On 1 June 2001, the Colorado Department of Transportation (CDOT) and Regional Transportation District (RTD) entered into a US$1.16bn design-build contract for the T-REX Project with a joint venture of Kiewit Construction Company and Parsons Transportation Group Inc. Completion is expected in the fall of 2006. Security for the contract is required in the form of payment and performance bonds, each in the amount of 50% of the contract price. As additional security, if at any time during the term of the contract the total combined tangible net worth of the contractor and its major participants is less than US$350m, the contractor is required to provide one or more third party guarantees to make up the difference.

The T-REX Project includes 19.1 miles of new double-tracked light rail transit and 16.6 miles of highway improvements to Interstate 25 and I-225. The light rail components include 13 stations, a light rail maintenance facility, the procurement of light rail vehicles and fare collection vending machines. The highway improvements include an additional lane in each direction on I-25 from Logan to I-225, two additional lanes in each direction on I-25 from I-225 to C-470/E-470 and one additional lane in each direction on I-225 from I-25 to Parker Road. The project also includes the reconstruction of eight interchanges, bridge replacements and drainage upgrades.

It became apparent that the most efficient way to develop the light rail and highway improvements was as a multi-modal project under two separate agencies, so CDOT and RTD entered into an intergovernmental agreement to jointly develop the project. The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the federal agencies with oversight responsibilities, entered into a parallel intergovernmental agreement for joint oversight. An executive oversight committee that included the CDOT Executive Director, RTD General Manager, FHWA Division Administrator, FTA Regional Administrator, CDOT Chief Engineer and RTD Assistant General Manager established the following project goals: (1) minimise inconvenience to the community, motorists, and public; (2) meet or beat the total program budget of US$1.6bn; (3) provide for a quality project; and (4) meet or beat the schedule of June 30, 2008 (fully operational). The MIS acknowledged that the project would need additional funding sources. Under the Colorado Constitution, both CDOT and RTD were required to seek voter approval for these funding sources, and in November 1999, two separate bond funding initiatives were presented to the Colorado voters. By a 62% affirmative vote, CDOT was given authority to issue Transportation Revenue Anticipation Notes for the project as well as for 24 other highway improvements throughout the state. Similarly, voters in the Denver metropolitan area approved RTD’s project transit initiative by a 66% affirmative vote. The referendum allows RTD to issue bonds and other financial debt instruments that will be repaid through future sales tax revenues, and to extend the current exemption from the spending and revenue limitations imposed by the requirements of the Colorado Taxpayer Bill of Rights.

The plan of finance for the project does not require imposition of any new taxes. The highway elements, financed through Transportation Revenue Anticipation Notes, will be paid back with future federal highway funds and state matching funds. The light rail elements are funded with a combination of 60% federal discretionary funding and 40% local funding. The Full Funding Grant Agreement was approved in November 2000, providing for a total of US$879m of FTA funds. The local share of the light rail costs will be financed through the issuance of sales tax revenue bonds. Debt service on the bonds will be paid through existing sales tax revenues. In addition, local governmental entities in the corridor contributed US$30m to the project.

CDOT and RTD chose the design-build method of contracting to deliver the T-REX Project. The reasons for using design-build include: minimised impact to the public, accelerated project delivery, reduced project cost, more effective risk management, minimised owner resources and increased innovation. However, new enabling legislation was needed to use design-build.
In 1999, the Colorado Legislature passed House Bill 1324, specifically authorising this innovative procurement method. Due to funding limitations, CDOT and RTD were unwilling to pay a contractor more than US$1.225bn, based on two independent estimates. This amount was incorporated into the procurement process, and referred to as the upset amount. The RFP used a best value process to select a contractor with price and technical factors weighted approximately equally. Thus, the RFP allowed payment of the contract to the proposer with the best value proposal and a price not greater than the upset amount. If no proposal was within the upset amount, CDOT and RTD could enter into a best and final offers (BAFO) process in lieu of proceeding with the best value determination.

In addition to being limited by the upset amount, CDOT and RTD’s funding is limited on an annual basis. The cumulative total of these annual amounts, as determined in the finance plan, was set forth in a maximum payment schedule provided in the RFP. The contractor’s progress payments could not exceed these annual cumulative amounts.

However, the contractor may work ahead of that schedule and invoice CDOT and RTD for work performed. In such event, payment of the excess amount invoiced will be deferred until funds are available for payment in accordance with the maximum payment schedule. The contractor may invoice CDOT and RTD for interest expenses related to any such deferred progress payments, up to the maximum amount (if any) that the contractor included in its proposal for interest. In accordance with CDOT and RTD’s goal of encouraging contractors to innovate, the proposers were allowed to suggest alternatives to certain requirements that were equal or better in quality or effect prior to the proposal due date. Proposers were allowed to incorporate any pre-approved changes in their proposals. Under this process, 58 ACCs were submitted, and 41 were approved or approved with conditions. The ACCs resulted in significant cost savings ranging in value from US$500,000 to US$5m.

Although local governmental entities contributed US$30m towards the project, this was not sufficient to cover the cost of all of the improvements they wanted to incorporate into the project, such as pedestrian overcrossings. CDOT also wanted additional project improvements. The RFP therefore required the proposers to submit separate option prices for 15 project enhancements. While CDOT and RTD may exercise the options within prescribed deadlines during the contract term, the contract budget probably will not be sufficient to support any of them. Therefore, if CDOT and RTD want to exercise an option, additional funding will likely be required to pay the option price.

Prior to development of the RFP, CDOT and RTD undertook a workshop to identify and allocate risk, with the goal of allocating risks to the party best able to manage the risk. Some of the preliminary risk allocation decisions were revised during the RFP process. The contractor is entitled to receive price increases only for limited events prescribed in the contract.

Price increases for force majeure events are limited to certain enumerated events, including tornados, earthquakes, epidemics, undisclosed cultural resources or threatened or endangered species, changes in law and lawsuits seeking to delay the project.

Price increases for differing site conditions are limited to errors in the geotechnical data CDOT and RTD provided as well as conditions that differ materially from those ordinarily encountered in the area. The contractor is responsible for analysing and supplementing the geotechnical data provided by CDOT and RTD.

CDOT and RTD performed extensive utility surveys prior to contract award (although the contractor was responsible for verifying those surveys and had primary responsibility for co-ordinating with utility owners), and bear the risk of increased costs resulting from unidentified or inaccurately identified utilities. The contractor generally bears the risk of changes in the nature or extent of the utility relocation work from that anticipated in the information provided by CDOT and RTD. Utility risks were reduced by legislation that gives utility companies a strong incentive to co-operate with development of the project.

The contractor is entitled to payment for off-site disposal of contaminated soils (other than investigating, monitoring and testing, which were included in the contract price) based on the unit price included in its proposal. The unit price is subject to equitable adjustment for any quantities in excess of 120% of the estimated quantity. The contract price includes an allowance of US$1,260,000 for off-site disposal of contaminated soils. The contractor is also entitled to its costs for remediation work not covered by the allowance. If the contractor encounters less than the estimated quantity of contaminated soils, the contract price will be reduced by the unused portion of the allowance. Price adjustments will be made to account for significant fluctuations in the cost of fuel and asphalt materials over the course of the project.

CDOT and RTD have responsibility for Public Utilities Commission approvals and certain defined extraordinary maintenance including repair to damage caused by disasters.

Because CDOT and RTD will not have funds equal to the total contract price on hand at contract execution, the contract addresses the risk of non-payment by CDOT and RTD. The obligation of CDOT and RTD to make payments to the contractor is contingent upon the availability of funds to both CDOT and RTD in amounts to meet their respective funding obligations for the contract.