



FINAL REPORT

CO-WY TRANSIT FEASIBILITY STUDY

CDOT, WYDOT, & Cheyenne Metropolitan
Planning Organization

January 4, 2023



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Acronyms

BAT	Business Access and Transit
CDOT	Colorado Department of Transportation
CMAQ	Congestion Mitigation and Air Quality
COLT	City of Loveland Transit
CTP	Cheyenne Transit Program
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GET	Greeley-Evans Transit
IIJA	Infrastructure Investment and Jobs Act
MPO	Metropolitan Planning Organization
NFR	North Front Range
NFRMPO	North Front Range Metropolitan Planning Organization
PMT	Project Management Team
STBG	Surface Transportation Block Grant
TDM	Travel Demand Model
TSP	Transit Signal Priority
USDOT	U.S. Department of Transportation
WYDOT	Wyoming Department of Transportation

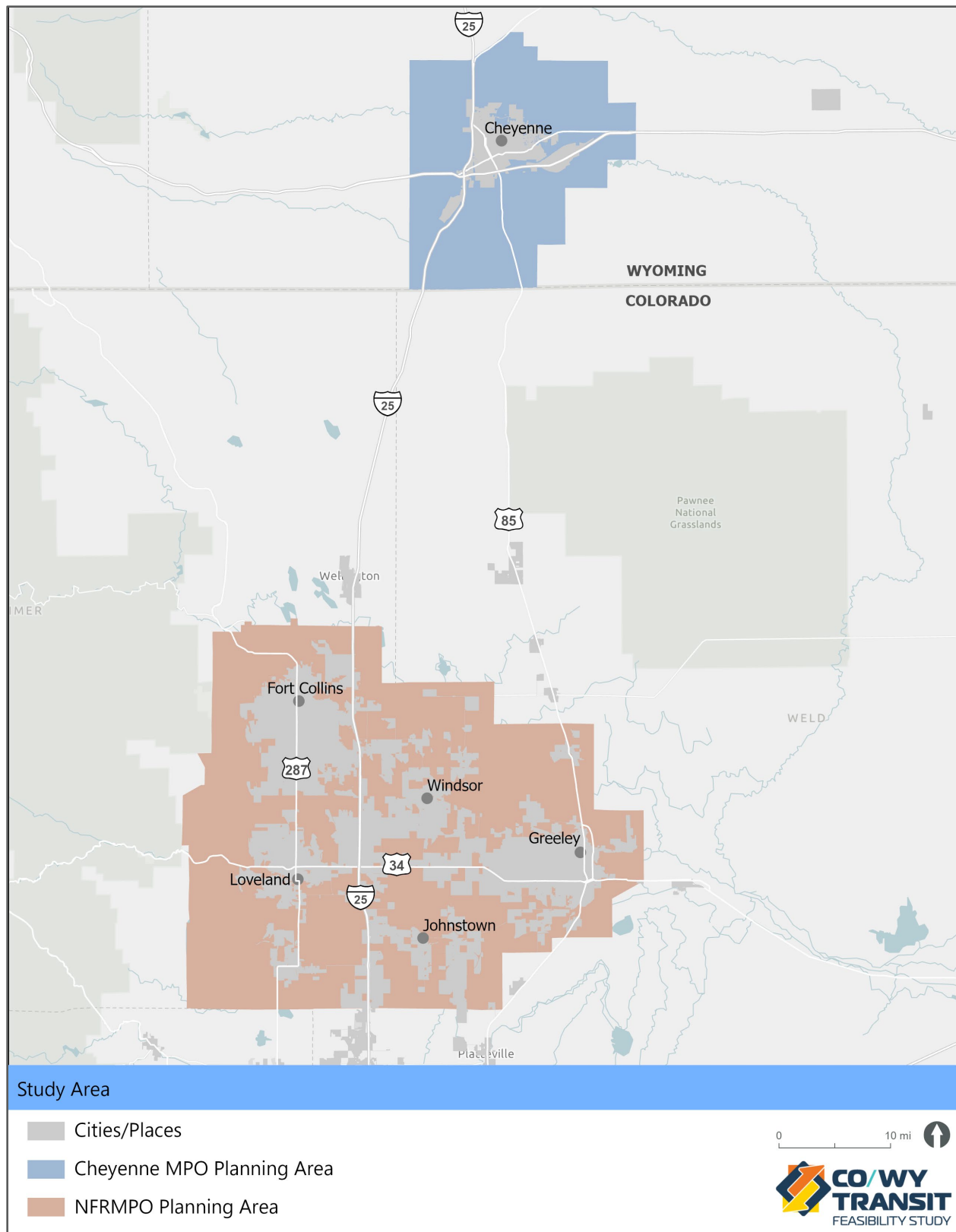


1.0 Introduction

The CO-WY Transit Feasibility Study is a feasibility analysis of transit connection(s) between the North Front Range (NFR) region of Colorado and the Cheyenne metropolitan area (Cheyenne) of Wyoming. The study is a collaborative effort managed and funded by the Colorado Department of Transportation (CDOT), the Wyoming Department of Transportation (WYDOT), and the Cheyenne Metropolitan Planning Organization (Cheyenne MPO). These groups are collectively referred to as “the partners.” The study area for the analysis is illustrated in Figure 1. The study area is generally based on the Cheyenne MPO and North Front Range Metropolitan Planning Organization (NFRMPO) Planning Areas, as well as the area between the two regions.

The study included examination of travel markets/demand; evaluation of potential transit technology/amenities; development and screening of transit routing and stop location alternatives; and identification of a recommended alternative for the Colorado to Wyoming connection, along with the transit service plan and estimated costs. Additionally, the study identified an implementation process, potential funding opportunities, and next steps in long-range planning for further expanding transit connections between the regions.

Figure 1. Study Area



Source: HDR



2.0 Planning Process

The CO-WY Transit Feasibility Study followed a stepped planning process to inform the development of potential transit alternatives and to identify a recommended transit service. The process included a transit market analysis, initial transit alignment alternative development, the alternative screening process, and identification of the recommended transit service. Figure 2 illustrates the process.

Figure 2. CO-WY Transit Feasibility Study Process



The transit market analysis was the first step of the feasibility study. The market analysis assessed the potential existing and future travel demand for the proposed transit service. The partners utilized this information and the project team's recommendations to identify future transit alternatives. The alternatives were then evaluated based on a set of screening criteria and a recommended transit service identified.

Throughout this process, the project team, which included the partners and project consultants, sought input and guidance from local jurisdictions, agencies, and project stakeholders. Additionally, the project team engaged with the public seeking input during the alignment screening process and review of the recommended transit service. The project team also reviewed existing and concurrent planning efforts by partner jurisdictions and agencies to understand the planning context in the region. Decision-making during the project was the responsibility of the Project Management Team (PMT), which included participants from each of the partners.

3.0 Transit Market Analysis Summary

The transit market analysis focused on current and future travel patterns between the Cheyenne area and the NFR region rather than shorter, local patterns between the NFR communities. The transit market analysis methodology, data, and findings are included in the *Transit Market Analysis* (September 9, 2022) report.

3.1 Transit Market Analysis Methodology

This transit market analysis included the following:

- Existing transit, traffic, and socioeconomic conditions analysis
- Existing and future travel market activity and trip origin/destination pattern analysis
- Existing transit propensity analysis

For the existing conditions analysis, the transit market analysis reviewed existing and planned transit system information for Cheyenne and the NFR region, as well as connections between them. Traffic count data from CDOT were compiled for the major highway connections between Cheyenne and the NFR region. The analysis also reviewed socioeconomic conditions in the area based on data from the travel demand models (TDM) in the region.

The travel market activity and trip origin/destination pattern analysis included an analysis of big data and TDM data. Big data in this instance included extremely large data sets, available via cell phone applications and Navigation-GPS data, that reveal human behavior as it relates to travel patterns and trends. The big data analysis analyzed trip activity and travel origin/destination data provided by StreetLight Data (a vendor of big data). The TDM analysis summarized trip activity and the existing/future origin/destination patterns from the NFRMPO TDM, the Cheyenne TDM, and the CDOT Statewide Focus TDM.

The transit propensity analysis considered community and population demographics. Communities and areas within Cheyenne and the NFR region with high propensity to utilize transit were identified.

It should be noted that transit ridership forecasts were not included in this effort as this would require a more in-depth analysis. This study focused on identifying the trip patterns with high frequency and potential for a mode shift to transit rather than projecting the number of riders.

The results from these analyses were compiled and a set of areas identified and recommended for consideration in the alternatives analysis as potential stop locations or areas to be served by future transit. The transit market analysis results are summarized in the following section.

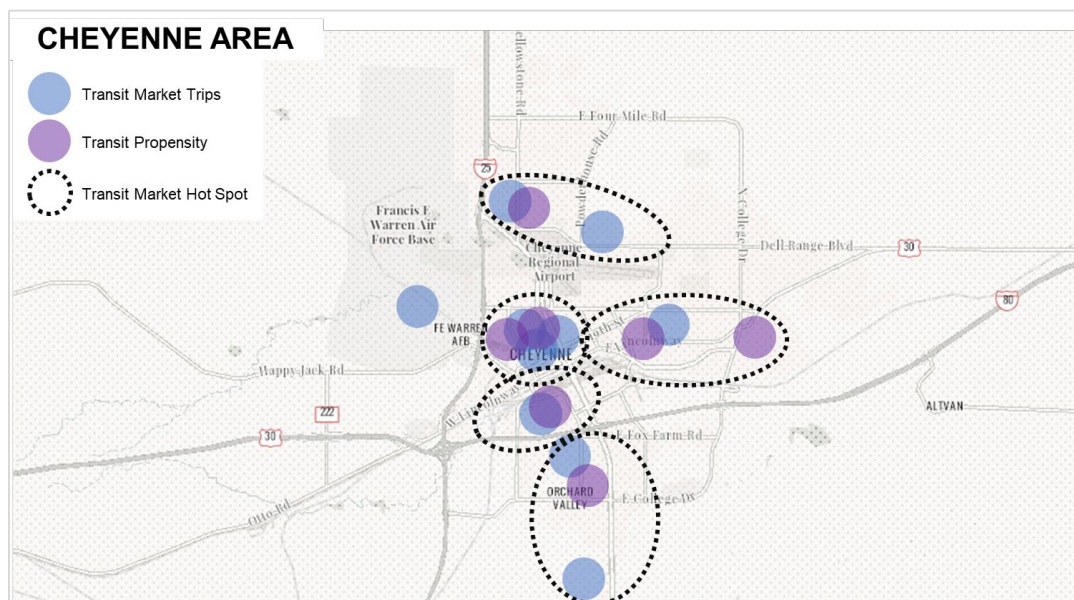
3.2 Transit Market Analysis Results Summary

After completing the existing conditions analysis, big data and TDM analyses, and the transit propensity analysis, the project team performed a geospatial analysis to identify transit market “hot spots.” The transit market hot spots highlight areas that scored high in the transit market trip analysis and/or transit propensity analysis. A high transit market trip score indicates an area where trip origins/destinations between the two regions are high today and/or in the future. A high transit propensity score indicates an area where people likely to utilize transit reside. The transit market “hot spots” are essentially a combination of these elements.

3.2.1 Cheyenne Area

Cheyenne's transit market hot spots are illustrated in Figure 3. It is important to note that the graphic illustrates general areas with high transit market trip and transit propensity scores and is not meant to identify locations with a high degree of geographic precision. As Figure 3 shows, transit market hot spots are dispersed throughout much of Cheyenne. The area with the strongest transit market is concentrated in the city center, which includes the downtown, Cheyenne Civic Center, the Cheyenne Regional Medical Center, and commercial developments along Warren Ave/Central Ave (US 85) and Lincolnway (US 30).

Figure 3. Cheyenne Area Transit Market Hot Spots

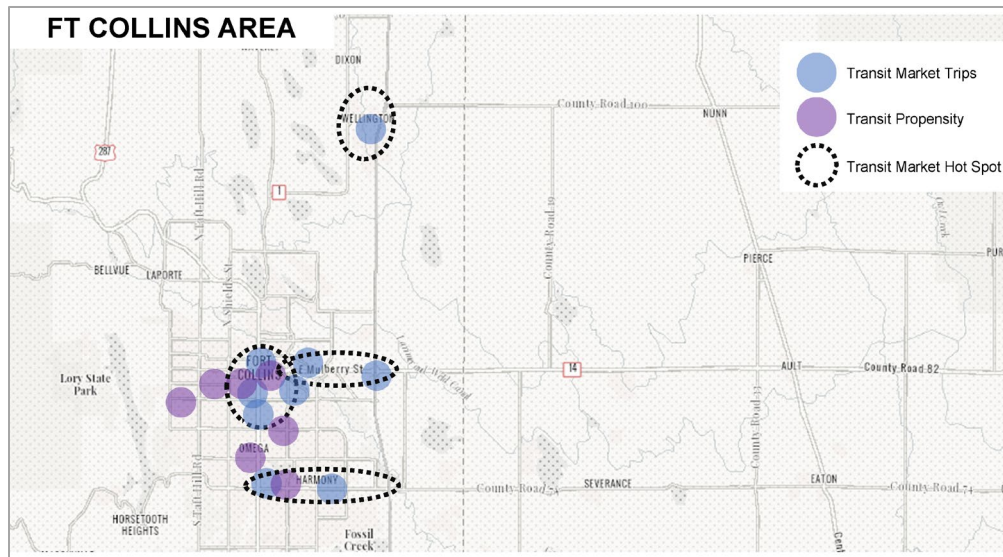


Source: HDR

3.2.2 North Front Range Region

In the northern portion of the NFR region, transit market hot spots were identified in both Wellington and throughout Fort Collins, as shown in Figure 4. The strongest transit market hot spots in the Fort Collins area are located around Colorado State University and the downtown area.

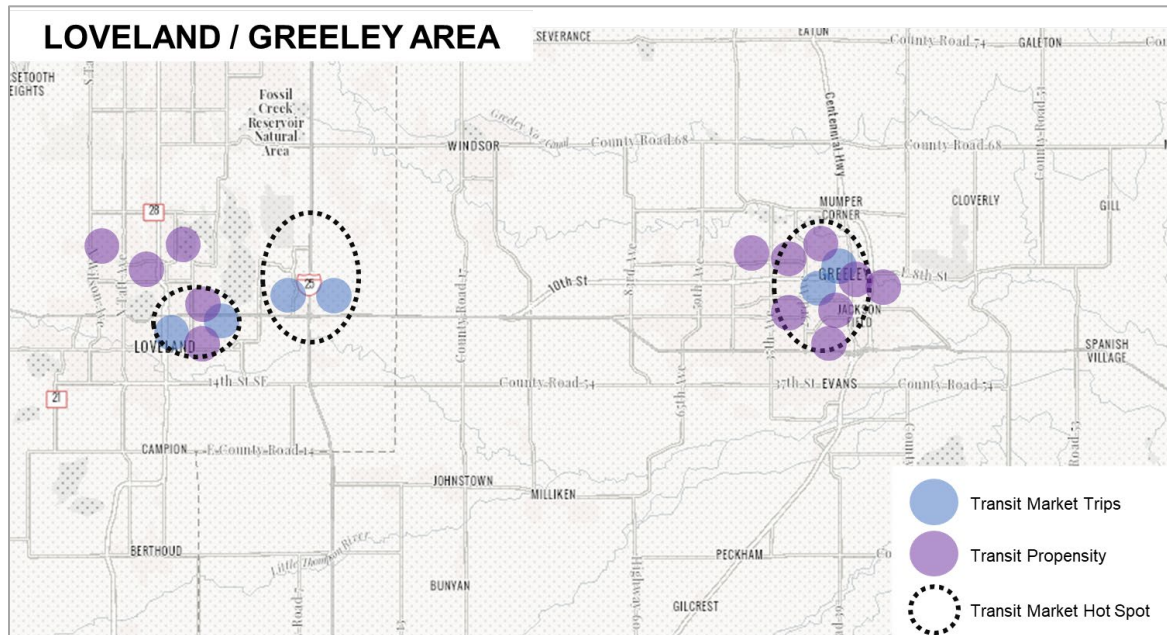
Figure 4. Fort Collins Area Transit Market Hot Spots



Source: HDR

In the southern portion of the NFR region, transit market hot spots were identified in both Greeley and Loveland, as shown in Figure 5. The transit markets in these areas are generally not as strong as those of the Fort Collins area. Loveland's city center and the area around the Centerra Development at US 34 and I-25 were the strongest transit market areas in the south. The Greeley community had fewer trips connecting with the Cheyenne area compared to other areas of the NFR region.

Figure 5. Loveland/Greeley Area Transit Market Hot Spots



Source: HDR

4.0 Stakeholder and Public Engagement

The project team conducted a robust public and stakeholder outreach process with stakeholders, policy makers, and the public to understand the needs, concerns, and priorities for traveling via transit between Cheyenne and the NFR region. This collaboration helped establish a vision for a transit connection between the regions and a consensus on initial steps for implementation. An inclusive, accessible, and collaborative public engagement approach was used to reach underrepresented communities. The following sections outline the engagement objectives, target audiences, communication tools, and engagement activities.

4.1 Stakeholder Engagement

The project team prioritized engagement with key regional stakeholders to guide the planning process. Stakeholder engagement involved two primary activities: stakeholder interviews and the establishment of a Guidance Committee. Through these engagement opportunities, stakeholders provided ideas and input that shaped the project.

4.1.1 Stakeholder Interviews

At the onset of the planning effort, the project team held listening sessions, or interviews, with key stakeholders in the region. The purpose of the interviews was to gain insight into the stakeholders' priorities, goals, and recommendations for the development of the transit alternatives. The interviews were held with policymakers, business community representatives, and groups representing potential regional transit users across the NFR region and Cheyenne, including:

- Cheyenne LEADS
- Cheyenne Transit Program (CTP)
- City of Cheyenne
- City of Cheyenne Transit Advisory Board
- City of Fort Collins Transit (Transfort)
- City of Loveland Transit (COLT)
- Colorado State University
- Laramie County Community College
- Greater Cheyenne Chamber of Commerce
- Greeley Evans Transit (GET)
- Town of Wellington
- Visit Cheyenne
- United States Department of Veterans Affairs

Additionally, the organizations were invited to engage throughout the planning effort and were asked to provide insight into local communication outlets the project team could leverage to promote input opportunities.



Key themes that emerged from the interviews are summarized in Table 1. Notes from the stakeholder interviews are in Appendix A, Public Engagement.

Table 1. Stakeholder Interview Key Themes

What We Learned - Stakeholder Interviews	
Evaluate various transit technologies, but focus on bus service in the short-term and potentially rail in the long-term	Provide reliable, consistent transit between the two regions; consider off-peak and weekend travel, not just peak weekday travel
Connect to existing transit centers and mobility hubs for easy transfers	Provide connections to not only business centers, but education, medical, and shopping/entertainment centers if possible
Determine the financial feasibility and consider funding options to support a transit connection	Provide attractive, safe, inclusive stop/station locations that are ADA compliant
Fixed route transit is preferred to on-call transit	Collaborate with stakeholders and engage the general public

Source: Stakeholder Interviews held on June 1, June 2, and June 10, 2022.

Notes from the stakeholder interviews are in Appendix A, Public Engagement.

4.1.2 Guidance Committee

One of the first efforts for the project team was to form a Guidance Committee to guide the transit analysis and alternative transit service development. The Guidance Committee served as a sounding board for concepts and recommendations at each of the study milestones. It was a critical technical group to help evaluate the potential transit corridor alignments and origin/destination options, as well as to refine the final recommendations of the study. Guidance Committee members were identified based on their technical expertise in transit and community development and their deep knowledge of (and connection to) Cheyenne and/or the NFR region. The organizations represented on the Guidance Committee are listed in Table 2.

Table 2. Guidance Committee Representatives

Organizations Represented	
<ul style="list-style-type: none"> • CDOT Division of Transit and Rail • Cheyenne LEADS • Cheyenne Transit Program • Cheyenne MPO • City of Cheyenne • City of Fort Collins Transit • City of Loveland Transit • Colorado State University 	<ul style="list-style-type: none"> • Greeley Evans Transit (GET) • North Front Range MPO • Town of Wellington • United States Department of Veterans Affairs • Visit Cheyenne • Weld County Public Works • WYDOT

Source: Guidance Committee Meetings held on June 21, August 31, and November 2, 2022.

The Guidance Committee met virtually three times during the study. Each meeting focused on a different aspect as the work advanced toward the recommendations of transit alignments. Each meeting provided an opportunity for open discussion and feedback from the participants for consideration by the project team. The first meeting (June 21, 2022) gave members an overview of the project, roles and expectations, the project vision, and the region's transit market context. Guidance Committee members provided input on what would make this project a success, the type of service they envision, and key destinations they believe could be served by the service.

In the second meeting (August 31, 2022), the project team presented the initial alternative transit alignment development and the screening processes. Guidance Committee members provided valuable feedback on alternative alignment preferences and on additional screening criteria critical to this study.

In the third meeting (November 2, 2022), the project team presented the results of the screening with the recommended transit alignment and transit service plan, and the initial cost estimates. Guidance Committee members expressed support for the recommended transit services and provided feedback on optional stop locations and considerations for future transit options.

Notes from the Guidance Committee meetings are in Appendix A, Public Engagement.

4.2 Public Outreach

A public outreach program was conducted to convey information about the study to residents, visitors, and potential regional transit users and to build support and understanding among the communities. The project team was committed to gathering input from the diverse, vulnerable, and historically underrepresented populations within the study area. This included providing project materials in Spanish and directly engaging with organizations that represent or serve NFR Latinx communities.

Two self-guided and interactive online public open houses were hosted by the project team, which gave the public the opportunity to engage with the project from the comfort of their homes. The online public events were promoted through CDOT, Cheyenne MPO, and WYDOT existing communication outlets. They were promoted widely, and public participation levels exceeded expectations. Further details on these open houses are included in this section.

The partners and the Guidance Committee participated in promoting the outreach opportunities. A promotional toolkit was provided to Guidance Committee members to inform their constituents of the public outreach events. All promotional materials were available in both English and Spanish, and paper copies of the survey were available upon request for those with no access to a computer. To further educate the community about the study, a project website was developed and hosted by the Cheyenne MPO and promoted through the CDOT and WYDOT websites.

The self-guided and interactive public open houses are described below.



4.2.1 Public Online Open House #1

The online public meeting launched on October 3, 2022, and closed on October 17, 2022. The event provided details on the study, presented the findings of the travel market analysis, and presented initial alignments identified as candidates for transit service between the regions (the initial alignments are discussed in the Section 5.0). There were various opportunities for public feedback, including a survey and a comment form.

The online survey was designed to solicit input on transit options and preferences and travel patterns. Participants answered multiple questions and identified the initial transit alignments that were preferred. The survey included questions about participant travel patterns, including where they travel in the region, day and time of travel, and if they would utilize transit between the two regions, as well as optional demographic questions. The survey and online open house content were available in hard copy upon request.

Over 320 survey responses were received, and over 1,110 meeting site visits were registered.

4.2.2 Public Online Open House #2

The online public meeting launched on December 5, 2022, and closed on December 19, 2022. The event included the study background, travel market analysis results, and the initial alignment options identified in the first public online open house. Additionally, the meeting presented the results from the online survey from the first public online open house, the alternatives screening process, and the recommended alignment and transit service.

The meeting included an online survey asking participants if they would use the recommended alignment, for what primarily they would use the service, would they like optional stops along the route, and what kind of amenities they would like with the service. Over 270 survey responses were received and over 810 meeting site visits were registered.

Key themes that emerged from the online surveys are summarized in Table 3.

Table 3. Public Open House #1 and #2 Survey Response Themes

What We Learned—Public Open House Survey Responses	
Fort Collins was the most commonly identified origin/destination in the NFR region	Travelers desire a mix of weekday and weekend service as well as peak and off-peak service
Preferred alignments all include Cheyenne area to/from Fort Collins area	Top trip purposes between the two regions include shopping and entertainment along with work-related
92% of open house #1 respondents say yes or maybe to using a high-quality, reliable transit service between Cheyenne and the NFR region	79% of open house #2 respondents said they would use the recommended transit service
75% of respondents would like or are okay with an optional stop(s) along Mulberry or in Wellington	Top desired bus amenities include comfortable seating, charging outlets, and WiFi

Source: Online public open houses #1 and #2 held in October and December, 2022, respectively.



A summary of the public open house survey responses and comments is in Appendix A, Public Engagement.


5.0 Alternatives Development

This section details the transit alternatives development for the CO-WY Transit Feasibility Study. Results from the transit market analysis directly fed the transit alternatives development process. The project team examined a range of transit service models appropriate to providing regional connectivity that met the findings identified in the transit market analysis, including fixed route, on demand, deviated services, etc., to determine the most effective provision of transit service. The team examined routing alignments, route termini, service plan assumptions, and conceptual stop locations (as appropriate to the service model). Bus technologies and fleet requirements were examined, and a recommended vehicle type proposed.




5.1 Transit Mode Analysis and Selection

The project team completed an evaluation process to select the optimal transit technology. Multiple transit technologies were considered to determine their suitability for the Colorado to Wyoming connection. The evaluated transit technologies are detailed in Table 4.

Table 4. Transit Technologies

Transit Technologies Evaluated		
Shuttle Bus	A shuttle bus can typically hold between 8 and 14 passengers. A shuttle bus can provide either fixed or deviated route service.	 <p>Example: Casper Area Link, Casper, Wyoming¹</p>

¹ <https://www.casperwy.gov/cms/One.aspx?portalId=63067&pageId=18006762>

Transit Technologies Evaluated		
Express Bus/ Enhanced Bus	<p>Express bus is a comfortable transit vehicle for long distance or intercity transit connections. Amenities can include restrooms, bike racks, Wi-Fi, power outlets, and USB ports. These buses typically operate along existing corridors and do not require infrastructure improvements. These buses can hold 40 to 80 people.</p> <p>An enhanced bus service is used on more frequent service routes and is characterized by improved stop/station infrastructure and amenities, and service/reliability improvements like Transit Signal Priority (TSP). Business Access and Transit (BAT) lanes (lanes that are not dedicated to but are primarily used by buses) are an element of enhanced bus. The same technology can be used for the intercity express bus service, holding 40 to 80 people.</p>	 <p>Example: Poudre Express, Colorado² North Front Range, Colorado</p>
Bus Rapid Transit	<p>Bus Rapid Transit is a reliable transit option that operates in an exclusive right of way for a portion or entirety of the corridor. BRT elements include off board fare collection, platform level boarding, frequent service, enhanced stations, custom vehicles, and unique branding. Infrastructure improvements for BRT include TSP and queue jumps. These buses can hold 40 to 80 people.</p>	 <p>Example: MAX BRT, Fort Collins, Colorado³</p>
Commuter Rail	<p>Commuter rail transit operates within exclusive right of way on a railroad track using diesel or electric trainsets. Commuter rail vehicles can hold up to 150 passengers per car.</p>	 <p>Example: RTD A Line to Denver International Airport</p>

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Each of these transit technologies was evaluated through a screening process according to the following:

- **Consistency with Local/ Regional Plans**—Examined each technology’s consistency with relevant planning documents advanced by the region and local jurisdictions.
- **Community Support**—Evaluated if the technology is generally supported by stakeholders, as expressed through past planning efforts and ongoing engagement for this study.
- **Engineering/ Operational Feasibility**—Examined the unique operating characteristics and design features of each technology to determine how they fit with the context of Northern Colorado.
- **Conceptual Capital and Operating Costs**—Identified the potential maximization of benefits (in terms of ridership and expected economic development) of typical up-front planning, design, and construction cost associated with each technology.

Results of the transit technology analysis are detailed in Table 5. The table illustrates a transit technology’s ability to meet the criteria for the Colorado to Wyoming connection.

Table 5. Transit Technology Evaluation – Does the Technology Meet the Criteria?

Technology	Consistency with Local/ Regional Plans	Public/ Stakeholder Support	Engineering/ Operating Feasibility	Conceptual Capital and Operating Costs
Shuttle Bus	No	No	Yes	Yes
Express Bus/ Enhanced Bus	Yes	Yes	Yes	Yes
Bus Rapid Transit	Yes	No	No	No
Commuter Rail	Yes	Yes	No	No

Source: HDR

Express bus scored favorably in each criterion and was selected for implementation in the short term. The public and stakeholders demonstrated support for this transit technology. Express bus is considered the most optimal technology for the alignment because of the intercity, mostly rural, context and length of the route. An express bus route is a flexible technology and can be adjusted to add additional stops, develop an express service option, and more. Further, because this is a longer trip, which could be a commuter route for some, express bus can provide comfort and amenities.

The other three technologies evaluated were not selected for the Colorado to Wyoming connection. The transit market analysis demonstrated that there is high enough demand for a fixed route, therefore a fixed or deviated route shuttle bus would not be adequate to meet the demand. Previous plans in the Cheyenne and NFR region demonstrated a desire for more robust transit options beyond a shuttle. BRT would require a dedicated lane on the roadway for

the bus, which is impractical on the rural highway between Colorado and Wyoming. Compared to implementing a commuter rail service, which has a significant capital investment and federal planning requirements, express bus transit can be implemented with fewer steps and lower capital costs.

The selection of the express bus technology was an important element in the planning process, preceding the alternatives development. Because express bus was selected, only roadway corridor options were developed and evaluated in subsequent steps of the study.

5.2 Initial Transit Alternatives Development

The initial transit alternatives considered a set of potential transit alignments. These alternatives were developed based on results from the Transit Market Analysis and with input from the PMT, the Guidance Committee, and the one-on-one interviews with stakeholders.

For each of the initial route alignments developed, the Downtown Transfer Station, currently located at 17th Street and Carey Avenue in downtown Cheyenne, was identified as the northern terminus. The Transit Market Analysis identified the surrounding area as having the strongest transit market as it lies within the city center, which includes the downtown, the Cheyenne Civic Center, the Cheyenne Regional Medical Center, and commercial developments. This location also connects to all future local transit routes proposed in the *Draft CTP 2022 Transit Development Plan* (October 2022), which was under development at the time of this study. Should the Downtown Transfer Station be relocated within the downtown Cheyenne area in the future, the northern terminus of the recommended alignment from this study would shift to the new location.

Six initial alignment alternatives were identified for consideration. The alternatives are briefly described in Table 6 and are illustrated and described in detail in the next sections.

Table 6. Initial Alignment Alternatives

ID	Alternative	Markets Served*	Stop Locations*	Alignment
1	Cheyenne to Fort Collins	Fort Collins	Fort Collins Downtown Transit Center	Travels south along I-25 from Cheyenne, following either I-25 and Mulberry or SH 1 and US 287 between Wellington and downtown Fort Collins
2	Cheyenne to Fort Collins & Loveland	Fort Collins Loveland	Fort Collins Downtown Transit Center Downtown Loveland	Travels south along I-25 from Cheyenne, following either I-25 and Mulberry or SH 1 and US 287 between Wellington and downtown Fort Collins. The route would continue south to downtown Loveland via US 287



ID	Alternative	Markets Served*	Stop Locations*	Alignment
3	Cheyenne to Centerra via I-25	Fort Collins Loveland	Harmony Road Mobility Hub Loveland Centerra Mobility Hub	Travels south along I-25 from Cheyenne to Centerra in Loveland
4	Cheyenne to Greeley	Greeley	Greeley-Evans Transfer Center	Travels south along US 85 from Cheyenne to Greeley
5	Cheyenne to Fort Collins/ Loveland Loop	Fort Collins Loveland	Fort Collins Downtown Transit Center Downtown Loveland Loveland Centerra	Travels south along I-25 from Cheyenne, following either I-25 and Mulberry or SH 1 and US 287 between Wellington and downtown Fort Collins; continue south to downtown Loveland via US 287, turn east to Centerra via US 34, and turns north to return to Cheyenne via I-25
6	Cheyenne to I-25/Greeley Loop	Fort Collins Loveland Greeley	Harmony Road Mobility Hub Loveland Centerra Mobility Hub Greeley-Evans Transfer Center	Travels south along I-25 from Cheyenne to Centerra in Loveland, turns east along US 34; follows US 34 Business Loop through Greeley, turning north on US 85 to return to Cheyenne

Note: *Each alternative also serves downtown Cheyenne and stops at the Downtown Cheyenne Transfer Center.

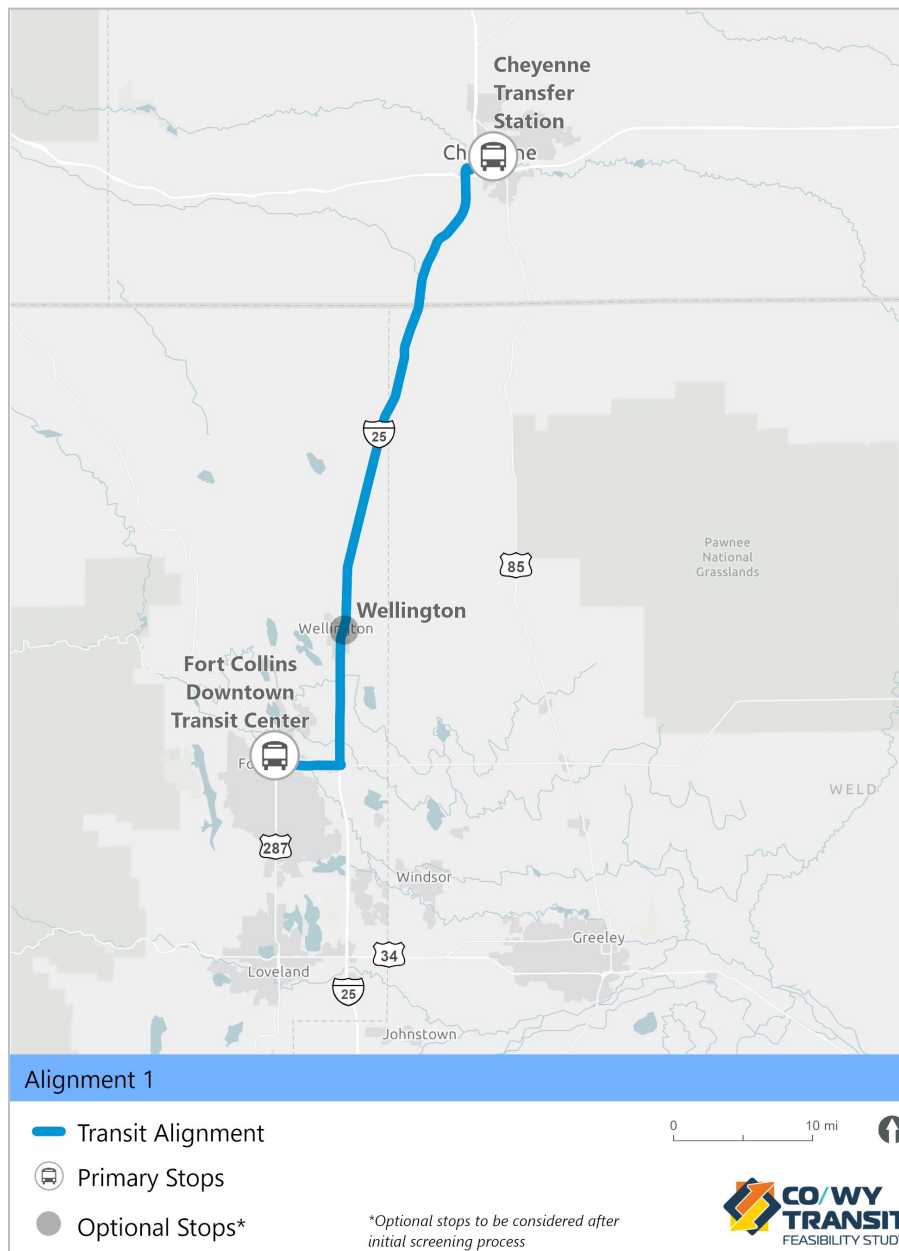
Source: HDR

The six alignments, although identified to follow certain roadways, may be adjusted upon further analysis. Additionally, optional stop locations, such as along SH 1 in the Town of Wellington (although not included in the initial screening process), will be considered during development and implementation of the recommended transit service.

5.2.1 Alignment 1—Cheyenne to Fort Collins

As Figure 6 illustrates, Alignment 1 would travel between downtown Cheyenne and downtown Fort Collins. From Cheyenne, the transit alignment would follow I-25 south to Wellington. Between Wellington and downtown Fort Collins, the route would have two options: 1) travel south along I-25, turning west toward downtown Fort Collins at Mulberry Street or 2) travel west through Wellington via SH 1 and then south to Fort Collins via SH 1 and US 287. The route would stop at the Fort Collins Downtown Transit Center. This alignment would include an optional stop in Wellington.

Figure 6. Alignment 1—Cheyenne to Fort Collins



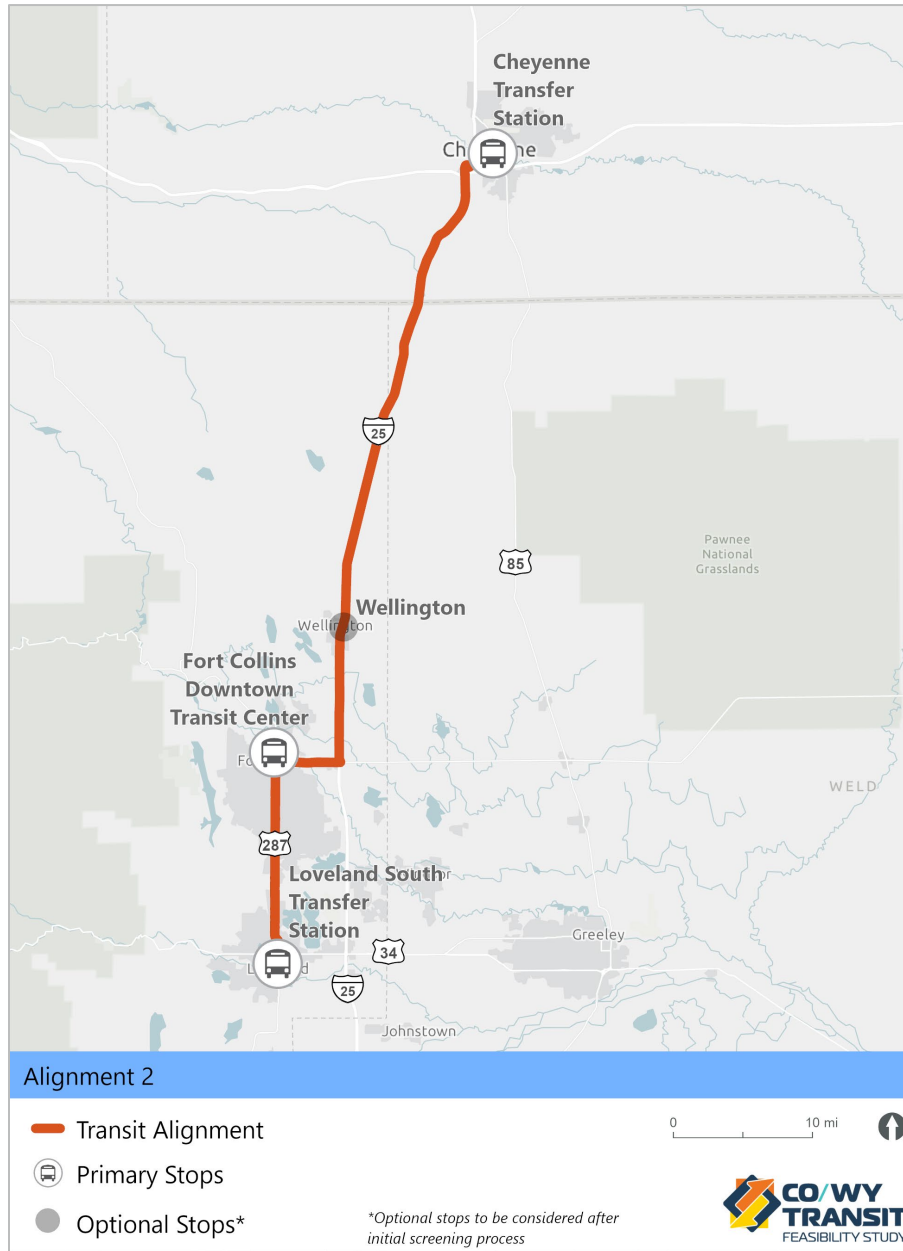
Source: HDR



5.2.2 Alignment 2—Cheyenne to Fort Collins & Loveland

Alignment 2 is shown in Figure 7. The alignment has the same route and stop locations as Alignment 1 between downtown Cheyenne and the Fort Collins Downtown Transit Center. From downtown Fort Collins, the alignment would travel south via US 287 to downtown Loveland and the Loveland South Transfer Station. This alignment would include an optional stop in Wellington.

Figure 7. Alignment 2—Cheyenne to Fort Collins & Loveland

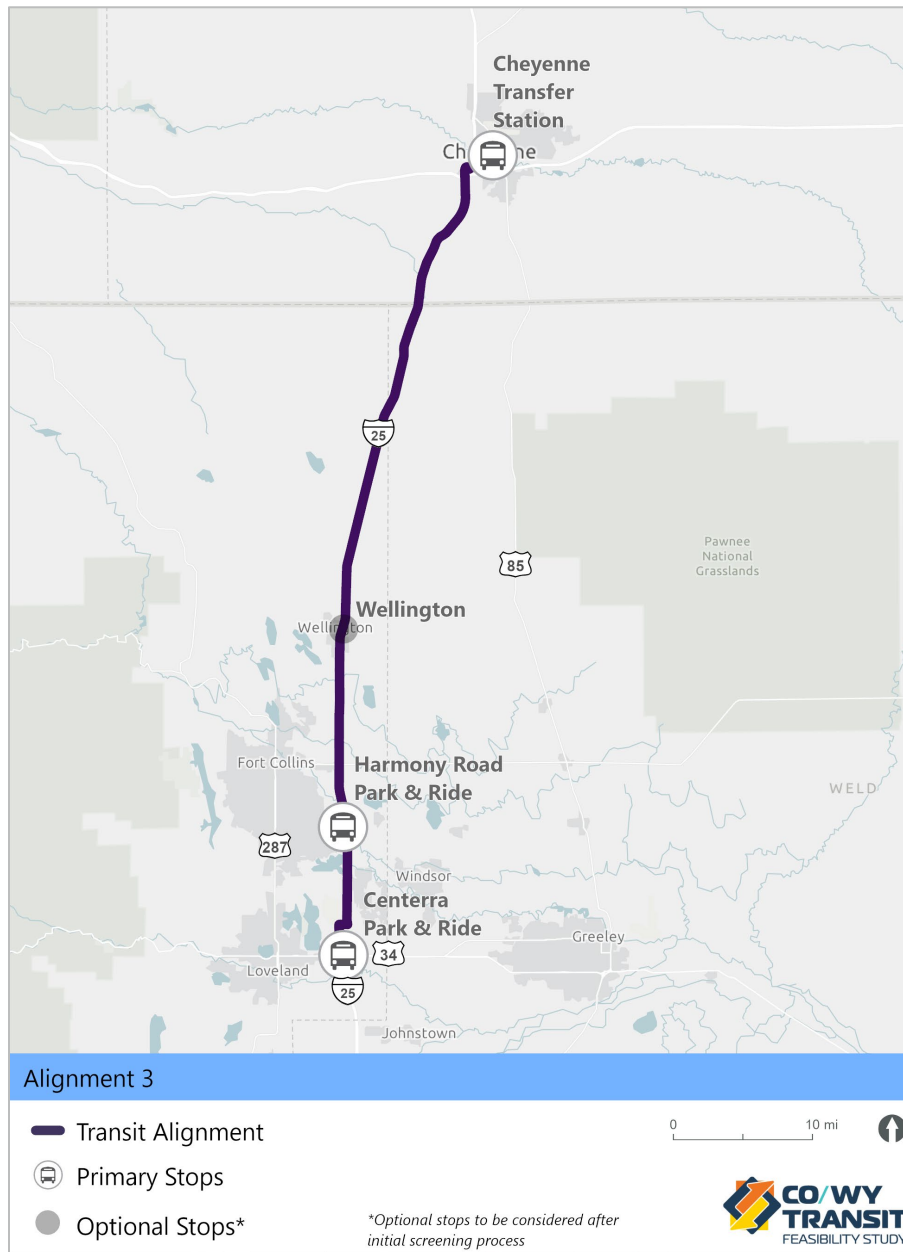


Source: HDR

5.2.3 Alignment 3—Cheyenne to Centerra via I-25

Alignment 3, shown in Figure 8, would travel between downtown Cheyenne and Centerra in Loveland. The alignment would follow I-25 from Cheyenne south to the Centerra Park-n-Ride with a mid-route stop at the Harmony Road Park-n-Ride. This alignment would include an optional stop in Wellington.

Figure 8. Alignment 3—Cheyenne to Centerra via I-25

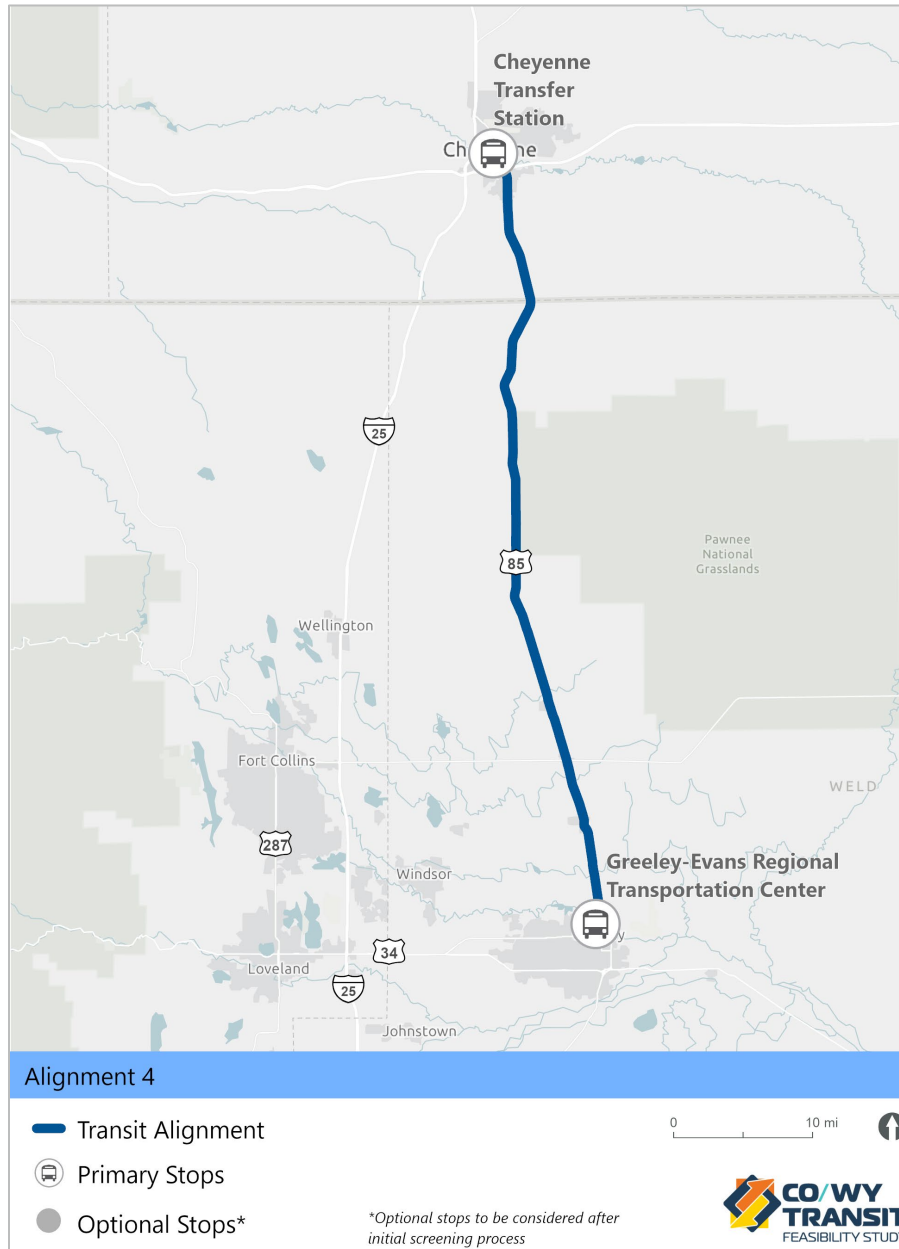


Source: HDR

5.2.4 Alignment 4—Cheyenne to Greeley

As illustrated in Figure 9, Alignment 4 would travel between downtown Cheyenne and Greeley. The transit alignment would follow US 85 south out of Cheyenne to Greeley, turn south on the US 85 Business Loop, and stop at the Greeley-Evans Regional Transportation Center.

Figure 9. Alignment 4—Cheyenne to Greeley

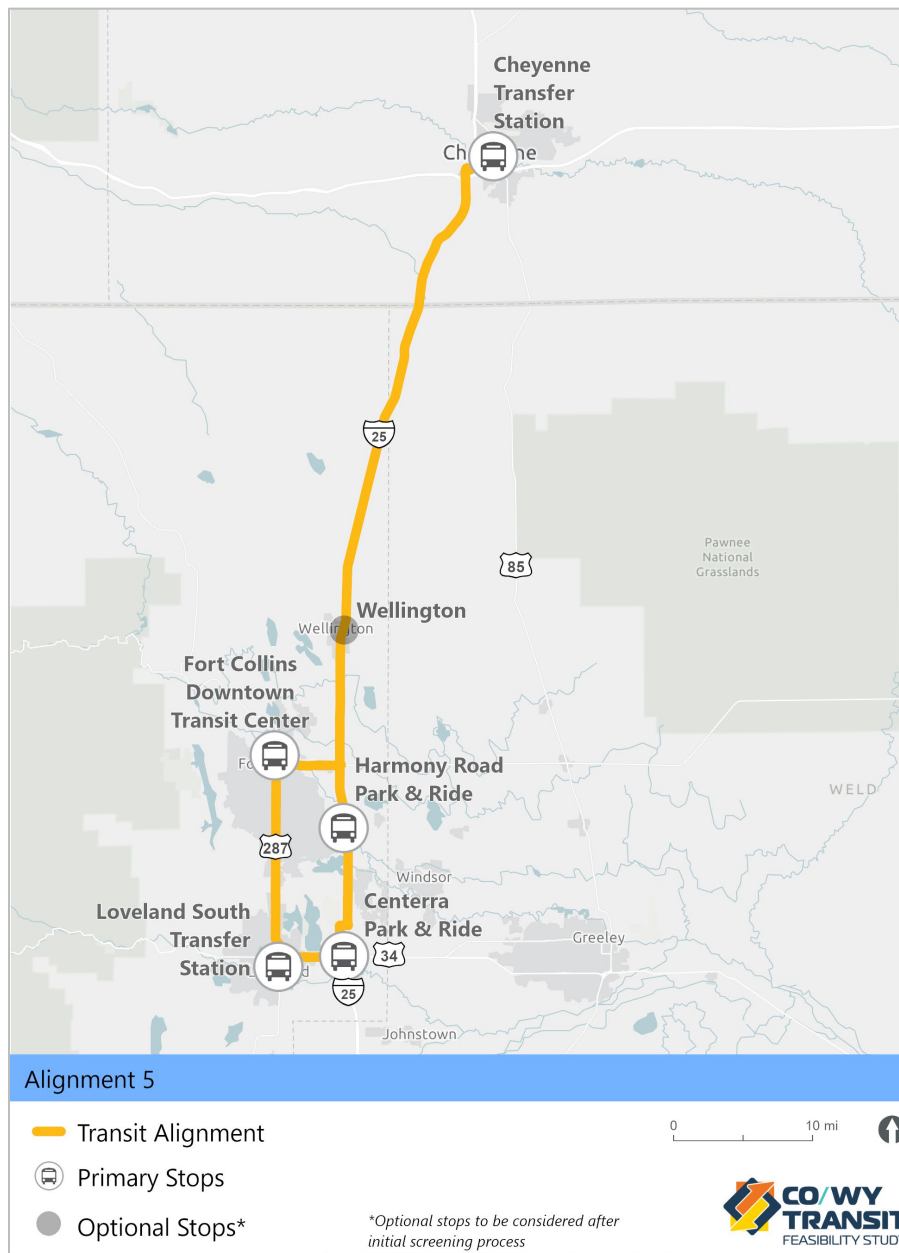


Source: HDR

5.2.5 Alignment 5—Cheyenne to Fort Collins/Loveland Loop

Alignment 5, shown in Figure 10, would include a loop connecting Cheyenne with downtown Fort Collins, downtown Loveland, and Centerra. The alignment would follow I-25 and Mulberry Street or I-25, SH 1, and US 287 to the Fort Collins Downtown Transit Center. From downtown Fort Collins the alignment would travel south via US 287 to the downtown Loveland, traveling east along US 34 to the Centerra Park-n-Ride, before traveling north via I-25, stopping at the Harmony Road Park-n-Ride on the way to the Cheyenne. This alignment would include an optional stop in Wellington.

Figure 10. Alignment 5—Cheyenne to Fort Collins/Loveland Loop



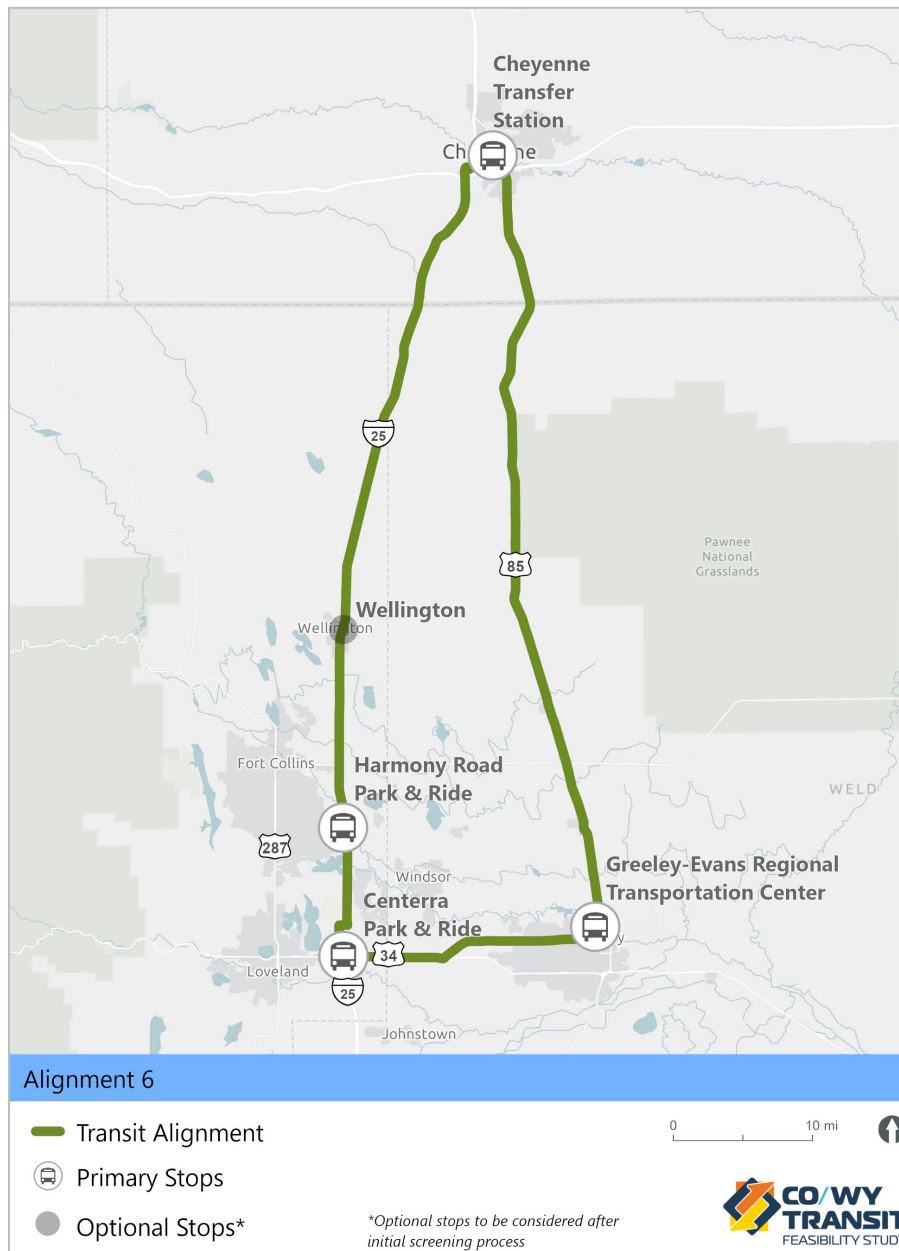
Source: HDR



5.2.6 Alignment 6—Cheyenne to I-25/Greeley Loop

Alignment 6, illustrated in Figure 11, would include a loop connecting Cheyenne with Fort Collins, Centerra, and Greeley. The alignment would follow I-25 south from Cheyenne to the Centerra Park-n-Ride with a mid-route stop at the Harmony Road Park-n-Ride. The route would travel east along US 34 and the US 34 Business Loop to the Greeley-Evans Regional Transportation Center before turning north out of Greeley to Cheyenne via US 85. This alignment would include an optional stop in Wellington.

Figure 11. Alignment 6—Cheyenne to I-25/Greeley Loop



Source: HDR

5.3 Screening Criteria and Evaluation

The screening process for the CO-WY Transit Feasibility Study applied criteria to the initial alignment alternatives to identify the most promising transit alignment to advance. The screening process included a single level of evaluation to identify the recommended transit service. The recommended route alignment and stop locations were further refined (as necessary) so that the transit service plan and cost estimates could be developed. It should be noted that more than one alternative could have been advanced out of the screening process had the PMT deemed it reasonable to do so.

The evaluation used primarily high-level, qualitative criteria to screen the alternatives. The screening criteria were developed based on the study's goals and stakeholder feedback. Table 7 details the screening criteria and scoring measures.

Table 7. Screening Criteria

Criteria Categories	Scoring Measures
Connectivity	<ul style="list-style-type: none"> • Activity centers within proximity of the transit stops and route termini • Key employment/population centers within proximity of the transit stops and route termini • Assessment of multimodal infrastructure (i.e., bicycle/pedestrian amenities) within proximity of the transit stops and route termini • Assessment of regional/local transit connectivity
Feasibility	<ul style="list-style-type: none"> • High-level qualitative assessment of ridership potential based on trip origin/destination data, transfer potential, and multi-modal access • Trip origins/destinations between the regions in close proximity to transit stops and route termini • High level order of magnitude cost-based travel time, number of trips, and average hourly cost
Stakeholder/Community Support	<ul style="list-style-type: none"> • Guidance committee support based on survey • Public support based on online open house survey and comments
Equity	<ul style="list-style-type: none"> • Transit propensity scores of block groups within 1-mile of transit stops and route termini • Environmental justice disproportionately impacted communities identified in close proximity to transit stops and route termini
Environmental Health	<ul style="list-style-type: none"> • Major medical and/or Veterans Affairs facilities identified in close proximity to transit stops and route termini • Potential improvement to air quality based on high-level estimation of transit ridership and reduction in vehicle miles travelled • Reduction of vehicles on the roadway system based on high-level estimation of transit ridership and reduction in vehicle miles travelled

Source: HDR

The scoring method for the screening criteria includes the following:

- **Scoring NFR Only:** All scoring was based on data for the NFR region only; Cheyenne data was not included as all alignment alternatives have the same route terminus at the Downtown Cheyenne Transfer Center
- **Scoring Measures:** Between two and four scoring measures were identified and scored for each of the five criteria categories
- **Scoring Methods:** Scoring methods varied between scoring criteria; most scores were "per stop," meaning overall values were normalized based upon the alignment's number of stops
- **Scoring Range:** Each scoring element was scored from 0 to 3; 3 was the highest score while 0 was the lowest
- **Criteria Scoring Average:** The five criteria category scores are an average of the scores measures within each category
- **Scoring Weights:** The project team determined that the Connectivity and Feasibility criteria should be given additional weight; therefore, these criteria scores are worth twice as much as the other criteria categories (i.e., a maximum point value is 6 compared to 3).

5.4 Screening Results

The screening process scores were reviewed and approved by the PMT, results of which are illustrated in Table 8.

Table 8. Screening Results

ID	Alternative	Total Score	Connectivity Score	Feasibility Score	Stakeholder/Community Support Score	Equity Score	Environmental Health Score
1	Cheyenne to Fort Collins	19	6.0	6.0	3.0	3.0	1.3
2	Cheyenne to Fort Collins & Loveland	15	5.0	3.3	3.0	2.5	0.7
3	Cheyenne to Centerra via I-25	11	3.5	3.3	2.5	0.0	1.7
4	Cheyenne to Greeley	11	4.5	2.0	1.0	3.0	0.0
5	Cheyenne to Fort Collins/ Loveland Loop	12	4.0	2.7	2.5	1.5	1.0
6	Cheyenne to I-25/ Greeley Loop	9	4.0	2.0	1.0	1.0	1.3

Source: HDR

The screening results illustrated in Table 8 show that Alternative 1—Cheyenne to Fort Collins received the highest score, followed by Alternative 2—Cheyenne to Fort Collins & Loveland and Alternative 5—Cheyenne to Fort Collins/Loveland Loop. Based on these results, Alternative 1 was identified as the recommended alignment.

The attributes of Alternative 1 for each of the scoring criteria are as follows:

- **Connectivity:** The terminus at the Fort Collins Downtown Transit Center provides connectivity to a major employment/activity center and transit hub within the NFR region; the alignment provides access to multi-modal infrastructure and transit connections.
- **Feasibility:** The alignment serves the downtown/northern Fort Collins area, which has the highest trip patterns in the NFR region to/from Cheyenne, and capital cost for the alignment is the lowest of all alignments.
- **Stakeholder/Community Support:** Alignment 1 is well supported, scoring as the top alignment by the Guidance Committee and the second highest by the public.
- **Equity:** The alignment serves a community with a high propensity to utilize transit, as well as disproportionately impacted populations.
- **Environmental/Health:** Alignment 1 scored the highest in potential to improve air quality and to remove vehicles from the roadway system as it has the highest ridership potential per stop, reducing vehicle miles traveled.

Full screening results of the six alternative alignments are detailed in Appendix B, Screening Results.

6.0 Recommended Alternative

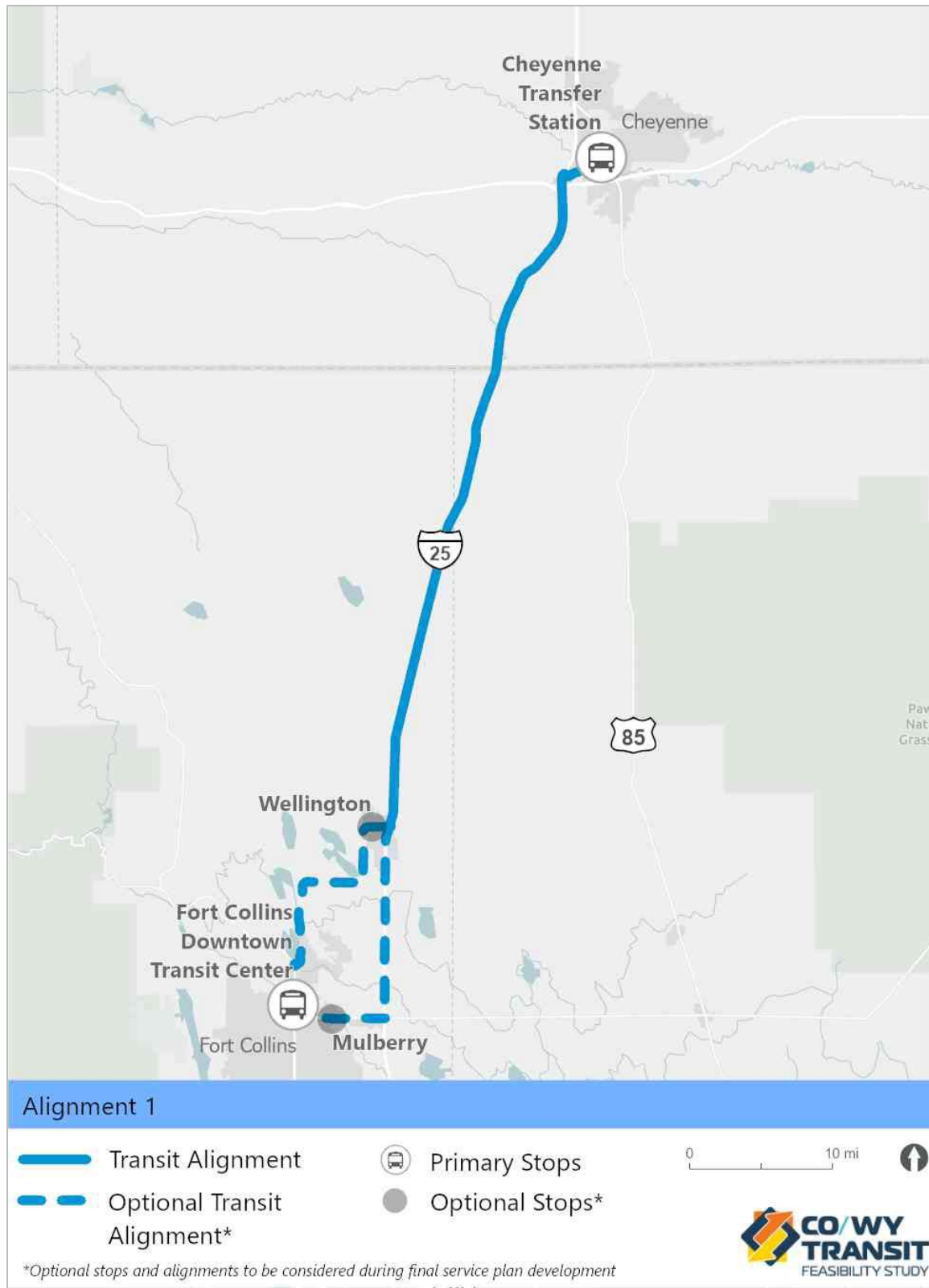
This section describes alignment and stop locations, the transit service plan, and cost estimates for Alternative 1—Cheyenne to Fort Collins, the recommended alternative.

6.1 Alignment and Stop Locations

The recommended alignment and stop locations for Alignment 1—Cheyenne to Fort Collins is illustrated in Figure 12. As the figure shows, an optional route alignment is identified between Wellington and downtown Fort Collins. The route has two options through this section: 1) travel south along I-25, turning west toward downtown Fort Collins at Mulberry Street or 2) travel west through Wellington via SH 1 and then south to Fort Collins via SH 1 and US 287. Additionally, the route could function as a loop through this section if so desired by the partners and a future service provider.

The route would terminate at the Fort Collins Downtown Transit Center. This alignment would include an optional stop in Wellington, as well as an optional stop along the Mulberry Street corridor identified by the partners. These optional stop locations will be considered further during next steps and implementation of the transit service.

Figure 12. Recommended Alignment—Cheyenne to Fort Collins



Source: HDR



6.2 Service Plan

Several factors were considered in the development of the service plan for the recommended alignment, including a review of industry standards for express bus services. Express bus services typically operate in freeway environments, with service primarily focused during weekday peak-periods. More robust express bus services provide service during non-peak periods (e.g., midday, evening, etc.) and on weekends. Based on the results of the technical work and feedback from both the public and the Guidance Committee, it was determined that the Cheyenne to Fort Collins route warranted a more robust level of service than just weekday peak periods.

Another consideration was the existing and proposed expansion levels for the Bustang North and South Lines, which currently operate in the I-25 corridor. Both routes currently provide 8 roundtrips on weekdays and 2 roundtrips on weekends, with service expected to expand to 12 roundtrips on weekdays and 6 roundtrips on weekends by 2024. These service levels helped inform the service plan.

As summarized in Table 9, the service plan for the Cheyenne to Fort Collins route is 12 roundtrips on weekdays and 8 roundtrips on weekends. The trips could be evenly distributed throughout the day or implemented at higher frequencies during peak travel periods and lower frequencies during off-peak periods. Exact service schedule decisions will be determined in future phases of implementation.

Table 9. Proposed Service Plan

Alignment	Weekday	Saturday/Sunday
Cheyenne to Fort Collins	12 roundtrips	8 roundtrips

Source: HDR

6.3 Cost Estimates

Cost estimates were developed using the operating characteristics of the service plan described in section 6.2 and several key assumptions. These assumptions include:

- An average operating speed of 45 mph based on previous CDOT Bustang planning work and verified through an analysis of Google drive times.
- A 20 percent layover time based on industry standards.
- An annual breakdown of total weekdays/Saturdays/Sundays of 254, 52, and 59 respectively.
- A cost per revenue hour of \$160 based on previous CDOT Bustang planning work and verified through an analysis cost data for several other transit service providers in the NFR, including City of Loveland Transit (COLT), Transfort, and Greeley Evans Transit (GET).

Based on these assumptions, the gross annual operating cost for the recommended alignment is estimated at \$1,554,000, as shown in Table 10. It should be noted that these estimates do not include a farebox recovery assumption, as the fare structure and projected ridership have yet to be determined.

Table 10. Operating Cost Estimates

Alignment	Roundtrip Length (Miles)	Roundtrip Run Time (Minutes)	Annual Revenue Miles	Annual Revenue Hours	Gross Annual Operating Cost
Cheyenne to Fort Collins	91.5	123	360,144	9,709	\$1,554,000

Sources: HDR, CDOT

Full details on assumptions and calculations are in Appendix C, Operating Cost Estimates.

7.0 Next Steps

This report documents the process conducted to determine the feasibility of implementing transit between Colorado and Wyoming, including the transit market analysis, transit propensity analysis, alternatives evaluation, technology evaluation, transit service plan development, and cost estimates. The results of these analyses and the resounding public and stakeholder support has demonstrated that a transit connection between Colorado and Wyoming is feasible and could improve mobility and the quality of life. Meanwhile, the State of Wyoming has passed legislation, House Bill No. HB0052, which is a cooperative governmental agreement extending governmental immunity across state lines for the purposes of transit. The legislation is in Appendix D, Wyoming Legislation Bill No. HB0052.

The next steps in the process include finalizing the route alignment, stop locations, and service plan, identifying a transit provider to implement the new transit service, and identifying potential funding sources.

Together with the selected transit provider, the partners will refine the recommended alignment to determine the optimal route for bus operations. Stop locations identified in this study will be vetted and finalized. The service plan will be incorporated into a more detailed operations plan. Coordination with the NFRMPO and local jurisdictions and transit agencies will be key in providing seamless connections for the customers to travel throughout the Cheyenne area and the NFR region of Colorado.

7.1 Funding

Funding is a critical piece in implementation of the recommended transit service. This section focuses on potential funding sources outside CDOT and WYDOT that might contribute to implementation and ongoing operational needs associated with the recommendation.



The most significant costs associated with the selected alignment are the purchase of new vehicles and the operations and maintenance costs associated with the new service. Capital improvement costs are expected to be relatively limited, and would be for bus stop/station amenities and limited operational improvements within existing roadway and traffic signal systems.

7.1.1 Federal Funding

The Infrastructure Investment and Jobs Act (IIJA) represents an opportunity to explore new funding sources and revisit those that have existed in the past, which in many cases have been expanded significantly. The potential federal funding opportunities described in the following sections are likely to be critical to any funding package.

7.1.1.1 Federal Formula Funds

Federal formula programs are distributed to states and regions each year. While some of the annual federal formula funds are allocated for a predetermined project or to transit agencies directly, some are suballocated through a state or regional process.

Certain FTA programs, including Section 5311 Formula Grants, are distributed to states, which have a process to suballocate funds to regions or projects. Portions of certain Federal Highway Administration (FHWA) programs, including the Surface Transportation Block Grant (STBG) program, are awarded by MPOs (such as the NFRMPO) through a competitive process. The rest of these funds are distributed by States. Other programs, such as the Congestion Mitigation and Air Quality (CMAQ) Improvement program, and the newly created Carbon Reduction Program, are allocated based on air quality attainment status as determined by the Environmental Protection Agency (EPA).

7.1.1.2 Competitive grant opportunities

The era of competitive transportation grant programs began with the creation of the TIGER Program in the 2009 American Recovery and Reinvestment Act of 2009. Between 2009 and 2021, the U.S. Department of Transportation (USDOT) awarded approximately \$16.5 billion in grant funding primarily through the RAISE/BUILD/TIGER program⁴, INFRA/FASTLANE program⁵, and CRISI program⁶.

By comparison, the total discretionary funding available as a result of IIJA for transportation projects in urban areas is over \$65 billion from FY 2022 to FY 2026. The following is a list of the federal discretionary grant opportunities most likely to support the transit service.

- Federal Transit Administration (FTA) Section 5339(a)—Bus and Bus Facilities

⁴ Rebuilding American Infrastructure with Sustainability and Equity (RAISE); Better Utilizing Investments to Leverage Development (BUILD); Transportation Investment Generating Economic Recovery (TIGER)

⁵ Nationally Significant Multimodal Freight and Highway Projects (INFRA)

⁶ Consolidated Rail Infrastructure and Safety Improvements (CRISI)



- FTA Section 5339(c)—Low and No Emission Vehicle Program
- FHWA—Rural Surface Transportation Program
- USDOT—RAISE program
- USDOT—Strengthening Mobility and Revolutionizing Transportation (SMART) program

7.1.2 Local Funding

To develop a complete funding package for the recommended transit service, local sources would also likely be required to match up-front federal investment and provide long-term operational revenue.

The following is a list of the entities that have the authority to collect one or more of the following revenue sources: property tax; visitor benefit tax; cost assessments; charges, rates, and tolls; vehicle registration fees; and sales tax. The use of these entities could help establish a long-term source of operational funding for the recommended service.

- Metropolitan District
- Association of Metropolitan Districts
- Public Highway Authority
- Regional Transportation Authority
- Public Improvement District
- Local Improvement District
- General Improvement District
- Business Improvement District
- Regional Service Authority

Additional sources of alternative revenue that might be used on a temporary basis to fund initial implementation costs, including infrastructure improvements, include:

- Temporary Mill Levy Increase
- Tax Increment Financing District
- Development Mitigation/Impact Fees
- Real Estate Transfer Tax

7.2 Long-Term Considerations

The recommended transit service was selected, in part, for its simplicity and potential for short-term implementation. The successful implementation of the transit service can build momentum and lay the foundation for bigger and better transit alternatives to be considered in the future. Decision-makers within the NFR region and Cheyenne can proactively shape the region's mobility future and transform the way people move between Colorado and Wyoming.

There are opportunities to expand on the recommended transit service in the future. This may include increased headways, additional stops, an express service option, and more. A re-evaluation could be performed of the other identified initial alignments should performance of



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the recommended transit service indicate that demand for transit options continues to grow in the region.

Finally, this study has demonstrated that a transit connection between northern Colorado and southern Wyoming is both desirable and feasible, and that planning for a rail service on the Colorado Front Range should consider opportunities for an extension north of the NFR region of Colorado.

