DENVER TRANSIT PARTNERS

May 26, 2017

Mr. David A. Genova
General Manager and CEO
Regional Transportation District
1600 Blake Street, Denver, CO 80202

Subject: Eagle Project At-grade Crossings and Control System - Notice

Dear Mr. Genova,

Denver Transit Partners LLC (DTP), in accordance with the equivalent relief requirements of the Design-Build Contract, Design-Build Subcontract, and Operation and Maintenance Agreement, on behalf of itself, the respective Contractors and Operator, and in response to RTD's letter RTD-OFLTR-000841, respectfully submits this letter, which constitutes a Force Majeure Notice and a continuing and additional Change in Law Notice, each in respect of DTP and RTD's (the Parties) joint inability to obtain approvals from the Colorado Public Utility Commission (CPUC) and Federal Railroad Administration (FRA) that are necessary in order to satisfy the Revenue Service Commencement Requirements.

At this time, DTP seeks (1) immediate suspension of (a) the Service Payment deductions under the A Line and B Line Side Agreements and (b) the Project Schedule relative to application of the Revenue Service Deadline Date pending completion of the regulatory approval processes for the crossings and control system, and (2) prompt commencement of good faith negotiations toward collaborative resolution of broader commercial and operational impacts as more fully explained below.

In addition to prior Change in Law Notices, which are hereby preserved, DTP is now aware that the inability to obtain the above regulatory approvals is, and has been, caused by a combination of circumstances that constitute a an additional Change in Law as well as a Force Majeure Event as defined in Section 39.1(b) of the Concession Agreement (CA), to wit:

> "(b) ....action (including a Change in Law) taken by .....any other Relevant Authority, including the Transportation Security Administration, the United States Department of Homeland Security, FRA, FTA or Federal Aviation Administration (or any successor entity of the foregoing agencies) in response to a threat to, or event affecting, the public health, safety, security or the Environment, in each case, the effect of which is to suspend, delay or disrupt the performance by the Concessionaire of any of its obligations under this Agreement;"

At the outset, CA requirements to use at-grade street crossings meeting Quiet Zone regulations and PTC train control technology were in line with public policy mandates and trends. Approval processes appeared straightforward, with the CPUC regulating crossing designs and the FRA regulating train control systems and railroad maintenance from a safety perspective.

Since the signing of the CA, however, both the CPUC and FRA have acted to reinterpret design guidelines and regulations in response to a number of very high-profile incidents, both regionally

and nationally, that have resulted in the loss of life, fines and penalties, criminal charges against individual train operators, and the reversal of technology mandates. New laws have been enacted (e.g. FAST Act mandating ATC over PTC for speed control – see particularly Section 11406 ordering modifications to ATC), and laws not previously applicable have been brought into play (e.g. Colorado's Uniform Motor Vehicle Law requiring bicyclist compliance with traffic laws).

Significant approval delays have occurred and continue; however, until now it had appeared that regulator concerns could be addressed with additional data, explanations and adjustments. Now, as a result of recent developments, it is clear that regulator safety concerns with at-grade street crossings Quiet Zones and use of PTC technology in Colorado and across the country have become so strong that there may be no foreseeable end to the issues and objections that could prevent the approval of each and every, or any, of the Project's at-grade crossings and the train control system in time to meet the Revenue Service Deadline Date.

A central point of debate and confusion at present is the meaning of the words "constant warning time." The resolution of that issue alone, however, will not signal the timely achievement of needed regulatory approvals. The CPUC, for example cautioned in a very recent meeting that it expects further cycles of modification, applications, reviews and inspections that cannot all be put through at once given staffing constraints and the volume of effort required. Similarly, discussions with the FRA regarding methods of warning time measurement have not been solidified in writing by the FRA and DTP has become aware that the matter is interpreted differently in the various FRA regions. It is unknown how long it may take for the FRA to reconcile those differences and issue guidance.

The unquestionable tipping point for identifying the existence of a Force Majeure Event as well as an additional Change in Law are a letter from the regional FRA office dated May 18, 2017 and two meetings with FRA in Washington DC on May 22, 2017, the first a meeting between RTD and FRA senior executives and immediately following a larger meeting that included DTP and FRA regional representatives. The letter was issued after both RTD and DTP had come to believe that FRA understood that achieving design warning times is subject to many variables requiring a 15 second design buffer as notated by the control system vendor in its engineering design documentation. The letter not only failed to provide that anticipated clarity, it served as a catalyst in the May 22nd meetings for additional internal debate among FRA representatives on multiple points. These events highlight the Force Majeure and Change in Law Events, and absolute lack of control that any contractor would have to obtain the regulatory approvals in question and thereby achieve issuance of the Revenue Service Commencement Certificates.

The current regulatory environment is simply one in which designers cannot know if the exercise of historically permitted engineering judgement will be honored and operators cannot operate without waivers from prosecution until crossing designs and control systems are approved. More specifically, DTP and its Contractors are unable to manage or reasonably control the approval process as originally envisioned by the CA.

This Notice is made with the greatest respect for the dedication of CPUC and FRA to public safety, as well as that of RTD. Neither the CPUC nor FRA can or should be rushed in their determinations of public safety matters. Equally, the Parties require reasonable time for careful professional study and consideration of regulator questions and requests at each step. The time required to obtain approvals in the current regulatory environment, however, was not foreseeable by DTP or any prudent contractor or rail operator at the time of execution.

As of the date of this letter, no crossings have been approved. The Eagle Project has, however, been in full operation as to the A-Line since April 22, 2016 and B-Line July 25, 2016 under Side Agreements between DTP and RTD, and conditional waivers and orders from the FRA and CPUC requiring crossing guards. Testing on the G-line has been delayed by both the CPUC and FRA. The approvals in question are conditions under the CA to the issuance of Revenue Service Commencement Certificates. The Revenue Service Deadline Date is April 26, 2018, and (5) months earlier for the Contractors.

Since the Project began, the term "constant warning time" has been reinterpreted to require design and operational precision that is not possible with available technology and human performance capabilities. Train control is mandated to include both the control system and human governance. Neither is permitted to be in sole control of train movements. Actual warning times depend on conditions and the experience and judgment of each individual operator.

The CA, CPUC and FRA follow the Manual on Uniform Traffic Control Devices (MUTCD) for the design and approval of Quite Zone at-grade crossings. MUTCD design guidelines call for the use of Constant Warning Time Devices *"if reasonably practical"* to provide *"relatively uniform"* warning time for trains that *"are not accelerating or decelerating after detection."* FRA regulations (49CFR §234.225) additionally require that crossings *"operate as designed"* with no less than 20 seconds warning time for *"normal operation"* of *"through trains."*

The italicized words in quotes above are the only public policy guidance to design engineers, control system vendors, operators and regulators. They assume that design warning times will be based on through trains operating under normal conditions while maintaining constant speed within the activation zone. The Eagle Project fully meets these assumptions and therefore the requirements of the regulations as they are written. Eagle Project trains provide local commuter service and are typically in a continuous mode of acceleration and deceleration between frequent stops. Virtually all crossings involve acceleration and/or deceleration within the activation zone. By nature, warning time variations due to technology and human operator factors will be greater on the Eagle Project than on a freight train rolling through town at a constant speed. DTP is advised by its consultants that it is unlikely that any similar electrified commuter railroad in the US operates with warning time consistency anywhere close to that of the Eagle Project. If tested under the conditions assumed, taking both technological and human operator factors into consideration, the Eagle Project fully complies.

Warning times for the Eagle Project rely on a highly advanced predictive train control system that takes into account foreseeable variables. It prompts on-board operators to take action and will enforce action if the operator does not respond within certain parameters. As first designed and included in the Final Project Design, acceleration and deceleration were to be governed by PTC technology. PTC was mandated by law and in early stages of industry development when the CA was signed. Upon the discovery of the subsequently passed FAST Act's applicability after Eagle Project operations commenced (see prior Change in Law notice), the control system had to be revised to enforce speed changes using ATC technology. ATC directs step changes in speed and has the effect of making crossing warning times less mathematically predictable, while also resulting in longer trip runtimes.

During Project execution, the industry pace of PTC technology development, implementation and understanding of associated complexities has been slower than expected, with the additional reality that the Eagle Project moved ahead of many other implementations. While the

Parties expected the Eagle Project to follow well behind other major implementations, it instead has become a test case for both the CPUC and FRA.

As with any new technology, testing and adjustments are expected. And, as is not unusual, the Project's control system vendor required more time than scheduled for programing and installation. In order to provide adequate regulatory review time, the FRA directed that initial operations commence without turning on the wireless connectivity function needed for PTC operation. This meant that the trains initially ran on ATC, which at that time and per the CA had not been designed or configured as the primary speed control system. Consequently, at many crossings, signals and gates were activated with longer warning time on occasion than called for in the designs approved by the PUC. When the wireless connectivity functions and PTC were ultimately switched on, warning times consistency improved, although anytime wireless connectivity is lost the trip continues on ATC per the original design. Within a few months, overall system operation was more finely tuned though vendor software updates, signal adjustments, and increased operator experience. The reconfiguration for ATC-based speed control was also implemented. An incredible amount of data has since been collected and analyzed, resulting in a better understanding of factors that naturally produce warning time variations.

DTP's Contractors and vendors have been effectively finished for some time with the elements that prevented the Independent Engineer from issuing the Revenue Service Commencement Certificates for the Lines in operation and for the remaining Line that cannot be tested. No additional significant software updates or corrective measures have been made in the last four months, and no further advancements are reasonably possible with available technology. DTP, the Contractors and Operator have fully complied with regulatory requirements as incorporated into the CA. The Contractors and Operator continue to gather data and gain operating experience. They, along with DTP and RTD, are also meeting regularly with and providing reports, data, analysis and updated applications as required by the CPUC and FRA. As mentioned above, the Parties are awaiting word from FRA on how the term "constant warning time" will be applied in determining future compliance and for purposes of potentially further revising CPUC applications.

Under a Force Majeure Event, DTP and its Contractors and Operator are entitled to:

a. Relief from liability per CA Section 39.2,
b. An extension of time in the Revenue Service Deadline Date under CA Section 39.5,
c. Exemption from Termination for any failure to meet the Revenue Service Deadline Date under CA Section 41.1(b),
d. Full payment of all Service Payments without deductions of any nature per CA Section 39.4(c) and 39.6, including relief from and refund of all or part of the Service Payment deductions made under the Side Agreements, and
e. Other relief as may be provided by the CA or otherwise.

In addition to the new Change in Law outlined above arising from the FRA's May 18 letter and the subsequent meetings on May 22, DTP continues to rely upon its prior Change in Law Notices and for brevity will not repeat here the grounds giving rise to relief. Under a Change in Law, DTP and its Contractors and Operator are entitled to:

a. An extension of time in the Revenue Service Deadline Date under CA Section 37.2(b),

b. Compensation for Incurred Costs under CA Section 37.2(b) (potentially subject to thresholds amounts if interpretations are applied nationally), including the cost of crossing guards, with payments due 60 days following agreement or determination,
c. An adjustment in Service Payments and modification of performance requirements and trip runtimes per CA Section 37.2(j), and
d. Other relief as may be provided by the CA or otherwise.

DTP recognizes that negotiation and agreement will be required between the Parties regarding the matters set forth in this Notice, including agreement on Changes in Law which to this point may remain incapable of full analysis or quantification. DTP asserts that immediate and interim relief is necessary and in the best interests of the Parties and the Project. Accordingly, DTP requests that negotiations commence now toward reaching mutually agreeable solutions and strategies going forward.

DTP firmly believes that these matters can be resolved in the same collaborative spirit that has prevailed throughout the Project without reliance on Dispute Resolution. It will be incumbent on the Parties to seek creative solutions as they have done in the past. The prospect of this Project failing to achieve Revenue Completion Certificates by the Revenue Service Deadline Date or to continue reporting performance against outdated metrics and trip runtime schedules is detrimental to RTD, DTP, the Contractors and Operator, and creates unacceptable risk and uncertainty for lenders and investors. DTP is prepared to work with RTD in the fashion described above on solutions that could potentially include waiving final CPUC and FRA approvals as conditions to the issuance of Revenue Service Commencement Certificates.

We would emphasize that all testing and passenger service to date have been conducted without compromising safety and that the systems and highly qualified personnel employed on the Eagle Project have at all times placed safety at the forefront. Both DTP and RTD have been actively engaged in the most cooperative manner in supporting regulatory needs for information and study. DTP's commitment to safety and satisfying both the CPUC and FRA remain absolute.

Respectfully,

David Rushton
Chair
Denver Transit Partners
Board of Directors

cc: John Thompson - DTP
Evariste Poissot - DTP