

# Memorandum

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**Peak Service Study**  
Northwest Rail

**To:** HDR and RTD

**From:** AECOM

**Date:** November 21, 2022

**Re:** **Purpose of the Proposed Project and Project Goals**

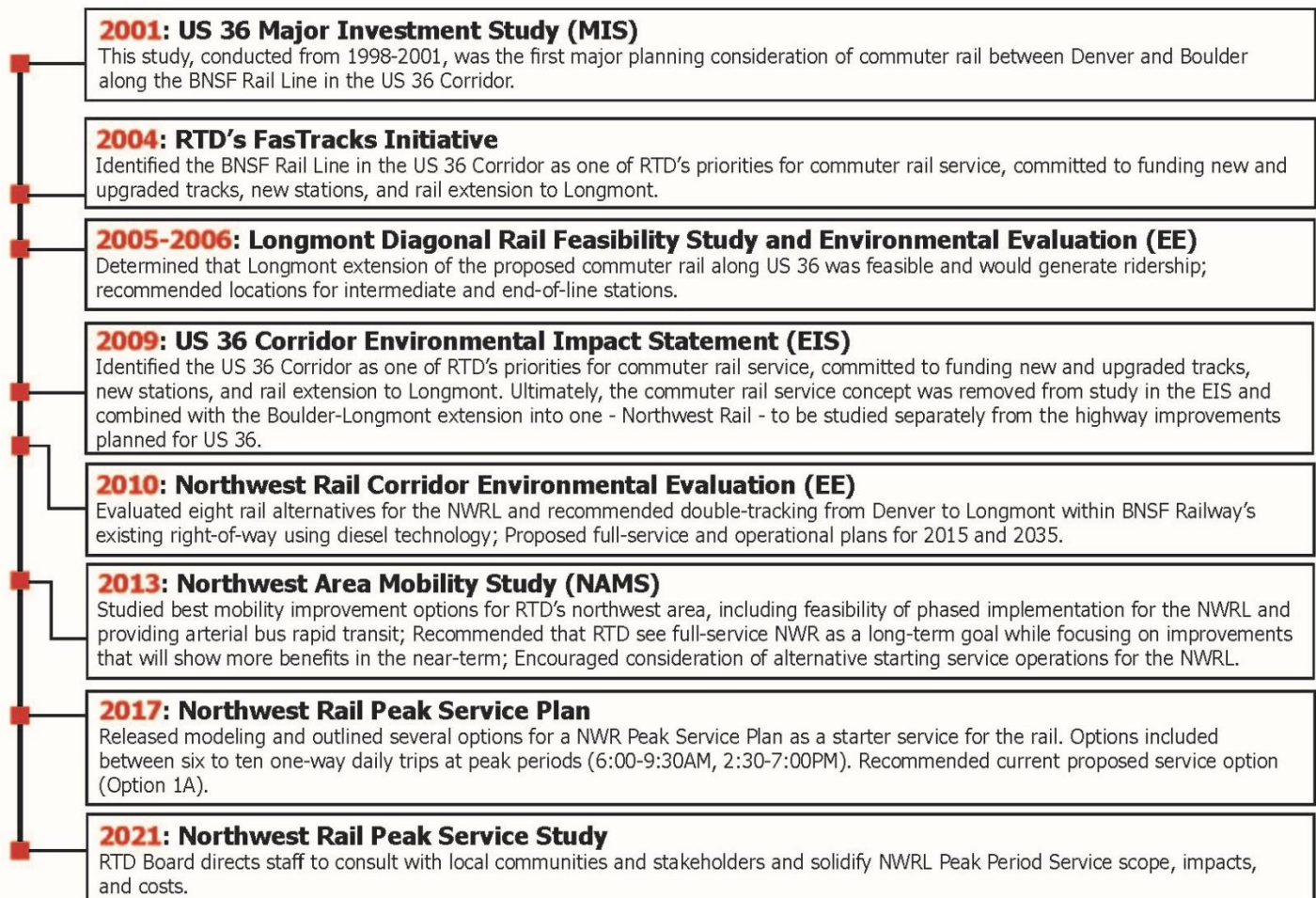
## Introduction and Purpose

In November 2004, voters in the Denver Area RTD approved the FasTracks initiative through a sales tax increase. The FasTracks Plan (RTD 2004) is a comprehensive program to construct and operate new rail infrastructure and improve elements of bus rapid transit (BRT), bus service, and Park-n-Rides throughout the region. The NWR is a 41-mile segment of the FasTracks Plan. Six miles of NWR are in operation as the B-line from Denver to Westminster and 35 miles have not been constructed due to financial constraints.

RTD completed an Environmental Evaluation Study of NWR in 2010 and the Northwest Area Mobility Study in 2014. Since then, conceptual details have changed. RTD developed an intermediate Peak Service Concept for NWR in 2016 and in 2021 the RTD Board of Directors authorized funding to conduct the Northwest Rail Peak Service Study. The PSS will analyze various factors such as infrastructure improvements, train operations, and service options. Subsequently, socioeconomic, physical, and environmental impacts associated with implementing the Peak Service Plan for NWR will be completed following consultation with local communities and stakeholders. The PSS will determine the Preferred Configuration for the Peak Service Plan, determine at a high-level what impacts could occur during construction and operation, and also provide a cost estimate to the RTD Board. High level environmental and planning assumptions will be used in the decision-making process. More detailed environmental planning and permitting information will be included in any future National Environmental Policy Act (NEPA) clearances, if the RTD Board decides to advance the Plan.

The RTD Board directed staff to conduct the Northwest Rail Peak Service Study (NWR PSS) to analyze various factors for implementing NWR. As summarized in **Figure 1**, planning studies for the NWR Corridor have been conducted over the past two decades, and RTD has continued efforts to enable NWR development.

**Figure 1: Timeline of Northwest Rail Corridor Past Planning Studies**



This memorandum provides a summary of the previous Purpose and Need/Consensus Statements and outlines the Purpose of the Proposed Project and Project Goals for the NWR PSS.

The Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act of 1969 (NEPA) require every environmental impact statement (EIS) to "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action" (40 CFR 1502.13). The Purpose and Need Statement is a critical first step in a planning project, as it lays the foundation for what the study will do by providing the rationale and justification for undertaking a major Federal action and forms the basis for the range of alternatives to be studied in the environmental document. CEQ regulations require an Environmental Assessment (EA) to include a brief discussion of the "need for the proposal" (40 CFR 1508.9) and most EAs include language similar to a purpose and need statement and may be titled as such.

The Federal Transit Administration's (FTA) Standard Operating Procedures (SOP) reference the CEQ regulations and goes on to state, "Purpose and need development ordinarily starts early, such as during transportation planning, and is refined during the environmental review process in response to agency and public comments and incorporated into the EIS. A project's purpose and need should exhibit continuity from planning, through each project development phase, to project approval."

Planning for the Northwest Rail (NWR) corridor began with the US 36 Major Investment Study (MIS) in 2001. Planning continued with the 2004 RTD FasTracks Plan and the 2010 RTD Northwest Rail Corridor Environmental Evaluation (NWR Corridor EE). In 2014 the RTD Northwest Area Mobility Study (NAMS) was completed to develop a prioritized list of mobility improvements for the Northwest area of the RTD service area. The subsections below summarize the Purpose and Need Statement from the 2010 NWR Corridor EE and the Consensus Statement from the 2014 NAMS project. While the Consensus Statement of the NAMS project would not constitute a Purpose and Need Statement, they did help focus the outcome of the project, similar to why a Purpose and Need Statement is developed.

## **I. 2010 RTD Northwest Rail Corridor Environmental Evaluation Purpose and Need**

RTD initiated the *NWR Corridor EE*<sup>1</sup> to identify and evaluate impacts of implementing a fixed-guideway, commuter rail transit service between Denver, Boulder, and Longmont. The United States Army Corps of Engineers (USACE) was the lead federal agency for the project, rather than the Federal Transit Administration (FTA), because the project anticipated potentially significant impacts to wetlands and waters of the US under USACE Section 404 permitting jurisdiction, including an alternatives analysis under Section 404(b)(1) of the Clean Water Act but did not seek federal transportation funding. RTD developed the EE document following NEPA processes and procedures. The following was taken directly from the *NWR Corridor EE* document.

### ***Purpose of this Project***

*The purpose of the NWR Corridor Project is to implement fixed guideway, commuter rail, mass transit service between Denver, Boulder and Longmont.*

### ***Need for this Project***

***Need 1: Improve mobility*** – *Mobility improvements are needed to provide alternatives to congested single occupant vehicle (SOV) travel for project study area residents, employees, and visitors. Per the 2035 Metro Vision Regional Transportation Plan (MVRTP) (Denver Regional Council of Governments [DRCOG] 2007):*

- *By 2035, population in the project study area is forecast to increase by 43 percent and employment is forecast to increase by 58 percent.*
- *Programmed roadway improvements are not expected to keep pace with projected demand, as: (1) regional personal trips will increase by 59 percent, (2) regional vehicle miles traveled (VMT) will increase by 72 percent, (3) regional roadway lane miles with more than three hours per day of severe congestion will increase by 203 percent, and (4) regional vehicles hours of delay will increase by 353 percent.*

<sup>1</sup> 2010 RTD Northwest Rail Corridor Environmental Evaluation ([https://www.rtd-denver.com/sites/default/files/files/2019-06/Eagle-P3\\_EE\\_Summary.pdf](https://www.rtd-denver.com/sites/default/files/files/2019-06/Eagle-P3_EE_Summary.pdf))

**Need 2: Provide consistent and reliable transit travel times** – Unreliable automobile travel times are anticipated both from day to day and throughout the day (peak versus off-peak) in 2035. Travelers will also experience unexpected delays due to accidents or inclement weather. An option such as rail transit would provide more consistent, reliable, safe, and congestion-free travel on its own dedicated and protected right-of-way (ROW).

**Need 3: Enhance regional connectivity** – The Denver metropolitan region currently has gaps in multi-modal regional transit connectivity. FasTracks is primarily a plan to fill in major gaps with fixed guideway transit (rail) and bus rapid transit. The NWR Corridor would link with seven other RTD rail corridors at DUS (see Figure ES-2).

**Need 4: Provide an affordable transit investment** – Any transit improvements must be affordable within the FasTracks budget. In addition, the associated operating costs must be realistic and reasonable for RTD to assume the service. In 2004, the FasTracks Plan allocated \$565.1 million (in year of expenditure dollars) for NWR Corridor capital costs out of the overall \$4.7 billion system-wide budget. The 2009 RTD Annual Program forecasts the NWR Corridor Project capital costs at \$641.1 million (in 2008 dollars).

**Need 5: Reinforce local and regional transportation and land use plans** – The NWR Corridor is part of the 122-mile system of new rail transit facilities proposed within the regional FasTracks Program. To assess potential local community acceptance of the NWR Corridor Project, regional and local plans were reviewed. Local plans for communities along the proposed rail alignments were found to be in support of commuter rail serving their jurisdiction.

## II. 2014 RTD Northwest Area Mobility Study Final Consensus Statement

The 2014 RTD Northwest Area Mobility Study (NAMS)<sup>2</sup> project used a Final Consensus Statement to guide the discussion about how to implement bus and rail service in the Northwest area of the RTD service area. It began with an overarching theme, a discussion of how projects were prioritized, and concluded with a discussion of each proposed transit investment. The rail elements are shown below.

*An overarching theme serves as a basis from which consensus on the priorities is grounded:*

- *The Northwest area remains committed to Northwest Rail as envisioned in FasTracks. Given the projected timing of Northwest Rail's implementation, Northwest stakeholders want to see mobility benefits sooner.*

*Projects on the prioritized list should not be considered absolutely sequential:*

- *Nothing should preclude the pursuit or acceleration of any of these priorities should viable opportunities or partners become available.*
- *More than one priority can be pursued simultaneously.*

<sup>2</sup> 2014 RTD Northwest Area Mobility Study (<https://www.rtd-denver.com/sites/default/files/files/2020-07/NAMS-Final-Report-508.pdf>)

- *RTD should be proactive, aggressive and creative in monitoring these projects for any significant developments that help a project move forward (e.g. public or P3 funding opportunities, BNSF plans).*

#### *North Metro Rail Extension (SH 7 to Longmont)*

- *Estimated cost combined with projected low ridership yields an annual cost per boarding almost six higher than Northwest Rail.*
- *It is recommended by the Study Team and accepted by the NAMS PAC not to proceed with any action on this corridor at this time. The corridor should be re-evaluated in the future if population densities or other conditions change.*

#### *Northwest Rail (FasTracks):*

- *Given present funding challenges and accompanying near-term inability to secure a railroad agreement, completion of Northwest Rail is a longer term goal.*
- *On an annual basis, RTD will explore and update Northwest Rail implementation strategies and report to stakeholders and the public.*

The outcome was that NWR would be a longer term priority and that construction would likely be done in phases, with geographic extensions of a double tracked rail line, as proposed in the FasTracks plan.

### **III. Northwest Rail Peak Service Study Purpose of the Proposed Project and Project Goals**

Since the 2010 NWR Corridor EE and the 2017 NAMS projects were completed, the transportation landscape has changed in a variety of ways. Following the 2008 Great Recession, cost estimates increased and led to uncertainty with FasTracks sales tax levels. Subsequently, the COVID-19 pandemic began being felt in early 2020, and in 2022 the transit world continues to feel the effects. Even though the national and state economies have rebounded, and unemployment remains low, many employees who traditionally commuted to work using transit have not fully returned to the office. Roadway traffic is nearly back to normal, but as of August 2022, overall transit ridership levels are at approximately 66.2 percent of pre-pandemic levels. Compounding the issue there is a nationwide driver/operator shortage, and RTD has not been immune to this. This is seen regularly, as individual runs on bus and train routes are cancelled throughout the system on most days.

In recent years RTD has been coordinating with BNSF Railway (BNSF) to develop an operating plan that could provide rail service to the NWR Corridor, while maintaining BNSF's flexibility to continue to operate freight service. By developing an operating plan that focuses on peak commuting times, there may be opportunities to provide passenger rail service in the NWR Corridor that can be implemented in the near-term and expanded over time as ridership grows and additional capital and operating funds are secured. This phased implementation approach has been used successfully in other major urban regions, particularly in the western US over the past 40 years.

## Purpose of the Proposed Project

The purpose of the Northwest Rail Peak Service Study (NWR PSS) is to identify the necessary infrastructure requirements and operational considerations to allow peak period commuter rail service between Denver, Boulder, and Longmont within the operating BNSF freight corridor. The peak period service must be planned in such a way as to not preclude the full buildout of infrastructure that would allow for all day commuter rail service as presented in the FasTracks Plan, and envisioned in the EE and NAMS studies, or as a part of a Front Range Passenger Rail (FRPR) service along the Colorado Front Range between Fort Collins and Pueblo, including the Denver-Boulder-Longmont areas.

## Project Goals

Because this study is not being conducted as part of a NEPA process, a Purpose and Need statement is not required at this time. However, in an effort to allow a potential project to move into NEPA, Project Goals have been developed to guide this study. If a specific project moves into the NEPA process, these Project Goals would be refined as part of an official Purpose and Need Statement. Five Project Goals have been identified for the NWR PSS.

- **Project Goal 1: Advance RTD's commitment to complete the FasTracks Program.** The 2004 voter approved FasTracks Plan included commuter rail in the NWR Corridor from Denver to Boulder and Longmont. Subsequently, DRCOG, the Metropolitan Planning Organization (MPO), adopted the *2050 Metro Vision Regional Transportation Plan*, which includes implementation of the Peak Period Service Plan in the NWR Corridor from Westminster Station to downtown Longmont, on April 21, 2021. Since station planning was initiated in earnest during the *NWR Corridor EE*, the communities along the rail line have invested in infrastructure and advanced planning to support the future rail line. Communities have implemented policies that support transit and expected changes in commuting behaviors in the corridor, such as encouraging compact, mixed-use development; updating comprehensive land use, and transportation plans and policies; further refining station area plans; and investing capital funds around proposed station sites throughout the corridor, in an attempt to change commuting behaviors by developing housing project near transit investments. Many new Transit Oriented Developments (TODs) have already been built around the proposed NWR stations. Other examples include that in October of 2021, Boulder City Council adopted new climate goals for the community to reduce emissions 70% by 2030 against a 2018 baseline; become a net-zero city by 2035; and become a carbon-positive city by 2040. In Boulder, transportation accounts for nearly one-third of all emissions. Further, in 2019 the Colorado General Assembly passed a greenhouse gas reduction bill, HB19-1261, which set a goal to reduce statewide greenhouse gas emissions from all sources by 26% by 2025, 50% by 2030, and 90% by 2050, compared to a 2005 baseline. Further, in 2021 SB21-260 was passed and signed into law, which among other things established three new state enterprises focused on transportation electrification. At the state level, transportation accounts for about one-quarter of all emissions. Further, communities along the rail line have also worked with the Federal Railroad Administration (FRA) and BNSF to implement quiet zones (railroad crossings that include physical infrastructure and warning systems, so train engineers are not required to

sound the train horn at the crossing). Quiet zones have already been implemented along the NWR Corridor at the following locations:

Municipality	Cross Street	
Broomfield	112 <sup>th</sup> Avenue (to be completed by December 2022)	Brainard Drive (to be completed by December 2022)
	120 <sup>th</sup> Avenue	Nickel Street
Louisville	Dillon Road	Griffith Street
	Pine Street	South Boulder Road
Boulder	63 <sup>rd</sup> Street	Valmont Road
	55 <sup>th</sup> Street	47 <sup>th</sup> Street
	Pearl Parkway	
Boulder County	Independence Road	Monarch Road
	Jay Road	Niwot Road
	55 <sup>th</sup> Street	2 <sup>nd</sup> Avenue (Niwot)
	63 <sup>rd</sup> Street	

Quiet zones are also in the planning and/or design phase within the city limits of Longmont, a portion of the alignment in Westminster, and in Boulder County. The communities along the NWR Corridor have provided the densely developed housing and other uses around the station areas, most of which are served by local bus routes. Connection to additional transit modes at these stations is expected as part of the Peak Period Service plan.

- Project Goal 2: Expand connectivity in the region short term and potentially beyond the region long term.** The Denver-Boulder travel market is served by the existing Flatiron Flyer bus network, specifically for communities adjacent to the US 36 corridor (including Westminster, Broomfield, southern Louisville, Superior and Boulder). However, the NWR Corridor serves additional markets in the Denver-Boulder travel market including Louisville-Denver and Louisville-Boulder, which are not as well served with transit. The Boulder-Longmont travel market is currently served by hourly bus service being provided on the BOLT line. While transit service for this segment is expected to be improved with the implementation of the SH 119 BRT Project, the Longmont-Boulder-Denver travel market will continue to require a transfer in Boulder, making transit less convenient for commuters. Therefore, the Longmont-Boulder-Denver travel market would be better served with the addition of rail service along the NWR Corridor. In the longer term, the NWR Corridor may become more financially feasible as one segment of the full FRPR program, which is being planned to operate intercity passenger rail along the Colorado Front Range between Fort Collins and Pueblo. The NWR Corridor could provide a route for both the commuter rail service and the intercity service along the Front Range into and out of the highly congested downtown Denver part of the region.

- **Project Goal 3: Provide a more affordable transit investment to serve communities in the northwest region of the RTD District.** To reflect the objectives of the FasTracks program, the 2010 *NWR Corridor Final EE* presented capital and operating costs for an 11-station, 55-one-way trains per day service plan for the Northwest Rail line. These costs were \$1.0 billion for capital and \$20.7 million annually for operations in 2008 dollars. The 2013 *Northwest Area Mobility Study* (NAMS) re-evaluated projects in the Northwest area and updated costs for the NWR plan in 2013 dollars of capital costs between \$1.16 and \$1.41 billion and \$23.2 million annual operations. Given present funding challenges and accompanying near-term inability to secure a railroad agreement, completion of Northwest Rail is a longer term goal. Working with BNSF and corridor stakeholders in recent years, RTD recognizes that there continues to be a strong desire for passenger rail service such that a reduced service plan that can be implemented in phases, focused initially on peak period, peak direction travel may now provide an opportunity to start limited service in the short term, with the potential to expand the schedule as ridership warrants, at a substantially lower cost than the full build-out.
- **Project Goal 4: Provide consistent and reliable transit travel times.** Even with improvements to US 36 and the addition of managed lanes, auto travel times continue to be less reliable in the US 36 corridor compared to those of transit service. RTD provides commuter transit service in the Northwest portion of the region through its Flatiron Flyer Bus Rapid Transit (BRT) program. According to RTD's *2020 Quality of Life* report<sup>3</sup>, in 2019, the average automobile travel time between the Table Mesa Park-n-Ride in Boulder to downtown Denver was 39 minutes with a potential variability of 24 minutes (up to 63 minutes total). For Flatiron Flyer buses (FF2 express service), the average travel time was 26 minutes with a potential variability of 8 minutes (up to 34 minutes total). By comparison, FF1 all stop service is scheduled for a 37 minute travel time. In the US 36 Corridor, FF2 express service uses the managed lanes, which is largely responsible for the limited variability that it experiences. However, the FF1 all stop service does not utilize the managed lanes to the same extent, as these buses enter and exit the freeway at most of the interchanges to serve stations along the corridor. In other corridors in the Denver region where the transit service is light rail or commuter rail, the travel time variability is much less than in the US 36 Corridor where the bus service is subject to roadway congestion, weather, or incidents. Because rail transit operates in its own guideway, it is far less often affected by traffic congestion or weather events that make roadway modes less predictable both now and in the future.
- **Goal 5: Investigate Partnerships for service growth in the future.** There are several options for who might operate passenger rail service in the NWR Corridor, including RTD, FRPR, or BNSF. The Peak Service Study will allow for some of these discussions to be had, and in turn to provide more clarity about necessary action to advance toward implementation. While RTD has

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<sup>3</sup> 2020 RTD Quality of Life Report ([https://www.rtd-denver.com/sites/default/files/files/2020-10/Quality-of-Life-Report\\_2020.pdf](https://www.rtd-denver.com/sites/default/files/files/2020-10/Quality-of-Life-Report_2020.pdf))



commuter rail operators, it may be advantageous to contract operations to BNSF Railway, as they currently operate the freight service in the NWR Corridor. Nationwide, there are several examples where the owner of the railroad operates freight trains as well as passenger trains on the same line on behalf of the transit agency. Sound Transit (in Seattle) and Northstar Corridor Development Authority (in Minnesota) both contract with BNSF to operate Sounder and Northstar commuter rail service, respectively. Further, determining an operating arrangement also plays a role for other operating agreements like the number of passenger trains that may operate on the line and the continued provision of service if the line is ever sold by the railroad. These arrangements could also clarify operating agreements for the broader FRPR service.