

3.26 CUMULATIVE IMPACTS

The National Environmental Policy Act (NEPA) and its implementing regulations require federal agencies to identify and analyze the direct, indirect, and cumulative impacts of a proposed federal action in sufficient detail to make an informed decision. A federal agency's responsibility to address these impacts in the NEPA process was established by the Council on Environmental Quality (CEQ) regulations. The CEQ regulations define a cumulative impact as:

"...the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

- 40 §CFR 1508.7

Direct and indirect impacts were discussed by resource in the preceding sections. This section addresses the cumulative impacts associated with the No-Action Alternative and the two build packages. The analysis of cumulative impacts takes into account past, present, and reasonably foreseeable future actions, regardless of responsible party in the regional study area, to determine the environmental impacts that might result from each alternative. In accordance with CEQ guidance, analysis was performed using available or reasonably obtainable information.

3.26.1 Methodology

As part of the North I-25 Draft Environmental Impact Statement (DEIS) process, a methodology was developed for the analysis of cumulative impacts that included the following steps:

- ▶ Identify the resources to be analyzed for cumulative impacts through the public and agency scoping process
- ▶ Establish appropriate geographic boundaries for the analysis
- ▶ Establish an appropriate time frame for the analysis
- ▶ Identify other actions affecting the resources of concern including past, present, and reasonably foreseeable future actions
- ▶ Document impacts to resources from past, present, and future projects and determine the magnitude and significance of cumulative impacts

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3.26.1.1 SCOPING AND AGENCY COORDINATION

Cumulative impact analysis is resource-specific and is generally performed for environmental resources directly impacted by a federal action and/or identified through scoping as being key resources of concern. Agency scoping meetings were held in February 2004 and May 2006. At these meetings, project needs and potential and cumulative impacts were considered. The following agencies were invited to attend these meetings and/or submit comments in writing:

- ▶ Colorado Department of Public Health and Environment (CDPHE)
- ▶ Colorado Division of Wildlife (CDOW)
- ▶ Colorado Geological Survey (CGS)
- ▶ Denver Regional Council of Governments (DRCOG)
- ▶ United States Environmental Protection Agency (EPA)
- ▶ Federal Railroad Administration (FRA)
- ▶ North Front Range Metropolitan Planning Organization (NFRMPO)
- ▶ Regional Transportation District (RTD)
- ▶ State Historic Preservation Office (SHPO)
- ▶ United States Army Corps of Engineers (USACE)
- ▶ United States Fish and Wildlife Service (USFWS)
- ▶ Upper Front Range Regional Planning Commission (UFRRPC)

Agency scoping and coordination identified six resources of concern to be evaluated for cumulative impacts. All social, economic, and environmental resources were considered before identifying the important issues within the regional study area. The identified areas of particular concern within the regional study area are:

- ▶ Land use (growth)
- ▶ Water quality
- ▶ Wildlife
- ▶ Wetlands
- ▶ Air quality
- ▶ Historic properties and districts

3.26.1.2 GEOGRAPHIC AREAS OF ANALYSIS

The geographic resource boundary to be used for the cumulative impacts analysis is based on the resources of concern and the potential impacts to these resources under a build package. For most resources, this boundary consists of the regional study area for the North I-25 project. East-west boundaries extend from US 85 and the Union Pacific Railroad (UPRR) rail line to approximately 3 miles west of US 287 and the Burlington Northern Santa Fe (BNSF) rail line. North-south boundaries extend from Wellington to US 6 in Denver. The regional study area spans portions of seven counties and includes more than 38 incorporated cities and towns.

The air quality analysis considered a wider area for the analysis of cumulative impacts to reflect the boundaries specified by the Early Action Compact (EAC) with EPA.

1 **3.26.1.3 TIME FRAME FOR ANALYSIS**

2 The time frame for the analysis of cumulative impacts should allow the analysis to recognize
3 long-term trends while remaining focused. Time frames are typically based upon the
4 availability of data or a meaningful event that has influenced existing conditions (construction
5 of a highway or railroad, for example). The time frame established for this cumulative
6 impacts analysis extends from 1950 to 2030. These dates were based upon the availability
7 of aerial photography (1950) and the project horizon (2030).

8 **3.26.1.4 REASONABLY FORESEEABLE FUTURE PROJECTS**

9 Current and reasonably foreseeable actions within the regional study area include
10 development, transportation, and infrastructure projects that are expected to occur
11 regardless of the improvements that are being evaluated in this DEIS. These projects, listed
12 in **Table 3.26-1**, **Table 3.26-2**, and **Table 3.26-3**, include those that are under construction or
13 have been approved, as well as proposed developments that are known by planners or
14 developers to be reasonably certain but which may not have been approved or permitted as
15 of March 2007.

16 Developments were compiled from the *2030 Metro Vision Regional Transportation Plan*, the
17 *2030 North Front Range Regional Transportation Plan*, the 2005-2009 State Transportation
18 Improvement Program (STIP), and development plans, transportation plans, and capital
19 improvement programs from regional study area jurisdictions.

20 Due to the size of the regional study area and the number of cities and towns it contains,
21 data collection was based on readily available data and was limited to those communities
22 with populations greater than 15,000. Only two percent of Arvada is located within the
23 regional study area, and no ongoing or planned developments in Arvada fall within regional
24 study area boundaries.

Table 3.26-1 Transportation Projects within the Regional Study Area

Project Name/Location	Jurisdiction	Description	Type of Project
Washington Street: 78 th Avenue to 52 nd Avenue	Adams County	Roadway widening	Capacity widening
64 th Avenue: Lowell Boulevard to Little Dry Creek	Adams County	Roadway improvements	Capacity enhancing
US 85/Bromley Lane interchange	Adams County	New interchange	Capacity building
Vasquez Boulevard: Colorado Boulevard/80 th Avenue	Adams County	New interchange	Capacity building
I-76/Colorado Boulevard interchange	Adams County	New interchange	Capacity building
E-470/Potomac Street interchange	Adams County	New interchange	Capacity building
Northwest Parkway/Sheridan Parkway interchange	Adams County	New interchange	Capacity building
E-470/Quebec Street interchange	Adams County	New interchange	Capacity building
Colorado Boulevard: I-76 to Vasquez Boulevard	Adams County	Construct 2 lane road	Capacity building
104 th Avenue: Colorado Boulevard to US 85	Adams County	Widen from 2 to 4 lanes	Capacity widening
I-25: US 36 to Thornton Parkway	Adams County	Widen from 6 to 8 lanes	Capacity widening
SH 7: I-25 to 164 th Avenue	Adams County	Widen from 2 to 4 lanes	Capacity widening
Huron Street: 136 th Avenue to 150 th Avenue	Adams County	Widen from 2 to 6 lanes	Capacity widening
Bromley Lane: US 85 to Sable Boulevard	Adams County	Widen from 4 to 6 lanes	Capacity widening
120 th Avenue: Holly Street to Quebec Street	Adams County	Widen from 2 to 4 lanes	Capacity widening
US 36: Cherryvale Road and 88th Street	Boulder	Bridge and roadway improvements, bike lanes	Intersection improvement
28 th Street: Baseline Road to Iris Avenue	Boulder	Roadway improvements	Capacity enhancing
Arapahoe/Foothills Parkway intersection	Boulder	Intersection improvements	Intersection improvement
Bromley Lane widening: US 85 to Sable Road	Brighton	Widen from 4 to 6 lanes	Capacity widening
120 th Avenue widening: US 85 to SH 2	Brighton	Widen from 2 to 4 lanes	Capacity widening
Potomac Street/C-470 interchange	Brighton	New interchange	Capacity building
Sheridan Boulevard: 136 th to 144 th	Broomfield	Construct four additional lanes	Capacity widening
144 th Avenue: Northwest Parkway to 120 th Street	Broomfield	Widen from 2 to 4 lanes	Capacity widening
SH 7: Sheridan Parkway to Boulder County Line	Broomfield	Widen from 2 to 6 lanes	Capacity widening
Simms Street: 108 th and 112 th Street	Broomfield	Widen from 2 to 4 lanes	Capacity widening
I-25 and SH 7 interchange reconstruction	Broomfield	Interchange reconstruction	Interchange improvement
Sheridan Boulevard	Broomfield	Improve underpass at Highland Park	Capacity enhancing
City wide street reconstruction	Broomfield	Reconstruction of a variety of roadways	Capacity enhancing
Sheridan Boulevard: West 120 th Avenue to East 9 th Street	Broomfield	Roadway improvements	Capacity enhancing
Sheridan Boulevard: Aspen to 104 th Street	Broomfield	Roadway improvements	Capacity enhancing

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Table 3.26.1 Transportation Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Type of Project
120 th Avenue/SH 128 Extension: Wadsworth Boulevard to 120 th Avenue	Broomfield	New interchange	Capacity widening
Dillon Road: 120 th Street to Zuni Street	Broomfield	Widen from 2 to 4 lanes	Capacity widening
Sheridan Boulevard: 9 th Avenue to Aspen Creek Drive	Broomfield	Widen from 2 to 4 lanes	Capacity widening
Sheridan Boulevard: Aspen Creek Drive to 144 th Avenue	Broomfield	Widen from 2 to 4 lanes	Capacity widening
US 36	CDOT	Transportation and rail alternatives being considered for the US 36 Corridor.	Capacity and transit
Central Park Boulevard: Smith Road to 49 th Avenue	Denver	Road construction (6 lanes)	Capacity building
US 36 Direct Connect	Denver	Construction of direct connect HOV lanes to US 36	Capacity enhancing
Federal Boulevard: West Alameda to West 6 th Avenue	Denver	Roadway widening and pedestrian improvements	Capacity widening
Southeast Corridor: I-25, Broadway to Lincoln Street	Denver	Roadway widening, interchange improvements, LRT construction, and pedestrian improvements	Capacity widening, light rail transit, pedestrian
35 th Avenue Extension: 49 th Street to CR 394	Evans	1 mile road extension; bridge; add 2 lanes	Capacity widening
SH 60: US 85 to 83 rd Avenue	Greeley	Widen from 2 to 4 lanes	Capacity widening
Prospect Road: College Avenue to Lemay Avenue	Fort Collins	Widen from 2 to 4 lanes	Capacity widening
Prospect Road: Summit View to I-25	Fort Collins	Widen from 2 to 4 lanes	Capacity widening
Lemay Reconstruction	Fort Collins	Widen from 2 to 4 lanes; BNSF crossing at Vine Drive	Capacity widening
Harmony Road: College Avenue to I-25; Seneca Road to College Avenue	Fort Collins	Widen from 4 to 6 lanes; widen from 2 to 4 lanes; intersection improvements at Mason Street/Shields Road	Capacity widening
Timberline Road: Drake Road to Mountain Vista Drive	Fort Collins	Widen from 2 to 4 lanes; intersection improvements	Capacity widening
Shields Street: Fossil Creek to Harmony Road	Fort Collins	Widen from 2 to 4 lanes	Capacity widening
US 287: Fossil Creek to Harmony Road	Fort Collins	Widen from 4 to 6 lanes	Capacity widening
US 287: Vine Drive to Conifer Road	Fort Collins	Widen from 2 to 4 lanes	Capacity widening
US 287: SH 1 to LaPorte Bypass	Fort Collins	Widen from 2 to 4 lanes	Capacity widening

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Table 3.26.1 Transportation Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Type of Project
Harmony Road Trail System: US 287 to SH 257	Fort Collins	Construct bike/pedestrian trail	Bike/pedestrian
Mason Street Corridor	Fort Collins	BRT; bike/pedestrian trail	BRT; bike/pedestrian
SH 14: Riverside Road to Summit View	Fort Collins	Widen from 4 to 6 lanes; bike/pedestrian trail	Capacity widening; bike/pedestrian
Carpenter Road: College Avenue to I-25	Fort Collins	Widen from 2 to 4 lanes	Capacity widening
Timberline Road: Mulberry Road to Mountain Vista Drive	Fort Collins	Realignment and grade separation	Capacity enhancing
US 34: SH 257 to 47 th Avenue	Greeley	Widen from 2 to 4 lanes; 2 new interchanges; interchange improvements	Capacity building
US 34: US 34 Business and 23 rd Street	Greeley	Construction of roundabout	Capacity enhancing
4 th Street Extension	Greeley	Construct new arterial roadway	Capacity building
16 th Street Extension: 71 st to Promontory	Greeley	Roadway extension	Capacity building
US 85 overpass: 18 th Street	Greeley	Construction of overpass	Capacity enhancing
Two Rivers Parkway: SH 60 to WCR 54; 83 rd Avenue	Greeley	New 4 lane/5 lane arterial	Capacity building
SH 263 widening: Airport Road to US 85	Greeley	Widen from 2 to 4 lanes	Capacity widening
65 th Avenue widening: US 34 Bypass to 37 th Street	Greeley	Widen from 2 to 4 lanes	Capacity widening
11 th Avenue widening: O Street to US 85	Greeley	Widen from 2 to 4 lanes	Capacity widening
20 th Street widening: 71 st Street to 95 th Street	Greeley	Widen from 2 to 4 lanes	Capacity widening
83 rd Avenue widening: 10 th Street to 20 th Street	Greeley	Widen from 2 to 4 lanes	Capacity widening
59 th Avenue widening: C Street to US 34 Bypass	Greeley	Widen from 2 to 4 lanes	Capacity widening
Wadsworth Pkwy: 92 nd Avenue to SH 128/120 th Avenue	Jefferson County	Widen from 4 to 6 lanes	Capacity widening
SH 60	Johnstown	Major and minor widening	Capacity widening
CR 32: SH 287 to CR 19	Larimer County	Construct new arterial road (2 miles)	Capacity building
CR 16: CR 15 to SH 287	Larimer County	Construct new minor collector road (1 mile)	Capacity building
CR 82: CR 15 to CR 80	Larimer County	Construct new minor collector road (1.5 miles)	Capacity building
CR 37E: CR 37E to CR 31	Larimer County	Construct new minor collector road (2 miles)	Capacity building

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Table 3.26.1 Transportation Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Type of Project
CR 5: CR 20E to SH 60	Larimer County	Construct new minor collector road (3.5 miles) and widening between Harmony Road and SH 392	Capacity building
CR 17 widening: Berthoud to Fort Collins	Larimer County	Widening	Capacity widening
CR 19 reconstruction: Loveland to LaPorte	Larimer County	Widen from 2 to 4 lanes; bike lanes	Capacity widening; Bike/pedestrian
Big Thompson River Trail	Larimer county	Construction of bike and pedestrian trail	Bike/pedestrian
McCaslin Boulevard interchange	Louisville	Interchange improvements, reconstruction of McCaslin Boulevard	Interchange improvement
Dillon Road: 88 th to 96 th	Louisville	Roadway improvements	Capacity enhancing
Dillon Road: 96 th to 104 th	Louisville	Roadway improvements	Capacity enhancing
SH 402: US 287 to I-25	Loveland	Widen from 2 to 4 lanes	Capacity widening
US 34: Madison Avenue and CR 3	Loveland	Widen from 2 to 6 lanes	Capacity widening
LCR 5: US 34 to Crossroads Boulevard; US 34 to UPRR	Loveland	Widen from 2 to 6 lanes; widen from 2 to 4 lanes	Capacity widening
Boyd Lake Avenue: SH 402 to CR 32	Loveland	Widen from 2 to 4 lanes	Capacity widening
Crossroads Boulevard: I-25 to CR 3	Loveland	Widen from 2 to 4 lanes	Capacity widening
FasTracks	RTD	West Corridor, Gold Line, and Northwest Rail	Light and commuter rail transit
Colorado Boulevard: 152 nd Avenue to SH 7	Thornton	Roadway/intersection improvement	Intersection improvement
Poudre River Trail: I-25, Windsor through Greeley	Weld County	Trail extension with grade-separated crossings	Bike/pedestrian
US 34 reconstruction: WCR 13 to 17	Weld County	Roadway improvements	Capacity enhancing
US 85: WCR 48 to WCR 70	Weld County	Reconstruction and widening	Capacity widening
Ronald Regan Avenue: CR 9	Wellington	Construct new minor collector road	Capacity building
Clinton Avenue	Wellington	Construct new minor collector road	Capacity building
Wolff Street: 114 th Street to 116 th Street	Westminster	Roadway extension	Capacity building
112 th Avenue: Federal to Huron	Westminster	Roadway improvements	Capacity widening
80 th Avenue/Federal	Westminster	Intersection improvements	Capacity enhancing
SH 392: I-25 to downtown Windsor	Windsor	Widening	Capacity widening

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Table 3.26-2 Land Development Projects within the Regional Study Area

Project Name/Location	Jurisdiction	Description	Status
Violet Crossing: 4474 North Broadway Street	Boulder	Mixed use development: 78 residential units and 9,400 sq. ft. of commercial, retail, and office	Concept plan review
Forest Glen: 3945 North Broadway	Boulder	Residential development: 13 units at 4,000 sq. ft.	Preliminary plat
Boulder County Hazmat Facility: 1901 63 rd Street	Boulder	Construction of 7,661 sq. ft. hazardous waste facility	Site plan review
1655 Walnut Street	Boulder	Mixed use development: 32 residential units	Site plan review
Table Mesa housing: 4640 Table Mesa Drive	Boulder	Redevelopment of Army Reserve to 40 units of mixed residential and green space	Site plan review
Landmark Lofts: 970 28 th Street Frontage	Boulder	Mixed use development: 130 condos/2,000 sq. ft. of retail	Concept plan
Brighton Crossing	Brighton	Residential development: 1,782 units	Under construction
Brighton East Farms	Brighton	Residential development: 1,226 units	Under construction
Bromley Farms	Brighton	Residential development: 475 units	Under construction
Bromley Park	Brighton	Residential development: 102 units	Under construction
Cherry Meadows	Brighton	Residential development: 174 units	Approved
Homestead	Brighton	Residential development: 132 units	Approved
Indigo Trails	Brighton	Residential development: 369 units	Approved
Park Place	Brighton	Residential development: 80 units	Under construction
Pheasant Ridge	Brighton	Residential development: 405 units	Under construction
Preserve	Brighton	Residential development: 246 units	Under construction
Sugar Creek	Brighton	Residential development: 278 units	Under construction
The Village	Brighton	Residential development: 361 units	Under construction
Sunflower Meadows	Brighton	Residential development: 180 multi-family units	Under construction
Park 36 Broomfield Urban Transit Village: Northwestern corner of Sheridan Boulevard and SH 7	Broomfield	Mixed use development: 805 apartment units/1.7 million sq. ft. of commercial; Big box development; park-and-Ride	Planning stages
Pepsi Center: Speer Boulevard/Auraria Parkway	Denver	Parking and office development	Planning stages
Department of Human Services: West 12 th Avenue/Federal Boulevard	Denver	Facilities expansion	Planning stages

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
East West Partners Development	Denver	Mixed use development: 3,000 residential units	Planning stages
Pepsi Center: Speer Boulevard/Auraria Parkway	Denver	Parking and office development	Planning stages
Department of Human Services: West 12 th Avenue/Federal Boulevard	Denver	Facilities expansion	Planning stages
Ashcroft Park Subdivision: North of 37 th Street and west of 35 th Street	Evans	Residential development: 79 single-family lots	Under construction
Borchert Point Subdivision: Southwestern corner of 23 rd Avenue and 37 th Street	Evans	Residential development: 13.3 acres	Annexation approved
Cave Creek Community: 36 th Avenue and Prairie View	Evans	Residential development: 449 manufactured home sites	Under construction
The Grove/Campus Crest: Southeastern corner of 32 nd Street and 11 th Avenue	Evans	Residential development: high density residential – 192 units in 10 buildings	Permitted
IGO Farm: Southwestern corner of 37 th Street and 65 th Avenue	Evans	Development of 257 acres of residentially zoned land and 17 acres of commercially zoned land	Annexation and zoning approved
Neville's Crossing: Northwestern corner of 49 th Street and 47 th Avenue	Evans	Residential development: 82 large lot single-family units	Under construction
North Pointe Subdivision: Northwestern corner of 29 th Avenue and 37 th Street	Evans	Construction of 225 single-family dwellings and 26 duplexes	Under construction
Orchard Park Townhomes: 65 th Avenue and Chardonnay Street	Evans	Construction of 17 multi-family dwellings	Under construction
Parker Meadows: Northwestern corner of 17 th Avenue and 42 nd Street	Evans	Residential development: 10 duplexes on 3 acres	Under construction
Parker Meadows: Northwestern corner of 17 th Avenue and 42 nd Street	Evans	Residential development: 10 duplexes on 3 acres	Under construction
Rehmer Lake: Southeastern corner of 49 th Street and 65 th Avenue	Evans	Residential development: 306 lots	Final plat approved
Ridge at Prairie View: South of 42 nd Street between 23 rd Avenue and 29 th Avenue	Evans	Residential development: 357 lots	Under construction
Tuscany Development: 37 th Street and 47 th Avenue	Evans	Residential development: 303 single-family lots, 22 duplexes, and 339 multi-family units	Under construction
Vintage Villas: Barossa and Chardonnay	Evans	Residential development: 52 patio homes	Under construction

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Prospect Road Expanded Condo: 800, 808, and 814 West Prospect Road	Fort Collins	Mixed use development: 61 condos and 148 sq. ft. of commercial	Project development plan approved
Arcadia: south side of West Willox Lane at Woon Lane	Fort Collins	Residential development: 58 single-family units on 28.8 acres	Project development plan approved
Bella Vira: west side of Overland Trail at Elizabeth Street	Fort Collins	Residential development: 60 single-family/25 multi-family units on 34.7 acres	Project development plan approved
Caribou Apartments: Southwestern corner of Timberline Road and Caribou Street	Fort Collins	Residential development: 193 affordable multi-family units on 10.3 acres	Project development plan approved
Dry Creek	Fort Collins	Request to replat for 230 single-family lots	Request in review
East Ridge: Southeastern corner of Timberline Road and Vine Drive	Fort Collins	Development of 393 single-family lots, parks, and open spaces on 153.3 acres	Project development plan in review
Fox Meadows Business Park Tract B Timberline Plaza: Southeastern corner of Timberline Road and Bighorn Road	Fort Collins	Request for a 25,000 sq. ft. health club on 3.4 acres	Project development plan approved
Front Range Village: Corbett Drive and Harmony Road	Fort Collins	Regional shopping center on 100 acres	Under construction
Lind Property: Northeastern corner of CR 11 and CR 52	Fort Collins	Construction of 158 dwelling units on 44.2 acres	Project development plan approved
Frey Avenue Cottages: Southeastern corner of Frey Avenue and LaPorte Avenue	Fort Collins	Request for 5 single-family homes on 3.4 acres	Project development plan approved
Old Town North: Oslander Street to Pascal Street	Fort Collins	Request for 40 single-family homes in 8 buildings	Project development plan approved
Rigden Farm: Northeastern corner/Southeastern corner of Custer Drive and Iowa Drive	Fort Collins	Development of 63 condos and assisted living facility on 5.0 acres	Project development plan approved
Seven Generations Office Park: Southwestern corner of Eastbrook Drive and Vermont Drive	Fort Collins	Request for 48,000 sq. ft. of flex/office space on 3.6 acres	Project development plan approved
Talon Estates: West of South Taft Hill Road, 80 north of Falcon Drive	Fort Collins	Request for 13 single-family lots on 9.4 acres	Project development plan in review
The Center at Rigden Farms	Fort Collins	Request to develop 95,000 sq. ft. of commercial space in 11 structures	Project development plan approved
Trailhead Village Townhomes: North of E. Vine Drive and Greenfields	Fort Collins	Development of 100 townhomes on 16.4 acres	Project development plan approved

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Water's Edge at Richard's Lake: Northwest of Richard's Lake Road and Turnberry Road	Fort Collins	Development of 394 units on 108 acres	Project development plan approved
Residential and commercial development throughout the City of Greeley	Greeley	Construction of 53 individual developments totaling over 4,550 residential, commercial, and office units distributed throughout the city.	Approved
Elementary School #95	Jefferson County	Elementary school to accommodate 576 students	Planning stages
Ralston Valley High School	Jefferson County	High school to accommodate 600 students	Planning stages
Grand Station at Centerra: I-25 and US 34	Larimer County	Development of 1 million sq. ft. of mixed use development on 60 acres	Approved
The Shops at Hover Crossing: 17 th Avenue E. of Hover Street and west of Cook Court	Longmont	Commercial development	Development review
AJ Martinez Business Park: North of Nelson Road between 89 th Street and Nelson Park Lane	Longmont	Light industrial development on 8.4 acres	Conditionally approved
American Honda Motor Center: Longmont Business Center	Longmont	Data center and office on 60,700 sq. ft.	Conditionally approved
Beaucanon Villas: Southwestern corner of Pace Street and Mountain View Avenue	Longmont	Residential development: 140 condominiums on 15.2 acres	Approved
CARA Investments: 907 South Sherman Street	Longmont	Development of 3,600 sq. ft. building for an auto repair/towing operations	Development review
Clover Meadow: West of Fordham Street and north of Clover Basing Drive	Longmont	Development of 9 single-family residential lots on 2.6 acres	Conditionally approved
Diagonal Trade Center: Southeast of SH 119 and west of South Sherman Street	Longmont	Development of industrial distribution center	Under construction
Eastgate Development: Southwestern corner of 17 th Avenue and County Line Road	Longmont	Development of 148 residential units on 74 acres	Development review
Grandview Meadows: East of Grandview Meadows Drive and South of Redmond Drive	Longmont	Development of 96 apartments on 5.8 acres	Conditionally approved
Harvest Junction: Between Ken Pratt Boulevard and Quail Road	Longmont	Mixed use development on 24 acres	Under construction
Holiday Inn Express: Longmont Business Center	Longmont	Commercial development on 1.9 acres	Under construction

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Hover Place: West of Charles Drive, E. of Hover Park	Longmont	Development of 48 multi-family units on 3.7 acres	Under construction
Main Street Market Place: West of Main Street and south of 19 th Avenue	Longmont	Development of 8,239 sq. ft. commercial building	Development review
Mountain Vistas: Northwestern corner of 9 th Avenue and Hover Street	Longmont	Residential development: 124 dwelling units for assisted living on 8.7 acres	Development review
Pleasant Valley: South of SH 66, north of 17 th Avenue, and west of Pace Street	Longmont	Residential development: 56 single-family dwellings on 20 acres	Development review
Prairie Village: South of SH 66, west of Alpine Street, north of 21 st Avenue	Longmont	Residential development: 71 lots on 15.7 acres	Development review
Primrose Schools: Longmont Business Center	Longmont	Construction of 10,620 sq. ft. daycare/preschool	Approved
Provenance: Southeastern corner of SH 66 and Sundance Drive	Longmont	Residential development: 227 lots on 76 acres	Development review
Red Fox Run: North of East 9 th Avenue between Fox Hill Drive and Wolf Creek Drive	Longmont	Residential development: 35 condominium units on 6.5 acres	Conditionally approved
Renaissance: North and south of Clover Basin Drive, east of Meadow Mountain, and west of the Renaissance	Longmont	Residential development: 143 single-family dwellings on 38.4 acres	Conditionally approved
Sandstone Market Place: Southeastern corner of SH 119 and County Line Road	Longmont	Commercial development: 150,000 sq. ft. including a Wal-Mart Supercenter and Sam's Club	Development review
Sienna Park: Southwestern corner of South Sherman Street and Kansas Avenue	Longmont	Residential development: 45 homes on 18.4 acres	Approved
Somerset Meadows: West of Airport Road and south of Pike Road	Longmont	Residential development: 14 lots	Development review
Tapestry Townhomes: West of Renaissance Drive, south of Renaissance Development	Longmont	Residential development: 72 townhomes on 6.7 acres	Development review
The Oaks at Longmont: South of SH 66, north of 17 th Avenue, west of County Line Road, and E. of Main Street	Longmont	Residential development: 96 condominiums on 19.9 acres	Development review
Union Development Plan: Northeast Circle of SH 119 and WCR 3.5	Longmont	Mixed use development: 317 single-family units, 5 blocks for commercial/religious on 313 acres	Development review
Xilinx: South of Logic Drive and west of SH 119	Longmont	Industrial development on 33.1 acres	Conditionally approved

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
CTC Business Center: North of Dillon Rd, west of SH 42	Louisville	Development of 315,973 sq. ft. of office, light industry, and warehousing	Approved
Takoda Village: 271 96 th Street	Louisville	Development of 32.4 acres	City council hearing
Gateway Subdivision: South Boulder Road and McCaslin Boulevard	Louisville	Residential development	Proposed
Park Villas: 200 West South Boulder Road	Louisville	Single-family development	Preliminary plat
North End Properties: North of South Boulder Road	Louisville	Mixed use development: 350 dwelling units, 65,550 sq. ft. commercial, 18.6 acres of public land	Approved
Lincoln Place: 5 th and North Lincoln Avenue	Loveland	Mixed use development: 200 apartments and 22,000 sq. ft. of commercial	Under construction
Wal-Mart Supercenter: 250 West 65 th Street	Loveland	Commercial development	Permitted
Mirasol Senior Apartments: Finch Street and South Madison Avenue	Loveland	Residential development and community center	Permitted
Eagle Crossing: I-25 and Crossroads Boulevard	Loveland	Development of 180-acre business park	Permitted
St. Louis Village: East 1 st Street and South Street Louis Avenue	Loveland	Development of 28 single-family units on 4 acres	General development plan
High Country Farms: East of US 287, south of SH 402	Loveland	Residential development: 442 single-family units on 69 acres	General development plan
Staples Farm: North Taft Ave, north of Big Thompson River	Loveland	Residential development: 24 single-family lots on 15 acres	Preliminary plat
Orchards Estates: Southwest of 29 th Street and north Garfield Avenue	Loveland	Mixed residential development	Planning stages
Timberpark Offices: 1 st Street	Loveland	Development of 104,000 sq. ft. of office on 9 acres	Planning stages
Millenium: Southwest of Rocky Mountain. Avenue and CR 24E	Loveland	Development of 115,694 sq. ft. of commercial/office space on 87 acres; 84 residential dwellings	Special review
Top Acres: North of US 34 and east of Cascade Avenue	Loveland	Residential development: 39 lots on 8 acres	Preliminary plat
Meadowbrook Ridge: West of North Wilson Avenue between 22 nd Street and 29 th Street	Loveland	Residential development: 180 lots on 37 acres	Preliminary plat

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Sanctuary at the Park: North Monroe Avenue and east 23 rd Street	Loveland	Residential development: 208 lots on 17 acres	Preliminary plat
Willow Park: North Monroe Ave and east 23 rd Street	Loveland	Residential development: 22 lots on 5 acres	Preliminary plat
Ridge at Thompson Valley: Northeast of 42 nd Street and South Lincoln Avenue	Loveland	Residential development: 152 single-family lots on 124 acres	Preliminary plat
Lee Farm: West of North Wilson Avenue and north of 36 th Street	Loveland	Residential development: 620 single-family lots and 480 multi-family lots on 246 acres	Preliminary plat
Copper Ridge: North of West 57 th Street between North Taft Avenue and North Garfield Avenue	Loveland	Residential development: 117 single-family lots and 117 multi-family units on 56 acres	Preliminary plat
Lodge at 7 Lakes: South of E. 37 th Street at Horseshoe Lake	Loveland	Residential development: 132 units on 9 acres	Preliminary plat
Fairgrounds Hotel: I-25 north of Crossroads Boulevard	Loveland	Residential development: 315,488 sq. ft. hotel space on 20 acres	Preliminary plat
Lakeview Development: West of Boyd Lake Avenue and north of CR 24E	Loveland	Lakeshore development: 255 single-family lots on 161 acres	Preliminary plat
Longs Subdivision: Between 1 st and 14th Street west of Mariano Reservoir	Loveland	Residential development: 33 single-family lots on 26 acres	Planning stages
Thompson Overlook: Southeast of North Wilson Avenue and West Eisenhower Boulevard	Loveland	Residential development: 29 units on 10 acres	Final plat
Hunters Run West: West of North Wilson Boulevard at 29 th Street	Loveland	Residential development: 212 single-family lots on 146 acres	Final plat
Dakota Glen: East of Cummings and north of 14th Street	Loveland	Residential development: 94 single-family lots, 112 multi-family lots on 127 acres	Final plat
Mariana Butte: North of 1 st Street, west of Marianne Butte Golf Course	Loveland	Residential development: 91 single-family lots on 49 acres	Planning stages
Glen Isle Town Center: Southwestern corner of North Wilson Avenue and West 43 rd Street	Loveland	Commercial development: 107,910 sq. ft. on 11 acres	Planning stages
Kendall Brook: North Taft Avenue and West 43 rd Street	Loveland	Residential development: 188 units on 6 acres	Planning stages
Overlook at Mariana: North of 1 st Street and west of George Flat Reservoir	Loveland	Residential development: 67 single-family lots on 35 acres	Planning stages

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Larkridge Regional Retail Center: I-25 and SH 7	Thornton	Retail/commercial development	Under construction
Hilltop Village Center: 136 th Avenue and Colorado Boulevard	Thornton	Retail/commercial development	Under construction
Northridge Retail Center: 128 th Avenue between Colorado Boulevard and Bellaire Street	Thornton	Retail/commercial development	Under construction
Quebec Riverdale: 128 th Avenue and Quebec Street	Thornton	Commercial development: 258 residential units	Approved
Northview Business Park: 124th Avenue and Washington Street	Thornton	Retail/commercial development	Under construction
Shops at Settlers Chase: 104th Avenue and Steele Street	Thornton	Retail/commercial development	Under construction
98 th Avenue and Washington Boulevard	Thornton	Retail/commercial development	Under construction
Adams 12 Middle School: 128 th Avenue and Huron Street	Westminster	School	Under construction
Colorado Ridge Church: Southwestern corner of 122 nd Avenue and Park Centre Drive	Westminster	Church	Proposed
Country Club Highlands: Northeastern corner of 120 th Avenue and Zuni Street	Westminster	Residential/commercial development	Under construction
Country Club Village: Northeastern corner of 120 th Avenue and Federal Boulevard	Westminster	Retail/commercial development	Under construction
Foster Property: 136 th Avenue and Orchard Parkway	Westminster	Retail/commercial development	Under construction
Harmony Park: Northwestern corner of 128 th and Zuni Street	Westminster	Residential development: 313 single-family units	Under construction
Huntington Trails: Southwestern corner of 144 th Avenue and Huron Street	Westminster	Residential development: 210 single-family units	Under construction
Interchange Business Park: Southwestern corner of 136 th and I-25	Westminster	Retail/commercial development	Under construction
The Orchard: Northeastern corner of 144th Avenue and Huron Street	Westminster	Retail/commercial development	Under construction
Quail Crossing: Southwestern corner of 136 th and Huron Street	Westminster	Retail/commercial development	Under construction
Park Center Place: Northeastern corner of 120 th Avenue and Tejon Street	Westminster	Retail/commercial development	Under construction
Sedona Office Complex: Northwestern corner of 124th Avenue and Huron Street	Westminster	Office	Proposed
Savannah Suites: Northwestern corner of 124th Avenue and Huron Street	Westminster	Retail/commercial development	Proposed
Orchard View: Southeastern corner of 144th Avenue and Huron Street	Westminster	Retail/commercial development	Proposed

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Northridge Commons: Northwestern corner of 122 nd Avenue and Pecos Street	Westminster	Office	Proposed
Meadow Point: Northeastern corner of 92 nd Avenue and Sheridan Boulevard	Westminster	Retail/commercial development	Proposed
Covenant: Northwestern corner of 112 th Street and Sheridan Boulevard	Westminster	Office	Proposed
Bradburn: South of 120 th Avenue and west of Lowell Boulevard	Westminster	Traditional mixed use development of 535 units and a church	Under construction
Cedar Bridge: Northeastern corner of 111 th Avenue and Bryant Court	Westminster	Residential development: 12 single-family units	Under construction
Northwest Business Park: Northwestern corner of 108 th Avenue and Westminster Boulevard	Westminster	Traditional mixed use development of 600 units	Under construction
Cottonwood Village: Northwestern corner of 88 th Avenue and Federal Boulevard	Westminster	Residential development: 82 multi-family units	Under construction
Elliot Street Duplexes: Northeastern corner of 104 th Avenue and Elliot Street	Westminster	Residential development: 10 single-family units	Proposed
Family in Christ Community Church: Northwestern corner of 113 th and Sheridan	Westminster	Church	Under construction
Highlands at Westbury: Northeastern corner of 112 th Street and Pecos Street	Westminster	Residential development: 201 single-family units	Under construction
Hyland Village: Southwestern corner of 98 th Avenue and Sheridan Boulevard	Westminster	Traditional mixed use development of 483 units	Proposed
Lake Arbor Industrial: West of Marshall Court and 89 th Avenue	Westminster	Retail/commercial development	Approved
Church Ranch Home: 7399 Church Ranch Boulevard	Westminster	Business park	Proposed
West 101 st Court: Southwestern corner of 101 st Avenue and Sheridan Boulevard	Westminster	Residential development: 12 single-family units	Proposed
Keystone Senior Housing: Southwestern corner of 112 th Avenue and Federal Boulevard	Westminster	Senior housing	Proposed
Legacy Ridge: Between 104 th and 113 th on Sheridan Boulevard	Westminster	Residential development: 409 single-family units	Under construction
Primrose Academy: Northwestern corner of 118 th and Sheridan Boulevard	Westminster	Retail/commercial development	Proposed
Myananda Residences and Spa: 10650 Promenade North Drive	Westminster	Traditional mixed use development: 68 units	Proposed
Ranch Reserve II: Northwestern corner of 112 th Avenue and Ranch Reserve	Westminster	Residential development: 61 single-family units	Under construction

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Savory Farm Estates: 111 th Avenue and Federal Boulevard	Westminster	Residential development: 28 single-family units	Proposed
Sheridan Green Commercial Center: Southwestern corner of 112 th Avenue and Benton Street	Westminster	Office	Under construction
Countryside: Northeastern corner of Countryside Drive and Simms Street	Westminster	Residential development: 10 single-family units	Approved
North Wadsworth Business Center: Northeastern corner of 108 th Avenue and Dover Street	Westminster	Office	Proposed
Meadow View: 107 th Avenue and Simms Street	Westminster	Residential development: 20 single-family units	Under construction
Mission Hill: Northwestern corner Wadsworth Parkway and 88 th Avenue	Westminster	Retail/commercial development	Under construction
Mountain Vista Village: 86 th Avenue and Yukon Street	Westminster	Residential development: 24 single-family units	Approved
Village at Standley Lake: Northwestern corner of 100 th Avenue and Wadsworth Parkway.	Westminster	Retail/commercial development	Under construction
Walnut Grove: 104 th Avenue and Wadsworth Parkway.	Westminster	Residential development: 66 single-family units	Under construction
Wayne Carl Middle School: 100 th Avenue and Countryside	Westminster	School	Under construction
Westmoor Technology Park: 108 th Avenue and Simms Street	Westminster	Office	Proposed
DeCroce: Southwestern corner of 101 st and Church Ranch Boulevard	Westminster	Office	Under construction
Kokoszka: 7985 Church Ranch Boulevard	Westminster	Office	Proposed
Covenant Retirement Community: 9030 Yarrow Street	Westminster	Residential development: 30 senior housing units	Approved
Woodrow Wilson Charter School: 8300 West 92 nd Avenue	Westminster	School	Under construction
My Business Park at Mandalay: 108 th Avenue and Wadsworth Boulevard	Westminster	Office	Approved
East Bay: 68 th Avenue and Lowell Boulevard	Westminster	Mixed residential development: 59 units	Under construction
La Conte Shopping Center: Northeastern corner of 72 nd Avenue and Federal Boulevard	Westminster	Retail/commercial development	Proposed
Harris Park: 7300-7365 Lowell Boulevard	Westminster	Residential development: 12 townhomes	Proposed
Village at Walnut Creek: South of Lower Church Lake	Westminster	Retail/commercial development	Under construction

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Valle Vista: 104 th Avenue and Federal Boulevard	Westminster	Retail/commercial development	Under construction
Westfield: 95 th Avenue and Federal Boulevard	Westminster	Retail/commercial development	Proposed
Green Acres Commercial: Northeastern corner of 112 th Avenue and Sheridan	Westminster	Retail/commercial development	Proposed
Hylands Baptist Church: Southwestern corner of 92 nd Avenue and Utica Street	Westminster	Church	Under construction
Alpine Vista: Northwestern corner of 88 th Avenue and Lowell Boulevard	Westminster	Residential development: 100 townhomes	Under construction
Walgreens: Southeastern corner of 96 th Avenue and Sheridan Boulevard	Westminster	Retail/commercial development	Proposed
Ball Campus: 108 th Avenue and Wadsworth Parkway	Westminster	Office	Under construction
Christ Community Covenant Church: Northwestern corner of 100 th Avenue and Wadsworth Parkway.	Westminster	Church	Approved
Village at Harris Park: Northwestern corner of 73 rd Avenue and Bradburn	Westminster	Mixed residential development: 38 units	Proposed
Shoenberg Farms: Northwestern corner of 72 nd Avenue and Sheridan Boulevard	Westminster	Mixed residential/retail/commercial	Under construction
Spreser Chiropractic Clinic: 7490 Sheridan Boulevard	Westminster	Retail/commercial development	Approved
Street Anthony North: 84 th Avenue and Alcott Street	Westminster	Office	Approved
Summit Pointe: Southeastern corner of 82 nd Avenue and Clay Street	Westminster	Residential development: 74 single-family units	Under construction
Shoenberg Farms: Northeastern corner 72 nd Avenue and Depew Street	Westminster	Mixed residential development	Approved
Holy Trinity Catholic Church	Westminster	Church	Proposed
Crystal Lakes: Southeastern corner of 75 th Avenue and Sheridan Boulevard	Westminster	Office	Proposed
Harris Park Square: 7249 and 7287 Lowell Boulevard	Westminster	Traditional mixed use development	Proposed
Adams County Government Center	Westminster	Facility development	Land purchased
Orchard Town Center: I-25 and 144 th Avenue	Westminster	Retail/entertainment: 215 acres	Under construction
Prairie Gateway: Quebec Street between SH 2 and 56 th Avenue	Westminster	Mixed use development: 917 acres	Under construction
Avery Meadows: Southeastern corner of WCR 15 and WCR 70	Windsor	Residential development: single-family suburban	Master plan
Eastbrook Subdivision: Northwestern corner or Main Street and WCR 2	Windsor	Mixed use development: residential mixed use	Rezoning

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Table 3.26.2 Land Development Projects within the Regional Study Area (cont'd)

Project Name/Location	Jurisdiction	Description	Status
Fossil Ridge Subdivision: 5515 Evangeline Drive	Windsor	Residential development	Development review
Highland Meadows Golf Community: Southeastern corner of Fairgrounds Avenue and Colonial Drive	Windsor	Residential/commercial development	Rezoning
Poudre Heights: Northwestern corner of CR 17 and CR 64	Windsor	Mixed use development: 586 units	Rezoning, final site plan
The Oxbow on the River: South of Poudre River and SH 392 west of County Line Road	Windsor	Residential mixed use	Rezoning, subdivision
Shiloh Creek: Northeastern corner of WCR 74 and County Line Road	Windsor	Residential mixed use development	Annexation, subdivision
Ptarmigan Business Park: Northeastern corner of CR 392 and I-25	Windsor	Commercial business park	Site plan
Westwood Village: Southeastern corner of 14 th Street and Main Street	Windsor	Commercial development	Subdivision, site plan
Highlands: Northeastern corner of Crossroads Boulevard and County Line Road	Windsor	Mixed use development	Annexation, rezoning
Winter Farm Subdivision: Southeastern corner of WCR 70 and WCR 19	Windsor	Residential mixed use development	Subdivision
Water Valley Subdivision: North of Crossroads Boulevard, south of Eastman, east of 7 th Street	Windsor	Residential mixed use development, open space and golf course	Subdivision, site plan
Trautman Subdivision: Southeastern corner of 7 th Street and Crossroads Boulevard	Windsor	Residential development	Subdivision
Southgate Business Park: SH 34 and CR 17	Windsor	Commercial business park	Subdivision, site plan
River Valley Crossing: Southwestern corner of Main Street and 15 th Street	Windsor	Commercial development	Annexation, master plan
Highlands Industrial Park: Highlands Meadows Pkwy. and Crossroads Boulevard	Windsor	Light and heavy industrial development	Site plan
Jacoby Farm: Northwestern corner of Main Street and 15 th Street	Windsor	Residential/commercial development	Final site plan
Great Western Development: Southeastern corner of WCR 23 and WCR 64	Windsor	Heavy industrial park	Rezoning, site plan
Fairgrounds Business Park: Northeastern corner of Crossroads Boulevard/LCR 5	Windsor	Business park with industrial and commercial use	Subdivision

1 **Table 3.26-3 Major Infrastructure Projects within the Regional Study Area**

Project Name/Location	Jurisdiction	Description	Status
Halligan Seamen Reservoir	Larimer County	Coordinated enlargement of Halligan and Milton- Seaman Reservoirs in Larimer County to improve water management for Fort Collins and Greeley.	DEIS in progress
Moffat Collection System Project	U.S. Army Corps of Engineers	Development of 18,000 acre-feet per year of new, annual firm yield to the Moffat Treatment Plant and raw water customers upstream of the Moffat Treatment Plant.	DEIS in progress
Northern Integrated Supply Project	U.S. Army Corps of Engineers	Water infrastructure to bring more water to the Front Range; Preferred Alternative is the construction of Glade Reservoir and South Platte Water Conservation Project.	DEIS in progress
Windy Gap Firming Project – Big Thompson Project	U.S. Bureau of Reclamation	Water infrastructure to bring more Colorado River water to the Front Range; Construction of Reservoirs and other facilities	DEIS in progress
Big Dry Creek Wastewater Plant: 131st Avenue and Huron Street	Westminster	Storage building/wastewater plant expansion	Under construction/ Proposed

1 Additional future actions not included in **Table 3.26-1**, **Table 3.26-2**, or **Table 3.26-3** include
2 the following:

- 3 ▶ Expansion of local transit services in Fort Collins, Johnstown, and Windsor
- 4 ▶ New park-n-Rides: Church Ranch, Superior/Louisville, Flatiron Circle, and Broomfield
- 5 ▶ Infill, redevelopment, or revitalization plans in Longmont and Loveland
- 6 ▶ Sidewalk improvements and minor trail connections in Broomfield
- 7 ▶ River restoration, most notably the Fort Collins *Downtown River Corridor Implementation*
8 *Plan*, which protects and enhances the Cache La Poudre River
- 9 ▶ Minor water/sewer improvements
- 10 ▶ Annexation proposals

11 As **Table 3.26-1**, **Table 3.26-2**, and **Table 3.26-3** show, substantial development is
12 anticipated within the regional study area in the near future. Development is especially
13 strong in northern communities, where large residential and commercial developments are
14 anticipated. More than 12 annexation proposals and planning boundary expansions are
15 currently being considered by Longmont. Development is also strong in Westminster, where
16 large residential and commercial developments are under construction.

17 **3.26.2 Affected Environment**

18 The Affected Environment section provides the historical context for the cumulative impact
19 analysis and includes an assessment of historical growth and development within the
20 region. Historical actions impacting resources of concern are described in greater detail for
21 each resource in **Section 3.26.3 Environmental Consequences**.

22 Early settlement in the area between Denver and Wellington began in the 1800s with the
23 cultivation of agriculture. Some of the earliest settlers developed planned communities
24 under the colony movement. The premise behind this movement was to have an entire
25 group of people, or colony, settle an area together in a cooperative manner rather than have
26 each family unit settle on its own. Colonies were established in Greeley, Platteville, Green
27 City, and Evans. Shortly after colony communities were established, individual settlers
28 came out to Colorado and moved into Weld County. In the 1860s, the area was an
29 agriculturally productive region, which had expanded from dry crop production to include
30 cattle grazing and production. In the late 1880s, new advances in farm machinery
31 (e.g., steam-powered tractors) allowed farmers to increase the size of their farms and
32 acreage of their harvests. By 1895, Weld County had become one of the major potato
33 producing areas of the nation.

34 Feedlots and meat packing operations associated with Monfort, Inc. (established in 1930)
35 had a major influence on the economy and population the regional study area north and
36 south of Greeley. The Monfort feedlot grew quickly into one of the largest in the country,
37 with a 3,500-head capacity in the midst of World War II, 8,000 by 1950, and 32,000 by
38 1960. During the 1960s the feedlot expanded rapidly into the first 100,000-head feedlot by
39 1968. In 1960 Monfort purchased a slaughterhouse in Greeley and five years later added
40 processing to the plant.

1 Sugar beet cultivation and processing had a major influence on the regional study area in
2 the late part of the 19th century. The state agricultural college in Fort Collins (now Colorado
3 State University) experimented with sugar beets and helped publicize their suitability for the
4 irrigated plains. In 1901, a sugar beet processing facility was opened in Loveland. Local
5 farmers started producing sugar beets in such quantities that the Loveland plant could not
6 process them all. As a result, sugar beet processing plants were built in Greeley, Eaton,
7 Fort Lupton, and Windsor. In 1905, the Great Western Sugar Company was formed and
8 thousands of acres of sugar beets were brought into production, as were many new settlers
9 to grow beets, ship beets, and process beets. Sugar beets continued to be a strong part of
10 the region's economy through World War II, until beet diseases and competition from other
11 sweeteners led to their eventual demise.

12 The "Dust Bowl," although geographically defined by the federal government to include
13 southern but not northeastern Colorado, still had a major impact on agricultural production
14 in northern Colorado throughout the 1930s. Farmers eventually recovered and continued to
15 prosper. By the mid-1970s, Weld County was ranked number one in the state of Colorado
16 for total crop value.

17 The development of the railroads supported the burgeoning agricultural economy of the
18 regional study area. Operational in 1870, the Denver Pacific rail line traveled through
19 Weld County in a general north-south direction, bringing settlers to Colorado and facilitating
20 the distribution of agricultural products. Although the Denver Pacific was the first railroad
21 through Weld County, numerous other railroads were developed in the ensuing decades
22 that extended service to other agricultural areas. The Burlington and Missouri River Railway
23 extended their line west from McCook, Nebraska, reaching Denver in the early 1880s. The
24 Union Pacific then built a line from La Salle generally following the valley of the South Platte
25 River eastward to Julesburg. This made a good network and a solid connection to the
26 eastern regions of the United States. In promoting their service, the railroads encouraged
27 thousand of farmers to relocate to this area.

28 As rural areas developed, the pressure increased for local and regional roadway
29 connections. Early roadways were built between Denver and Fort Collins, through Denver,
30 and in Greeley. The beginnings of the interstate system came with the passage of the
31 Federal-Aid Highway Act of 1944. This act directed the Bureau of Public Roads to create a
32 master plan for an interstate highway system. After the planning, little else was done until
33 the passage of the Federal-Aid Highway Act of 1956, which authorized \$25 billion for
34 12 years to move forward with construction of a national system of interstate and defense
35 highways. Interstate 25 was completed during the 1960s. Traffic far exceeded original
36 projections and numerous improvements and expansions have been constructed over the
37 years. By the late 1980s, new off-ramps known as flyovers helped drivers get on and off
38 I-25 at greater speeds. The access improvements provided by the interstate system spurred
39 new growth along I-25, which has necessitated further capacity and interchange
40 improvements.

41 The North Front Range of Colorado has experienced tremendous growth over the past
42 50 years. As **Table 3.26-4** shows, Adams, Boulder, and Larimer counties experienced the
43 greatest increase in population between 1950 and 2000. This growth has translated into the
44 development of housing, employment centers, and community facilities, focused in the 38
45 incorporated cities and towns present in the regional study area today.

1 **Table 3.26-4 Population Totals by County 1950-2000**

County	Population				Percent (%) Change 1950 to 2000
	1950	1970	1990	2000	
Adams	40,234	185,789	265,038	363,857	804%
Boulder	48,296	131,889	225,339	291,288	503%
Broomfield	---	7,261	24,638	38,272	427% ¹
Denver	415,786	514,678	467,610	554,636	33%
Larimer	43,554	89,900	186,136	251,494	477%
Weld	67,504	89,297	131,821	180,936	168%

Source: Colorado Department of Local Affairs, State Demography Office, Historical Census 1870–2000.

(1) Percent change in Broomfield is calculated between 1970 and 2000, since data for 1950 is not available.

2 Based on population and housing forecasts prepared by DRCOG and NFRMPO, population is
3 expected to continue to increase within the regional study area through 2030, whether or not
4 any transportation improvements related to this project are implemented. According to the data
5 provided by these organizations, population within the regional study area is expected to
6 increase 79 percent by 2030, translating into approximately 339,000 new households.

7 **3.26.3 Environmental Consequences**

8 **3.26.3.1 LAND USE**

9 In the early 20th century, the regional study area mostly contained small farming or mining
10 communities. Larger cities with a variety of land use activities included Denver, Greeley,
11 Fort Collins, Longmont, and Boulder. Population growth and increasing water availability
12 (made possible by the Colorado-Big Thompson River Project in 1937) contributed to the
13 expanding development that occurred throughout the 1950s as undeveloped communities
14 began to devote more agricultural land to residential and employment uses.

15 Construction of I-25 north out of Denver began in the early 1960s. By the time the final
16 segment between Fort Collins and Wellington was completed in 1968, low-density,
17 suburban residential development was expanding outward from major city centers along the
18 highway. Expansion of I-25 helped spur development north of Denver and contributed to
19 land use change in the years that have followed. Communities whose town centers had
20 been built along the BNSF rail line (e.g., Fort Collins, Loveland, and Longmont) realized that
21 access to I-25 was crucial to increasing commercial and industrial growth in their cities. In
22 response, they began developing commercial and residential uses east of their city centers
23 and closer to I-25.

24 Population growth, development, and land use change have continued within the regional
25 study area. Industrial development along the UPRR between Greeley and Denver has
26 resulted in the expansion of residential and employment uses in the communities of
27 Brighton and Fort Lupton. Major commercial centers (e.g., Flatirons Crossing, Centerra)
28 have developed around highway corridors. Residential development has continued north of
29 Denver in a suburban pattern. Communities have used programs to preserve open space,
30 parks, and agricultural lands as a means to separate themselves from other cities and
31 towns in the region. This has, in turn, spurred development in smaller surrounding
32 communities.

1 **Table 3.26-5** shows land uses in the regional study area between 1950 and 2005. Acres of
2 land devoted to agricultural uses in the regional study area have decreased by 17 percent
3 between 1950 and 2005. During the same time period, acres of land devoted to
4 employment and residential uses have increased by 8 percent and 14 percent respectively.

Table 3.26-5 Land Use Change in Acres 1950-2005

Land Use Category	Approximate Acres							
	1950		1970		1990		2005 ¹	
	Acres	%	Acres	%	Acres	%	Acres	%
Agriculture	570,580	75	504,064	66	451,874	59	446,400	58
Employment Area	12,788	2	30,939	4	44,800	6	75,100	10
Parks/Open Space	1,929	<1	6,040	<1	11,121	1	65,300	8
Residential	30,071	4	64,033	8	93,447	12	143,000	18
Transportation	7,557	1	12,447	2	13,225	2	---	---
Vacant-Unknown	124,195	16	123,120	16	123,515	16	6,400	1
Water	13,939	2	20,415	3	23,077	3	39,900	5
Total	761,059	100	761,059	100	761,058	100	776,100¹	100

Source: U.S. Geological Survey, Front Range Infrastructure Resources Project, Land Characterization Program.

Land use data from the USGS, Front Range Infrastructure Resources Project, and Land Characterization Program is not available for years after 1990. Land use acreages in 2005 are derived from **Section 3.1 Land Use**. As a result, minor differences in the data can be noted:

⁽¹⁾ Total acres within the regional study area differ between data sets. The USGS did not collect data in the northernmost part of the regional study area, which may account for the discrepancy.

⁽²⁾ Land use classifications differ between data sets. As a result, there is no classification for Transportation recorded for 2005.

5 As part of this DEIS, reasonably foreseeable future developments and land use plans were
6 reviewed to assess future growth patterns. Based on this review, it is expected that the
7 general pattern of urbanization would continue. Development would continue outward from
8 town centers and more agricultural land would be converted for employment and residential
9 uses. This pattern of growth is expected to occur regardless of whether the improvements
10 considered in this DEIS are implemented.

11 DRCOG envisions future growth and development as relatively compact with high-density
12 mixed-use urban centers along major transportation corridors. According to the *Metro Vision*
13 *2030 Plan* (DRCOG, 2005) many significant challenges must be addressed to fulfill this
14 vision. Regional challenges include severe traffic congestion that can impede economic
15 development and job creation; concerns about air quality, water quality and water supply;
16 the burden of paying for new facilities and services required to serve growth; and
17 preservation of open space for current and future generations. The *North Front Range 2030*
18 *Regional Transportation Plan* (NFRMPO, 2004) also cites interregional commuting,
19 jobs/housing imbalance, and sprawl as challenges presented by regional growth.

20 Likely major impacts resulting from development are increased impervious surfaces (e.g.,
21 roads, driveways, rooftops, parking lots), loss of agricultural lands, loss and fragmentation
22 of wildlife habitat, degradation of air and water quality, loss of wetlands and aquatic
23 resources, declining quality of life, and stress on infrastructure, water availability and water
24 supply. Minimizing these impacts will require regional coordination. This is a particular
25 challenge in southwest Weld County, where pressure to develop rural agricultural land has
26 been increasing and local jurisdictions are in disagreement as to where, when, and how
27 growth should occur. In the absence of intergovernmental cooperation and coordination,
28 development could result in a fragmented urban landscape that is costly to service and
29 maintain.

1 Under the No-Action Alternative, anticipated development along I-25 would continue based
2 on market forces and in accordance with city and county plans as described in **Section 3.1**
3 *Land Use*. In the absence of transit or capacity improvements, regional visions for compact
4 development along major transportation corridors would not be realized.

5 Implementation of Package A would support regional planning and municipal planning
6 efforts (including transit oriented development) as described in **Section 3.1 Land Use**.
7 Under Package B, anticipated development along I-25 would continue in accordance with
8 city and county plans. Bus rapid transit would support this development. In the absence of
9 transit or capacity improvements in Fort Collins, Loveland and Longmont, development
10 would most likely continue to spread outward from city centers.

11 Conversion of agricultural and open lands into urban uses will continue regardless of
12 whether a build package is implemented or not. The construction of a build package would
13 not contribute significantly to cumulative land use impacts in comparison to what is already
14 anticipated through land development projects and other roadway improvements.
15 Implementing Package A could minimize the conversion of agricultural land in the outlying
16 areas of communities along the BNSF rail line as development shifts toward higher
17 densities and urban centers in Fort Collins, Loveland, and Longmont.

18 **3.26.3.2 WATER QUALITY**

19 There are six watersheds in the regional study area: the South Platte River, Clear Creek,
20 Big Dry Creek, St. Vrain Creek/Boulder Creek, Big Thompson River, and Cache La Poudre
21 River. Numerous streams, tributaries, canals, ditches, reservoirs, and lakes are either
22 adjacent to or cross under I-25, US 85, or the BNSF (see **Figure 3.7-2** in **Section 3.7**
23 *Water Resources*).

24 Before land cultivation for agriculture, the natural ecosystem was largely unaffected by
25 human activity. Oil and gas development, agricultural activity, and urbanization have
26 impacted water quality. Some surface waters in the regional study area do not currently
27 meet water quality standards. These impaired streams were identified by CDPHE- Water
28 Quality Control Division and are listed in the 303(d) *List of Impaired Streams*. Streams that
29 do not meet established water quality standards are required to go through a remediation
30 process (i.e., total maximum daily load analysis) to help improve water quality conditions.
31 For streams identified as impaired within the regional study area, the impairment was not
32 caused by pollutants associated with highway construction or maintenance operations.

33 Agricultural practices have resulted in surface and groundwater contamination.
34 Contaminants include nutrients (nitrogen and phosphorous), pesticides and herbicides, and
35 volatile organic compounds. Nitrates have consistently exceeded drinking water standards.
36 CDPHE regulations do not apply to irrigation canals and ditches that are present throughout
37 the regional study area despite their important function of transporting drinking water
38 (CDPHE, 2003).

39 Cumulative impacts to water quality would primarily result from changes in hydrologic
40 conditions, caused by development already planned in the regional study area.
41 Development rapidly consumes and converts natural landscapes to impervious surfaces
42 such as parking lots, roads, and rooftops. Water runs off these impervious surfaces, often
43 carrying pollutants directly into water bodies instead of allowing for the natural filtering of
44 pollutants through the soil. Impacts that follow include species loss, oxygen depletion, lower

1 groundwater levels, reduced water quantities, increased peak flows, and flooding. Impacts
2 associated with additional impervious surface area are typically mitigated through the
3 implementation of best management practices.

4 The analysis of cumulative effects to water quality is broader in scope than what is
5 presented in **Section 3.7, Water Resources**. Comprehensive mapping of planned
6 developments within the regional study area was not available. As a result, this analysis
7 used area maps from DRCOG and NFRMPO. As part of the traffic analysis process, each
8 traffic analysis zone (TAZ) is classified as one of five general land area types (central
9 business district, central business district-fringe, urban areas, suburban areas, and rural
10 areas). When considered on a very broad, regional scale, these data generally portray
11 where future growth is envisioned. The percent imperviousness for each TAZ area type is
12 derived from the Urban Drainage and Flood Control District (UDFCD) *Drainage Criteria*
13 *Manual* (2001). **Table 3.26-6** contains estimates of the new impervious surface area that
14 would result from future urbanization within the regional study area. Future urbanization
15 would occur regardless of whether the improvements under consideration are constructed.

16 **Table 3.26-6 Estimated Impervious Surfaces within the Regional Study Area: 2005**
17 **and 2030**

Watershed	Impervious Surface Area (Acres)			Percent (%) Watershed Converted to Impervious Surfaces
	2005	2030	Difference	
Middle South Platte River	157,028	227,494	70,466	6
Clear Creek	27,346	33,605	6,259	2
Big Dry Creek	12,367	28,993	16,626	21
St. Vrain/Boulder Creek	42,975	70,043	27,068	4
Big Thompson River	76,537	76,537	0	0
Cache La Poudre River	178,649	178,649	0	0
Total	494,902	615,321	120,419	33

Source: DRCOG and NFRMPO 2005 and 2030 Traffic Model.

18 With the No-Action Alternative, the amount of impervious surface would continue to
19 increase as planned development occurs. Impacts to water quality within the regional study
20 area would result from an increase in surface runoff and pollutants being carried into
21 receiving waters. The greatest change to water quality could occur in the Middle South
22 Platte watershed, due to the large increase in impervious surface area that is anticipated
23 between 2005 and 2030.

24 Implementation of a build package would facilitate future development along existing
25 transportation corridors, consistent with future land use planning efforts. This would facilitate
26 denser development patterns (particularly for Package A) and help reduce the impervious
27 surface area associated with development and its related water quality effects.

28 Implementation of either build package would result in additional impervious surfaces as a
29 result of highway widening, transit stations, and parking lots. **Table 3.7-9** in **Section 3.7**
30 describes total impervious surface area for the existing, No-Action, Package A, and
31 Package B condition. While Package A and Package B result in greater total impervious
32 surface area (1,946 acres for Package A and 2,001 acres for Package B) the percentage of
33 the area that will be treated with best management practices is also greater (90.7 percent
34 under Package A and 125 percent under Package B). A percentage greater than 100

1 indicates that the volume provided is greater than the defined water quality capture volume,
2 which is equal to one-half inch of rainfall times the impervious area. Capture volumes
3 greater than 100 percent can sometimes be used to offset other locations on the highway
4 system where 100 percent capture cannot be achieved. For comparative purposes, 5.1
5 percent of the 1,257 acres of total impervious surface associated with the No-Action
6 Alternative would be treated. Future impacts to water quality could arise from maintenance
7 activities, such as snow plowing, sanding, and deicing. The additional impervious surface
8 area would contribute minimally to water quality impacts when compared to what is
9 expected from planned development. These impacts to water quality would be reduced
10 through implementation of maintenance programs and best management practices in both
11 construction and design (see **Section 3.7 Water Resources**).

12 3.26.3.3 WILDLIFE

13 Past actions affecting wildlife distribution and movement corridors in the regional study area
14 include commercial and residential development, road construction, and gravel mining.
15 These activities have directly displaced wildlife habitat, increased habitat fragmentation, and
16 altered wildlife movements. Although gravel mining temporarily disrupts wildlife habitat, it
17 may also create lakes, which benefit some species. In general, the amount and connectivity
18 of wildlife habitat has declined in the regional study area since 1950.

19 Impacts to wildlife from anticipated development were evaluated using wildlife data from
20 CDOW, field survey data collected by ERO Resources in 2006, Colorado State Patrol
21 vehicle-animal collision data from 1993 to 2004 for wildlife movement corridors, and land
22 use data collected in 2000 (see **Section 3.1 Land Use**). Geographic information System
23 (GIS) maps depicting future land uses were reviewed to evaluate expected impacts on
24 wildlife. Future land use maps were based on forecasts for 2030 from DRCOG and the
25 NFRMPO, as described in **Section 3.1**.

26 Land uses that provide habitat for wildlife include agriculture, open space, parks, surface
27 water areas, and vacant lands. Residential and commercial land uses are less likely to
28 provide habitat for wildlife because they are more developed. According to data provided in
29 **Section 3.1**, approximately 206,900 acres of agricultural and vacant lands are expected to
30 be converted to residential and commercial land uses between 2000 and 2030. Open
31 spaces and parks are expected to increase by 46,000 acres during the same period. Lands
32 protected or enhanced for wildlife would help to offset some of the effects of overall habitat
33 loss.

34 General wildlife habitat in the regional study area would be expected to decline with
35 highway expansion, residential and commercial development, and the decrease of open
36 lands used for agriculture. Residential and commercial development also will contribute to
37 habitat fragmentation and further reduce open areas used as movement corridors by
38 wildlife. Disruption of movement corridors, vehicle collisions with wildlife, and habitat
39 fragmentation are concerns expressed during scoping meetings with CDOW, other
40 agencies, and the public. The potential for cumulative impacts to wildlife corridors or
41 crossing sites as a result of reasonably foreseeable projects is described below. If direct or
42 indirect effects from the North I-25 project would occur, this is noted.

- 43 ▶ **I-25 from SH 1 to SH 14.** Substantial new residential and commercial development is
44 expected to occur in this area by 2030. However, no major wildlife movement corridors
45 or crossing sites were identified in this area.

- 1 ▶ **Fossil Creek Reservoir at SH 392.** Windsor and Fort Collins slate this area for
2 development. However, no major wildlife movement corridors or crossing sites were
3 identified in this area.
- 4 ▶ **Cache La Poudre River at I-25.** Future land use mapping shows limited growth in the
5 area around I-25 and the Poudre River. Mapping also shows a substantial increase in
6 the area planned for designation as open space or parkland along the river. Future land
7 uses are likely to support the continued use of the Cache la Poudre River at I-25 as a
8 wildlife movement corridor.
- 9 ▶ **Big Thompson River at I-25.** Future land use mapping shows planned residential and
10 commercial development south of the Big Thompson River at I-25. The land surrounding
11 the river is largely located within the Big Thompson Ponds State Wildlife Area west of
12 I-25 and agricultural land east of I-25 is likely to remain undeveloped. Future land uses
13 are likely to support the continued use of the Big Thompson River at I-25 as a wildlife
14 movement corridor.
- 15 ▶ **Little Thompson River at I-25.** Some residential development is expected south of the
16 Little Thompson River, but in general, the surrounding land use will remain agricultural.
17 The Little Thompson will likely remain a wildlife crossing area.
- 18 ▶ **I-25 between Little Thompson and St. Vrain Creek.** This area is expected to remain
19 agricultural. Future development would not prevent the area from being used as a
20 wildlife crossing area.
- 21 ▶ **St. Vrain Creek at I-25.** Extensive new commercial and residential development is
22 planned on both sides of SH 119, potentially fragmenting existing wildlife habitat along
23 St. Vrain Creek. This movement corridor will likely be heavily impacted by future
24 development.
- 25 ▶ **I-25 West of Firestone and Frederick.** Extensive new development is planned along
26 I-25 in this area. Wildlife movements are likely to be heavily impacted by this new
27 development.
- 28 ▶ **Little Dry Creek at I-25.** New commercial and residential developments are planned
29 west of I-25 and near the I-25/E-470 interchange. New development will likely affect
30 wildlife movements in the area.
- 31 ▶ **Big Dry Creek at I-25.** Big Dry Creek at I-25 is located in an area that is already
32 developed. Impacts to wildlife movements from new development are expected to be
33 low.
- 34 ▶ **Fossil Creek at the BNSF Rail Line.** The area around Fossil Creek at the proposed
35 commuter rail alignment is mostly built out and is not expected to have substantial new
36 residential or commercial growth. Retaining walls and fences adjacent to the commuter
37 rail would create a barrier to wildlife movement, resulting in moderate impacts to wildlife.
38 These impacts would only be expected under Package A.
- 39 ▶ **Big Thompson River at the BNSF Rail Line.** Much of the land along this reach of the
40 river is protected parks or open space. Changes in land use near this wildlife-crossing
41 site are expected to be minimal.
- 42 ▶ **Little Thompson River at the BNSF Rail Line.** Land use near the Little Thompson
43 River at I-25 is expected to remain agricultural with few changes planned. Retaining
44 walls and fences adjacent to the commuter rail would create a barrier to wildlife

1 movement, resulting in moderate impacts to wildlife. These impacts would only be
2 expected under Package A.

3 ▶ **Ish Reservoir Area.** Land use in the area around Ish Reservoir is expected to remain
4 mostly agricultural, with few changes planned. Retaining walls and fences adjacent to
5 the commuter rail would create a barrier to wildlife movement, resulting in high impacts
6 to wildlife. These impacts would only be expected under Package A.

7 ▶ **St. Vrain Creek at SH 119.** Extensive new commercial and residential development is
8 planned on both sides of SH 119, potentially fragmenting existing wildlife habitat along
9 St. Vrain Creek. This movement corridor will likely be heavily impacted by future
10 development. Retaining walls and fences adjacent to the commuter rail would create a
11 barrier to wildlife movement, resulting in moderate impacts to wildlife. These impacts
12 would only be expected under Package A

13 ▶ **BNSF Rail Line west of Firestone and Frederick.** Extensive new development is
14 planned along I-25 near this wildlife crossing area. Wildlife movements in this area are
15 likely to be heavily impacted by the new development. Retaining walls and fences
16 adjacent to the commuter rail would create a barrier to wildlife movement, resulting in
17 high impacts to wildlife. These impacts would only be expected under Package A.

18 ▶ **Little Dry Creek at the BNSF Rail Line.** Land use in this area is expected to remain
19 mostly agricultural. Impacts to wildlife from future growth would be minimal. Retaining
20 walls and fences adjacent to the commuter rail would create a barrier to wildlife
21 movement, resulting in high impacts to wildlife. These impacts would only be expected
22 under Package A.

23 To minimize impacts to wildlife at crossing sites, breaks in fencing would be provided where
24 considerable wildlife conflicts are expected. The build packages would widen and extend
25 culverts and bridges. While widening would facilitate wildlife movement, extending the
26 length of a culvert or bridge would lengthen the distance wildlife would have to travel to
27 cross I-25 or the BNSF rail line.

28 Prairie dog colonies are used as an index of prairie habitat because they provide habitat for
29 a number of other wildlife species and are used as foraging areas by numerous predators
30 including coyotes, badgers, bald eagles, and other raptors. Cumulative impacts to black-
31 tailed prairie dogs were evaluated by quantifying the potential loss of existing prairie dog
32 colonies within one-half of a mile of the improvements being evaluated for Package A and
33 Package B. Currently, there are approximately 2,109 acres of prairie dog colonies within
34 one-half of a mile of Package A. Planned development would impact 627 acres of these
35 colonies (30 percent) and the construction of improvements included in Package A would
36 impact approximately 51 acres (2 percent). There are approximately 1,624 acres of prairie
37 dog colonies within one-half of a mile of Package B. Planned development would impact
38 289 acres of these colonies (18 percent) and the construction of improvements included in
39 Package B would impact 104 acres (6 percent).

40 Bald eagle populations in the regional study area have been increasing for the past ten to twenty
41 years, and new nests have been identified in the regional study area every year for the past few
42 years. At least 11 active bald eagle nests were known to occur in the regional study area in
43 2007, and four of these were within three miles of the I-25 or commuter rail alignments. The
44 future increase of bald eagle nesting in the regional study area may be limited from a lack of
45 suitable nesting sites located in areas with large numbers of trees, near water, with a food
46 source nearby, and isolated from human disturbance. Future land use projections show an

1 increase in development in some areas used by bald eagles, such as along SH 119 near the
2 confluence of St. Vrain and Boulder creeks. Loss of foraging habitat, especially loss of prairie
3 dog towns, and increased disturbance from new commercial and residential development, may
4 lead to stabilizing or declining numbers of bald eagles in the regional study area in the future.
5 The loss of foraging habitat and other impacts from future development would be much greater
6 than impacts from either build package.

7 Historically, populations of the Preble's Meadow Jumping Mouse within the regional study
8 area have most likely declined. Preble's Meadow Jumping Mouse were no longer present at
9 many sites where they had previously been trapped, including near Longmont within the
10 regional study area (Ryon, 1996). Preble's habitat would likely be impacted by planned
11 residential and commercial development along I-25, south of the Big Thompson and Little
12 Thompson Rivers. In both locations, impacts from either build package would be minimal
13 (less than one acre).

14 As described in **Section 3.12**, Package A would impact 9 raptor nests, 10 wildlife
15 movement corridors, 2 acres of sensitive wildlife habitat and 1.8 acres of aquatic habitat.
16 Package B would impact 11 raptor nests, 5 wildlife movement corridors, 2.4 acres of
17 sensitive wildlife habitat, and 2.3 acres of aquatic habitat.

18 Planned transportation and development actions will contribute to further loss and
19 degradation of wildlife habitat within the regional study area. Approximately 206,900 acres
20 of agricultural/vacant lands are expected to be converted to residential or commercial land
21 uses. This would occur regardless of whether a build package is implemented, resulting in
22 cumulative impacts to wildlife, wildlife habitat, and other biological resources in the regional
23 study area.

24 The construction of a build package would not contribute significantly to cumulative impacts
25 to wildlife in comparison to what is already anticipated through land development projects
26 and other roadway improvements. For example, there are approximately 2,109 acres of
27 prairie dog colonies within one-half of a mile of Package A and 1,624 acres of prairie dog
28 colonies within one-half of a mile of Package B. Impacts associated with Package A
29 represent 2 percent (51 acres) of this habitat and impacts associated with Package B
30 represent 6 percent (104 acres) of this habitat. In addition, less than 1,000 acres of
31 agricultural/vacant lands would be converted to a transportation use.

32 **3.26.3.4 WETLANDS**

33 Wetlands in the regional study area are primarily associated with natural drainages, seep
34 areas, ponded sites, and irrigation and roadside ditches. Major drainages within the regional
35 study area include Cache La Poudre River, Big Thompson River, South Platte River, Little
36 Thompson River, Boxelder Creek, Fossil Creek, St. Vrain Creek, Boulder Creek, Little Dry
37 Creek, Coal Creek, and Big Dry Creek.

38 Early explorers and settlers to the Front Range found riparian areas and wetlands to be the
39 most habitable environments. These areas were full of wildlife and game, trees that could
40 be cultivated as timber and water. Wetlands themselves were viewed as waste areas, and
41 the practice of dredging or filling wetlands to convert the land to other uses became
42 standard practice. The rich, alluvial soils could be converted easily to agricultural land by
43 draining the water from the area or channelizing the water for use in irrigation. Although
44 seasonal flooding hampered early development of these areas, settlers learned to adapt to

1 flooding events in order to capitalize on the resources of floodplains. As the area was
2 converted to agricultural land and development spread, wetland loss occurred widespread
3 and at a rapid rate.

4 Although there is no concise inventory of historical wetlands in Colorado, national
5 estimates, taken from data collected by the National Wetlands Inventory in conjunction with
6 status and trends reports, have shed some light on wetland loss and degradation. It is
7 estimated that Colorado experienced a 50 percent loss of wetlands from the 1700s into the
8 later part of the 20th century. Rapid urbanization, mining, and agriculture have impacted
9 wetlands in the regional study area greatly since 1940.

10 To study how urban growth has impacted wetlands in the regional study area, data from the
11 U.S. Geological Survey (USGS) were used. This analysis involved use of GIS to analyze
12 data that portray land cover over different time periods. The USGS included as wetlands
13 those areas where the water table is at, near, or above the land surface for a significant part
14 of most years and covers more than 25 percent of the land surface. Wetlands less than 2.5
15 acres in size were not included in the analysis. Thus, the data provide a very gross estimate
16 of wetlands and under report the number and acreage of wetlands in the regional study
17 area. Data collected in the 1970s show approximately 3,188 acres of wetlands present in
18 the regional study area. Data collected in the 1990s shows 2,951 acres of wetlands in the
19 regional study area, a decrease of 237 acres, or 7.4 percent of wetland acreage. This is in
20 accordance with past trends of wetland loss for the area.

21 Wetland scientists conducted wetland delineations along the build packages. Wetland
22 delineations identified 399 acres of wetlands and 39.5 acres of jurisdictional open waters
23 adjacent to the improvements proposed under Package A. A total of 301.1 acres of
24 wetlands and 43.7 acres of jurisdictional open waters were identified for Package B.

25 Today, there are 67,227 acres of protected lands within the regional study area. These
26 lands include parks, open space, conservation easements, and other types of land not
27 available for development. Approximately 519 acres of wetlands fall within this protected
28 land, accounting for 17.6 percent of the total 1990 wetland acreage estimates.

29 Estimating direct impacts of reasonably foreseeable development to wetlands in the
30 regional study area is difficult, as final design for many of the proposed projects have not
31 yet been determined. As the Denver Metropolitan Corridor spreads northward, planned
32 development is likely to result in further direct and indirect impacts to wetland communities.

33 Under the No-Action Alternative, wetland degradation and loss is anticipated to continue as
34 growth and development continue to occur in undeveloped areas. Impacts to any
35 jurisdictional wetlands would be mitigated on a one-for-one basis, resulting in no net loss of
36 jurisdictional wetlands. Because CDOT requires mitigation on a one-for-one basis for any
37 wetland impact (regardless of jurisdictional status), there would be no net loss of wetlands
38 as a result of CDOT actions.

39 Package A would directly impact 17.48 acres of wetlands and 1.86 acres of jurisdictional
40 open waters located within the proposed alignments, or 4.4 percent of the wetlands present
41 along Package A. Package B would directly impact 18.11 acres of wetlands and 2.27 acres
42 of jurisdictional open waters located within the proposed alignments, or 5.9 percent of the
43 wetlands present along Package B. When impacted acreage is compared to 1990 wetland
44 estimates, it is shown that the wetland impacts associated with Package A (17.48 acres) or

1 Package B (18.11 acres) would account for 0.6 percent of wetlands present in the regional
2 study area, based on USGS mapping.

3 Although historical urbanization has caused the greatest impact on wetlands, cumulative
4 impacts to wetlands and riparian areas have occurred and will continue to occur in the regional
5 study area due to construction, land conversion, and agricultural practices. Mitigation measures
6 would mitigate for these losses and result in no net loss of jurisdictional wetlands. In addition,
7 approximately 519 acres of remaining wetlands fall within lands that are currently protected.

8 The incremental impact of either of the build packages represents 0.6 percent of wetlands
9 present in the regional study area based on USGS mapping. Because CDOT requires mitigation
10 on a one-for-one basis for any wetland impact (regardless of jurisdictional status), there would
11 be no net loss of wetlands as a result of the impacts associated with Packages A or B.

12 3.26.3.5 AIR QUALITY

13 Ambient air quality monitoring began along the Front Range in the 1960s. Data since that
14 time show that pollution emissions controls and programs instituted as a result of the Clean
15 Air Act and its amendments have been successful in reducing criteria pollutant levels.
16 Ozone levels violated the National Ambient Air Quality Standards (NAAQS) in
17 2007, causing the northern Front Range counties including the regional study area to be in
18 nonattainment for 8-hour ozone. Ozone is not directly emitted into the atmosphere, but is
19 created by a chemical reaction of various pollutants (nitrogen oxides [NO_x] and
20 hydrocarbons) with sunlight. The pollutants that contribute to the generation of ozone are
21 referred to as "precursors". Rigorous adherence to reduction programs and precursor
22 emissions controls will prevent future air quality deterioration. Future mobile source
23 pollutant emissions of carbon monoxide (CO), NO_x, PM, and toxics are expected to
24 continue to decline as a result of new low sulfur fuel requirements, stricter retrofit and
25 engine exhaust emission controls, and engine efficiency improvements.

26 Transportation projects that might exacerbate air quality problems must meet certain
27 requirements before they can proceed. Particularly, a regional air quality conformity analysis
28 is needed to show that projects are compatible with the State Implementation Plan. In
29 addition, a local hot spot analysis for carbon monoxide is needed to show that an action will
30 not cause violations of the NAAQS. Potential carbon monoxide and (PM₁₀) hot spots were
31 identified through preliminary evaluation of intersections in the regional study area (see
32 **Section 3.5 Air Quality**). No CO or PM₁₀ hot spots emissions in violation of the NAAQS are
33 predicted to result from either build package under modeled 2030 traffic volumes.

34 While the number of pollution sources is expected to grow, pollution emissions are not
35 expected to increase proportionately due to implementation of stricter regulatory controls
36 such as evaporative emissions controls applied to area oil and gas production facilities,
37 development of wind and renewable energy sources for large scale electrical power
38 generation, and continued conversion of fossil fuel burning to unconventional fuels and fuel
39 hybrids. Within the Denver, Fort Collins, Greeley, and Longmont criteria pollutant
40 attainment/maintenance areas, 2030 design year total CO emissions for Package A and
41 Package B would be well below local attainment/maintenance plan emissions budgets.

42 Any incremental emissions impacts to air quality from the proposed build packages would
43 be small compared to current pollutant emissions levels. Additionally, transit facilities and
44 service would not contribute significant direct air quality impacts and would act to reduce the

1 growth of single occupancy vehicle use, lowering vehicle miles traveled (VMT) and traffic
2 emissions for the region overall.

3 The issue of global climate change is an important national and global concern that is being
4 addressed in several ways by the Federal government. The transportation sector is the
5 second largest source of total greenhouse gases (GHGs) in the U.S., and the greatest source
6 of carbon dioxide (CO₂) emissions – the predominant GHG. In 2004, the transportation
7 sector was responsible for 31 percent of all U.S. CO₂ emissions. The principal anthropogenic
8 (human-made) source of carbon emissions is the combustion of fossil fuels, which account for
9 approximately 80 percent of anthropogenic emissions of carbon worldwide. Almost all
10 (98 percent) of transportation-sector emissions result from the consumption of petroleum
11 products such as gasoline, diesel fuel, aviation fuel, and residual fuel.

12 Recognizing this concern, FHWA is working with other modal administrations through the
13 DOT Center for Climate Change and Environmental Forecasting to develop strategies to
14 reduce transportation's contribution to greenhouse gases - particularly CO₂ emissions - and
15 to assess the risks to transportation systems and services from climate changes. There are
16 also several programs underway in Colorado to address transportation GHGs. The
17 Governor's Climate Action Plan, adopted in November 2007, includes measures to adopt
18 vehicle CO₂ emissions standards and to reduce vehicle travel through transit, flex time,
19 telecommuting, ridesharing, and broadband communications. CDOT's proposed
20 programmatic agreement includes several additional measures, including research into
21 pavement durability and additives to reduce CO₂ associated with construction, expansion of
22 Transportation Demand Management (TDM) efforts, planning assistance to local agencies,
23 and measures to address freight travel efficiency and idling.

24 Because climate change is a global issue, and the emissions changes due to project
25 alternatives are very small compared to global totals, FHWA did not calculate the GHG
26 emissions associated with the alternatives. Because GHGs are directly related to energy
27 use, the changes in GHG emissions would be similar to the changes in energy consumption
28 presented in **Section 3.21**. The relationship of current and projected Colorado highway
29 emissions to total global CO₂ emissions is presented in the table below. Colorado highway
30 emissions are expected to increase by 4.7% between now and 2035. The benefits of the
31 fuel economy and renewable fuels programs in the 2007 Energy Bill are offset by growth in
32 VMT; the draft 2035 statewide transportation plan predicts that Colorado VMT will double
33 between 2000 and 2035. **Table 3.26-7** also illustrates the size of the project corridor
34 relative to total Colorado travel activity.

35 **Table 3.26-7 Annual CO₂ Emissions Comparison**

Global CO ₂ emissions, 2005, MMT ¹	Colorado highway CO ₂ emissions, 2005, MMT	Projected Colorado 2035 highway CO ₂ emissions, MMT	Colorado highway CO ₂ emissions, % of global total (2005)	Project corridor VMT, % of statewide VMT (2001)
27,700	29.9	31.3	0.108	22

EIA, International Energy Outlook 2007
MMT – Million metric tons

3.26.3.6 HISTORIC PROPERTIES AND DISTRICTS

In the early 20th century, most of the regional study area was used for agricultural purposes. Individual farmsteads were usually one or two quarter sections of land (160 or 320 acres). As the automobile and tractor started replacing the horse and carriage, roads were built. Road access facilitated additional development. Much of the new development was auto-related with service stations and restaurants built to serve the motoring public. Many small settlements were established throughout the region, many serving as supply and social centers as well as produce shipping points for dispersed farms.

The late 1960s brought more residential development, with the development of large-scale subdivisions beginning in the 1980s. These residential developments have put pressure on many of the country roads that were never envisioned to carry the amount of traffic generated by large-scale development. The small downtowns of many of the historic settlements are now experiencing renewed activity as a result of development of nearby residential subdivisions. As land becomes more valuable for development, farmers are increasingly pressured to sell or develop their land.

Under the No-Action Alternative, the conversion of the remaining historic farmsteads into urban development would continue in accordance with local development plans. Traffic and congestion within the regional study area would continue to increase and would result in an increase in noise, air emissions, and visual obstructions affecting historic properties and districts. Planned growth within the I-25 corridor would result in more traffic through some historically smaller communities.

Implementation of Package A would result in adverse impacts to Loudon Ditch (5LR.8930.1), the Denver Pacific/Kansas Pacific/Union Pacific Railroad - Denver & Boulder Valley Branch (5WL.1969/5BF.130), and three historic structures - Old City Electric Building (5BL.1245), the Colorado & Southern / BNSF Depot (5BL.1244), and the farmhouse on the Hingley Farm (5WL.5263). Construction of the commuter rail components (A-T1 and A-T2) would support municipal plans for downtown redevelopment and would increase overall density and footprint of urban centers along the BNSF rail line. While the conversion of historic properties and farmsteads would continue, it would likely occur more slowly in areas adjacent to the BNSF rail line. The commuter rail component also would result in additional trains within the BNSF corridor. This would alter the current character of the railroad from a freight line to a combination passenger/freight line service.

Implementation of Package B would result in adverse impacts to Loudon Ditch (5LR.8930.1). The conversion of the remaining farmsteads into urban and subdivision development would continue in accordance with local development plans. Increasing traffic and congestion within the regional study area would continue and would result in an increase in noise, air emissions, and visual obstructions for historic properties and districts. This impact would not affect the district's and property's eligibility to the National Register of Historic Places.

1 In general, the increased traffic on I-25 with Package A and Package B would reduce traffic
2 on the roadways parallel to I-25. The traffic analysis (Section 4.3.4) found that both build
3 packages would reduce arterial volumes somewhat compared to the No-Action. Reduction
4 on arterials would range from 4% to 12% for Package A and from 0% to 3 % for Package B.
5 This data indicates that traffic within historic districts in Fort Collins, Loveland, and
6 Longmont would not increase as a result of either build package.

7 Cumulative impacts to historic properties and districts have occurred and will continue to
8 occur in the regional study area due to the conversion of agricultural lands and farmsteads
9 to urban land uses and limited local historic preservation regulations. Planned transportation
10 and development actions will, over time, result in the additional loss of historic properties
11 and will alter the historic character of small farming communities. These impacts will occur
12 regardless of whether a build package is implemented or not. The construction of a build
13 package would not contribute to cumulative impacts to historic resources in comparison to
14 what is already anticipated through land development projects and other roadway
15 improvements. In addition, federal legislation protects historic resources (National Historic
16 Preservation Act of 1966, as amended and Section 4(f) of the U.S. Department of
17 Transportation Act) and requires that adverse effects be mitigated.

18 3.26.4 Conclusion

19 Environmental impacts from the build packages, when added to past, present, and reasonably
20 foreseeable future projects, would result in cumulative impacts to environmental resources of
21 concern. The majority of these impacts are a result of the growth and development already
22 expected to occur in the regional study area, with or without any transportation improvements.
23 The construction of a build package would not contribute significantly to cumulative impacts.
24 The exception is for Package A, where additional barriers at wildlife crossing sites would result
25 in impacts to wildlife. However, these impacts can be minimized by limiting fencing in areas
26 where substantial impacts would occur. In other areas, culverts and bridges could be used to
27 facilitate wildlife movement (**Section 3.12**).

28 To avoid additional impacts to the identified resources of concern, local authorities and
29 planning entities must continue to review and scrutinize development proposals to ensure
30 that new development is consistent with local area planning goals. One way local planning
31 jurisdictions can reduce environmental impacts is through the implementation of smart
32 growth initiatives. These initiatives can provide economic, social, and environmental
33 benefits to a community. Nearly every community in the regional study area incorporates
34 smart growth principles into their comprehensive/land use plans. Of 29 planning documents
35 that were reviewed for smart growth principles, 65 percent included eight to ten of the smart
36 growth principles. The next step is for local jurisdictions to strictly enforce these principles
37 through their development review process.

38 Local authorities and planning entities should also require appropriate avoidance or
39 mitigation as part of any new development project. Resources most at risk that could be
40 protected are riparian areas, floodplain areas, and wildlife habitat areas. For transportation
41 projects, CDOT will ensure that all best management practices and mitigation measures
42 specified in this Draft EIS are followed appropriately.

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