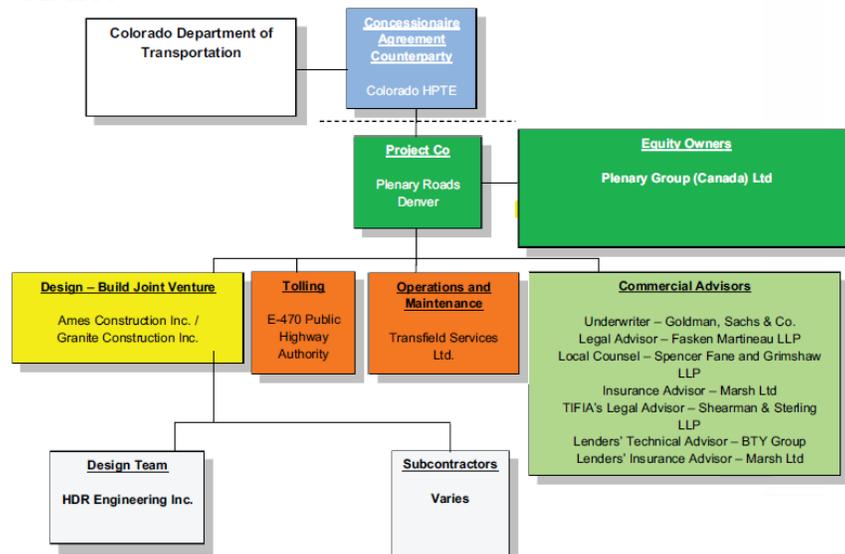
The Plenary team included; Ames Construction, Granite Construction, HDR (as designer/engineer) and Transfield Services O&M. Toll collection is performed by the E-470 Authority, an existing public agency in the Denver region that manages other highway tolling projects i.e. I-25 and E-470 highways.

During the procurement process, bidders needed to include Phase I’s existing TIFIA loan in their financial plans. However, they lacked complete information on how to legally achieve the transfer of the loan to a new borrower. This caused a delay to the procurement

schedule and increased costs by about \$5m due to interest rate increases between the proposal due date and financial close. The financial close deadline was scheduled for October 2013, but it was extended four times to accommodate the loan negotiations between HPTE, Plenary and the TIFIA lender. In addition, the federal government shut-down occurred during the loan negotiation period, which also contributed to the delay. Financial close occurred in February 2014, almost 1 year after proposals were delivered and 5 months after the date scheduled in the RFP.

Following commercial close and prior to the planned financial close date, Colorado legislators requested 60-days to review the executed P3 agreement, citing the need for improved transparency on the terms of the agreement. This review process delayed financial close. A subsequent bill aimed at improving transparency was introduced in June 2014. The bill was subsequently rejected by the Governor due to concerns that the provisions would constrain interaction with the private sector and stifle the viability of future P3s. "We firmly believe that government should always strive to be transparent and accountable," he stated in a letter to the Senate. "These constraints on business terms would create a chilling component on future transactions, making investors unlikely or unwilling to bid on Colorado projects due to the increased risks this process would generate." This is an important lesson. Any enabling legislation should include all the necessary steps for good governance to be laid out and agreed in advance while protecting commercially confidential bid details. Certainty for public and particularly private sector parties reduces risk and increases the value for money proposition.

ORGANIZATION CHART



FINANCING

Plenary will receive toll revenue collected on Phases I & II and the I-25 Express Lanes over a 50-year period which will be used to repay project debt, O&M costs, and a return on equity.

The project was financed with;

- \$20.36m of series 2014 tax-exempt private activity bonds (“PABs”);
- \$60m TIFIA loan;
- \$55m (Phase I, TIFIA loan);
- \$20.6m junior subordinate loan from Northleaf Capital;
- Equity committed by Plenary of \$20.8m.

The PABs, which pay a fixed coupon of 5.75%, priced at 98.241 to yield 5.875%. The PABs have a 30-year maturity. The new TIFIA loan carries an interest rate of 3.68%. Fitch Ratings assigned a BBB- rating to the TIFIA loan and senior PABs.



CONSTRUCTION

CDOT acquired all the necessary right-of-way for the project. Overall the construction was delivered on time, but initially there was a delay in closing the Phase I TIFIA Loan refinancing. This could have been avoided with earlier engagement with the TIFIA loan program.

In order to keep the project on time and on budget during the delay to financial close, HPTE negotiated a concession agreement amendment to permit Plenary to undertake utility work and certain other tasks to avoid a delay in completing Phase II of the



construction. The amendment obligated HPTE to pay for approximately \$8.8m in utility work and \$750,000 for early works prior to the project’s financial close. It is important to note that these tasks were part of the project budget and did not increase the project’s overall costs. However, if HPTE had been unable to reach financial close, HPTE would have been responsible for paying for these tasks.

TOLLING & OPERATIONS

As part of the P3 agreement, Plenary assumed toll collection and O&M responsibilities of US 36 Phase I, Phase II and for the existing I-25 Express Lanes. The existing general-purpose lanes remained free for all commuters. When executing the P3 agreement, Plenary agreed a schedule of maximum toll rates and certain minimum toll rates that could be charged under a dynamic pricing model, while maintaining certain safety and performance standards such as average vehicle speeds and journey times.

Establishing a maximum rate allows the public sector to maintain a certain level of control and approval rights over future toll rate increases beyond the defined rates. Conversely, the private sector investment and lending community can gain comfort that with the fact that approved toll rates are defined at financial close within these limits.

The toll rates on the North I-25 Express Lanes range in price depending on the time of day to ensure a reliable travel time for people in the Express Lanes. For example, on the southbound North I-25 Express Lanes during peak travel times, 7:15-8:15 a.m., the toll rate for drivers with an ExpressToll account and pass was \$2.25, and the License Plate Toll (“LPT”) was \$5.56. On northbound I-25, between US 36 and 120th Avenue, toll rates from 4:30-6 p.m. was \$3 for drivers

with an ExpressToll account and pass, and \$6.75 for an LPT.

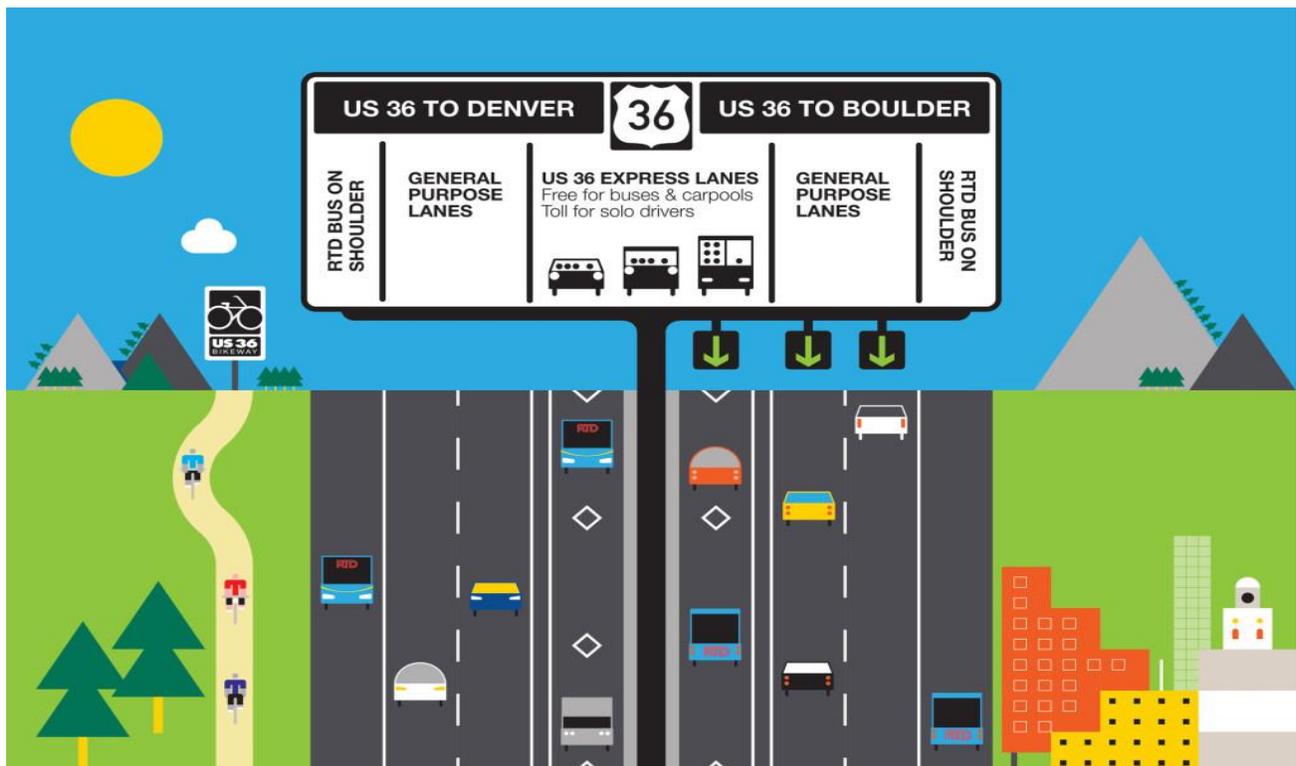
With the opening of Phase II, the overall project was complete. The toll rates approved by the HPTE Board vary at different times of day to manage congestion and ensure a reliable travel time in the Express Lanes. From Table Mesa to downtown Denver, the morning high peak (7:15 a.m.- 8:15 a.m.) is \$8.75 with an ExpressToll pass. Without a pass, a surcharge is applied, and the cost increases to \$16.33. At afternoon hours (3:30 p.m.- 4:30 p.m.), the ExpressToll rate decreases to \$3.45 with an ExpressToll pass and to \$8.70 without a pass. The toll rates for the same trip with an ExpressToll pass drop to \$1.75 on Saturdays and Sundays and to \$7.00 without a pass.

CURRENT STATUS

The project opened to traffic in March 2016 and is operating successfully.

Building off the success of the US 36 P3 and the \$1.6b Denver FasTracks light rail P3 which closed in 2010, Governor John Hickenlooper and Denver Mayor Michael Hancock are backing the P3 model to deliver major infrastructure plans in the state and Denver region, with the governor stating Colorado is continuing to explore P3 opportunities.

CDOT and HPTE received the backing of the governor and mayor with the \$1.2b I-70 East P3 project which is in procurement at the RFP stage. Other P3s are under preparation at the municipal level, including Denver International Airport terminal building, the National Western Center complex and a Denver Performing Arts Center, including a dozen other projects, with funding ring-fenced for the P3 model. As a result, Denver and Colorado are considered by the private markets to be attractive and competitive markets for P3 investment opportunities.



FUNDING SOURCES

US 36 Phase I	million
Regional Transportation District	\$124.0
Colorado Department of Transportation and the Colorado Bridge Enterprise	\$77.7
Future US 36 Phase I Toll Revenues advanced through a Federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan	\$54.0
Denver Regional Council of Governments	\$46.6
HPTE (I-25 Toll Revenues and Federal Transportation Investment Generating Economic Recovery [TIGER] Grant)	\$10.0
City and County of Broomfield and City of Westminster	\$5.6
TOTAL	\$317.9

US 36 Phase II	million
Toll Revenues on I-25 and US 36 (from both Phase I and II) advanced by the concessionaire	\$120.0
Regional Transportation District	\$18.5
Denver Regional Council of Governments	\$15.0
Colorado Department of Transportation	\$15.0
Boulder County, the City of Louisville, and the Town of Superior	\$11.0
TOTAL	\$179.5

ROLES AND RESPONSIBILITIES

Risk	Obligations assumed by CDOT/HPTE	Obligations assumed by Concessionaire
Design and Construction	Oversight	Yes
Financing		Secure financing
Traffic and Revenue	Revenue shared after a minimum rate-of-return targets are met for the Concessionaire	Full revenue risk assumed by Concessionaire
Toll Rate Setting		Yes, subject to restrictions
O&M and Major Maintenance	Oversight	Yes
Snow & Ice Removal		Yes
Insurance		Yes
Change in Law (discriminatory)	Yes	
Environmental Permitting & Licensing Updates		Yes
ROW Acquisition	Yes	
Hand-back	Oversight	Yes
Police and Emergency Services	Yes	
Initial Environmental Approval	Yes	
Utility Relocation	Shared	Shared
Geotechnical Condition	Shared	Shared
Protection from Competitive Transportation Facilities		No
Federal Requirements		Yes
Force Majeure	Yes	

APPLICABILITY TO HWY 37

Legislation:

California does not have the legislative restrictions that necessitated Colorado to established HPTE, but having a dedicated function and resources (i.e. 4 full-time equivalents budgeted yearly) focused on innovative means to deliver major infrastructure projects is something that California could benefit from. It is likely that incorporating lessons learned and standardizing documentation and approval processes would make California a more attractive investment opportunity to the private sector and improve the acceptability of the P3 model to taxpayers. For example, new legislation in Colorado, SB 15-172, introduced in 2015 as a P3 oversight bill in the Colorado General Assembly, will improve the P3 process. One of the provisions of the new bill will require HPTE to hold public meetings in conjunction with local governments at the “visioning, initial RFP preparation, and draft RFP stage” of procurement. Additionally, HPTE will be required to provide the P3 agreement’s terms to the General Assembly committees that have jurisdiction over transportation after entering into a P3 agreement, and post the terms to its web site. The bill also directs HPTE to evaluate the suitability of express bus service or bus rapid transit for projects that have one or more High Occupancy Vehicle lanes, High Occupancy Toll lanes, or managed lanes.

Revenue sharing mechanism:

The mechanism to share excess toll revenue and shared decision making with the state and local agencies for reinvestment into the corridor was an effective way to cultivate local support and approval from the stakeholders that would be impacted directly by the project. This also improved cooperation on the public sector side between the state, local agencies and cities/counties. A similar mechanism could be considered for the Hwy 37 project.

Public sector management:

An independent performance audit report on the project conducted in March 2015 and commissioned by the State Auditor and Legislative Audit Committee found that HPTE did not have adequate records of management processes for maintaining project-related documents or systematic processes for sharing public records and protecting confidential records under the Colorado Open Records Act. Additionally, HPTE and CDOT did not have a systematic process for monitoring operations and maintenance activities to ensure the

concessionaire meets the performance standards outlined in the concession agreement once the project is operational.

The relevance for Hwy 37 is that the success of the P3 model, (i.e. effective and certainty of risk transfer which has been proven in the US and around the world), relies on adopting P3 best practice management and implementation techniques that support timely decision making and a predictable process, particularly once the project has reached financial close. Typically, the private sector comes prepared with the necessary P3 experience and wherewithal; however, with any emerging P3 program and with any project “first”, there will be lessons learned and improvements to adopt, especially when public agencies initially lack a comparable level of experience. On the public side, there should be a clear understanding of the P3 approach and how it differs from traditional project delivery (i.e. design-bid-build); otherwise, the public agency will tend to attract many of the risks that it aimed to transfer to the private sector. Typically, for P3 projects, this inspection mechanism is done by an independent party (i.e. an independent engineer) hired and compensated by the project, who is objective to the terms of the agreement and impartial to both the public and private sector. If the independent engineer role is not an option, a compromise could be that the local agencies retain a certain level of oversight and control during this process to sustain a vested position during performance reviews and potential disputes or claims. Ensuring that sufficient public sector management and oversight is dedicated to the project from the very beginning, through planning, procurement, design and construction and the operating period is essential to the immediate and long term success of P3 projects. The public sector would be well-advised to ensure adequate measures are in place to retain institutional memory and project knowledge.

Established traffic data:

Having a multi-stage project meant that there was established traffic data and community acceptance on the use of Managed Lane facilities in the local region (e.g. I-25), allowed COT and HPTE to extract better value, reduce risk and offer a more competitive process for the later staged P3 project scope. CDOT/HPTE is conducting a similar approach for the other highway projects in their pipeline.

WHAT LEGISLATION NEEDS TO BE ENACTED TO PERMIT A SIMILAR EFFORT FOR HWY 37?

Similar to Colorado, California has had a number of successful P3 projects across a number of different sectors (i.e. transportation, public buildings and water) which has injected excitement into the US market, but a bankable pipeline has yet to materialize. Typically, this has been constrained by the short-term nature of enabling legislation, given the time required to prepare and execute major complex infrastructure projects. Caltrans' authority to enter into P3 agreements expires on December 31, 2016, under the current law. The enabling P3 legislation in Colorado, the Senate Bill 09-108, does not have a sunset or expiration date.

In April 2016, the California General Assembly's Transportation Committee approved legislation that will extend Caltrans authority to enter into P3 agreements. The new bill, AB 2742, would allow Caltrans' to enter into P3 agreements until 1 January 2030, which provides for a more reasonable amount of time to build a comprehensive P3 pipeline of projects.

SOURCES OF INFORMATION

CDOT Project Report: Achieving Value for Money, US 36 Express Lanes Public-Private Partnership, March 14, 2014

US 36 P3 Project Performance Audit, HPTE and CDOT, Clary Consulting, March 2015

FHWA website:

http://www.fhwa.dot.gov/ipd/project_profiles/co_us36_managed_lanes_phase2.aspx; Accessed August 19, 2016

CDOT website: <https://www.codot.gov/projects/US36ExpressLanes>; Accessed August 19, 2016

Infra-deals: <https://www.infra-deals.com/deals/316476/US-36-p3.html>; Accessed August 19, 2016

Infra Americas: <http://www.infra-americas.com/legislation/> Accessed August 19, 2016

HPTE US 36 and I-25 Managed Lanes, Senior Revenue Bonds Series 2014 Offering Statement; <http://emma.msrb.org/>

CDOT Executed P3 Agreement <https://www.codot.gov/programs/high-performance-transportation-enterprise-hpte/projects/US-36/US-36-phase-ii/p-3/US-36-public-private-partnership-executed-concession-agreement>