

Decision No. C18-0281

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 12A-900R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT CHAMBERS ROAD IN THE CITY OF AURORA, ADAMS COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0053R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT HAVANA STREET (U.S. DOT #804606R) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0054R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT FOR AUTHORITY TO INSTALL A NEW AT-GRADE CROSSING AT YORK STREET AND REALIGNED JOSEPHINE STREET IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0081R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT SABLE BOULEVARD (U.S. DOT #906047B) IN THE CITY OF AURORA, ADAMS COUNTY, STATE OF COLORADO.

PROCEEDING NO. 12A-1258R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT STEELE STREET (U.S.DOT #804626C) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 12A-1259R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT CLAYTON STREET (U.S. DOT #804625V) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0568R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY FOR AUTHORITY TO ALTER AT-GRADE CROSSINGS AT THE SOUTHBOUND QUEBEC STREET FRONTAGE ROAD (U.S. DOT#804635B) AND THE NORTHBOUND QUEBEC STREET FRONTAGE ROAD (U.S. DOT#804636H) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0570R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT DAHLIA STREET (U.S. DOT #804628R) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0571R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY TO ALTER AN AT-GRADE CROSSING AT HOLLY STREET (U.S. DOT # 804631Y) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0572R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT MONACO PARKWAY (U.S. DOT #804633M) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0810R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT BALSAM STREET IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0812R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT ALLISON STREET IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0813R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND UNION PACIFIC RAILROAD COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT ULSTER STREET (U.S. DOT # 804638W) IN THE CITY AND COUNTY OF DENVER, STATE OF COLORADO.

PROCEEDING NO. 13A-0852R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT CARR STREET IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0853R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT GARRISON STREET IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0854R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT PARFET STREET IN THE CITY OF WHEAT RIDGE, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0855R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT TABOR STREET IN THE CITY OF WHEAT RIDGE, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0857R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT INDEPENDENCE STREET IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0870R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT VANCE STREET IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0875R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT OLDE WADSWORTH BOULEVARD IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0886R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT LAMAR STREET IN THE CITY OF ARVADA, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0887R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT FOR AUTHORITY TO INSTALL AN AT-GRADE CROSSING AT W. 60TH AVENUE IN ADAMS COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-0950R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT, BNSF RAILWAY COMPANY, AND THE CITY OF ARVADA TO CONVERT SAULSBURY STREET AT CROSSING # 094493Y IN THE CITY OF ARVADA, JEFFERSON COUNTY, COLORADO FROM PRIVATE ACCESS TO PUBLIC ACCESS AND REQUEST AUTHORITY TO ALTER THE AT-GRADE CROSSING.

PROCEEDING NO. 13A-0969R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT MILLER STREET IN THE CITIES OF ARVADA AND WHEAT RIDGE, JEFFERSON COUNTY, STATE OF COLORADO.

PROCEEDING NO. 13A-1257R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT, UNION PACIFIC RAILROAD COMPANY, AND BNSF RAILWAY COMPANY, FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT TENNYSON STREET (U.S.DOT #253282S AND #244772K) IN ADAMS COUNTY, STATE OF COLORADO.

PROCEEDING NO. 14A-0124R

IN THE MATTER OF THE APPLICATION OF THE REGIONAL TRANSPORTATION DISTRICT, UNION PACIFIC RAILROAD COMPANY, AND BNSF RAILWAY COMPANY FOR AUTHORITY TO ALTER AN AT-GRADE CROSSING AT LOWELL BOULEVARD (U.S.DOT NO. 253281K AND NO. 094492S) IN ADAMS COUNTY, STATE OF COLORADO.

**INITIAL COMMISSION DECISION
ALLOWING RTD FURTHER RELIEF
TO MOVE FORWARD WITH TESTING**

Mailed Date: April 25, 2018
Adopted Date: March 28, 2018

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I. BY THE COMMISSION

A. Statement

1. This matter is decided by the Commission through an Initial Commission Decision regarding the Regional Transportation District’s (RTD) Application for Rehearing, Reargument or Reconsideration (RRR) of our October 25, 2017 decisions granting in part, and denying in part, RTD’s motions filed September 5, 2017 seeking permission to amend RTD’s applications for three A-Line crossings. On November 20, 2017, we granted RRR.¹ In our decision, we consolidated all A-Line and G-Line proceedings for rehearing, established an additional intervention period, and referred the consolidated matter to an Administrative Law

¹ See Decision Nos. C17-0928 (Steel Street); C17-0929 (Sable Boulevard); and C17-0930 (Dahlia Street).

Judge (ALJ) to conduct the rehearing and prepare an Initial Commission Decision pursuant to § 40-6-109(6), C.R.S. This Initial Commission Decision encompasses the resolution of RTD's RRR and the prescribed warning times to be used at all A-Line and G-Line crossings.

2. Now, being fully advised in the matter, we find it in the public interest to allow further relief for RTD to move forward with certification regarding the Wireless Crossing Activation Buffer Time (WCABT) for all A-Line and G-Line crossings as set forth in this Decision. In addition, based on those findings allowing RTD to move forward with its certifications, we require that the field demonstrations as previously ordered be conducted by Staff of the Public Utilities Commission (Commission Staff or Staff) at all A-Line crossings. Upon successful field demonstration for each crossing, flaggers should be removed crossing-by-crossing. At this time, field demonstrations can be performed for the Sable, Northbound Quebec, Southbound Quebec, and the York/Josephine crossings.

B. Findings of Fact

1. A-Line

3. The genesis of the consolidated A-Line Proceedings lies with Proceeding No. 12A-900R, the Application to Alter the At-Grade Crossing at Chambers Road in the City of Aurora (Aurora), Adams County, Colorado, filed on August 8, 2012. Subsequent applications were filed from January 25 through July 12, 2013 for crossings at Steele Street (12A-1258R), Clayton Street (12A-1259R), Havana Street (13A-0053R), York and Josephine Streets (13A-0054R), Sable Boulevard (13A-0081R), Northbound and Southbound Quebec Street (13A-0568R), Dahlia Street (13A-0570R), Holly Street (13A-0571R), Monaco Parkway (13A-0572R), and Ulster Street (13A-0813R).

4. Hearings were held for Proceeding No. 12A-900R (Chambers Road) and Proceeding No. 13A-0053R (Havana Street). Those applications were granted by subsequent Recommended Decisions. Hearings were not held for the remainder of the crossings; however, all those applications were approved, with some modifications, by Commission Decisions.

5. On March 11, 2016, approximately 42 days prior to the scheduled opening of revenue service on the A-Line, RTD filed a motion to amend all A-Line applications regarding the exit gate management system; roadway design; traffic signal design; signing and striping; use of flagger personnel to aid bicyclists; and advance preemption calculations (March Motions).

6. On April 1, 2016, the Commission issued decisions in each proceeding, including Decision No. C16-0277 in Proceeding No. 12A-900R, granting the March Motions in part.

7. In those decisions, the Commission found there had been “serious operational issues with this corridor” and that “during the testing period, numerous safety issues have occurred and continue to occur.” These issues included: crossings activated despite the absence of trains to activate the crossing; crossings failing to activate with a high-speed commuter rail vehicle approaching and traveling through crossings; commuter rail vehicles entering crossings before exit gates had fully descended; blank-out signs that were illuminated when they should not be; blank-out signs that were not illuminated when they should be; and, traffic signals entering into a flash condition due to failure to receive exit gate down indications.² With these concerns, the Commission required that, “if RTD is unable to certify safe, complete and correct crossing operations in writing by April 8, 2016, RTD will be required to post personnel at this crossing 24 hours per day that can immediately handle all safety issues occurring at the

² See, e.g., Decision No. C16-0277, Proceeding No. 12A-900R (April 1, 2016) at ¶¶ 6 and 7.

crossing.” The required personnel included “railroad signal personnel...personnel able to immediately address and reset traffic signals...and appropriately equipped flaggers as defined by the Federal Railroad Administration.”³ In addition, RTD was required to schedule field demonstrations with Commission Staff, in order for Staff to verify that all elements of the crossing were complete and that the crossings were operating as designed and ordered.⁴

8. On April 11, 2016, (14 days prior to the start of revenue service on the A-Line), RTD filed RRR to the Commission Decisions regarding the March Motions. RTD requested that the crossings be certified as complete, although the constant warning time issues had not been rectified, and stated it was expecting that the issues could be rectified by mid-May 2016. The RRR also requested a re-shuffling of personnel stationed 24 hours per day at the crossing to be replaced with a “GO Team” consisting of a rail signal technician and a traffic signal technician, stationed along the corridor alignment 24 hours per day to respond to a location within 20 minutes of notification.

9. On April 22, 2016, RTD began revenue service on the A-Line.

10. On April 25, 2016, by Decision No. C16-0348 in Proceeding No. 12A-900R (and by additional decisions in the remaining A-Line crossing proceedings) the Commission granted the request for the change in 24 hour maintenance personnel at the A-Line crossings and agreed that a GO Team stationed along the corridor alignment 24 hours per day and able to respond within 20 minutes to mechanical issues would provide adequate safety at those crossings. However, the Commission denied RTD’s request for certification of the crossings at constraints other than those originally requested by RTD and previously approved by the Commission.

³ *Id.*, at Ordering Paragraph No. 4.

⁴ *Id.* at Ordering Paragraph No. 5.

11. On September 5, 2017, RTD filed a Verified Motion for Permission to Amend Application (Motion to Amend) in three proceedings pertaining to the A-Line. In the Motion to Amend, RTD requested changes to traffic signal phasing, civil engineering changes, and changing the Commuter Rail Transit (CRT) signal plan for each crossing to add 15 seconds of WCABT to the approved warning time at the crossings. These are the first filings where the WCABT is shown on the schematic diagrams.⁵

12. On September 19, 2017, RTD filed a supplement to the Motion to Amend. RTD clarified it does not propose changing the programmed warning time at the crossings, nor routinely lengthening the experienced warning time from that already approved. RTD explained that, instead, it “seeks regulatory acceptance of up to 15 seconds of additional warning time than is currently approved to accommodate potential commuter rail system operational inconsistencies.”⁶

13. On September 22, 2017, Aurora filed a Response to RTD’s Motion to Amend in Proceeding No. 13A-0081R, regarding the Sable Street crossing. Aurora stated it objected to the proposed changes to the CRT signal plan at the crossings on grounds that RTD asserted facts without providing any supporting information. These concerns led Aurora to believe that RTD’s proposal was potentially unsafe and not an appropriate means to address the ongoing concerns regarding crossing operations.

14. The Union Pacific Railroad Company (Union Pacific) also responded to RTD’s Motion to Amend, filing responses in all three proceedings. Union Pacific stated it did not have

⁵ See Exhibit F-2 Sheet 3 of 3 filed with the original application on February 5, 2013 and Exhibit F-2(REV1) Sheet 3 of 3 filed September 5, 2017 in Proceeding No. 13A-0081R.

⁶ See, e.g., Proceeding No. 12A-1258R, Supplement to Motion for Permission to Amend Application at pp. 1-2, paragraph 1.

enough time to fully investigate its concerns, including: excessive warning time increasing the risk of an incident at a crossing; the creation of inconsistent warning times between Union Pacific trains and RTD trains; and a lack of technical justification for the proposed additional 15-second buffer time.

15. The Commission granted in part, and denied in part, the Motion to Amend in decisions issued October 25, 2017.⁷ The Commission approved all proposed traffic signal phasing and civil engineering changes. In a 2 to 1 decision, the Commission denied the request for an additional variable 15 seconds of warning time. The majority found the issues addressed by the City of Aurora and Union Pacific compelling. Commissioner Koncilja, writing a dissent, expressed due process concerns, but did not argue the Motion to Amend should be granted as filed. Rather, Commissioner Koncilja focused on the need for a hearing on the Motion to Amend and included a list of areas of evidence that should be presented at such a hearing.

16. On November 2, 2017, RTD filed RRR to the Commission's October 27, 2017, decisions denying RTD's request for approval of up to a 15-second variance between design and actual warning times at the subject crossings.

17. On November 20, 2017, the Commission granted RTD's request for rehearing.⁸

2. G-Line

18. Commission jurisdiction over the G-Line crossings began on July 12, 2013, by the filing of applications in Proceeding No. 13A-0810R, In the Matter of the Application of RTD and BNSF for Authority to Alter an At-Grade Crossing at Balsam Street in the City of Arvada (Arvada), Jefferson County, State of Colorado; and, in Proceeding No. 13A-0812R, In the Matter

⁷ See Decision Nos. C17-0853 (Steel Street); C17-0852 (Sable Boulevard); C17-0854 (Dahlia Street).

⁸ See Decision Nos. C17-0928 (Steel Street); C17-0929 (Sable Boulevard); C17-0930 (Dahlia Street).

of the Application of RTD and BNSF for Authority to Alter an At-Grade Crossing at Allison Street in Arvada. Subsequent applications were filed from July 26, 2013, through February 10, 2014, for crossings at: Carr Street in Arvada (13A-0852R); Garrison Street in Arvada (13A-0853R); Parfet Street in Wheat Ridge (13A-0854R); Tabor Street in Wheat Ridge (13A-0855R); Independence Street in Arvada (13A-0857R); Vance Street in Arvada (13A-0870R); Olde Wadsworth Boulevard in Arvada (13A-0875R); Lamar Street in Arvada (13A-0886R); W. 60th Avenue in Adams County (13A-0887R); Saulsbury Street at Crossing # 094493Y in Arvada (13A-0950R); Miller Street in Arvada and Wheat Ridge (13A-0969R); Tennyson Street in Adams County (13A-01257R); and Lowell Boulevard in Adams County (14A-0124R).

19. Hearings were not held for the individual applications for the G-Line crossings. All applications were approved, some with modifications related to signage at the crossing. No additional requirements or modifications were made to any aspect of the wireless technology.

20. On May 5, 18, 25, 26, and 27, 2016, RTD filed, in all but one G-Line proceeding, a motion to amend the applications (May Motions).⁹ In the May Motions, RTD requested amendments to all of the applications concerning the following aspects of the crossings: (1) the exit gate management system; (2) crossing safety during testing phase; and (3) crossing configurations.

⁹ RTD did not file a motion to amend in Proceeding No. 13A-0887R (West 60th Avenue).

21. On June 6, 9, 16, 17, and 20, 2016, the Commission issued decisions granting the May Motions with conditions.¹⁰ The Commission required RTD to post flaggers at the crossings during all times when any train, either freight or commuter rail, was occupying the crossing.¹¹

22. After construction was completed, RTD began testing on the G- Line in 2016. However, in August of 2016, all testing was suspended by the Federal Railroad Administration (FRA) on the G-line due to issues related to the A-Line wireless technology, which is also incorporated into the G-Line. Testing on the G-Line was not suspended by this Commission.

23. On February 8, 2017, RTD filed in some, but not all G-Line proceedings, motions to amend the Commission's June 2016 Decisions (February Motions).¹² RTD requested the Commission alter its decision to require posting of personnel at a crossing only when a *commuter rail* train is occupying the crossing (not a freight train).

24. On March 17, 2017, the Commission issued decisions denying the February Motions citing the public safety issues occurring at the A-Line crossings, all of which utilize identical wireless technology.¹³

25. On May 19, 2017, RTD filed, in all G-Line proceedings, a Motion to Permit Resumption of Testing, along with an attachment outlining how the testing was to be conducted.

¹⁰ See, e.g., Proceeding No. 13A-0810R, Decision No. C16-0530 (June 16, 2016).

¹¹ See, e.g., Proceeding No. 13A-0810R, Decision No. C16-0530 (June 16, 2016) at ordering ¶ 4.

¹² RTD did not file February Motions in Proceeding Nos. 13A-0969R (Miller Street), 13A-1257R (Tennyson Street), and 14A-0124R (Lowell Boulevard). RTD also did not file a motion in Proceeding No. 13A-0887R (West 60th Avenue) because, in that case, RTD had not filed a May Motion to amend the application.

¹³ See, e.g., Proceeding No. 13A-0810R, Decision No. C17-0202 (March 17, 2017).

RTD did not propose any changes or amendments to the applications. In its motion, RTD stated that FRA had granted permission to perform limited testing. No responses were filed.

26. The Commission granted RTD's motion to resume testing on June 9, 2017.¹⁴ We noted that RTD did not request changes to the wireless crossing system and that the testing was to be done as shown in the testing plan attached to the May 19 motion. The testing granted by the Commission Decision of June 9, 2017, was completed in July of 2017. There was no interruption of the testing by either the Commission or FRA.

27. RTD filed a Motion to Permit Additional Testing on September 7, 2017, in all G-Line proceedings. RTD stated it had received permission from FRA to resume testing. RTD did not attach a testing plan to its motion, instead stating it would follow the plan attached to the May 19 motions. Nor did the September 7 motion contain any request to amend the G-Line applications to allow changes to traffic signal design or phasing, civil engineering changes, or changes to approved warning time at the crossings.

28. On October 25, 2017, the Commission issued decisions on the September 7 motions in all G-Line proceedings.¹⁵ The majority denied RTD's request to complete all remaining systems' testing through the Miller Street crossing, including testing utilizing the wireless crossing system. The majority found that "[g]iven that the subject crossing uses the same technology and would likely need the same requested additional 15 seconds of wireless crossing activation buffer time that we denied for the A-Line crossings, we deny RTD's request

¹⁴ See, e.g., Proceeding No. 13A-0810R, Decision No. C17-0468 (June 9, 2017).

¹⁵ See, e.g., Proceeding No. 13A-0810R, Decision No. C17-0856 (October 25, 2017).

to permit additional testing at the subject crossing.”¹⁶ Commissioner Koncilja dissenting, would have set the matter for hearing to allow development of additional factual evidence.¹⁷

29. On November 14, 2017, RTD filed RRR, in all G-Line proceedings of the Commission’s October 25, 2017 decisions regarding G-Line testing. RTD requested the Commission clarify in its pending A-Line RRR decisions that the ALJ assigned to the consolidated A-Line and G-Line proceedings could issue an interim decision to allow testing on the G-Line.

30. On November 20, 2017, the Commission granted RTD’s RRR and issued decisions in all G-Line proceedings, clarifying that the assigned ALJ could address the G-Line testing issue and encouraging the ALJ to resolve the G-Line testing issues as expeditiously as possible.¹⁸ Further, the Commission noted that at the November 9, 2017, Deliberations Meeting, it granted RTD’s request to refer the crossing testing issue to an ALJ for rehearing and to issue an Initial Commission Decision. The Commission also consolidated all of the A-Line and G-Line proceedings for purposes of rehearing since both lines utilize the same technology. In addition, since RTD’s request for rehearing on the crossing warning time issue was materially different

¹⁶ See, e.g., Proceeding No. 13A-0810R, Decision No. C17-0856 (October 25, 2017) at ¶13.

¹⁷ The procedural posture of the G-Line proceedings becomes somewhat convoluted at this point. On September 7, 2017, RTD filed a Motion to Permit Resumption of Testing. On October 11, 2017 the FRA approved RTD’s request to enter the final phase of testing on the G-Line, including testing of the Wireless Crossing Activation System. The Commission issued its Decision denying RTD’s motion on the grounds that the wireless technology utilized at the crossing was the same technology that RTD had proposed to use on the A-Line, that required Commission approval of up to a 15-second variance between design and actual warning time. On November 2, 2017, RTD filed its RRR to the A-Line Decisions. RTD requested that the Commission re-open the record and grant rehearing to take additional factual evidence and allow additional legal briefing on certain aspects of the A-Line Decisions. RTD claimed that it could provide evidence that an “up to 15 second variation” in actual warning time, in addition to already existing safety measures at A-Line crossings, would be an appropriate and reasonable solution to the concerns raised by Commission Staff and the FRA when longer than expected warning times were experienced at those crossings.

¹⁸ See, e.g., Proceeding No. 13A-0810R, Decision No. C17-0942 (November 20, 2017).

from the original applications, the Commission issued a separate Notice of Rehearing and established an additional intervention period of ten days for the rehearing proceedings.

31. On December 6, 2017, RTD filed a Verified Motion to Permit Resumption of Testing on RTD's Gold Line in the Consolidated Proceeding. No party filed a response. On December 26, 2017, by Decision No. R17-1084-I, the ALJ granted the verified motion. The ALJ concluded that, since the requested testing is limited to the previously-approved applications and all crossings would be manned with flaggers and train horns will sound as trains approach the crossings, the necessary safeguards were in place to resume testing.

32. The following intervenors are parties to the Consolidated Proceeding: Adams County, Arvada, Union Pacific, Aurora, the City and the County of Denver (Denver), and the BNSF Railway Company.

II. CONSOLIDATED HEARING

33. On January 22, 2018, RTD pre-filed testimony of the following witnesses: Mr. Joseph Christie, Mr. Clifford Eby, Mr. David Genova, Mr. Aaron Marx, and Mr. Mike Steffen. Since no intervenors filed Answer testimony, the hearing on the amendment was scheduled to be held on February 15, 2018.¹⁹ At the hearing, all intervenors stated they did not object to the proposed amendments to the applications, and therefore would not conduct cross-examination. RTD called each of its witnesses, who provided a short synopsis of their pre-filed testimony and then were questioned by the ALJ.

¹⁹ Had any intervenor filed Answer testimony, the hearing would have been held on March 12, 2018.

A. Witness Joseph Christie

34. In his written testimony, Mr. Christie provided an overview of the testimony to be presented and an overview of the EAGLE Project. Mr. Christie was also questioned by the ALJ.

35. Mr. Christie is employed by Denver's Regional Transportation District, FasTracks Team, as the Project Director for the EAGLE Project. Mr. Christie manages RTD's technical and construction oversight of the design-build for the EAGLE Project as well as contract administration of RTD's contract with the design/build/operate/maintain Concessionaire for the EAGLE Project, Denver Transit Partners.

36. The EAGLE Project consists of three new commuter rail lines from Denver Union Station to: the Denver International Airport (A-Line), south Westminster (the B-Line), and Arvada and the City of Wheat Ridge (the G-Line). It also includes 16 new commuter rail stations with park and ride facilities, along with other transit amenities. The total project funding is \$2.2 billion, including federal funding, private financing, and local financing.

37. The A-Line is a 23-mile electric commuter rail corridor between Denver Union Station and Denver International Airport that passes through east Denver and Aurora. It includes six intermediate stations and additional park and ride facilities in Denver and Aurora. It includes 12 public at-grade railroad crossings.

38. The B-Line is a 6.2-mile first segment running from Union Station to the south Westminster Station near 71st Avenue and Lowell Boulevard. It includes one new private at-grade crossing. The B-Line opened for revenue service on July 25, 2016.

39. The G-Line is an 11.2-mile electric commuter rail corridor that shares tracks with the B-Line just past the Commuter Rail Maintenance Facility to Pecos Junction, where it heads west through northwest Denver, Adams County, Arvada, and Wheat Ridge to the Ward Road

Station and park and ride. The G-Line includes six intermediate stations and park and ride facilities. It includes 15 public at-grade crossings and 1 private at-grade crossing.

40. The G-Line was scheduled to open on October 25, 2016, but has been delayed. The Commission most recently allowed testing on the G-Line to begin on December 26, 2017.

41. Flaggers are currently required for all public at-grade crossing activations on the A-Line and G-Line. Flaggers are required on both sides of the crossings for any and all activations 24 hours per day, 7 days a week.

42. FRA ordered the flaggers in order to operate the A-Line and the B-Line. The Commission ordered the flaggers in order to operate the A-Line safely, due to safety issues that had occurred at the crossings during the testing process.²⁰ Prior to the removal of the flaggers, the Commission required that RTD certify that the crossings have been constructed according to Commission Decisions.

43. The EAGLE Project uses a Wireless Crossing Activation System developed by Xorail/Wabtec Corporation (Wabtec). RTD required a constant warning time system to meet the requirements to establish quiet zones.²¹

44. A “programmed warning time” is determined based on three inputs:
- a) 20 seconds of minimum warning time required by FRA Rules;
 - b) a crossing clearance time to allow vehicles to exit an activated crossing before the gates for that crossing descend, which will vary by crossing depending on the width of the crossing; and
 - c) a 5-second buffer time.²²

²⁰ There are no at-grade public crossings on the B-Line and only one private at-grade crossing.

²¹ A designation by the FRA that allows trains not to be required to sound horns on approach to a crossing.

²² Joseph Christie written testimony p. 19, l. 3-8.

45. All warning time activations will not occur precisely at the programmed warning time for each and every activation of the warning system.²³

46. The crossings have additional safety measures including four-quadrant gates, and supplemental warning devices, such as “Another Train Coming” blank-out signs to supplement the programmed warning times at each crossing.

47. The FRA has informed RTD that all requirements for a quiet zone designation have been met and that only Commission approval is required before the local jurisdictions can apply for a quiet zone designation and be approved.²⁴

48. By letter dated September 28, 2017, FRA granted a waiver to RTD for relief from the operational restrictions in the applicable FRA waivers for the A-Line and B-Lines, applicable for purposes of compliance with 49 *Code of Federal Regulations* (CFR) § 234.225. The FRA waiver requires the development of a plan for gradually removing the flaggers. Among other things, the plan must include public outreach. RTD had not applied for a similar waiver from FRA for the G-line as of the hearing.²⁵

49. RTD does not anticipate difficulty in receiving an additional waiver from FRA, but does not believe an additional waiver will be required when the current five-year waiver expires. RTD also does not intend to make any adjustments to the warning system to address the issues which led to the waiver being required.²⁶

²³ *Id.* at p. 20, l. 1-2.

²⁴ Hearing Transcript, p. 23-24 , l. 5- 13. (hereinafter, described as Hr.Tr. at pp:lines) Also *Id.* at p.80, l. 3-17. RTD did not provide any exhibit showing this approval from FRA. This conclusion is based entirely on testimony presented at the hearing.

²⁵ HrTr at: 46: l. 1-8.

²⁶ *Id.* at: 19-18

50. A report sent to FRA showing warning times for the period August to November 2017 for the A-line crossings, depicted through bell curves, shows that a majority of activations are within 5 seconds less and 15 seconds more than the programmed warning time for each crossing.²⁷ However, these bell curve graphs, which Mr. Christie states were provided to FRA in November 2017, per the terms of the FRA's September 28, 2017 five-year waiver, did not include the underlying raw data to show the number of instances of each warning time at an individual crossing. The bell curve graphs also did not provide a composite raw number.

51. At hearing, Mr. Christie had difficulty answering the ALJ's clarifying questions about these bell curve graphs. Mr. Christie stated in pre-filed testimony that less than 10 percent of activations fell outside the programmed warning time with the additional WCABT, but did not know when asked by the ALJ, if this was a composite percentage; nor could he testify to the actual percentage (only "less than 10 percent").²⁸ Similarly, he stated in pre-filed testimony that "far fewer than 10 percent" of A-Line activations exceed 60 seconds, but did not know, when asked by the ALJ, the actual percentage or whether this was a composite.²⁹

B. Witness Clifford Eby

52. Mr. Eby's written testimony focused on grade-crossing safety and what makes a grade crossing safer. Mr. Eby is an independent consultant retained by Denver Transit Partners. He is a civil engineer and served as Deputy Administrator of FRA from 2005 through 2008 and Acting Administrator of FRA during 2008 through 2009.

²⁷ Attachment JC-5.

²⁸ Hr. Tr. at 37:13-25 (Christie).

²⁹ Hr. Tr. at 43:5-25 (Christie).

53. According to Mr. Eby, FRA regulation 49 CFR § 234.225 requires each highway-rail grade crossing warning system be maintained to activate in accordance with the design of the warning system, but in no event, to provide less than 20 seconds of warning for normal operation of through train movements before the crossing is occupied by rail traffic. FRA does not specify a maximum constant warning time because each crossing configuration differs.

54. While Mr. Eby agreed that state rail or public utility agencies can, and do set prescribed warning times, he was not aware of any state that prescribes specific warning time maximums or ranges.³⁰ There are no requirements contained in 49 CFR Part 234 referenced in Mr. Eby's testimony³¹ that require approval of maximum warning times or ranges of warning times,³² only prescribed warning times.³³

55. Mr. Eby referred to studies entitled North Carolina Sealed Corridor Phase I, II, and III (October 2009) and Phase IV (July 2012) prepared by the U.S. Department of Transportation and FRA regarding the North Carolina sealed corridor (North Carolina Sealed Corridor Studies). Mr. Eby testified these studies show four-quadrant gates with channelization have a higher level of effectiveness than other types of crossing improvements. He noted that while effectiveness is not 100 percent, fatal accidents occur less when compared to crossings with other improvements.³⁴

³⁰ Clifford Eby Direct Testimony, p. 18, l. 12-14.

³¹ *Id.* at p. 8-9, l. 15-4.

³² *See, generally*, 49 CFR Part 234.

³³ 49 CFR § 234.259.

³⁴ Eby Direct Testimony, p. 12-13, table and reference U.S. Department of Transportation and Federal Railroad Administration, "North Carolina "Sealed Corridor" Phase I, II, and III" (October 2009) and Phase IV (July 2012) p. 1.

56. Mr. Eby testified that four-quadrant gates are the current “gold standard” for mitigating bad driver behavior, comparing them to traditional gates subject to manual movement and evasion.³⁵ According to Mr. Eby, “with all four corners of that intersection closed” and the median barriers in place, it is difficult for a driver “to pull up to the gates, look and make a judgment, and be able to drive around the gates and through them.”³⁶ He also testified the A-Line and G-Line crossings have video surveillance, and “drivers are reluctant to do things when they know they are being taped.”³⁷

57. Mr. Eby refers to a study entitled Assessment of Warning Time Needs at Railroad-Highway Grade Crossings with Active Traffic Control developed in 1990 by the Transportation Research Record (1990 Study) as the only known study concerning warning times. Mr. Eby testified the 1990 Study found “poor driver behavior occurs after 60 seconds at gated crossings.”³⁸ At hearing, however; Mr. Eby was unfamiliar with the details of this study. He testified the 1990 Study encompassed five crossings in Tennessee (there were only three), he did not recall if any crossings had gates (one had gates), he was not aware if the crossings were urban or rural, were for multiple track crossings, or over what period of time the study was conducted, and he recalled that “both” crossings had a constant warning time system and traditional relay-based warning time system.³⁹ Mr. Eby did recall that different times of the day were observed in the study but there was no difference in driver behavior based on time of day.

³⁵ Hr. Tr. at 91:24-92:4 (Eby).

³⁶ *Id.* at 92:2-10.

³⁷ *Id.* at 92:13-17 (Eby).

³⁸ *Id.* at 65:23-24.

³⁹ *Id.* at 66:4-69:9

58. Mr. Eby believes that RTD chose to seek a waiver from FRA, rather than seek full approval of the constant warning system.⁴⁰ Also, he is convinced that FRA has examined the system used on the EAGLE Project and “find(s) no problems.”⁴¹ Mr. Eby testified RTD has currently met constant warning times as designed under FRA regulation 49 CFR § 234.225, yet a waiver from FRA is still required.⁴² He also believes that under FRA’s quiet zone requirements, RTD’s constant warning time is not only “practical”⁴³ but has already been achieved.⁴⁴

C. Witness David Genova

59. Mr. David Genova is RTD’s General Manager and Chief Executive Officer. He has held that position for three years. He is responsible for the supervision and direction of all employees of RTD. He previously served as RTD’s Chief Safety Officer.

60. Mr. Genova maintained that he has “spent countless hours reviewing [RTD’s] commuter rail system’s safety-related systems and operations with RTD staff, with [DTP], and with FRA regulators and experts.”⁴⁵ Mr. Genova certified based on his knowledge of the project that the crossing gate systems are now complete, operational, and safe.⁴⁶

61. At hearing, however, Mr. Genova admitted the system is not operating as currently approved by the Commission, but rather to the specifications proposed in the amendments *and* with a few minor outstanding civil engineering changes.⁴⁷ Further, Mr. Genova

⁴⁰ *Id.* at 59, l. 1-3.

⁴¹ *Id.* at 6-17.

⁴² *Id.* at 63-64, l.20-12.

⁴³ Such warning devices shall be equipped with constant warning time devices, if reasonably practical, and power-out indicators. 49 CFR § 225(b)(1)

⁴⁴ As discussed later in this Decision, Mr. Steffen does not believe that a constant warning time is practical under FRA quiet zones. *See* ¶ 122.

⁴⁵ Genova Direct Testimony at p. 4, l. 4-7.

⁴⁶ Genova Direct Testimony at p. 5, l. 1-4.

⁴⁷ Hr. Tr. at 104:14-105:13 (Genova).

struggled to describe to the ALJ the terms of the FRA waiver, despite admitting he participated in negotiating it. Mr. Genova stated “there is a variety of things mentioned in the waiver” and he “will have to look at it again, specifically” to determine what it covered.⁴⁸

D. Witness Aaron Marx

62. Mr. Marx is employed by the HNTB Corporation as the Project Manager in Rail Solutions. He has a B.F.A. in Industrial Design from the University of Wisconsin-Stout. Mr. Marx conducted a video survey across the nation of 17 grade crossing warning systems. The videos showed that there were variations in warning times at the 17 crossings.

63. At hearing, however, Mr. Marx could not verify that the programmed warning time at the crossings contained in the videos other than the A-Line warning times and admitted that none of the crossings had a wireless system like the A-Line.⁴⁹

E. Witness Mike Steffen

64. Mr. Mike Steffen is employed by HNTB Corporation as the Senior Manager of Rail Solutions and previously worked for Wabtec. Mr. Steffen designed the wireless technology used in the EAGLE Project while working for Wabtec. He has been retained by Denver Transit Partners to provide an audit of the system he designed.

65. Mr. Steffen testified that the “initial issues with operational handling of the Wireless Crossing System ... have been addressed” and, to his knowledge, “there are no issues that negatively impact the EAGLE grade crossing warning system from operating safely and as intended.”⁵⁰

⁴⁸ *Id.* at 103:17-104:11.

⁴⁹ Hr. Tr. at 165:16-19 (Marx) (exact warning times); Hr. Tr. at 172:9-21 (Marx) (whether electrified).

⁵⁰ Steffen Direct Testimony at p. 17, l. 19-21.

66. Mr. Steffen testified that all rail lines that use Positive Train Control (PTC) are under a waiver from FRA.⁵¹ Notably, Mr. Steffen testified that the constant warning system used on the EAGLE Project is not being worked on to make it better. The current state of the system is the best it will be.⁵² Contrary to the testimony of Mr. Eby, Mr. Steffen not only does not believe that the EAGLE Project's constant warning time under the FRA's quiet zone rule has been met, he does not believe that the wireless crossing technology being used by RTD falls under systems that would be practical under the FRA's quiet zone rule.⁵³ Mr. Steffen believes "that the 15 seconds of Wireless Crossing Activation Buffer Time is not included in the Programmed Warning Time and is not part of the design configuration *per se*."⁵⁴ However, he does not believe this falls outside of the original design of the system.⁵⁵

67. Figures 1 and 2 of Attachment MS-1 to Mr. Steffen's testimony show the WCABT is included as part of the system design time.⁵⁶

F. Late Filed Exhibits

68. During the hearing held on February 15, 2018, the ALJ was concerned that information vital to assist the Commission had not been filed in the proceeding. The ALJ ordered RTD to file the studies referred to in testimony; the draft plan submitted to the FRA for flagger removal; and the raw data used to compile the bell curve graphs in Mr. Christie's testimony.

⁵¹ *Id.* at p.199, l. 15-18.

⁵² *Id.* at p. 129, l. 1-7.

⁵³ *Id.* at pp. 133-134 l. 19-9.

⁵⁴ Exhibit 6, pp. 15-16.

⁵⁵ Hr. Tr. at 137-138, l. 1-11.

⁵⁶ Steffen Direct Testimony, Attachment MS-1, pp. 6-7

1. The 1990 Study

69. In his testimony, Mr. Eby cites the 1990 Study as the benchmark research to show that highway drivers engage in risky crossing behavior when warning times exceed 60 seconds.⁵⁷ All witnesses referred to this study as being the only study which addresses warning time safety. This study was not included as an attachment to the pre-filed testimony, but due to the potential information it could contain, the ALJ ordered RTD to file it into the proceeding. Mr. Eby filed this on February 16, 2018, as Attachment CE-5.

70. To gather data for the 1990 Study, a field study was conducted in Knoxville, Tennessee at three crossings, only one of which, the Cherry Street crossing, had gates.⁵⁸

71. Over the two months studied at the Cherry Street crossing, 1,030 vehicles were observed. Approximately 90 percent of arriving motorists remained stopped for warning times of 20 to 25 seconds. This percentage declined to 70 percent for warning times of 25 to 30 seconds and to 60 percent for warning times of 30 to 35 seconds. This percentage stayed constant for warning times of up to 80 seconds. After 80 seconds, obedience to the gates fell below 30 percent. The study concluded from this information “that relatively short warning times (20-35 seconds) are desirable to minimize gate violations” and “if warning times are greater than about 35 sec, approximately 40 percent or more of the drivers will violate the gates.”⁵⁹ The study also looked at dwell times (the time a driver spends deciding to cross the tracks) at Cherry Street. They found dwell times ranged from 1 second to over 30 seconds, although 80 percent were less

⁵⁷ Eby Direct Testimony p. 16, l. 14-17.

⁵⁸ This is contrary to Mr. Eby’s testimony that five crossings were observed. Mr. Eby was also unsure of the number of crossings with gates. The Cherry Street crossing did have gates but did not have four quadrant gates that are on all EAGLE Project crossings.

⁵⁹ 1990 Study at p. 7.

than 10 seconds. The researchers concluded that drivers were not crossing the tracks after getting frustrated but rather crossing as soon as they felt comfortable doing so.

72. The researchers concluded based on the field study results, that “drivers have certain expectations and tolerance levels associated with warning times at active grade crossings.”⁶⁰ To explore these warning time expectations and tolerance levels, a human factors laboratory study was completed.

73. Sixty driver subjects were shown videotapes of staged traffic control device activation events at active grade crossings. The study found 30.6 seconds was the mean time in which the participants expected a train to arrive. The time of expected train arrival ranged from 20.9 seconds to 47.4 seconds. The mean excessive elapsed time for gated crossings was 66.2 seconds. The researchers believe this laboratory result “support[s] the premise that there is an optimal range of warning times for gated crossings that minimize gate violations and maximizes driver confidence and respect for the traffic control system.”⁶¹

74. In conclusion the 1990 Study comes up with the following suggested guidelines:

The suggested minimum warning times range from 20 to 35 sec depending on the width and grade of the crossing. These values should be increased by 10 percent if twin or triple tractor-trailer combinations are present. The suggested ranges of warning times for gated crossings are relatively narrow i.e., 5 sec. These narrow ranges are strongly supported by the research results. Recognizing practical limitations of train operations and train detection hardware, some longer warning times would be allowed. However, if more than 10 percent of the warning times exceed 60 sec, then the installation of motion sensors or train predictors is strongly urged. If motion sensors or predictors are not effective in limiting the warning times to the desired range, then the installation of four-quadrant gates would seem appropriate. However, at this time four-quadrant gates are not adopted in the MUTCD.⁶²

⁶⁰ *Id.* at p. 11.

⁶¹ *Id.* at p.12.

⁶² *Id.* at p. 13.

2. North Carolina Sealed Corridor Study

75. Mr. Eby referred in his pre-filed testimony and at hearing to the North Carolina Sealed Corridor Studies. Mr. Eby testified these studies show four-quadrant gates with channelization have a higher level of effectiveness than other types of crossing improvements. However, RTD failed to offer the studies into evidence to support their position. As a result, the ALJ ordered at hearing that RTD provide these studies as a late-filed exhibit. Mr. Eby filed this series of assessments on February 16, 2018, as Attachments CE-3 and -4.

3. Draft Plan to Remove Flaggers

76. In the September 28, 2017 FRA waiver letter, FRA required RTD to implement a plan for the gradual removal of the flaggers. The ALJ ordered RTD to file its draft plan in the proceeding.⁶³

77. The FRA letter requires as follows:

Before discontinuing the implementation of RTD's existing "Grade Crossing Attendee Plan," RTD must develop, draft, and submit to FRA for approval, a plan for gradually removing the crossing attendants (flagmen) from each of the grade crossings along the A and B-Lines at which attendants are currently stationed. The plan must include public outreach (e.g., media, public service announcement campaign) designed to inform the public, community leadership, law enforcement and motorists of the removal of the crossing attendants. This plan must provide clear notice that longer warning times may occur and clearly describe the dangers of disregarding any warning provided by the grade-crossing warning system.⁶⁴

78. The plan calls for releases to the media and stakeholders. The plan does not define media or the methods to be used to inform the media or by what means they intend the media to

⁶³ See Attachment JC-6, filed by Mr. Christie on February 16, 2018.

⁶⁴ FRA Letter ¶ 1 at p. 2.

inform the public. The stakeholders are listed as Union Pacific, Denver Public Works, Denver Police, Bruce Randolph Middle/High School, Aurora Public Works, and Aurora Police.

79. The actual releases are not included in the record, only a list of the main points to be covered. These points include:

- a. Commuter Rail in Denver is a valuable public asset that carries over 20,000 passengers per day. These passengers are significantly easing automobile traffic congestion.
- b. Warning devices such as gates, flashers, and signage at the grade crossings are in place for the protection of the railroad and the travelling public.
- c. It is extremely dangerous (and illegal) to disobey or disregard the warning devices at any railroad crossing.
- d. The warning devices need to be heeded by motorists, pedestrians, and bicyclists.
- e. If a gate seems to be down longer than usual, be patient. The system is there for your protection.
- f. If a train passes and the gates remain down, be patient. There may be another train coming from a different direction. The system is there for your protection.
- g. Always expect a train to arrive on any track, in any direction, at any time.
- h. Never try to beat a train through a crossing.
- i. Never attempt to drive or walk around crossing arms.
- j. Always obey all signs and safety devices at all traffic intersections, including at grade crossings.

80. The plan calls for a staggered removal of the flaggers. A seven-day notification period is proposed for three crossings at a time, before flaggers will be removed. The notification periods will overlap so that by the third week of the plan, all flaggers will have been removed.

4. Raw Data for Bell Curve Graphs

81. Attachment JC-5 to Mr. Christie's testimony contains bell curve graphs showing that "[a] very low percentage of warning times occur outside of the [programed warning time]

+15 seconds.”⁶⁵ However, Mr. Christie was not able to state what the percentage was.⁶⁶ The ALJ ordered RTD to provide the raw data used to construct the bell curve graphs due to the lack of clarity in the graphs and the witnesses’ testimony. Mr. Christie filed this data on February 21, 2018, as Attachments JC-7, -8, and -9. This data is attached to this Decision as Attachment A (in summary form) and Attachment B (original ALJ analysis).

82. A review of the late-filed data shows there were warning times that exceeded the longest recorded warning time on the bell curve graph. The number and percentage of each of these incidents is documented.

83. The ALJ looked at each crossing in each time frame and calculated the percentage and raw numbers that fall within -5/+5 seconds of the programmed warning time and -5/+15 seconds of the programmed warning time, and beyond +15 seconds of the programmed warning time. The ALJ also calculated the average, shortest, and longest wait times, the number of days with no warning times of 60 seconds or greater, and the day with the most warning times of 60 seconds or greater in each time period.

III. ANALYSIS AND CONCLUSIONS

84. After the hearing in this matter, RTD filed a Statement of Position (SOP) on March 2, 2018, summarizing its request for relief:⁶⁷

Approve WCABT

Approve the WCABT as proposed in the September Motions to Amend, as to all A-Line and G-Line crossings.

⁶⁵ Attachment JC-5, p.1.

⁶⁶ Hr. Tr. at 39: 1. 1-23. Testimony varied between witnesses, as to the rate that warning times exceeded programed warning time + 15 seconds was described by Mr. Christie as “a low percentage“ and “less than 10 percent” and “ less than 20 percent” by Mr. Steffen.

⁶⁷ *RTD Statement of Position* (March 2, 2018) at pp. 11-14.

Eliminate Flagger Requirement

A-Line: Accept written certifications tendered by RTD witnesses Mr. Genova and Mr. Christie that A-Line crossing work is operationally complete and in conformance with the approved design and operational parameters of the crossing; flaggers may then be removed in accordance with an FRA-approved demobilization plan and public outreach campaign.

G-Line: Permit RTD General Manager to submit a *pro forma* certification for the G-Line once testing is complete, because the record established by the pre-filed testimony and hearing evidence establishes the safety of those crossings.

Eliminate Staff Field Demonstration Requirement

Find pre-filed testimony and hearing evidence, including Video Exhibit AM-1 to demonstrate operation of A-Line crossings, sufficiently demonstrates the complete, proper, and safe operation of all A-Line and G-Line crossings.

Waive *sua sponte* the requirement in prior Commission orders that, prior to removal of flaggers, RTD must field demonstrate to Commission Staff that each crossing is complete and operates correctly, consistently, and safely.

85. The SOP, testimony, and evidence provided by RTD and required to be late-filed by order of the ALJ, form the basis for our decisions below.

A. Request to Approve WCABT

1. RTD's Arguments

86. RTD claimed the evidence shows the amendments relating to the proposed WCABT pose no risk to safe operation of the A-Line and G-Line. RTD claimed the most comprehensive analysis on the subject shows if warning times exceed 60 seconds, and if more than 10 percent of activations exceed 60 seconds, then four-quadrant gates would be appropriate to address the risk. RTD provided bell curve graphs of A-Line crossing activation times to demonstrate fewer than 10 percent of activations exceed 60 seconds and notes that, in any event, four-quadrant gates and other safety features are in place. RTD pointed out that FRA, whose primary mission is rail safety, did not object to warning times within the -5/+15 second WCABT, based on its review of all available safety data. Finally, RTD suggested that "constant" warning

times does not mean identical warning times for every activation and it should be understood there will be variability. RTD cited Rule 4 *Code of Colorado Regulations* (CCR) 723-7-7008, of the Commission's Rules Regulating Railroads, Rail Fixed Guideways, Transportation by Rail and Rail Crossings which incorporates the Manual on Uniform Traffic Control Devices, which defines "constant warning time detection" as "a means of detecting rail traffic that provides *relatively uniform* warning time for the approach of trains" (emphasis added).

2. Applicable Federal and State Law and Regulation

87. Under § 40-4-106, C.R.S., the Commission has jurisdiction over public safety at all railroad crossings. Pursuant to § 40-4-106(2)(a), C.R.S., the Commission's statutory duty, as pertinent to these crossings, is to:

prescribe the terms and conditions of installation and operation, maintenance, and warning at all such crossings that may be constructed, including the posting of personnel or the installation and regulation of lights, block, interlocking, or other system of signaling, safety appliance devices, or such other means or instrumentalities as may to the commission appear reasonable and necessary to the end, intent, and purpose that accidents may be prevented and the safety of the public promoted.

88. In fulfilling this duty, the Commission reviews and approves applications for crossing construction and alteration. Pursuant to Rule 4 CCR 723-7-7203, a transit agency must file an application for approval to construct, or alter, an at-grade crossing. Rule 4 CCR 723-7-7204(a)(X) outlines required contents of an application for approval of a crossing warning including: detailed plans and drawings of the crossing, a description of the proposed type of warning devices, the cost estimate, and the schematic diagram of the crossing warning devices, (*i.e.*, a "front sheet."). The application must identify the minimum warning time (minimum time warning shall operate prior to train arrival, at least 20 seconds); clearance time (additional time in total warning time for site-specific needs); buffer time (discretionary time in total warning

time for minor variations in train handling, track circuit variability, and allowable tolerance within locomotive speed measurement apparatus); and total warning time (sum of minimum time, clearance time, and buffer time). *See* 4 CCR 723-7-7204(a)(X)(A) (application requirements); 4 CCR 723-7-7201 (defined terms).⁶⁸

89. Based on the information in the transit agency's application, the Commission approves these various components and determines a "prescribed warning time" for the crossing, consisting of the minimum warning time plus the clearance time. The "programmed warning time" for a crossing is the prescribed warning time plus the approved buffer time.

90. FRA, on the other hand, has authority over the safety of railroad operations and it implements rules to reduce railroad-related accidents. *See* 49 U.S.C. § 20101. FRA rules require a highway-rail grade crossing warning system to: (1) be maintained to activate in accordance with the design of the warning system; and (2) to provide at least 20 seconds of warning time for the normal operation of trains through the crossing. 49 CFR § 234.225. FRA rules do not set a federal maximum warning time. Under 49 U.S.C. § 20106, a state may adopt a regulation or order related to railroad safety that is more stringent than the applicable federal standard only if such state action: "(A) is necessary to eliminate or reduce an essentially local safety or security hazard; (B) is not incompatible with a law, regulation, or order of the United States Government; and (C) does not unreasonably burden interstate commerce."

91. After the Commission prescribes the warning time for a crossing, FRA assumes responsibility for auditing to maintain compliance with 49 CFR § 234.225, to ensure the crossing warning system is activating in accordance with the design of the warning system.

⁶⁸ The rules quoted are the new Commission rules that went into effect August 14, 2017; however, the definitions quoted are the same definitions contained in the 2009 MUTCD, which were in effect at the time the applications were filed.

92. In this case, RTD proposed a new component, the WCABT, to provide an additional buffer to accommodate crossing activations occurring 5 seconds before or 15 seconds after the programmed warning time. This is an atypical request not contemplated by our rules. RTD witness Mr. Christie testified at hearing that “adding 15 seconds is not really adding additional warning time” but rather “just a way to document, formally, that there is a different observed warning time than are seen.”⁶⁹ Mr. Christie continued, “So we are not changing the design. We are adding warning time to that.”⁷⁰ Similarly, Mr. Steffen explained “the 15 seconds of buffer time is not a change in the design, rather, it is something added to highlight just how the system works.”⁷¹ Mr. Steffen continued, the “buffer time is not a parameter that’s used in the system. It’s just something that’s observed.”⁷²

93. Since this request requires us to act outside of the normal course contemplated by our rules, we rely generally on our statutory authority to determine “the terms and conditions of installation and operation, maintenance, and warning” at railroad crossings “to the end, intent, and purpose that accidents may be prevented and the safety of the public promoted.” § 40-4-106(2)(a), C.R.S.

3. FRA Waiver

94. Pursuant to the FRA letter waiver, after review of RTD’s request and “all available safety data,” FRA determined that, subject to certain conditions, “granting further relief

⁶⁹ Hr. Tr. at 148:19-22 (Christie).

⁷⁰ *Id.* at 148:22-23.

⁷¹ Hr. Tr. at 116:16-18 (Steffen).

⁷² *Id.* at 137:14-16.

to RTD on the A and B-Lines is in the public interest and consistent with railroad safety.”⁷³ In the letter FRA states as follows:

[FRA’s Railroad Safety] Board grants RTD’s request for relief from the operational restrictions in the current FRA waiver applicable to the A-Line and B-Line for purposes of compliance with 49 CFR § 234.225, and subject to the requirement for a minimum 20 second warning time, FRA does not object to a warning time occurring within 5 seconds before and 15 seconds after the relevant programmed warning time[.]⁷⁴

95. FRA imposed several safeguard conditions. First, before removing flaggers from the A-Line, RTD must submit to FRA for approval, a plan for the gradual removal of the flaggers (as discussed above). Second, RTD must submit to FRA a monthly report of all crossing performance including malfunctions at A-Line and B-Line crossings. Third, RTD must report to FRA any accident, incident, or injury at any grade crossing along the A-Line and B-Line. Fourth, for the Conventional Track Circuit Warning System (CTWS) in use on the lines: (a) FRA expects the CTWS to provide warning times “at no more than the upper limits of the design” of the PTC Wireless Crossing Activation System; and (b) “highway users should experience warning times near or equal to industry standards, or the programmed warning times established by the Colorado Public Utilities Commission when the CTWS is relied on.”⁷⁵ FRA specifies the waiver is granted for five years from the letter date and subject to amendment or revocation upon FRA’s receipt of information pertaining to the safety of railroad operations or in the event of noncompliance with any condition of the waiver. FRA also specifies that nothing in the letter preempts any other FRA requirement or requirement of another regulatory agency including the Colorado Public Utilities Commission.

⁷³ FRA Letter at p. 2.

⁷⁴ *Id.* at p. 2.

⁷⁵ *Id.* at p. 3.

4. New Evidence in the Record

96. RTD stated in its RRR filing that, if given the opportunity to introduce new evidence, it could “prove” that the up-to-15-second variation in actual warning time, in addition to already-existing safety measures at the subject crossings, is an appropriate and reasonable solution to the concerns raised by Commission Staff and FRA when longer-than-expected warning times were experienced at the crossings. RTD asserted that recognition of this variation between design and actual warning time “is a reasonable standard that is in the public interest.”⁷⁶

97. Through their testimony, the RTD witnesses attest that the grade-crossing warning systems for the A-Line and G-Line are functioning safely and appropriately. They further provided in attachments additional evidence supporting these attestations.

98. Most significantly, Mr. Christie’s bell curve graphs demonstrated that A-Line activation times are generally grouped in a bell curve shape clustered around the programmed warning time for each crossing. This data is significant because it shows that the crossing warnings, overall are activating approximately 91 percent of the time within a range of -5/+15 seconds around the programmed warning time, and approximately 67 to 70 percent of the time within a range of -5/+5 seconds around the programmed warning time. This empirical data supports RTD’s claims that the system is working relatively consistently.

99. This analysis also reveals, however; that certain crossings are operating less consistently than others. Individual crossings are operating 80 to 98 percent of the time within a range of -5/+15 seconds around the programmed warning time, and 42 to 87 percent of the time within a range of -5/+5 seconds around the programmed warning time.

⁷⁶ RTD Application for Triple R (November 2, 2017) at 2.

100. As stated previously, both the FRA and Commission rules call for a minimum warning time of 20 seconds. Analysis of the data provided reveals consistent conformance with this minimum, with only one crossing recording a warning time below 20 seconds, and that occurrence being only 1 second below the minimum.

101. Also important to our analysis is the 1990 Study, which Mr. Christie and Mr. Eby referred to in pre-filed testimony and at hearing as the touchstone research to show that drivers engage in risky behavior when warning times reach 60 seconds. As discussed above, this study consisted of a field study in Tennessee at three crossings (only one with gates), and a follow-up laboratory study with 60 participants.

102. Review of the study, however, calls into question the applicability of this study to the crossings and technology at issue in this proceeding. We afford this study little weight, given that it is outdated and based on crossings that differ materially from the A-Line and G-Line crossings at issue today. Further, the study suggests four-quadrant gates as the solution for excessive warning, which are already in place along with other safety mitigation improvements. Finally, as the ALJ discovered, in the field component at the crossing with gates, 80 percent of dwell times were less than 10 seconds, suggesting drivers were not crossing after getting frustrated but rather crossing as soon as they felt comfortable doing so.

5. Discussion

103. When we previously considered the September Motions to Amend, we only had unsupported assertions in the pleading that there is no federal “specific standard for maximum warning time,” the “addition of a 15 second buffer ... would accommodate operational realities ... without creating excessive warning time,” the crossings’ four-quadrant gates “serve to deter vehicle entry,” the “addition of the WCABT is the realistic, safe solution” to the wireless

crossing issues, and, finally, the “benefit of continuing, sustainable operation of the A-Line far outweighs any risk that could be attributable to addition of the 15 second WCABT.”⁷⁷

104. However, now we finally have sworn testimony attesting to and further explaining these assertions. Further, we have raw data demonstrating the performance of the crossings and have reviewed the relevant studies relied upon by RTD in its testimony.

105. The evidence now in the record establishes there is no fixed federal or state maximum warning time. As to when a warning becomes “excessive,” the evidence in the record is based on a single study with limited applicability, and is not compelling. The evidence shows that, in the event a driver becomes frustrated with the warning time, the A-Line and G-Line crossings are equipped with four-quadrant gates and other improvements to prevent violation.

106. With the benefit of additional testimony and evidence, including the bell curve graphs and the underlying raw data to the bell curves supplied by Mr. Christie, we now have the proper basis to give considerable weight to FRA’s determination that it was “in the public interest” and “consistent with railroad safety” to allow RTD further relief. After this Commission prescribes the warning time for a crossing, FRA assumes responsibility of auditing for compliance with 49 CFR § 234.225, that the crossing warning system is activating in accordance with design. FRA required RTD to report any accident, incident, or injury and reserves the right to revoke the waiver upon receipt of information pertaining to the safety of operations or noncompliance with the waiver conditions.

⁷⁷ See, e.g., Proceeding No. 13A-0570R, RTD Motion for Permission to Amend Application (September 5, 2017) at 4-5.

6. Finding

107. For the A-Line, the Commission finds that, based on the pre-filed and hearing testimony, exhibits, and the FRA waiver, it is in the public interest to allow further relief for RTD to move forward subject to conditions. Based on the FRA waiver, the Commission does not object to the five-year relief provided by FRA and allows the conditions placed on RTD by FRA within the waiver to be used for RTD to certify correct crossing operations at the A-Line crossings for both the wireless crossing activation system and the conventional track circuit warning system. For the A-Line, the requirements are -5/+15 seconds from programmed warning time for the wireless crossing activation system, and no more than +15 seconds from programmed warning time for the conventional track circuit warning system.

108. For the G-Line, assuming that RTD files for and FRA grants a similar waiver for the G-Line crossings and based on the pre-filed and hearing testimony, the Commission finds it is in the public interest to allow further relief for RTD to move forward subject to conditions. Assuming FRA grants a similar waiver, the Commission does not object to the relief provided by FRA and allows the conditions placed on RTD by FRA within the waiver to be used for RTD to certify correct crossing operations at the G-Line crossings for both the wireless crossing activation system and the conventional track circuit warning system. Similar to the A-Line crossings, the requirements for the G-Line crossings would be -5/+15 seconds from programmed warning time for the wireless crossing activation system, and no more than +15 seconds from programmed warning time for the conventional track circuit warning system. RTD must file a copy of the approved FRA waiver in this proceeding before the Commission will issue any final decisions on G-Line crossings.

B. Requests to Eliminate Flaggers and Staff Field Inspection Requirements

109. RTD was ordered in April, 2016, to post personnel around the clock to “immediately handle all safety issues occurring at the crossing” including “an appropriately equipped flagger as defined by [FRA] on both sides of the crossing to flag all vehicles and pedestrians through the crossing when it is determined to be safe, and to keep all vehicles and pedestrians from entering the crossing if it is not safe to do so.”⁷⁸ The Commission stated that once RTD is able to demonstrate to Staff that the crossing is complete and operates correctly, consistently, and safely, it would release RTD of this obligation.⁷⁹

1. RTD Argument

110. RTD requests the Commission accept the written certifications of Mr. Genova and Mr. Christie that the A-Line crossing work “is operationally complete and in conformance with the approved design and operational parameters of the crossing.” Further, RTD requests the Commission find the record established by the pre-filed testimony and hearing evidence establishes the safety of the G-Line crossings, as well as the A-Line crossings. To this end, RTD requests the Commission permit RTD’s General Manager to submit a *pro forma* certification for the G-Line, once testing is complete.

111. RTD further requests the Commission waive, on its own motion, the requirement in prior A-Line and G-Line orders that Staff complete field demonstrations as a precondition to removing the flaggers. RTD claims there is no longer good cause for field demonstrations in light of the pre-filed testimony and hearing evidence, including Mr. Marx’s Video Exhibit AM-1 visually depicting operation of A-Line crossings. RTD claims the evidence sufficiently

⁷⁸ See, e.g., Proceeding No. 12A-900R, Decision No. C16-0277 (April 1, 2016) at 4-5.

⁷⁹ *Id.* at 5.

demonstrates the complete, proper, and safe operation of EAGLE Project crossings. RTD adds that requiring a field demonstration at this point could implicate the due process concerns previously raised in the dissent to the Commission's October 25, 2017 decisions denying in part RTD's September 5, 2017 Motions to Amend.

2. Applicable Law

112. As stated previously, our statutory charge is to “prescribe the terms and conditions of installation and operation, maintenance, and warning” at railroad crossings “including the posting of personnel ... or such other means ... as may to the commission appear reasonable and necessary to the end, intent, and purpose that accidents may be prevented and the safety of the public promoted” (emphasis added) § 40-4-106(2)(a), C.R.S.

3. Discussion

113. When we ordered RTD to demonstrate to Staff that each crossing is complete and operates correctly, consistently, and safely before we would release RTD of its obligation to post flaggers at the crossing, we did so because of numerous safety issues and RTD's practice of constructing or modifying a crossing prior to applying for or receiving Commission approval.⁸⁰ While RTD claims we can accept the written certifications of its witnesses and waive the Staff field demonstration requirement, we believe the evidence now in the record falls short of supporting this request.

114. As noted above, the bell curve graphs and empirical data supplied by Mr. Christie reveal that some crossings are operating less consistently than others. Given this range, we find it

⁸⁰ See, e.g., Proceeding No. 12A-900R, Decision No. C16-0277 (April 1, 2016) at 2-3.

important for our Staff to field verify the operations of each crossing prior to removal of the flaggers.

115. We are also troubled by some of the testimony given at hearing by RTD witnesses. For example, Mr. Eby testified that he believed the 1990 Study concerned five crossings in Tennessee, nonetheless, he could not recall if any of the crossings had gates. Nor could Mr. Eby recall if the crossings were in urban or rural areas, or if they included multiple track crossings or over what period of time the study was conducted.⁸¹ Of additional concern is Mr. Eby's statement that RTD chose to seek a waiver from FRA rather than work towards full approval of the constant warning system.⁸²

116. RTD witness Mr. Genova, after much prodding by the ALJ, testified that he certified the EAGLE lines crossing systems are working safely, but admitted they are not working as approved by the Commission.⁸³ Mr. Eby added additional confusion to the proceeding when he testified that RTD has currently met constant warning times as designed under FRA regulation 49 CFR § 234.225, yet, a waiver from FRA is still required.⁸⁴

117. RTD witness Mr. Steffen, the designer of the wireless technology used in the EAGLE Project while working at Wabtec, contradicted the testimony of Mr. Eby, stating that not only does he not believe that the EAGLE Project's constant warning time under the FRA's quiet zone rule has been met, he does not believe that the wireless crossing technology being used by RTD falls under systems that would be practical under the FRA's quiet zone rule.⁸⁵

⁸¹ Hr. Tr. at 68-69 (Eby).

⁸² Hr. Tr. at 59:1-3 (Eby).

⁸³ Hr. Tr. at 104-105 (Eby).

⁸⁴ Hr. Tr. at 63-64 (Eby).

⁸⁵ Hr. Tr. at 133-134:19-9 (Steffen).

118. The data that was late-filed by RTD on order of the ALJ actually provides useful information that helps us to understand the deviations in warning times from crossing to crossing. However, the conflicting testimony and apparent lack of knowledge about referenced studies used to defend the EAGLE system is troubling and informs our specific findings and decisions below.

119. Further, there are outstanding civil engineering changes to be reviewed. RTD has a history of making changes to its system before seeking Commission approval to make such changes as is required by law. We have twice previously brought RTD general managers before the Commission regarding this matter. With this history, we feel it necessary for Commission Staff to complete a final field demonstration to ensure the system is operating as applied for and approved.

4. Findings

120. For the A-Line, the Commission requires the Staff field demonstrations as previously ordered be conducted at all A-Line crossings. We will allow removal of flaggers on a crossing-by-crossing basis upon successful field verifications for each crossing. Field demonstrations may be scheduled immediately for the Sable Street, Northbound and Southbound Quebec Street, and York/Josephine Street crossings. RTD recently filed for additional changes at the remaining A-Line crossings, so field verifications cannot begin until the Commission has reviewed and ruled on those changes. Even if we were to issue orders removing the flaggers today, until FRA has approved a crossing attendant demobilization plan, those flaggers will remain at the crossings until the plan is approved by FRA. As a condition of our decision, RTD shall file a copy of the FRA-approved crossing attendant demobilization plan with the Commission.

121. For the G-Line, the Commission requires the Staff field demonstrations as previously ordered be conducted at all G-Line crossings. We will allow removal of flaggers crossing-by-crossing upon successful field verification for each crossing. If RTD has any additional civil engineering changes that have been or need to be made to the G-Line crossings, RTD is encouraged to file the appropriate amendments promptly so that field demonstrations may commence as soon as possible. RTD must file a copy of the approved FRA waiver in this proceeding before the Commission issues final decisions on the G-Line crossings.

C. Remaining Quiet Zone Issues

122. RTD states in its SOP that the FRA process to establish quiet zones will not continue until the Commission acts in this proceeding. At hearing, Mr. Christie explained that RTD was waiting for this process to conclude before it has the local jurisdictions file their notices of establishment for the quiet zones.⁸⁶ Mr. Steffen further explained “there is no point” in making a request to FRA for establishment of the quiet zones while flaggers are still required by the state.⁸⁷ He explained, “the first line is to get the system to where it is approved by the state, with the PUC, and then in effect, the cities have to file and request that [quiet zone].”⁸⁸

123. Further, RTD notes in its SOP that FRA’s Train Horn rule at 49 CFR § 222.7(a) expressly “preempts any State law, rule, regulation, or order governing the sounding of the locomotive horn at public highway-rail grade crossings.”

124. Accordingly, once RTD completes the Staff field demonstrations for the crossings, as discussed above, and we issue orders eliminating the flagger requirement, no

⁸⁶ Hr. Tr. at 23:9-14 (Christie).

⁸⁷ Hr. Tr. at 141:24-142:4 (Steffen).

⁸⁸ *Id.* at 141:24-142:4.

further action or decision is needed from this Commission with respect to establishing the quiet zones. We remind RTD that the “No Train Horn” plaques are to be installed on the advance warning signs at the crossings on the day the quiet zone(s) for each specific line are enacted.

IV. ORDER

A. The Commission Orders That:

1. It is found to be in the public interest to allow further relief for the Regional Transportation District’s (RTD) use of the Wireless Crossing Activation Buffer Time (WCABT) for all A-Line and G-Line crossings.

2. Based on the waiver received from the Federal Railroad Administration (FRA), the Commission does not object to the five-year relief provided by FRA, and allows the conditions placed upon RTD by FRA with such waiver to be utilized by RTD to certify correct crossing operations at the A-Line crossings for the wireless crossing activation system and the conventional track circuit warning system.

3. The requirements for the A-Line crossings shall be -5/+15 seconds from programmed warning time for the wireless crossing activation system, and no more than +15 seconds from programmed warning time for the conventional track circuit warning system.

4. In the event RTD files for, and FRA grants, a waiver for the G-Line crossings similar to the relief granted by FRA for the A-Line, we find that it is in the public interest to allow further relief for RTD to move forward with opening the G-Line subject to certain conditions as set forth in the Ordering Paragraphs to follow.

5. In the event RTD seeks waivers from FRA, the Commission will not object to the relief provided by FRA and will allow the conditions placed on RTD through such waiver to be

utilized by RTD to certify correct crossing operations at the G-Line Crossings for both the wireless crossing activation system and the conventional track circuit warning system.

6. The requirements for the G-Line crossings shall be -5/+15 seconds from programmed warning time for the wireless crossing activation system, and no more than +15 seconds from programmed warning time for the conventional track circuit warning system.

7. RTD shall file a copy of any approved FRA waiver in this proceeding before this Commission will issue final decisions related to the operation of the G-Line crossings.

8. Upon filing its certifications of correct crossing operations on the A-Line crossings for both the wireless crossing activation system and the conventional track circuit warning system, a field verification at each A-Line crossing, as previously ordered by this Commission, shall be conducted.

9. Upon filing its certifications of correct crossing operations on the G-Line crossings for both the wireless crossing activation system and the conventional track circuit warning system, a field verification at each G-Line crossing, as previously ordered by this Commission, shall be conducted.

10. Upon successful field verifications for each A-Line crossing, the Commission will initiate the process to remove flaggers at each crossing that passes field verification.

11. Upon successful field verifications for each G-Line crossing, the Commission will initiate the process to remove flaggers at each crossing that passes field verification.

12. RTD must file with the Commission, a copy of the FRA approved crossing attendant demobilization plan it files with the FRA, as well as FRA approval of that plan before crossing attendants may be removed from A-Line and G-Line crossings.

13. The 20-day period provided for in § 40-6-114, C.R.S., within which to file applications for rehearing, reargument, or reconsideration, begins on the first day following the effective date of the Decision.

14. This Decision is effective on its Mailed Date.

**B. ADOPTED IN COMMISSIONERS’ DELIBERATIONS MEETING
March 28, 2018.**

(S E A L)



ATTEST: A TRUE COPY

Doug Dean,
Director

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

WENDY M. MOSER

Commissioners

CHAIRMAN JEFFREY P. ACKERMANN
SPECIALLY CONCURRING.

COMMISSIONER FRANCES A. KONCILJA
SPECIALLY CONCURRING.

V. COMMISSIONER FRANCES A. KONCILJA SPECIALLY CONCURRING

1. What a difference evidence makes. The majority, after first suggesting at the hearings on September 27, 2017 and October 4, 2017, that it was time to try something new—meaning scrap this multi-million dollar control system or requiring the Regional Transportation District (RTD) to file a new application, the majority relented on November 20, 2017, and ordered an evidentiary hearing, but only after requiring RTD to file a request for reconsideration and or rehearing. I had argued on October 4th for an immediate evidentiary

hearing and outlined the eight areas of factual issues about which the Commissioners should make inquiry.⁸⁹ Today after reviewing the evidence, we reach the right conclusions, but it has taken much too long to resolve these issues. During these many months, RTD has continued to incur substantial costs which are ultimately born by the taxpayers. The economic development in the City of Arvada (Arvada) has been delayed. And the horns, about which so many citizens continue to complain, continue to blare loudly at all hours of the day and night, because until the crossings are certified and the flaggers are removed, the local municipalities cannot obtain a quiet zone designation. It is not yet time for a victory lap for this Commission. It is easy to hide behind the mantra that the Commission is concerned about safety and this delay was necessary. However, it is my belief, and the evidence produced at the hearings, establish that the Commission had no evidence to support our earlier conclusion that the extra 15 seconds of downtime for the gates presented a safety problem. Our unnecessarily lengthy process and lack of due process has delayed resolution of these matters and damaged our citizens and damaged the reputation of this Commission.

2. What is most embarrassing, if one reads the testimony of the hearing conducted by the Administrative Law Judge (ALJ), it is now clear there was no evidence to support our earlier decision that the extra 15 seconds of wait time at the crossings made the crossings unsafe. The evidence establishes there were two small studies. (*See* ¶¶ 69 and 75) that indicated extra wait time was a problem and those studies did not involve four-quadrant gates. However, we now conclude, as we must based on the analysis and the evidence, that those studies are of minimal value in analyzing the situation in Denver, because we have four-quadrant gates and

⁸⁹ I incorporate by reference my partial dissents in Decision No. C17-0852, dated October 25, 2017 and Decision No. C17-0929, dated November 20, 2017 issued in Proceeding No. 13A 0081R.

drivers do not drive through four-quadrant gates and, in fact, it is almost impossible drive around them as they are configured on the A and the G lines. (*See* ¶ 102.)

3. In fact, no staff from the Commission presented testimony to the ALJ supporting our earlier decision about the extra 15 seconds creating a safety issue, which is how our process normally works—trial staff presents testimony which is subject to cross-examination. All in all, this has been a troubling exercise of regulatory authority by this Commission—with the Director going so far as to publish a guest editorial in *The Denver Post* on December 29, 2017, attempting to justify this delay, in spite of knowing there were two written dissents, mine, in this matter, that raised significant issues about the lack of evidence for these Commission decisions. However, the Commission still takes no responsibility for the delay and lack of evidence, which means we will likely repeat these types of regulatory mistakes in the future.

4. I note that RTD failed to file any requests of this Commission to release the flaggers from the period we first ordered them on April 22, 2016 until RTD's request on September 5, 2017.⁹⁰ At the recent evidentiary hearing, RTD did not present these studies to the ALJ. The ALJ, followed up on my request in my partial dissent for evidence of all studies as to safety effects resulting from longer warning times. He asked for evidence of any studies, ordered the studies be placed in the record, and then the ALJ analyzed the studies and questioned the witnesses from RTD about the studies. (ALJ Garvey is to be commended for doing a thorough job in this matter by questioning the witnesses and insisting that the studies and data be submitted for review and analysis.)

⁹⁰ At some point, I would be interested in understanding why RTD did not file its Motion to Amend earlier and why Denver Transit Partners never filed a Motion to Intervene in these proceedings.

5. I continue to believe that there would have been earlier resolution of these matters and removal of the flaggers had the Commission used its normal procedure of having a separation between enforcement or trial staff who normally work and communicate with a company and present testimony at hearings and advisory staff who have no contact with the parties, but instead analyze the presentations and advise the Commissioners. I say this with the utmost respect for rail staff, who has the best of intentions. However, a second and independent set of eyes is always a good idea—especially in a matter of such importance as safety of rail crossings. Our advisory staff are also diligent in ensuring that proceedings are closed or that conditions are imposed and then monitored for timely performance and compliance.

6. There are still some problems with some of the crossings as evidenced in Attachment B. It is important that rail staff meet with and work with RTD and Transit Partners to quickly resolve these issues. I suggested at the hearing on (March 28, 2018), and repeat my request in writing here, that the Director designate a separate advisor from advisory staff to advise the Commissioners on these matters, leaving rail staff to work with RTD. Although Commissioners have a huge amount of power and authority, we do not have, under the current organizational framework, is any ability to assign staff or advisors to proceedings. All of those decisions are made by the Director of the Commission, with no input from Commissioners. I believe this has contributed, in part, to the unfortunate series of events in these matters and the delay in the Commissioners making timely decisions based on evidence.

7. If the officials in Arvada and the citizens affected by our decisions are as concerned as I am about these regulatory delays and the lack of evidence supporting our decision, you will have an opportunity in the next few months to raise these issues with your elected officials, because the Commission is subject to its Sunset Review before the Colorado

Legislature in 2019. I also applaud the Mayor of Arvada, the other elected officials and the citizens who filed public comments in these cases. It is important to hear how our decisions or lack of decisions affect your lives. Safety is important, in fact, one of the most important obligations of the Commission. However, evidence based and efficient decisions are also very important and I will persist in working toward evidence based and efficient decision making processes for this Commission.

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

FRANCES A. KONCILJA

Commissioner

VI. CHAIRMAN JEFFREY P. ACKERMANN SPECIALLY CONCURRING

1. It is important that the record be clear and complete concerning what has transpired in and around this proceeding.

2. The decisions made by the Commission regarding all A-Line crossings, in the proceedings noted in paragraph 4 of this Decision, established warning system performance and related engineering specifications for each crossing. These specifications were established based upon the record and associated findings of fact in the proceedings. The Regional Transportation District (RTD) was a party to these proceedings and did not object to the Decisions through which the specifications were established, as reflected in there being no Applications for Rehearing, Reargument or Reconsideration (RRR) filed by RTD in the proceedings concerning warning time specifications.⁹¹

⁹¹ The record does contain RRR filings concerning matters other than warning time specifications.

3. When RTD sought through the filing of motions previously approved to modify previously approved crossing specifications (filed as motions for permission to amend the applications), no party filed opposing the motions and the motions were accompanied with the filing of evidence in support of the motions. These two facts were substantive to the Commission's approving those motions.

4. When RTD filed its September 5, 2017, Motion for Permission to Amend Application (Motion), and its September 19, 2017, Supplement to the Motion, no evidence was provided in support of the proposed 15-second Wireless Crossing Activation Buffer Time. Also, Union Pacific Railroad Company, in its filed motion for extension of time to respond, outlined three areas of concern with RTD's proposed buffer time modification. (*See* paragraph 14.) The City of Aurora (Aurora) also filed responses to the motions in the proceedings pertaining to Aurora rail crossings. In its responses Aurora expressed concerns with RTD asserting facts without providing supporting evidence. (*See* paragraph 13.)

5. Further, concurrent with RTD's filing of the September 2017 Motions, RTD was in a discourse with the Federal Railroad Administration (FRA), seeking a waiver of warning time regulations for the A-Line. No reference to this discourse, nor the associated facts and rationale supporting the request for a waiver, was included in the Motions. Nor did RTD wait for a response from FRA to its request and then include that as part of its request to modify the warning time specifications.

6. Thus, RTD sought to modify a complete evidentiary record, findings of fact, and associated Decisions concerning warning time specifications based on four brief statements found in paragraph 15 of RTD's September 5, 2017, Motion:

- a. Title 49 of the Code of Federal Regulations sets a specific standard of 20 seconds for minimum warning time (49 CFR 234.225), but does not set a specific standard for maximum warning time.
- b. The addition of a 15 second buffer to the currently approved warning time for the Crossing would accommodate the operational realities of A-Line commuter rail without creating excessive warning time such as could be likely to cause bad motorist behavior.
- c. The Crossing as constructed utilizes gates at all four quadrants. These gates serve the deter vehicle entry into the Crossing during the duration of the warning time.
- d. The electrified power system of the A-Line makes use of traditional technology for warning circuits impractical, and necessitated the implementation of a wireless crossing activation system. RTD's Concessionaire has optimized and improved the operation and reliability of the wireless warning time system in order to address extended warning times. RTD's Concessionaire believes that it has taken every reasonable step possible within the operational context to meet prescribed warning times, and that addition of WCABT is the realistic, safe solution to the Wireless Crossing environmental issues. The benefit of continuing, sustainable operation of the A-Line far outweighs any risk that could be attributable to addition of the 15 second WCABT.

7. One of the statements refers to "operational realities" as the justification for the modifications without elaborating upon or otherwise substantiating such.

8. Another of the statements concludes that the lengthened warning times would not create "excessive warning time such as could be likely to cause bad motorist behavior," again without substantiating the basis for this conclusion.

9. Yet another statement contends that the "Concessionaire has optimized and improved the operation and reliability of the wireless warning time system in order to address extended warning times," again without providing any substantiation for this statement.

10. Thus, the Motions currently at issue, which initiated the instant proceeding, were asking the Commission to modify Decisions that reflect the results of a complete evidentiary record and findings of fact, without the provision of any new facts to add to the record. Furthermore, the Motions yielded opposition, further calling in question the merits of the Motions.

11. While it may appear that the Commission is the obstacle to an expedient resolution of RTD's desired relief, RTD did little to promote the merits of the relief it sought. Instead, RTD provided no new facts or information, instead focusing a portion of its efforts on redirecting public dissatisfaction with the current A-Line and G-Line operations toward the Commission. Therefore, when the idea was put forth during deliberation on the September 2017 Motion of moving to an immediate evidentiary hearing, RTD had provided the Commission no foundation upon which to pursue such. It is incumbent upon the Applicant (RTD) to present a compelling case upon which the Commission can reasonably take action. That was not the situation at the time of our deliberation on the Motion in September, or even in October, after hearing of the FRA waiver. What was reasonable, given the lack of data and information brought forth by RTD, was to signal a willingness to move toward an evidentiary hearing if/when RTD brought forth sufficient data and information.

12. When the Commission provided RTD a pathway forward for presenting facts and information for the Commission's consideration (Decision No. C17-0928 in Proceeding No. 12A-1258R granting the RRR, and initiating a proceeding) on November 20, 2017, RTD proposed the filing of direct testimony on or before January 16, 2018. Further, on January 10, 2018, RTD filed a Motion for Extension of Time to File Direct Testimony and Exhibits.

13. As noted in this Decision, the case put forth by RTD, through pre-filed testimony and under cross-examination by the Administrative Law Judge (ALJ), was incomplete in content. The RTD case did not provide the raw data to support the bell charts; it presented inconsistencies between statements made by RTD witnesses; and omitted substantiating details, such as the provision of studies supporting key issues in question. It was through the efforts of the ALJ, during cross-examination, the calling for late-filed exhibits to be included in the record and the analysis of the raw data provided, that the record finally was sufficient to support the decisions set forth in this Decision.

14. Regarding Quiet Zones, it is appreciated that the ALJ inquired as to this matter. The record is thus now sufficient upon which to determine that, upon verifying that the crossings are functioning in accordance with the performance specifications, the Commission has no further role in local governments seeking Quiet Zone designations from FRA.

15. In conclusion, the Commission has proceeded with appropriate speed, effectively overcoming the initial gaps in a complete factual record associated with RTD's motions and

testimony, to yield a positive outcome that honors due process in the pursuit of the public interest.

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

JEFFREY P. ACKERMANN

Chairman