TRANSIT OPERATING PLANS, OPERATING STATISTICS AND O&M COSTS FOR LEVEL 3 NORTH I-25 PACKAGES

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1.0 Intoduction

This report documents the transit operating plans, transit operating statistics, and transit operating and maintenance (O&M) costs associated with the North I-25 packages as defined for Level 3 analysis. The following summarizes the corridor transit elements of the eight packages under Level 3:

- **Package 1 (general purpose lanes and commuter bus):** Commuter bus service would operate from Fort Collins to DUS, using general purpose lanes on I-25.

- **Package 2 (toll lanes and commuter bus on I-25, US 85 and US 287):** Commuter bus service would operate from Fort Collins to DUS, using general purpose lanes on I-25. Commuter bus would also operate in mixed traffic along US 287 (Fort Collins to Longmont) and US 85 (Greeley to DIA and Greeley to DUS).

- **Package 3 (HOT lanes, BRT on I-25 and commuter bus on US 287 and US 85):** BRT service would operate from Fort Collins to DUS, using HOT lanes on I-25. Commuter bus service would operate in mixed traffic along US 287 (Fort Collins to Longmont) and US 85 (Greeley to DUS).

- **Package 4 (limited access lanes and commuter bus to DUS and DIA):** Commuter bus service would operate from Fort Collins to DUS using general purpose lanes on I-25. Service includes two patterns: from Fort Collins to DUS, and Fort Collins to DIA.

- **Package 5 (general purpose lanes, managed lane, BRT on I-25 and commuter bus on US 85 and US 287)**: BRT service would operate from Fort Collins to DUS using some type of managed lanes on I-25. Commuter bus service would operate in mixed traffic along US 287 (Fort Collins to Longmont) and US 85 (Greeley to DUS).

- **Package 6 (general purpose lanes and central commuter rail):** Commuter rail service would operate on the western side of I-25 from Harmony Road to approximately SH 119, cross I-25 north of Frederick/Firestone and continue through Dacono, connecting to the North Metro FasTracks line continuing to DUS. In addition, the US 36 rail line would be extended from Longmont via SH 119 to a terminus at I-25/SH 119.

- **Package 7 (general purpose lanes, western commuter rail, and commuter bus on US 85 to DUS and DIA):** Commuter rail would operate within the BNSF right-of-way from Fort Collins to Longmont, where it connects to the US 36 FasTracks line continuing to DUS via Boulder. Commuter bus would operate in mixed traffic along US 85 from Greeley to DUS and Greeley to DIA.

- **Package 8 (western commuter rail, HOV lanes, BRT on I-25 and commuter bus on US 85):** Commuter rail would operate along the BNSF from Fort Collins to Longmont, connecting with the US 36 FasTracks line continuing to DUS via Boulder. An extension of the North Metro FasTracks line would proceed via Dacono and SH 119 to Longmont. BRT service would operate within the HOV lanes along I-25 from Harmony Road to DUS. Commuter bus service would operate in mixed traffic along US 85 to DUS and DIA.

2.0 Transit Operating Plans

Transit operating plans refer to the definition of transit routes and service levels for each of the packages. The starting point for all operating plans is a "No Build" transit network, described below. Packages then modify the No Build transit network to introduce new corridor service(s). Feeder bus services are defined in order to provide transit access to the new corridor service(s). Modifications to existing bus routes are defined as applicable, to enhance connections to the new corridor service(s).

2.1 No Build

The No Build transit network is defined as existing plus committed transportation projects and programs through the forecast year 2030. The No Build scenario incorporates RTD's FasTracks plan, which includes rail transit service on the US 36 Corridor from Denver Union Station (DUS) to Twin Peaks Mall in Longmont, and rapid transit service on the North Metro corridor from DUS to SH 7 in Thornton. RTD's FasTracks bus network is also incorporated for the North I-25 No Build transit network. Bus services provided by the Cities of Fort Collins (Transfort), Loveland (COLT), and Greeley (The Bus) are generally reflected at existing service. The South Transit Center in Fort Collins is assumed to be relocated to a site south of Harmony Road along US 287.

2.2 Package 1

Package 1 introduces commuter bus service on the I-25 corridor, operating in general purpose lanes. Commuter bus service would begin at the Fort Collins North Transit Center, proceeding south on US 287, turning east on Harmony Road, then entering I-25 to proceed to Denver Union Station (DUS). Once on I-25, commuter buses would have to exit the freeway to serve park-and-Ride stations. To keep travel times reasonably competitive, stations along I-25 are therefore kept to a minimum. Commuter bus stops would be provided at North Transit Center, CSU, South Transit Center, Harmony/Timberlake, I-25/Harmony, I-25/US 34, I-25/SH 119, I-25/Wagon Road, and DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays, and 60 minute service on weekends.

In terms of modifications to local service, one of the local Transfort routes (Route 7) is assumed to extend along Harmony Road to the Harmony/I-25 station to provide local bus access along Harmony Road for transit users to get to the nearest commuter bus stop. An extension of COLT's Jitterbus is also assumed, using the I-25 frontage road to serve Crossroads.

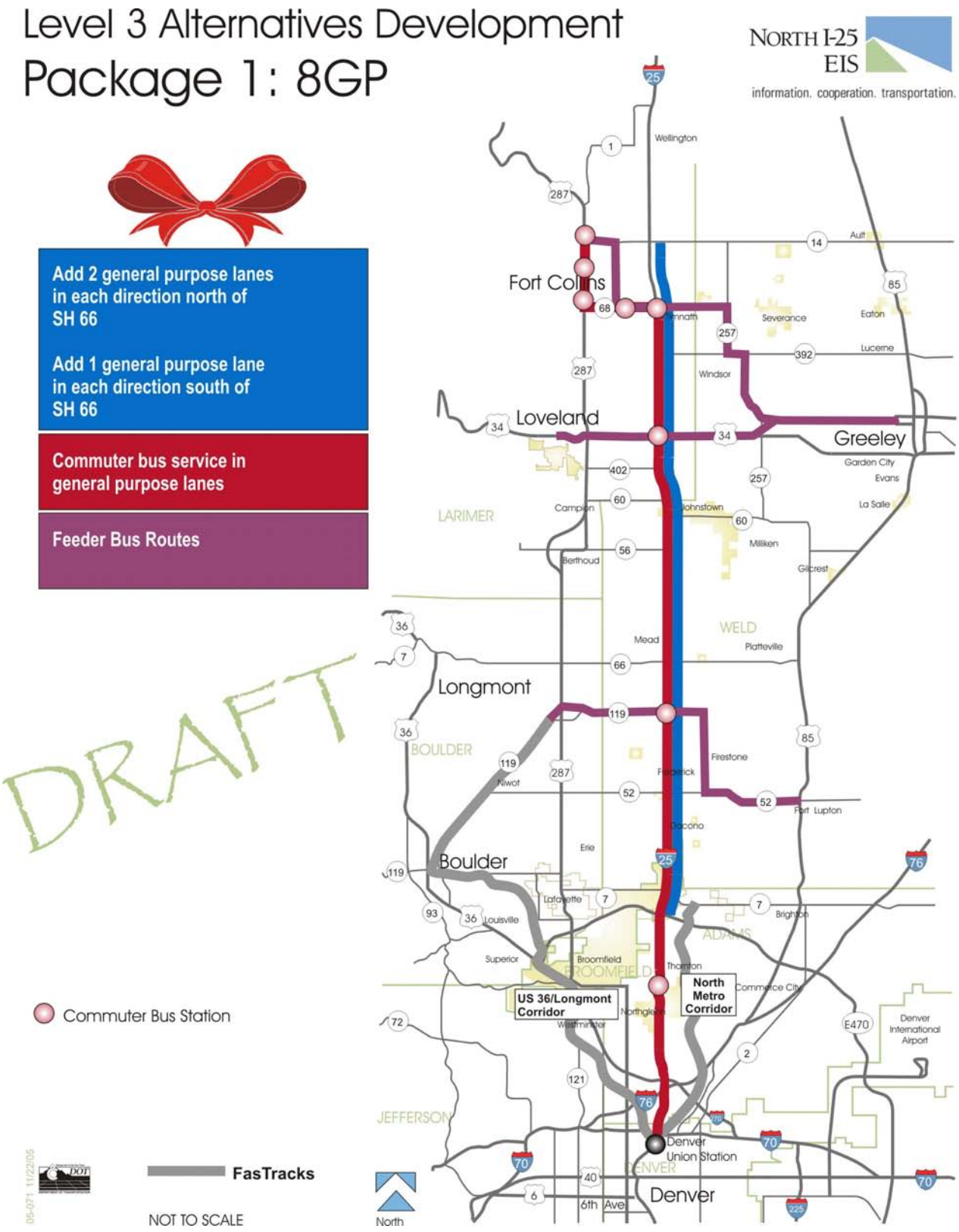
Three feeder routes are defined in order to provide transit access from outlying communities to the new commuter bus service:

- Greeley – Windsor – Fort Collins: New route begins at the Greeley Transit Center and proceeds west along Hwy 34, north on Hwy 257, west on Harmony Road, north on Timberline Road, west on SH 14 to the Fort Collins North Transit Center. Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on weekends.
- Greeley – Loveland (US 34): New route begins at the Greeley Transit Center and proceeds west along Hwy 34 (business)/US 34 to west Loveland (US 34 at Wilson Avenue). Assumes 15 minute peak, 30 minute base service frequencies on weekdays and 30 minute service on weekends.

- Fort Lupton – Longmont: New route begins in Fort Lupton at SH 52/US 85, proceeds west on SH 52, north on CR 13 (Colorado Avenue), west on CR 24 (Firestone Boulevard)/SH 119 to Longmont, terminating at the Longmont commuter rail station at Twin Peaks Mall. Assumes 60 minute all-day service on weekdays only.

The transit operating plan is illustrated in Figure 2-1. Stations and park-and-Ride assumptions for the commuter bus corridor service are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-1


Level 3 Alternatives Development
Package 1: 8GP
NORTH I-25 EIS
information. cooperation. transportation.
Add 2 general purpose lanes in each direction north of SH 66
Add 1 general purpose lane in each direction south of SH 66
Commuter bus service in general purpose lanes
Feeder Bus Routes
DRAFT
Commuter Bus Station
FasTracks
NOT TO SCALE
North
US 36/Longmont Corridor
North Metro Corridor
Fort Collins
Loveland
Greeley
Longmont
Boulder
Denver
Denver Union Station
Wellington
Windsor
Severance
Eaton
Lucerne
Johnstown
Milliken
Berthoud
Mead
Platteville
Firestone
Frederick
Erie
Lafayette
Louisville
Superior
Broomfield
Thornton
Commerce City
Northglenn
Westminster
Brighton
Aurora
Denver International Airport
LARIMER
WELD
BOULDER
ADAMS
JEFFERSON
DENVER
6th Ave

2.3 Package 2

Package 2 provides commuter bus service on the following corridors:

- I-25 corridor from Fort Collins to DUS;
- US 287 from Fort Collins to Longmont;
- US 85 from Greeley to DUS; and
- US 85 from Greeley to DIA.

I-25 commuter bus service uses the same routing, stops and service levels as described for Package 1.

US 287 commuter bus service begins at the Fort Collins North Transit Center and proceeds south along US 287 in mixed traffic, providing stops at CSU, South Transit Center, US 34, SH 402, SH 46, 17th Street in Longmont, and Twin Peaks Mall in Longmont where connections can be made to the US 36 rail service to DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

US 85 commuter bus service from Greeley to DUS begins at the Greeley Transit Center and heads south along US 85 in mixed traffic, providing stops at 18th Street (Greeley), La Salle, SH 66 (Platteville), SH 52 (Fort Lupton), SH 7 (Brighton), Commerce City, and DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

US 85 commuter bus service from Greeley to DIA begins at the Greeley Transit Center and heads south along US 85 in mixed traffic, providing stops at 18th Street (Greeley), La Salle, SH 66 (Platteville), SH 52 (Fort Lupton), SH 7 (Brighton), E-470/I-76, and DIA. Service frequency is defined at 60 minutes all day, seven days a week.

In terms of modifications to local service, modifications to a Transfort route (Route 7) and COLT's Jitterbus are assumed, as described under Package 1. The three new feeder routes as described under Package 1 (Greeley – Windsor – Fort Collins, Greeley – Loveland, and Fort Lupton – Longmont) are also assumed.

The transit operating plan is illustrated in Figure 2-2. Stations and park-and-Ride assumptions for the commuter bus corridor services are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-2


Level 3 Alternatives Development
Package 2: Toll
NORTH I-25 EIS
information. cooperation. transportation.
Add 2 toll lanes in each direction
Commuter bus service in general purpose lanes
Feeder Bus Routes
Commuter Bus Station
FasTracks
NOT TO SCALE
North
DRAFT
Wellington
Fort Collins
Loveland
Greeley
Longmont
Boulder
Denver
Denver Union Station
Ault
Severance
Eaton
Luceme
Windsor
Garden City
Evans
La Salle
Johnstown
Milliken
Gilcrest
Berthoud
Mead
Platteville
Firestone
Frederick
Dacono
Erie
Lafayette
Louisville
Superior
Broomfield
Thornton
Northglenn
Westminster
Brighton
Commerce City
Denver International Airport
US 36/Longmont Corridor
North Metro Corridor
LARIMER
WELD
BOULDER
ADAMS
JEFFERSON
6th Ave

2.4 Package 3

Package 3 provides the following corridor transit services:

- Bus Rapid Transit (BRT) on I-25 corridor from Fort Collins to DUS (using HOT lanes);
- US 287 commuter bus from Fort Collins to Longmont; and
- US 85 commuter bus from Greeley to DUS.

The I-25 BRT service is a premium service that uses HOT lanes on I-25. BRT stops are within the I-25 right-of-way, as opposed to the commuter bus concept of having to exit the freeway to serve park-n-Rides. Because BRT stops do not require time-consuming route deviations, more stops are defined along I-25. Like the previously-described commuter bus service, BRT service would begin at the Fort Collins North Transit Center, proceeding south on US 287, turning east on Harmony Road, then entering I-25 to proceed to Denver Union Station (DUS). BRT stops would be provided at North Transit Center, CSU, South Transit Center, Harmony/Timberlake, I-25/Harmony, I-25/SH 392, I-25/Crossroads, I-25/US 34, I-25/SH 56/60, I-25/SH 119, I-25/SH 52, I-25/SH 7, I-25/Wagon Road, and DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

Per Package 2, US 287 commuter bus service begins at the Fort Collins North Transit Center and proceeds south along US 287 in mixed traffic, providing stops at CSU, South Transit Center, US 34, SH 402, SH 46, 17th Street in Longmont, and Twin Peaks Mall in Longmont where connections can be made to the US 36 rail service to DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

Per Package 2, US 85 commuter bus service from Greeley to DUS begins at the Greeley Transit Center and heads south along US 85 in mixed traffic, providing stops at 18th Street (Greeley), La Salle, SH 66 (Platteville), SH 52 (Fort Lupton), SH 7 (Brighton), Commerce City, and DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

In terms of modifications to local service, modifications to a Transfort route (Route 7) and COLT's Jitterbus are assumed, as described under Package 1. Jitterbus is given an improved peak headway of 30 minutes since it serves the Crossroads BRT station.

Because more stations are provided along I-25, a greater network of feeder routes is defined as compared to Package 1:

- Greeley – Windsor – Fort Collins: New route begins at the Greeley Transit Center and proceeds west along Hwy 34, north on Hwy 257, west on Hwy 392/32, north on Timberline Road, west on Drake, north on US 287 to the Fort Collins North Transit Center. (Modified route compared to Package 1 allows transit service to I-25/Hwy 392 station instead of Harmony station which is served by a Transfort route.) Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on weekends.
- Greeley – Loveland (US 34): Per Package 1, new route begins at the Greeley Transit Center and proceeds west along Hwy 34 (business)/US 34 to west Loveland (US 34 at Wilson Avenue). Assumes 15 minute peak, 30 minute base service frequencies on weekdays and 30 minute service on weekends.
- Platteville – Milliken – Johnstown – Berthoud: New route begins in Platteville (US 85/SH 66) heading north on US 85, north and west on SH 60, south on E. Frontage Road,

west on SH 56 to SH 56/Taft Road (CR 17) in Berthoud. Assumes 60 minute all-day service on weekdays only.

- Firestone – Frederick – Longmont: New route begins at Dacono station at I-25/SH 52, heading east on SH 52, north on County Road 13, and west on SH 119 into downtown Longmont. Assumes 60 minute all-day service on weekdays only.
- Fort Lupton – Boulder: New route begins in Fort Lupton at SH 52/US 85 and proceeds west on SH 52, then southwest on SH 119, terminating in Boulder (Pearl/30th). Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on Saturdays (no Sunday service assumed).

The transit operating plan is illustrated in Figure 2-3. Stations and park-and-Ride assumptions for the bus corridor services are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-3


Level 3 Alternatives Development
Package 3: HOT
NORTH I-25 EIS
information. cooperation. transportation.
Add 2 HOT lanes in each direction
BRT service in I-25 HOT lanes
Commuter bus service in general purpose lanes
Feeder Bus Routes
Commuter Bus Station
Bus Rapid Transit Station
FasTracks
NOT TO SCALE
North
US 36/Longmont Corridor
North Metro Corridor
Fort Collins
Loveland
Greeley
Longmont
Boulder
Denver
Denver Union Station
Wellington
Windsor
Severance
Eaton
Lucerne
Garden City
Evans
La Salle
Johnstown
Milliken
Mead
Platteville
Firestone
Frederick
Erie
Lafayette
Louisville
Superior
Broomfield
Thornton
Northglenn
Westminster
Commerce City
Brighton
Aurora
Denver International Airport
LARIMER
WELD
BOULDER
ADAMS
JEFFERSON
DENVER
6th Ave
DRAFT

2.5 Package 4

Package 4 provides commuter bus service along the I-25 corridor. Service is defined between Fort Collins and DUS, as well as between Fort Collins and DIA.

I-25 commuter bus service to DUS uses the same routing, stops and service levels as described under Package 1.

I-25 commuter bus service to DIA has the same route and stations north of E-470, but then turns east on E-470, turning onto Pena Boulevard to terminate at DIA. Stations are at Fort Collins' North Transit Center, CSU, South Transit Center, Harmony/Timberlake, I-25/Harmony, I-25/US 34, I-25/SH 119, E-470/I-76, and DIA. Service frequency is defined at 60 minutes all day, seven days a week.

In terms of modifications to local service, modifications to a Transfort route (Route 7) and COLT's Jitterbus are assumed, as described under Package 1. The three new feeder routes as described under Package 1 (Greeley – Windsor – Fort Collins, Greeley – Loveland, and Fort Lupton – Longmont) are also assumed.

The transit operating plan is illustrated in Figure 2-4. Stations and park-and-Ride assumptions for the commuter bus corridor services are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-4


Level 3 Alternatives Development
Package 4: LAL
NORTH I-25 EIS
information. cooperation. transportation.
Add 2 limited access lanes in each direction[1]
Commuter bus service in general purpose lanes
Feeder Bus Routes
[1] Two new lanes north of SH 66. South of SH 66, one existing lane in each direction would be converted to a Limited Access Lane for a total of 8 lanes on the entire corridor.
DRAFT
Commuter Bus Station
FasTracks
NOT TO SCALE
North
Fort Collins
Loveland
Greeley
Longmont
Boulder
Denver
Denver Union Station
Denver International Airport
US 36/Longmont Corridor
North Metro Corridor
LARIMER
WELD
BOULDER
JEFFERSON
Wellington
Ault
Severance
Eaton
Lucerne
Windsor
Garden City
Evans
La Salle
Johnstown
Milliken
Gilcrest
Berthoud
Campion
Mead
Platteville
Firestone
Niwot
Fort Lupton
Erie
Lafayette
Louisville
Superior
Broomfield
Thornton
Commerce City
Westminster
Brighton
6th Ave
E470

2.6 Package 5

Package 5 provides the following corridor transit services:

- Bus Rapid Transit (BRT) on I-25 corridor from Fort Collins to DUS (using managed lanes);
- US 287 commuter bus from Fort Collins to Longmont; and
- US 85 commuter bus from Greeley to DUS.

From a transit definition perspective, Package 5 is identical to Package 3; the only differences are the use of managed lanes rather than Package 3's HOT lanes, which has no material effect on how the transit service is defined.

Modifications to local service and definition of new feeder routes are also identical to Package 3.

The transit operating plan is illustrated in Figure 2-5. Stations and park-and-Ride assumptions for the bus corridor services are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-5


Level 3 Alternatives Development
Package 5: 6GP + 2 MLs
NORTH I-25 EIS
information. cooperation. transportation.
Add 1 general purpose lane in each direction
BRT service in I-25 managed lanes
Commuter bus service in general purpose lanes
Add 1 managed lane in each direction 1
Feeder Bus Routes
1 "Managed lane" could be an HOV, HOT, or Toll lane on I-25
DRAFT
Commuter Bus Station
Bus Rapid Transit Station
FasTracks
NOT TO SCALE
North
US 36/Longmont Corridor
North Metro Corridor
Fort Collins
Loveland
Greeley
Longmont
Boulder
Denver
Denver Union Station
Wellington
Windsor
Severance
Eaton
Lucerne
Garden City
Evans
La Salle
Johnstown
Milliken
Berthoud
Mead
Platteville
Firestone
Frederick
Dacono
Erie
Lafayette
Louisville
Superior
Broomfield
Northglenn
Westminster
Commerce City
Brighton
Aurora
Denver International Airport
E470
LARIMER
WELD
BOULDER
ADAMS
JEFFERSON
DENVER
6th Ave

2.7 Package 6

Package 6 provides an extension of the North Metro rail line to Fort Collins, and a short extension of the US 36 rail line along SH 119 to I-25/SH 119, allowing a rail-to-rail transfer to the North Metro extension.

For the North Metro rail extension, stations are provided at I-25/Harmony, I-25/SH 392, I-25/Crossroads, I-25/US 34, I-25/SH 56/60, I-25/SH 119, and I-25/SH 52, continuing to the FasTracks North Metro station at SH 7/Dent railroad right-of-way and serving all North Metro stations to DUS. The full line from Fort Collins to Denver is assumed to operate at 30 minute peak headways and 60 minute base headways. Short service patterns from DUS to SH 7 and 124th allow more frequent service between Thornton and DUS. Three route patterns provide service as follows:

- DUS to Fort Collins: 30 minute peak, 60 minute base
- DUS to SH 7 (Thornton): no peak period service, 60 minute base
- DUS to 124th (Thornton): 30 minute peak period service only

These operating patterns lead to the following combined headways by segment:

- DUS to 124th (Thornton): 15 minute peak, 30 minute base
- 124th to SH 7 (Thornton): 30 minute peak, 30 minute base
- SH 7 (Thornton) to Harmony/I-25 (Fort Collins): 30 minute peak, 60 minute base

The US 36 rail extension provides an extension from the FasTracks terminus at Twin Peaks Mall in Longmont, serving a station at 1st/Terry in Longmont, then continuing along SH 119 to a terminus at I-25/SH 119. The full line from DUS to I-25/SH 119 is assumed to operate at 30 minute peak headways and 60 minute base headways. Short service patterns from DUS to Boulder and Longmont allow more frequent service between Boulder and DUS. Three route patterns provide service as follows:

- DUS to I-25/SH 119: 30 minute peak, 60 minute base
- DUS to Twin Peaks Mall (Longmont): no peak period service, 60 minute base
- DUS to Pearl/30th (Boulder): 30 minute peak period service only

These operating patterns lead to the following combined headways by segment:

- DUS to Pearl/30th (Boulder): 15 minute peak, 30 minute base
- Pearl/30th (Boulder) to Twin Peaks Mall (Longmont): 30 minute peak, 30 minute base
- Twin Peaks Mall (Longmont) to I-25/SH 119: 30 minute peak, 60 minute base

In terms of modifications to local service, modifications to a Transfort route (Route 7) and COLT's Jitterbus are assumed, as described under Package 1. Jitterbus is given an improved peak headway of 30 minutes since it serves the Crossroads/I-25 rail station.

Feeder routes are similar to Package 3 but tailored to this package:

- Greeley – Windsor – Fort Collins: Per Package 3, new route begins at the Greeley Transit Center and proceeds west along Hwy 34, north on Hwy 257, west on Hwy 392/32, north on Timberline Road, west on Drake, north on US 287 to the Fort Collins

North Transit Center. Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on weekends.

- Greeley – Loveland (US 34): Per all packages, new route begins at the Greeley Transit Center and proceeds west along Hwy 34 (business)/US 34 to west Loveland (US 34 at Wilson Avenue). Assumes 15 minute peak, 30 minute base service frequencies on weekdays and 30 minute service on weekends.
- Milliken – Johnstown – Berthoud: New route begins in Milliken (Hwy 60/Alice Avenue), heading west on SH 60, south on E. Frontage Road, west on SH 56 to SH 56/Taft Road (CR 17) in Berthoud. (Does not assume Package 3's extension to Platteville since there is no US 85 corridor service in this package.) Assumes 60 minute all-day service on weekdays only.
- Firestone – Frederick: New local feeder route begins at the SH 52/I-25 station, proceeds east on SH 52, north on CR 13, and west on SH 119 to the SH 119/I-25 station. Assumes 30 minute peak, 60 minute base service on weekdays only.
- Fort Lupton – Boulder: Per Package 3, new route begins in Fort Lupton at SH 52/US 85 and proceeds west on SH 52, then southwest on SH 119, terminating in Boulder (Pearl/30th). Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on Saturdays (no Sunday service assumed).

The transit operating plan is illustrated in Figure 2-6. Stations and park-and-Ride assumptions for the rail transit corridor services are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-6


Level 3 Alternatives Development
Package 6: 6GP + Central CR
NORTH I-25 EIS
information. cooperation. transportation.
Add 1 general purpose lane in each direction
Commuter rail
Feeder Bus Routes
DRAFT
Commuter Rail Station
FasTracks
NOT TO SCALE
North
Wellington
Fort Collins
Timnath
Severance
Eaton
Ault
Lucerne
Windsor
Loveland
Greeley
Garden City
Evans
La Salle
Johnstown
Milliken
Campion
Berthoud
Gilcrest
LARIMER
WELD
Mead
Platteville
Longmont
Rail Transfer Point
BOULDER
Firestone
Frederick
Niwot
Dacono
Fort Lupton
Boulder
Erie
Lafayette
Louisville
Superior
Broomfield
Thornton
Brighton
ADAMS
Commerce City
Northglenn
Westminster
US 36/Longmont Corridor
North Metro Corridor
E470
Denver International Airport
JEFFERSON
Denver Union Station
DENVER
6th Ave
Denver

2.8 Package 7

Package 7 provides an extension of the US 36 FasTracks rail line to Fort Collins. Package 7 also includes commuter bus service along US 85 from Greeley to DUS and from Greeley to DIA.

The US 36 FasTracks rail line from DUS to Longmont (Twin Peaks Mall) would be extended along the BNSF corridor to Fort Collins, with new stations at 1st/Terry, 17th Street, SH 56, SH 402, US 34, Fort Collins' South Transit Center, CSU, and Fort Collins' North Transit Center. The full line from Fort Collins to Denver is assumed to operate at 30 minute peak headways and 60 minute base headways. Short service patterns from DUS to Boulder and Longmont allow more frequent service between Boulder and DUS. Three route patterns provide service as follows:

- DUS to Fort Collins: 30 minute peak, 60 minute base
- DUS to Twin Peaks Mall (Longmont): no peak period service, 60 minute base
- DUS to Pearl/30th (Boulder): 30 minute peak period service only

These operating patterns lead to the following combined headways by segment:

- DUS to Pearl/30th (Boulder): 15 minute peak, 30 minute base
- Pearl/30th (Boulder) to Twin Peaks Mall (Longmont): 30 minute peak, 30 minute base
- Twin Peaks Mall (Longmont) to Fort Collins: 30 minute peak, 60 minute base

US 85 commuter bus service would be as described in Package 2: US 85 commuter bus service from Greeley to DUS begins at the Greeley Transit Center and heads south along US 85 in mixed traffic, providing stops at 18th Street (Greeley), La Salle, SH 66 (Platteville), SH 52 (Fort Lupton), SH 7 (Brighton), Commerce City, and DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

US 85 commuter bus service from Greeley to DIA begins at the Greeley Transit Center and heads south along US 85 in mixed traffic, providing stops at 18th Street (Greeley), La Salle, SH 66 (Platteville), SH 52 (Fort Lupton), SH 7 (Brighton), E-470/I-76, and DIA. Service frequency is defined at 60 minutes all day, seven days a week.

In terms of modifications to local service, COLT's Jitterbus (in Loveland) is given an improved peak headway of 30 minutes since it serves the Crossroads/I-25 BRT station. No Fort Collins Transfort routes are modified since several routes readily connect to the commuter rail service along the BNSF corridor.

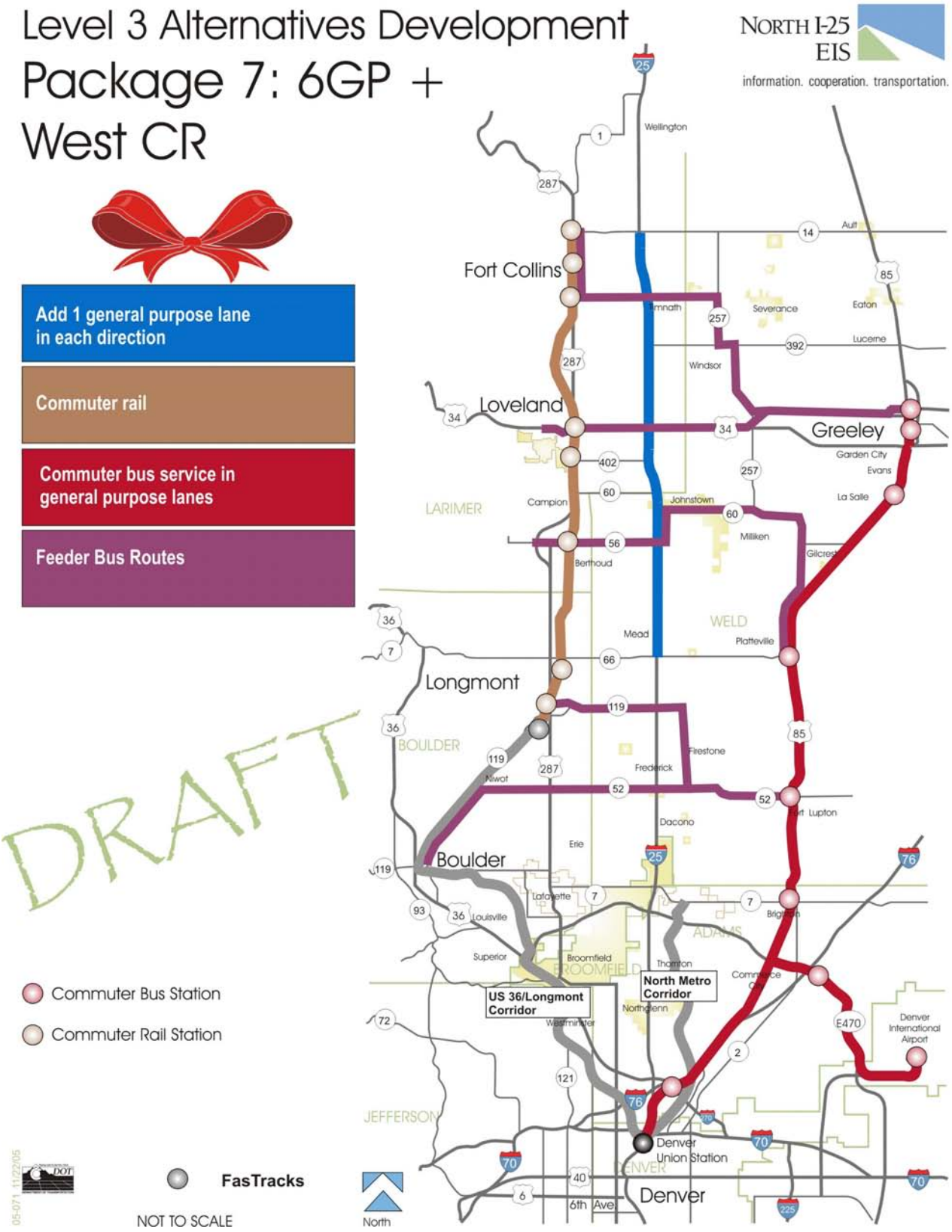
Feeder routes are similar to Package 3 but tailored to this package:

- Greeley – Windsor – Fort Collins: New route begins at the Greeley Transit Center and proceeds west along Hwy 34, north on Hwy 257, west on Harmony Road, and north on US 287 to the Fort Collins North Transit Center. Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on weekends.
- Greeley – Loveland (US 34): Per all packages, new route begins at the Greeley Transit Center and proceeds west along Hwy 34 (business)/US 34 to west Loveland (US 34 at Wilson Avenue). Assumes 15 minute peak, 30 minute base service frequencies on weekdays and 30 minute service on weekends.

- Platteville – Milliken – Johnstown – Berthoud: Per Package 3, new route begins in Platteville (US 85/SH 66) heading north on US 85, north and west on SH 60, south on E. Frontage Road, west on SH 56 to SH 56/Taft Road (CR 17) in Berthoud. Assumes 60 minute all-day service on weekdays only.
- Firestone – Frederick – Longmont: Per Package 3, new route begins at Dacono station at I-25/SH 52, heading east on SH 52, north on County Road 13, and west on SH 119 into downtown Longmont. Assumes 60 minute all-day service on weekdays only.
- Fort Lupton – Boulder: Per Package 3, new route begins in Fort Lupton at SH 52/US 85 and proceeds west on SH 52, then southwest on SH 119, terminating in Boulder (Pearl/30th). Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on Saturdays (no Sunday service assumed).

The transit operating plan is illustrated in Figure 2-7. Stations and park-and-Ride assumptions for the rail and commuter bus corridor services are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-7


Level 3 Alternatives Development
Package 7: 6GP + West CR
NORTH I-25 EIS
information. cooperation. transportation.
Add 1 general purpose lane in each direction
Commuter rail
Commuter bus service in general purpose lanes
Feeder Bus Routes
DRAFT
Commuter Bus Station
Commuter Rail Station
FasTracks
NOT TO SCALE
North
US 36/Longmont Corridor
North Metro Corridor
Wellington
Fort Collins
Loveland
Greeley
Berthoud
Longmont
Boulder
Lafayette
Louisville
Superior
Broomfield
Thornton
Northglenn
Westminster
Denver
Denver Union Station
Denver International Airport
Aurt
Eaton
Severance
Windsor
Garden City
Evans
La Salle
Johnstown
Milliken
Gilcrest
Platteville
Mead
Firestone
Frederick
Dacono
Erie
Niwot
Campion
LARIMER
WELD
BOULDER
ADAMS
JEFFERSON
DENVER
E470
6th Ave

2.9 Package 8

Package 8 provides the most aggressive level of transit service improvements which includes the following corridor services:

- an extension of the US 36 FasTracks rail line to Fort Collins;
- an extension of the North Metro FasTracks rail line to Longmont;
- I-25 BRT service from Fort Collins to DUS;
- US 85 commuter bus service from Greeley to DUS; and
- US 85 commuter bus service from Greeley to DIA.

The US 36 FasTracks rail line from DUS to Longmont (Twin Peaks Mall) would be extended along the BNSF corridor to Fort Collins, with stations at 1st/Terry, 17th Street, SH 56, SH 402, US 34, Fort Collins' South Transit Center, CSU, and Fort Collins' North Transit Center. The full line from Fort Collins to Denver is assumed to operate at 30 minute peak headways and 60 minute base headways. Short service patterns from DUS to Boulder and Longmont allow more frequent service between Boulder and DUS. Three route patterns provide service as follows:

- DUS to Fort Collins: 30 minute peak, 60 minute base
- DUS to Twin Peaks Mall (Longmont): no peak period service, 60 minute base
- DUS to Pearl/30th (Boulder): 30 minute peak period service only

These operating patterns lead to the following combined headways by segment:

- DUS to Pearl/30th (Boulder): 15 minute peak, 30 minute base
- Pearl/30th (Boulder) to Twin Peaks Mall (Longmont): 30 minute peak, 30 minute base
- Twin Peaks Mall (Longmont) to Fort Collins: 30 minute peak, 60 minute base

For the North Metro rail extension, from the FasTracks terminus at SH 7 the route proceeds to I-25/SH 52, then follows I-25 to a station at I-25/SH 119, turning west along SH 119 to terminate at 1st/Terry in Longmont, where a transfer can be made to the US 36 extension to Fort Collins. The full line from Longmont to Denver is assumed to operate at 30 minute peak headways and 60 minute base headways. Short service patterns from DUS to SH 7 and 124th allow more frequent service between Thornton and DUS. Three route patterns provide service as follows:

- DUS to 1st/Terry (Longmont): 30 minute peak, 60 minute base
- DUS to SH 7 (Thornton): no peak period service, 60 minute base
- DUS to 124th (Thornton): 30 minute peak period service only

These operating patterns lead to the following combined headways by segment:

- DUS to 124th (Thornton): 15 minute peak, 30 minute base
- 124th to SH 7 (Thornton): 30 minute peak, 30 minute base
- SH 7 (Thornton) to 1st/Terry (Longmont): 30 minute peak, 60 minute base

The I-25 BRT service uses HOV lanes on I-25 and has the same stations as described under Package 3: Fort Collins North Transit Center, CSU, South Transit Center, Harmony/Timberlake, I-25/Harmony, I-25/SH 392, I-25/Crossroads, I-25/US 34, I-25/SH 56/60, I-25/SH 119, I-25/SH

52, I-25/SH 7, I-25/Wagon Road, and DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

US 85 commuter bus service would be as described in Package 2: US 85 commuter bus service from Greeley to DUS begins at the Greeley Transit Center and heads south along US 85 in mixed traffic, providing stops at 18th Street (Greeley), La Salle, SH 66 (Platteville), SH 52 (Fort Lupton), SH 7 (Brighton), Commerce City, and DUS. Service frequency is defined at 30 minute peak, 60 minute base on weekdays and 60 minute service on weekends.

US 85 commuter bus service from Greeley to DIA begins at the Greeley Transit Center and heads south along US 85 in mixed traffic, providing stops at 18th Street (Greeley), La Salle, SH 66 (Platteville), SH 52 (Fort Lupton), SH 7 (Brighton), E-470/I-76, and DIA. Service frequency is defined at 60 minutes all day, seven days a week.

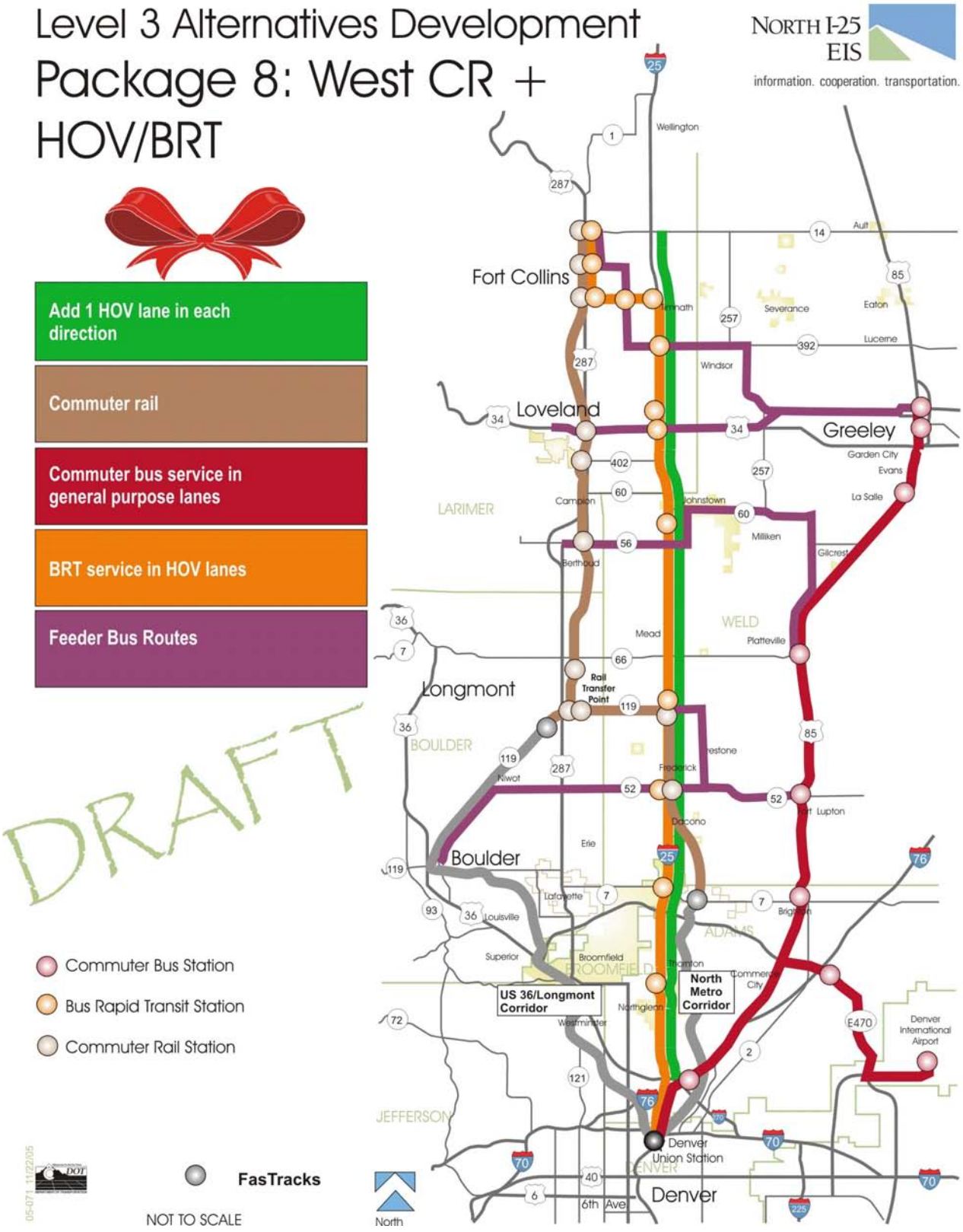
In terms of modifications to local service, COLT's Jitterbus (in Loveland) is given an improved peak headway of 30 minutes since it serves the Crossroads/I-25 BRT station. No Fort Collins Transfort routes are modified since several routes readily connect to the commuter rail service along the BNSF corridor.

Feeder routes are similar to Package 3 but tailored to this package:

- Greeley – Windsor – Fort Collins: Per Package 3, new route begins at the Greeley Transit Center and proceeds west along Hwy 34, north on Hwy 257, west on Hwy 392/32, north on Timberline Road, west on Drake, north on US 287 to the Fort Collins North Transit Center. Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on weekends.
- Greeley – Loveland (US 34): Per all packages, new route begins at the Greeley Transit Center and proceeds west along Hwy 34 (business)/US 34 to west Loveland (US 34 at Wilson Avenue). Assumes 15 minute peak, 30 minute base service frequencies on weekdays and 30 minute service on weekends.
- Platteville – Milliken – Johnstown – Berthoud: Per Package 3, new route begins in Platteville (US 85/SH 66) heading north on US 85, north and west on SH 60, south on E. Frontage Road, west on SH 56 to SH 56/Taft Road (CR 17) in Berthoud. Assumes 60 minute all-day service on weekdays only.
- Firestone – Frederick: New local feeder route begins at the SH 52/I-25 station, proceeds east on SH 52, north on CR 13, and west on SH 119 to the SH 119/I-25 station. Assumes 30 minute peak, 60 minute base service on weekdays only.
- Fort Lupton – Boulder: Per Package 3, new route begins in Fort Lupton at SH 52/US 85 and proceeds west on SH 52, then southwest on SH 119, terminating in Boulder (Pearl/30th). Assumes 30 minute peak, 60 minute base service frequencies on weekdays and 60 minute service on Saturdays (no Sunday service assumed).

The transit operating plan is illustrated in Figure 2-8. Stations and park-and-Ride assumptions for the rail and bus corridor services are summarized in Appendix A, and a summary transit operating plan is provided in Appendix B.

Figure 2-8


Level 3 Alternatives Development
Package 8: West CR + HOV/BRT
NORTH I-25 EIS
information. cooperation. transportation.
Add 1 HOV lane in each direction
Commuter rail
Commuter bus service in general purpose lanes
BRT service in HOV lanes
Feeder Bus Routes
DRAFT
Commuter Bus Station
Bus Rapid Transit Station
Commuter Rail Station
FasTracks
NOT TO SCALE
North
Wellington
Fort Collins
Loveland
Greeley
Windsor
Severance
Eaton
Lucerne
Garden City
Evans
La Salle
Johnstown
Milliken
Gilcrest
Platteville
Mead
Berthoud
Campion
LARIMER
WELD
Longmont
Rail Transfer Point
BOULDER
Kiwot
Frederick
Dacono
Erie
Boulder
Lafayette
Louisville
Superior
Broomfield
Thornton
Northglenn
Westminster
Commerce City
Brighton
ADAMS
JEFFERSON
US 36/Longmont Corridor
North Metro Corridor
Denver Union Station
Denver
6th Ave
E470
Denver International Airport

3.0 O&M Statistics

This section describes the process for developing operating statistics for the North I-25 Level 3 packages. Operating statistics include peak/fleet vehicles, annual revenue vehicle miles, and annual revenue vehicle hours. Selected operating statistics are used as input variables for the O&M cost estimating described in the following chapter.

Bus operating statistics are developed through use of "operstat worksheets." These worksheets use travel time, distance, and headway for each route defined under the packages in order to estimate peak and total fleet requirements, annual revenue vehicle hours, and annual revenue vehicle miles.

For existing bus routes that are modified under the packages, operating statistics are generated for the existing bus route and the modified bus route so that incremental changes to fleet requirements, vehicle hours and vehicle miles can be determined.

Rail operating statistics also are developed using "operstat worksheets." The rail operstat worksheets use travel times, distances, headways, and train consist size to generate rail operating statistics such as peak/fleet vehicles, annual revenue train miles, car miles, train hours, and car hours. Since the rail alternatives are operating extensions of FasTracks corridors, a baseline FasTracks system is calculated and compared with the statistics which result from the various rail extensions in Packages 6, 7 and 8.

The following sections describe how each of the inputs (travel times, distances, headways, and train consist size) are developed.

3.1 Travel Times

If a transit route is expected to travel within prevailing highway conditions (such as a local bus, or commuter bus route where there is no dedicated lane), then travel times are generated automatically through the RTD travel demand model. Bus speeds are considered a function of highway speeds, leading to a calculation of in-vehicle travel time. Dwell times are added to the in-vehicle travel times, based on the number of defined stops. The travel demand model reports separate travel times for each route (in-vehicle travel time and number of stops/dwell time) based on the direction of travel (e.g., northbound route versus southbound route) and further distinguished between peak and offpeak. For purposes of the operstat worksheet, a single total travel time from a representative package is used, averaging the peak total travel time in both directions. Therefore, for example, if a route takes a total of 30 minutes to travel in the westbound direction and 40 minutes to travel in the eastbound direction during the peak period, then the operstat worksheet will use the average of 35 minutes.

If a transit route has a separate operating environment from the highway (such as BRT operating in dedicated lanes, or rail lines operating in a dedicated right-of-way), then travel times are independently generated using a travel time worksheet which accounts for maximum speeds by segment (accounting for curves indicated in engineering drawings), distances between stations (as scaled from engineering drawings), and dwell time at stations. The travel time worksheet uses acceleration and deceleration functions specific to mode in order to come up with a travel time between stations, leading to an end-to-end travel time calculation. These travel times are then "hard-coded" in the RTD travel demand model, rather than using a default run time as is used for buses in mixed traffic. If part of the route does run in mixed traffic, as is the case with the BRT

route on I-25 which penetrates Fort Collins using local streets, then only the portion on I-25 is "hard-coded" with a separately-calculated run time. The portion using local streets uses the travel demand model's automatically calculated travel time based on a function of highway speed and number of stops.

Table 3-1 summarizes the travel times which were calculated independently of the travel demand model. Travel times include dwell times at stations.

Table 3-1
Travel Time Summary

Route and Mode	Limits	Package(s)	Travel Time
I-25 BRT	Harmony/I-25 (Fort Collins) to DUS	3, 5, 8	1:02:53
North Metro extended via I-25	DUS to Harmony/I-25 (Ft Collins)	6	1:23:35
New Segment Only	SH 7 (Thornton) to Harmony/I-25 (Ft Collins)	6	0:52:18
US 36 extended via SH 119	DUS to SH 119/I-25	6	1:11:17
New Segment Only	Twin Peaks Mall (Longmont) to SH 119/I-25	6	0:15:27
US 36 extended via BNSF	DUS to North Transit Center (Ft Collins)	7, 8	1:45:47
New Segment Only	Twin Peaks Mall (Longmont) to North Transit Center (Ft Collins)	7, 8	0:49:57
North Metro extended via SH 119	DUS to 1st/Terry (Longmont)	8	0:58:14
New Segment Only	SH 7 (Thornton) to 1st/Terry (Longmont)	8	0:26:57

The I-25 BRT travel time reflected in the above table is for the portion of the route using separate lanes on I-25. As noted previously, the portion of the route that uses local streets in Fort Collins is determined automatically in the travel demand model.

Travel time worksheets are included in Appendix C. Rail travel times are calculated for the new segments only; the travel time for the North Metro FasTracks route from DUS to SH 7 and the travel time for the US 36 FasTracks route from DUS to Longmont assume what is reflected in the FasTracks operating plan (October 2003).

3.2 Distances

Engineering drawings were provided for the I-25 BRT and all study area rail corridors. In these cases, distances were determined from the engineering drawings. For the portion of the rail corridors that are FasTrack routes (North Metro and US 36), the distances reflected in the FasTracks operating plan (October 2003) were assumed.

For all other routes, the distances used in the operstat worksheets were averaged from the data provided (by route, by direction) from the travel demand model.

3.3 Headways

Headways used in the operstat worksheets are based on the transit operating plan definition as described in Chapter 2.

3.4 Train Consists

Of course, train consists only apply to rail alternatives and are not an input for bus operstat worksheets. The train consists for the rail routes assume what was defined in the FasTracks operating plan (October 2003), since all rail alternatives are extensions of FasTracks corridors.

3.5 Summary of Operating Statistics

Table 3-2 summarizes the estimated bus fleet requirements for each of the packages. Table 3-3 summarizes the estimated (incremental) annual revenue bus hours for each package, used as the basis for estimating bus operating and maintenance (O&M) costs. Other statistics can be found in Appendix D, which provides a full set of the bus operstat worksheets.

Table 3-4 provides the incremental rail fleet requirements for Packages 6, 7 and 8. Other incremental statistics such as annual train hours, car hours, train miles and car miles are provided in Appendix E, which provides a full set of the rail operstat worksheets.

Table 3-2

NORTH I-25 EIS
SUMMARY OF BUS FLEET REQUIREMENTS
(incremental to No Action)

Bus Route	MODEL ID	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5	Pkg 6	Pkg 7	Pkg 8
TRANSIT CORRIDOR BUS ROUTES									
Bus on I-25: Ft Collins North TC - DUS	FCDUS	8	8	8	8	8	0	0	8
Bus on I-25: Ft Collins North TC - DIA	FCDIA	0	0	0	5	0	0	0	0
Commuter bus on US 287, Ft Collins North TC -	FCLM	0	6	6	0	6	0	0	0
Commuter bus on US 85, Greeley TC - DUS	GRLYDUS	0	5	5	0	5	0	5	5
Commuter bus on US 85, Greeley TC - DIA	GRLYDIA	0	2	0	0	0	0	2	2
Subtotal Transit Corridor Vehicles		**8**	**21**	**19**	**13**	**19**	**0**	**7**	**15**
MODIFIED LOCAL ROUTES (Incremental to No Action)									
Foxtrot	Fox Trot	0	0	0	0	0	0	0	0
Fort Collins Rte 5	FC5	0	0	0	0	0	0	0	0
Fort Collins Rte 6	FC6	0	0	0	0	0	0	0	0
Fort Collins Rte 7	FC7	2	2	2	2	2	2	0	0
Jitterbus	Jitter	1	1	3	1	3	3	1	3
Subtotal Midified Local Route Vehicles		**3**	**3**	**5**	**3**	**5**	**5**	**1**	**3**
FEEDER ROUTES									
Greeley - Windsor - Ft Collins	GLYFC	7	7	8	7	8	8	8	8
Greeley - Loveland (US-34)	US34	11	11	11	11	11	11	11	11
Platteville - Milliken - Johnstown - Berthoud	PVBT	0	0	2	0	2	2	2	2
Firestone - Frederick - Longmont	FFLGMT	0	0	2	0	2	2	4	2
Ft Lupton - Longmont	FTLLGMT	2	2	0	2	0	0	0	0
Ft Lupton - Boulder (SH 52)	FLBDR	0	0	7	0	7	7	7	7
Subtotal New Feeder Route Vehicles		**20**	**20**	**30**	**20**	**30**	**30**	**32**	**30**
TOTAL BUS VEHICLES		**31**	**44**	**54**	**36**	**54**	**35**	**40**	**48**

Note: Bus fleet requirements include 20% spares.

Table 3-3

NORTH I-25 EIS
SUMMARY OF ANNUAL BUS HOURS

Bus Route	MODEL ID	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5	Pkg 6	Pkg 7	Pkg 8
TRANSIT CORRIDOR BUS ROUTES									
Bus on I-25: Ft Collins North TC - DUS	FCDUS	26,600	26,600	26,600	26,600	26,600	0	0	26,600
Bus on I-25: Ft Collins North TC - DIA	FCDIA	0	0	0	22,030	0	0	0	0
Commuter bus on US 287, Ft Collins North TC -	FCLM	0	19,570	19,570	0	19,570	0	0	0
Commuter bus on US 85, Greeley TC - DUS	GRLYDUS	0	15,630	15,630	0	15,630	0	15,630	15,630
Commuter bus on US 85, Greeley TC - DIA	GRLYDIA	0	12,580	0	0	0	0	12,580	12,580
Subtotal Transit Corridor Annual Vehicle Hours		**26,600**	**74,380**	**61,800**	**48,630**	**61,800**	**0**	**28,210**	**54,810**
MODIFIED LOCAL ROUTES (Incremental to No Action)									
Foxtrot	Fox Trot	0	0	0	0	0	0	0	0
Fort Collins Rte 5*	FC5	0	0	0	0	0	0	0	0
Fort Collins Rte 6*	FC6	0	0	0	0	0	0	0	0
Fort Collins Rte 7*	FC7	3,970	3,970	3,970	3,970	3,970	3,970	0	0
Jitterbus (Loveland)	Jitter	5,950	5,950	7,220	5,950	7,220	7,220	5,950	7,220
Subtotal Modified Local Route Annual Vehicle Hours		**9,920**	**9,920**	**11,190**	**9,920**	**11,190**	**11,190**	**5,950**	**7,220**
FEEDER ROUTES									
Greeley - Windsor - Ft Collins	GLYFC	21,090	21,090	26,600	21,090	26,600	26,600	26,600	26,600
Greeley - Loveland (US-34)	US34	33,640	33,640	33,640	33,640	33,640	33,640	33,640	33,640
Platteville - Milliken - Johnstown - Berthoud	PVBT	0	0	8,130	0	8,130	2	8,130	8,130
Firestone - Frederick - Longmont	FFLGMT	0	0	8,130	0	8,130	5,590	9,650	5,590
Ft Lupton - Longmont	FTLLGMT	8,130	8,130	0	8,130	0	0	0	0
Ft Lupton - Boulder (SH 52)	FLBDR	0	0	18,750	0	18,750	18,750	18,750	18,750
Subtotal New Feeder Route Annual Vehicle Hours		**62,860**	**62,860**	**95,250**	**62,860**	**95,250**	**84,582**	**96,770**	**92,710**
TOTAL ANNUAL VEHICLE HOURS		**99,380**	**147,160**	**168,240**	**121,410**	**168,240**	**95,772**	**130,930**	**154,740**

* While transportation model extended Fort Collins Rte 5, 6 and 7 to Harmony station for all three routes, costs reflect extending Route 7 only.

Table 3-4

NORTH I-25 EIS
RAIL FLEET REQUIREMENTS

		Peak Pass. Cars	Total Pass. Cars	Peak Loco's	Total Loco's	Peak Headway	Peak Consist
NO ACTION							
US 36	DUS to Longmont (Diagonal/Hover)	8	10	4	5	30	2
US 36	DUS to Boulder (Pearl/30th)	8	10	4	5	30	2
	Total US 36	***16***	***20***	***8***	***10***		
North Metro	DUS to SH-7/160th	9	11	3	4	30	3
North Metro	DUS to 124th	6	7	2	2	30	3
	Total North Metro	***15***	***18***	***5***	***6***		
	TOTAL US 36 AND NORTH METRO	**31**	**38**	**13**	**16**		
PACKAGE 6							
US 36	DUS to I-25/SH 119	10	12	5	6	30	2
US 36	DUS to Longmont (Diagonal/Hover)	0	0	0	0	n/a	n/a
US 36	DUS to Boulder (Pearl/30th)	8	10	4	5	30	2
	Total US 36	***18***	***22***	***9***	***11***		
	Incremental US 36 to No Action	***2***	***2***	***1***	***1***		
North Metro	DUS to Fort Collins (Harmony Rd/I-25)	18	22	6	7	30	3
North Metro	DUS to SH-7/160th	0	0	0	0	n/a	n/a
North Metro	DUS to 124th	6	7	2	2	30	3
	Total North Metro	***24***	***29***	***8***	***9***		
	Incremental North Metro to No Action	***9***	***11***	***3***	***3***		
	TOTAL US 36 AND NORTH METRO	**42**	**51**	**17**	**20**		
	INCREMENTAL TO NO ACTION	**11**	**13**	**4**	**4**		
PACKAGE 7							
US 36	DUS to Fort Collins (North Transit Ctr)	16	19	8	9	30	2
US 36	DUS to Longmont (Diagonal/Hover)	0	0	0	0	n/a	n/a
US 36	DUS to Boulder (Pearl/30th)	8	10	4	5	30	2
	Total US 36	***24***	***29***	***12***	***14***		
	Incremental US 36 to No Action	***8***	***9***	***4***	***4***		
North Metro	DUS to SH-7/160th	9	11	3	4	30	3
North Metro	DUS to 124th	6	7	2	2	30	3
	Total North Metro	***15***	***18***	***5***	***6***		
	Incremental North Metro to No Action	***0***	***0***	***0***	***0***		
	TOTAL US 36 AND NORTH METRO	**39**	**47**	**17**	**20**		
	INCREMENTAL TO NO ACTION	**8**	**9**	**4**	**4**		
PACKAGE 8							
US 36	DUS to Fort Collins (North Transit Ctr)	16	19	8	9	30	2
US 36	DUS to Longmont (Diagonal/Hover)	0	0	0	0	n/a	n/a
US 36	DUS to Boulder (Pearl/30th)	8	10	4	5	30	2
	Total US 36	***24***	***29***	***12***	***14***		
	Incremental US 36 to No Action	***8***	***9***	***4***	***4***		
North Metro	DUS to Longmont (1st/Terry)	15	18	5	6	30	3
North Metro	DUS to SH-7/160th	0	0	0	0	n/a	n/a
North Metro	DUS to 124th	6	7	2	2	30	3
	Total North Metro	***21***	***25***	***7***	***8***		
	Incremental North Metro to No Action	***6***	***7***	***2***	***2***		
	TOTAL US 36 AND NORTH METRO	**45**	**54**	**19**	**22**		
	INCREMENTAL TO NO ACTION	**14**	**16**	**6**	**6**		

Notes:

Total Vehicles: Peak vehicles plus 20 percent spare ratio.

Blue values: (Total Vehicles of rail line to Fort Collins): Use as minimum capacity for sizing yard in Fort Collins.
(add passenger cars and locomotives for total vehicles)

Green values: (Total Vehicles, Incremental to No Action for applicable rail line): Use to assess expansion impacts to existing Fastracks yard.
(add passenger cars and locomotives for total vehicles)

Red values: (Total Vehicles, Incremental to No Action): Use to calculate capital cost of additional passenger cars and locomotives related to project.

Vehicle Type: Expressed as commuter rail requirements.
Fastracks operating plan assumes 1 power/1trailer car for the US 36 line, 2 power/1trailer car for North Metro line.
If DMU technology assumed, then DMU requirements are as follows:
Package 6 (13 new vehicles): 8 power cars, 5 trailer cars
Package 7 (9 new vehicles): 4 power cars, 5 trailer cars
Package 8 (16 new vehicles): 9 power cars, 7 trailer cars

4.0 O&M Cost Estimates

Annual O&M cost estimates were developed with three costing methods. For modifications to local bus service and for feeder bus services using conventional buses, an hourly service cost was applied based on a "blended" hourly rate of North Front Range operators. For premium bus service assumed for regional commuter or BRT services, a higher hourly service cost was applied, based on RTD's hourly rate for bus services. For rail service, O&M costs are based on a commuter rail cost model, developed primarily with Virginia Railway Express (VRE)-reported cost data for 2003. All costs are expressed in 2005 dollars. The following descriptions discuss the methodology used to develop each cost method, followed by O&M cost results for each project package.

It should be noted that the process of determining how the North I-25 project will be administered is on-going. Several possible institutional arrangements are under consideration, including administration by one of the local transit service providers (with North I-25 service directly operated or contracted), expansion of the Regional Transportation District (RTD) to include all or parts of Weld and Larimer counties, or creation of a new transportation agency whose main purpose would be to operate this service. A decision regarding how the North I-25 service will be administered will be made as the packages of alternatives are refined.

4.1 O&M Cost Method for Local and Feeder Bus Service

All packages assume some degree of modifying existing local bus service as well as establishing new feeder bus services. To estimate the cost of local and feeder bus service, a representative cost per revenue vehicle hour was developed, using a weighted average of the three local operators serving this region (Fort Collins, Loveland and Greeley).

First, the cost per revenue vehicle hour was calculated for each of the three local operators in the study area, based on what was reported in the 2003 National Transit Database. Next, the calculated cost per revenue vehicle hour was escalated to 2005 dollars, based on applying a factor derived from the Bureau of Labor Statistics Consumer Price Index for the Western Urban Region (comparing the September 2005 index to the September 2003 index). Finally, each operator's hourly costs were weighted according to their proportional share of revenue hours. Table 4-1 summarizes the data used to calculate the resulting weighted cost per revenue vehicle hour of $68.85 (2005 dollars).

Table 4-1
Summary of Cost per Revenue Vehicle Hour

Operator	2003 NTD Data			Cost per Revenue Vehicle Hour		
	Cost	Revenue Hours	% Hours	2003 dollars	2005 dollars[1]	Weighted[2]
Western Urban Region					***106.4%***	**$68.85**
Greeley, Colorado - The Bus	$1,402,513	26,736	26.3%	$52.46	$55.81	$14.67
Fort Collins, Colorado - Transfort	$4,859,544	60,648	59.6%	$80.13	$85.24	$50.82
Loveland, Colorado - COLT	$320,938	14,335	14.1%	$22.39	$23.82	$3.36

NOTES:
1. Escalation to 2005 dollars based on factor of September 2005 to September 2003 Bureau of Labor Statistics Consumer Price Index for Western Urban Region.
2. 2005 Weighted Average based on percentage of hours.

This cost per revenue vehicle hour was applied to the estimated service hours associated with the new feeder routes and incremental service hours to modifying existing routes. The estimation of service hours are discussed in the previous chapter; operating statistic worksheets are presented in Appendix A. For modified local routes, incremental operating statistics were calculated based on comparing the modified routes with the No Build (existing) routes.

4.2 O&M Cost Method for Premium Bus Service

For commuter or BRT routes that are proposed to provide corridor service, it is assumed that a more premium bus service is desired. To account for some type of upgrade in local service delivery, a higher cost per revenue vehicle hour was used. For purposes of this exercise, the RTD hourly service cost of $84.84 in 2003 dollars (based on RTD's 2003 NTD data) was inflated to 2005 dollars using the same escalation method described in Section 4.1, leading to an hourly service cost of $90.64.

This cost per revenue vehicle hour was applied to the estimated service hours associated with the new corridor routes. The estimation of service hours are discussed in the previous chapter; operating statistic worksheets are presented in Appendix A.

4.3 O&M Cost Method for Rail Service

The O&M cost method used to calculate rail O&M costs is based on the cost estimating method used for the US 36 Corridor DEIS, which employed a commuter rail cost model. The commuter rail cost model assumes there is an Oversight Agency which uses a Contract Operator and other various contract services (e.g., station maintenance services). The Contract Operator is assumed to have responsibility for operation of service and maintenance of rail equipment at the Oversight Agency yard. Payments to the BNSF Railroad are assumed for access rights, dispatching and for maintenance of track services.

The commuter rail O&M cost model uses rail operating statistics as described in the previous section. It is important to note that the commuter rail cost model was used to estimate all rail O&M costs for the North I-25 packages, whether rail service involves an extension of the US 36 Corridor, the North Metro Corridor, or both. Since the FasTracks plan reflects 2 passenger cars per trainset for the US 36 corridor and 3 passenger cars per trainset for the North Metro corridor, these passenger car assumptions have been retained. Subsequent work for the US 36 corridor confirmed 2 passenger cars per trainset for the US 36 corridor. No further definition of the North Metro corridor has been done. While the sizing of North Metro train consists was based on passenger vehicles with DMU capacities, a defined mode of commuter rail may be able to reduce passenger consists since commuter rail passenger cars have greater capacity than DMU cars. However, absent maximum line load data for this study, three passenger cars per consist have been retained. Further definition of a preferred mode on the North Metro Corridor and further ridership analysis may call for a modification to the estimated train consist size as well as a modification to the O&M cost estimating method used for this study.

The commuter rail cost model developed for the US 36 Corridor DEIS is disaggregate and resource build-up in structure, per Federal Transit Administration (FTA) requirements. The commuter rail model is based primarily on FY 2003 budget data for the Virginia Railway Express. Resource build-up models compute costs by estimating the labor and materials needed

to provide a given level of service, and then apply projected unit costs of labor and material to estimating O&M costs on the basis of system operating statistics.

General operating assumptions for the US 36 Corridor commuter rail project that impact the O&M cost model structure are described in the following sections. For greater specifics, refer to the US 36 Corridor O&M Report (February 2005).

Operating Entity. It is assumed that the commuter rail system is the responsibility of RTD (the Operating Agency), and that management practices and administrative structure are set up to minimize overhead costs. Functions assumed to be performed by the Operating Agency include direction, administration and purchasing, contract compliance, budgeting/finance, marketing/public information, service planning, and technical oversight of service monitoring, passenger and employee safety, scheduling, equipment and facilities maintenance, and security.

Fare Collection and Structure. The fare collection method assumed in the commuter rail cost model is ticket vending machines (TVMs) with proof-of-payment inspection (consistent with existing VRE fare collection methods). The model assumes two-person train crews with the conductor available to conduct fare inspections on board their trains. Fare inspections could also be performed by the other Corridor bus operators with connecting passengers.

Contracting Philosophy. In recent years, many transit operators have turned to the private sector to perform a number of functions with the intent of reducing O&M costs. This approach is both practical and desirable. Overall, contracting-out has reduced operating costs without decreasing safety or the quality of service. Functions that are most suitable for contracting generally include highly specialized tasks such as fare collection equipment maintenance; or tasks where private sources are widely available, such as landscape maintenance or janitorial services. The US 36 Corridor commuter rail operating cost model assumes a high level of contract services including:

- Train operations – such as crew and extra board (train operators on standby to relieve or fill in for ill or absent operators), transportation management, regulatory compliance and fare inspection.

- Maintenance of rolling stock – everything from management to inspection, routine / preventive maintenance, minor repairs, repair of major components (e.g., engine rebuilding, axle and wheel work, seat repair, HVAC equipment and other equipment not under warranty), major repair of vehicles (e.g., body and paint work following an accident) and warranty administration.

- Maintenance of facilities – such as track and wayside equipment, buildings and grounds. Contracts for track-related maintenance would apply to all owned right-of-way (maintenance yard, outlying storage yards, around terminal stations). Besides the track itself, related maintenance includes inspection, troubleshooting and repair of signals and switches. The US 36 Corridor commuter rail cost model assumes maintenance of track and signals by the host railroad through payment of access fees. Other equipment to be maintained under contract includes ticket vending machines, shop equipment and communications systems (e.g., public address). Contract maintenance of buildings and grounds includes yards, stations and parking lots. Assumed contract functions include landscaping and grounds maintenance, HVAC, janitorial services and graffiti removal.

- Administration – yard security, audit and legal services, risk management, information systems and revenue collection.

Yards. The O&M cost model assumes the commuter rail system will have a central yard and a north end-of-line layover facility. All vehicle inspection, maintenance, repair, overhaul and fueling will take place in the primary yard. Locomotives and passenger cars will be washed and cleaned at this yard. Spare vehicles, repair parts, and materials will be stored here. The secondary layover yard is assumed to be a minimal facility with the ability to provide between-trip cleaning and servicing and with sufficient track for overnight storage of trains.

Security. Security is assumed to be a requirement in order to provide passenger safety and security and to protect the Operating Agency's investment in equipment and facilities. The Operating Agency will provide oversight for safety and security functions. The Contract Operator is assumed to be responsible for security of facilities and equipment in the yards. Local jurisdictions are assumed to be responsible for patrolling stations and parking lots as part of their routine duties. Conductors are assumed to provide a security presence aboard trains.

The O&M cost model consists of a spreadsheet partitioned into two tables. The first table contains input variables, which are operating statistics that quantify the extent of the system and level of service. The second table is a line item detail, which relates specific budgetary categories to the most appropriate input variables. Costs in the cost model are identified as: (a) operating agency expenses, (b) contractor operator functions and (c) payments to railroads. Following is a brief discussion of line items included within the cost model.

- **Operating Agency Expenses**. Operating Agency labor and non-labor operating costs are identified and grouped into five departments: Administration, Budget & Finance, Marketing & Customer Service, Technical Services, and Safety and Security. In keeping with the services contracting philosophy, all departments include line items for professional and/or technical services (e.g., professional services and station maintenance) that are assumed to be contracted-out. For the most part, productivity factors and unit costs are based directly on VRE's FY 2003 budgeted expenses. For several expenses where VRE's FY 2003 budget greatly varies with that of prior years, VRE's baseline expenses are modified to reflect an average expense over several years.

- **Contract Operator Functions**. Contract operator expenses have been divided into three categories: Train Operations, Equipment Maintenance, and Fees.

  Train crews are the only contract operator labor positions modeled. The model calculates the labor costs of Engineers and Conductors, including extra board personnel based on VRE unit costs and productivity factors. Two person crews (one engineer and one conductor) are assumed for US 36. VRE operates 3-person crews. Thus, train crew costs were reduced in the cost model to reflect 2-person crews for the US 36 commuter rail operations in part because proposed train consists for the US 36 corridor are significantly less than those for VRE train service (2-car train consists vs. 4 to 6-car train consists for VRE). Crew expense includes costs for training and alcohol & drug testing.

  Contract operator fees include transportation supervision costs, general/administrative costs and management fees. Transportation supervision and general/administrative costs are estimated in the model using a VRE cost of 18.6% of train operations costs. Management fees are estimated in the model using a VRE cost of 13.0% of the contract operator costs for train operations and equipment maintenance. In addition, contract operators typically

receive performance payments (e.g., for running on time). The model estimates this expense based on VRE's FY 2003 budget cost per annual train trips.

- **Payments to Railroads**. Payments made to host railroads for the use of their tracks vary considerably among commuter rail operations. They can even change dramatically from one year to the next in the same system's budget. The same railroad can charge differently in different regions of the country. The cost model bases the expense of track maintenance and usage fees on VRE's payments to CSX and Norfolk Southern railroads on a unit cost per railroad route-mile. The VRE costs are modified to reflect the track usage (number of trains) planned for US 36 versus the actual VRE operations. The cost for usage of the US 36 Corridor will depend in large part on the initial agreement with BNSF, which could presumably involve some capital improvements. There will be trade-offs between benefits which the railroad would realize from these improvements, and the annual fees for use of their tracks.

With the model structure and adjustments to the VRE expenses to reflect the rail operation envisioned for the US 36 Corridor, the commuter rail O&M cost model overall will produce unit costs lower than VRE costs. This is largely due to the assumption of two-person train crews, as well as cost-efficiencies that will be achieved with an all-day frequent service, as envisioned for US 36.

4.4 O&M Cost Results

Resulting O&M cost estimates are presented in Table 4-2. A breakdown of O&M costs by bus route is presented in Table 4-3. All cost estimates are in 2005 dollars. It is important to note that the statistics and costs presented below are based on operating characteristics defined for the North I-25 packages, and are not the same as those previously defined in the FasTracks systems planning effort.

Table 4-2
Summary of O&M Cost Estimates *(Over No-Build Alternative)*
for North I-25 Packages (in 2005 Dollars)

Service	Package 1	Package 2	Package 3	Package 4	Package 5	Package 6	Package 7	Package 8
Local Route Service								
Peak Buses	19	19	29	19	29	27	28	28
Fleet Buses	23	23	35	23	35	35	33	33
Annual Revenue Bus Hours	72,780	72,780	106,440	72,780	106,440	95,770	102,720	99,930
Annual Revenue Bus Miles	1,335,300	1,335,300	1,860,000	1,335,300	1,860,000	1,617,500	1,811,300	1,773,300
Standard Bus O&M Cost	**$5,011,000**	**$5,011,000**	**$7,328,000**	**$5,011,000**	**$7,328,000**	**$6,594,000**	**$7,072,000**	**$6,880,000**
Premium Corridor Service								
Peak Buses	7	18	16	11	16	0	6	13
Fleet Buses	8	21	19	13	19	0	7	15
Annual Revenue Bus Hours	26,600	74,380	61,800	48,630	61,800	0	28,210	54,810
Annual Revenue Bus Miles	931,200	2,178,700	1,840,300	1,736,600	1,840,300	0	764,900	1,696,100
Premium Bus O&M Cost	**$2,411,000**	**$6,741,000**	**$5,601,000**	**$4,408,000**	**$5,601,000**	**$0**	**$2,557,000**	**$4,968,000**
Rail Service								
Peak Locomotives	0	0	0	0	0	4	4	6
Fleet Locomotives	0	0	0	0	0	5	5	7
Peak Passenger Cars	0	0	0	0	0	11	8	14
Fleet Passenger Cars	0	0	0	0	0	13	10	17
Annual Revenue Train Hours	0	0	0	0	0	24,010	16,600	30,150
Annual Revenue Car Miles	0	0	0	0	0	1,910,000	1,095,000	1,876,000
Commuter Rail O&M Cost	**$0**	**$0**	**$0**	**$0**	**$0**	**$18,180,000**	**$11,786,000**	**$19,674,000**
Total Package Add'l. O&M Cost	**$7,422,000**	**$11,752,000**	**$12,929,000**	**$9,419,000**	**$12,929,000**	**$24,774,000**	**$21,415,000**	**$31,522,000**

Table 4-3
O&M Cost Breakdown by Bus Route
for North I-25 Packages (in 2005 Dollars)

Bus Route	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5	Pkg 6	Pkg 7	Pkg 8
TRANSIT CORRIDOR BUS ROUTES								
Bus on I-25: Ft Collins North TC - DUS	$2,411,000	$2,411,000	$2,411,000	$2,411,000	$2,411,000	$0	$0	$2,411,000
Bus on I-25: Ft Collins North TC - DIA	$0	$0	$0	$1,997,000	$0	$0	$0	$0
Commuter bus on US 287, Ft Collins North TC - Longmont	$0	$1,774,000	$1,774,000	$0	$1,774,000	$0	$0	$0
Commuter bus on US 85, Greeley TC - DUS	$0	$1,417,000	$1,417,000	$0	$1,417,000	$0	$1,417,000	$1,417,000
Commuter bus on US 85, Greeley TC - DIA	$0	$1,140,000	$0	$0	$0	$0	$1,140,000	$1,140,000
	$2,411,000	**$6,742,000**	**$5,602,000**	**$4,408,000**	**$5,602,000**	**$0**	**$2,557,000**	**$4,968,000**
MODIFIED LOCAL ROUTES								
Foxtrot	$0	$0	$0	$0	$0	$0	$0	$0
Fort Collins Rte 5	$0	$0	$0	$0	$0	$0	$0	$0
Fort Collins Rte 6	$0	$0	$0	$0	$0	$0	$0	$0
Fort Collins Rte 7	$273,000	$273,000	$273,000	$273,000	$273,000	$273,000	$0	$0
Jitterbus (Loveland)	$410,000	$410,000	$497,000	$410,000	$497,000	$497,000	$410,000	$497,000
	$683,000	**$683,000**	**$770,000**	**$683,000**	**$770,000**	**$770,000**	**$410,000**	**$497,000**
FEEDER ROUTES								
Greeley - Windsor - Ft Collins	$1,452,000	$1,452,000	$1,831,000	$1,452,000	$1,831,000	$1,831,000	$1,831,000	$1,831,000
Greeley - Loveland (US-34)	$2,316,000	$2,316,000	$2,316,000	$2,316,000	$2,316,000	$2,316,000	$2,316,000	$2,316,000
Platteville - Milliken - Johnstown - Berthoud	$0	$0	$560,000	$0	$560,000	$0	$560,000	$560,000
Firestone - Frederick - Longmont	$0	$0	$560,000	$0	$560,000	$385,000	$664,000	$385,000
Ft Lupton - Longmont	$560,000	$560,000	$0	$560,000	$0	$0	$0	$0
Ft Lupton - Boulder (SH 52)	$0	$0	$1,291,000	$0	$1,291,000	$1,291,000	$1,291,000	$1,291,000
	$4,328,000	**$4,328,000**	**$6,558,000**	**$4,328,000**	**$6,558,000**	**$5,823,000**	**$6,662,000**	**$6,383,000**
TOTAL ANNUAL BUS O&M COSTS	**$7,422,000**	**$11,753,000**	**$12,930,000**	**$9,419,000**	**$12,930,000**	**$6,593,000**	**$9,629,000**	**$11,848,000**

Transit corridor bus routes use hourly rate of $90.64.

Modified bus routes and feeder routes use hourly rate of $68.85.

APPENDIX A
STATION DETAIL
BY CORRIDOR ROUTE

NORTH I-25 EIS
LEVEL 3 ALTERNATIVES DEVELOPMENT - STATION DETAIL

Stations	pnR?
Commuter Bus on I-25: Ft Collins North TC-DUS ***(Packages 1, 2, and 4)***	
Fort Collins North TC	Y
CSU	N
South TC	Y
Harmony/Timberline	N
Harmony & I-25	Y
US-34 & I-25	Y
SH-119 & I-25	Y
Wagon Road	Y
DUS	
Bus Rapid Transit (BRT) on I-25: Ft Collins North TC-DUS ***(Packages 3, 5, and 8)***	
Fort Collins North TC	Y
CSU	N
South TC	Y
Harmony/Timberline	N
Harmony & I-25	Y
SH-392 & I-25	Y
Crossroads & I-25	Y
US-34 & I-25	Y
SH-56/60 & I-25	Y
SH-119 & I-25	Y
SH-52 & I-25	Y
SH-7 & I-25	Y
Wagon Road	Y
DUS	
Commuter Bus on I-25: Ft Collins North TC-DIA ***(Package 4)***	
Fort Collins North TC	Y
CSU	N
South TC	Y
Harmony/Timberline	N
Harmony & I-25	Y
US-34 & I-25	Y
SH-119 & I-25	Y
Commerce City (E470 & 120th)	Y
DIA	

NORTH I-25 EIS
LEVEL 3 ALTERNATIVES DEVELOPMENT - STATION DETAIL

Stations	pnR?
Commuter bus on US 287, Ft Collins North TC-Longmont ***(Packges 2, 3 and 5)***	
Fort Collins North TC	Y
CSU	N
South TC	Y
US-34	Y
SH-402	Y
SH-56	Y
17th Street - Longmont	N
Twin Peaks Mall - Longmont	Y
Commuter bus on US 85, Greeley TC-DUS ***(Packages 2, 3, 5, 7 and 8)***	
8th St - Greeley TC	N
18th St - Greeley	N
La Salle	Y
SH-66 Platteville	Y
SH-52 Fort Lupton	Y
SH-7 Brighton	Y
Commerce City (US-85 & 69th)	Y
DUS	
Commuter bus on US 85, Greeley TC-DIA ***(Packages 2, 7 and 8)***	
8th St - Greeley TC	N
18th St - Greeley	N
La Salle	Y
SH-66 Platteville	Y
SH-52 Fort Lupton	Y
SH-7 Brighton	Y
Commerce City (E470 & 120th)	Y
DIA	

NORTH I-25 EIS
LEVEL 3 ALTERNATIVES DEVELOPMENT - STATION DETAIL

Stations	pnR?
North Metro extended to Longmont via I-25 and SH 119 ***(Package 8)***	
All North Metro stations (SH-7 - DUS)	
SH-52 & I-25	Y
SH-119	Y
Longmont	Y
North Metro extended to Fort Collins via I-25 ***(Package 6)***	
All North Metro stations (SH-7 - DUS)	
SH-52 & I-25	Y
SH-119 & I-25	Y
SH-56 & I-25	Y
US-34 & I-25	Y
Crossroads	Y
SH-392 & I-25	Y
SH-68 Harmony Road	Y
Longmont Extension Commuter rail, DUS - Boulder - Longmont - SH 119 to I-25 terminus ***(Package 6)***	
All Longmont Extension stations (DUS - Twin Peaks Mall)	
1st/Terry	N
SH-119 & I-25	Y
Longmont Extension Commuter rail, DUS - Boulder - Longmont - Fort Collins via BNSF ***(Package 7 and 8)***	
All Longmont Extension stations (DUS - Twin Peaks Mall)	
1st/Terry	N
17th Street Longmont	N
SH-56 Berthoud	Y
SH-402 Loveland	Y
US-34 Loveland	Y
Fort Collins South TC (relocated to south of Harmony)	Y
CSU	N
Fort Collins North TC	Y

APPENDIX B
TRANSIT OPERATIONS PLAN SUMMARY

NORTH I-25 EIS
LEVEL 3 ALTERNATIVES DEVELOPMENT - SUMMARY OF TRANSIT OPERATING PLAN

	No Build	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5	Pkg 6	Pkg 7	Pkg 8
TRANSIT CORRIDOR IMPROVEMENTS									
Bus on I-25: Ft Collins North TC - DUS	NA	30, 60; gen purpose lanes	30, 60; toll lanes	30, 60; BRT in HOT lanes	30, 60; ltd access lanes	30, 60; BRT in HOV lanes	NA	NA	30, 60; BRT in HOV lanes
Bus on I-25: Ft Collins North TC - DIA	NA	NA	NA	NA	60, 60; ltd access lanes	NA	NA	NA	NA
Commuter bus on US 287, Ft Collins North TC - Longmont	NA	NA	30, 60	30, 60	NA	30, 60	NA	NA	NA
Commuter bus on US 85, Greeley TC - DUS	NA	NA	30, 60	30, 60	NA	30, 60	NA	30, 60	30, 60
Commuter bus on US 85, Greeley TC - DIA	NA	NA	60, 60	NA	NA	NA	NA	60, 60	60, 60
North Metro, 124th - DUS	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0
North Metro, SH 7 - DUS	30, 30	30, 30	30, 30	30, 30	30, 30	30, 30	0, 60	30, 30	0, 60
North Metro extended to Longmont (via I-25 and SH 119) or Ft Collins (via I-25)	NA	NA	NA	NA	NA	NA	30, 60; from SH 7, route extends to Ft Collins via I-25	NA	30, 60; from SH 7, route extends to Longmont via I-25 and SH 119
Longmont Extension Commuter rail, DUS - Boulder terminus	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0	30, 0
Longmont Extension Commuter rail, DUS - Boulder - Longmont terminus	30, 30	30, 30	30, 30	30, 30	30, 30	30, 30	0, 60	0, 60	0, 60
Longmont Extension Commuter rail, DUS - Boulder - Fort Collins or SH 119/I-25	NA	NA	NA	NA	NA	NA	30, 60; from Longmont, route extends east on SH 119 to SH 119/I-25	30, 60; from Longmont, route extends north on BNSF to Ft Collins	30, 60; from Longmont, route extends north on BNSF to Ft Collins
SUPPORTING BUS NETWORK									
Foxtrot (Fort Collins to Loveland)	60, 60 (relocated Fort Collins South Transit Ctr to Loveland)	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build
Fort Collins Rte 1	20, 20; relocate South Transit Ctr to south of Harmony	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build
Fort Collins Rte 5	60, 60; relocate South Transit Ctr to south of Harmony	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build
Fort Collins Rte 6	60, 60; relocate South Transit Ctr to south of Harmony	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build	same as No Build
Fort Collins Rte 7	30, 30; relocate South Transit Ctr to south of Harmony	extend along Harmony to Harmony/I-25 station.	same as Pkg 1	same as Pkg 1	same as Pkg 1	same as Pkg 1	same as Pkg 1	same as No Build	same as No Build
Jitterbus	60, 60	60, 60; extension along I-25 frontage road to Crossroads Blvd interchange; serve SH 34/I-25 station	same as Pkg 1	30, 60; same route as Pkg 1, also connect Crossroads/I-25 stn	same as Pkg 1	30, 60; same route as Pkg 1, also connect Crossroads/I-25 stn	30, 60; same route as Pkg 1, also connect Crossroads/I-25 stn	same as Pkg 1 (no I-25 stns to connect)	30, 60; same route as Pkg 1, also connect Crossroads/I-25 stn

NORTH I-25 EIS
LEVEL 3 ALTERNATIVES DEVELOPMENT - SUMMARY OF TRANSIT OPERATING PLAN

	No Build	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5	Pkg 6	Pkg 7	Pkg 8
SUPPORTING BUS NETWORK									
Greeley - Windsor - Ft Collins	NA	30, 60; new route from Greeley TC - Hwy 34 - Hwy 257 - Harmony Rd - Timberline Rd - SH 14 - Ft Collins North TC (serves Ft Collins North TC, Timberline/Harmony and Harmony/I-25 stns)	same as Pkg 1	30, 60; new route from Greeley TC - Hwy 34 - Hwy 257 - Hwy 392/32 - Timberline Rd - Drake - Hwy 287 - Ft Collins North TC (serves Ft Collins North TC, CSU, and Timberline/Harmony stns)	same as Pkg 1	same as Pkg 3	same as Pkg 3	30, 60; modified route from Pkgs 1 & 3: from Greeley TC - Hwy 34 - Hwy 257 - Hwy 392/32 - Hwy 287 - Ft Collins North TC (serves Ft Collins North TC, CSU, and Harmony stns)	same as Pkg 3
Greeley - Loveland (US-34)	NA	15, 30; new route via Hwy 34 (business)/US 34 from Greeley TC to west Loveland (Wilson Ave); serve US 34/I-25 stn	same as Pkg 1	same as Pkg 1	same as Pkg 1	same as Pkg 1	same as Pkg 1	same as Pkg 1; connect to US-34/BNSF stn (instead of US-34/I-25)	same as Pkg 1; connect to US-34/BNSF and US 34/I-25 stns
Platteville - Milliken - Johnstown - Berthoud	NA	NA	NA	60, 60; new route from Platteville (US 85/SH 66) north on US 85, north then west on SH 60, south on E Frontage Rd, west on SH 56 to SH 56/Taft Rd (CR 17) in Berthoud; serves SH 56/I-25 stn	NA	Same as Pkg 3	60, 60; modified route begins at Milliken (Hwy 60/ Alice Ave), west on SH 60, south on E Frontage Rd, west on SH 56 to SH 56/Taft Rd (CR 17) in Berthoud; serves SH 56/I-25 stn	Same as Pkg 3; serves SH 56 stn	same as Pkg 3; connect to SH 56/I-25 and SH 56/BNSF stns
Firestone - Frederick - Longmont	NA	NA	NA	60, 60; new route from Dacono station at I-25/SH 52, east on SH 52, north on County Road 13, west on SH 119 into downtown Longmont	NA	same as Pkg 3	30, 60; new feeder from SH 52/I-25 stn, east on SH 52, north on CR 13, west on SH 119 to SH 119/I-25 stn	30, 60; begin rte in Dacono (CR 13/Rte 52), north on CR 13, west on SH 119 to Longmont commuter rail stn	same as Pkg 6
Ft Lupton - Longmont	NA	60, 60; new route from Ft. Lupton to Longmont: from SH 52/US 85, west on SH 52, north on CR 13 (Colorado Ave), west on CR 24 (Firestone Bl) - SH 119 to Longmont commuter rail stn. Also serves SH-119/I-25 stn.	same as Pkg 1	NA	same as Pkg 1	NA	NA	NA	NA
Ft Lupton - Boulder (SH 52)	NA	NA	NA	30, 60; new route from Ft. Lupton (SH 52/US 85) to Boulder (Pearl/30th) along SH 52 and SH 119. Serves SH-52/I-25 stn.	NA	same as Pkg 3	same as Pkg 3	same as Pkg 3	same as Pkg 3

APPENDIX C
TRAVEL TIME WORKSHEETS

DENVER I-25 NORTH EIS
COMMUTER RAIL SOUTHBOUND TRAVEL TIME ESTIMATES
Fort Collins to DUS via BNSF - Boulder
Packages 7 and 8

Station	Max Spd . (mph)	Distance (miles) Incr.	Distance (miles) Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
Fort Collins			**0.00**			**0:00:00**	**0:00:00**
	70	1.53		0:02:36	0:00:00		
CSU			**1.53**			**0:01:00**	**0:03:36**
	80	3.24		0:03:54	0:00:00		
Harmony			**4.77**			**0:01:00**	**0:08:30**
50 mph design segment	50	0.97		0:01:41	0:00:00		
			5.74			**0:00:00**	**0:10:11**
	80	3.31		0:02:49	0:00:00		
			9.05			**0:00:00**	**0:13:00**
65 mph design segment	65	0.76		0:00:43	0:00:00		
			9.81			**0:00:00**	**0:13:43**
50 mph design segment	50	0.28		0:00:20	0:00:00		
			10.09			**0:00:00**	**0:14:03**
	80	2.90		0:02:56	0:00:00		
US 34 (Loveland)			**12.99**			**0:01:00**	**0:17:59**
	60	0.89		0:01:38	0:00:00		
			13.88			**0:00:00**	**0:19:37**
45 mph design segment	45	0.47		0:00:38	0:00:00		
			14.36			**0:00:00**	**0:20:15**
40 mph design segment	40	0.72		0:01:18	0:00:00		
SH 402 (Loveland)			**15.08**			**0:01:00**	**0:22:33**
30 mph design segment	30	1.08		0:02:25	0:00:00		
			16.16			**0:00:00**	**0:24:58**
	80	4.05		0:04:06	0:00:00		
SH 56 (Berthoud)			**20.21**			**0:01:00**	**0:30:04**
50 mph design segment	50	1.16		0:01:54	0:00:00		
			21.36			**0:00:00**	**0:31:58**
	60	0.38		0:00:29	0:00:00		
			21.74			**0:00:00**	**0:32:27**
55 mph design segment	55	0.38		0:00:25	0:00:00		
			22.12			**0:00:00**	**0:32:52**
	70	0.66		0:00:44	0:00:00		
			22.78			**0:00:00**	**0:33:36**
60 mph design segment	60	0.19		0:00:11	0:00:00		
			22.97			**0:00:00**	**0:33:47**
	80	1.80		0:01:34	0:00:00		
			24.77			**0:00:00**	**0:35:21**
45 mph design segment	45	0.38		0:00:30	0:00:00		
			25.15			**0:00:00**	**0:35:51**
	50	0.28		0:00:23	0:00:00		
			25.44			**0:00:00**	**0:36:14**
40 mph design segment	40	0.28		0:00:26	0:00:00		
			25.72			**0:00:00**	**0:36:40**
	80	2.88		0:03:04	0:00:00		
17th Street (Longmont)			**28.60**			**0:01:00**	**0:40:44**
	55	0.87		0:01:36	0:00:00		
			29.47			**0:00:00**	**0:42:20**
35 mph design segment	35	0.42		0:00:43	0:00:00		
			29.89			**0:00:00**	**0:43:03**
	55	0.57		0:00:50	0:00:00		
			30.45			**0:00:00**	**0:43:53**
40 mph design segment	40	0.63		0:01:10	0:00:00		
1st/Terry (Longmont)			**31.08**			**0:01:00**	**0:46:03**
	75	1.91		0:02:54	0:00:00		
Twin Peaks Mall			**32.99**			**0:01:00**	**0:49:57**
TOTAL			**32.99**	**0:41:57**	**0:00:00**	**0:08:00**	**0:49:57**
	Avg Stn Spacing =		**4.12 miles**			**Avg Speed =**	**39.63**
						End-to-end travel time from Longmont to DUS via Boulder	**0:55:50**
						Total travel time from Fort Collins to DUS via Boulder	**1:45:47**

Notes:
Distances and curve restrictions from plan drawings provided by Carter Burgess October 4, 2005.
Some design curves from drawings not noted since operating speeds dictated by acceleration/deceleration rather than design speed.
Total travel time from Longmont to DUS via Boulder provided by Carter Burgess based on modeled times.

North Metro Line extension to Longmont via SH 119
Level 3: Package 8

Station	Max Spd . (mph)	Distance (miles) Incr.	Distance (miles) Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
Longmont (1st/Terry)			**0.00**			**0:00:00**	**0:00:00**
	75	1.89		0:02:54			
Sugar Mill			**1.89**			**0:01:00**	**0:03:54**
	80	4.45		0:04:32			
30 mph curve			**6.34**			**0:00:00**	**0:08:26**
	30	0.47		0:01:07			
SH 119/I-25			**6.82**			**0:01:00**	**0:10:33**
	80	4.60		0:04:55	0:00:00		
SH 52/I-25			**11.42**			**0:01:00**	**0:16:28**
	80	2.67		0:03:10	0:00:00		
			14.09			**0:00:00**	**0:19:38**
turn off I-25	35	0.26		0:00:26	0:00:00		
			14.35			**0:00:00**	**0:20:04**
curve section	50	1.91		0:02:25	0:00:00		
			16.26			**0:00:00**	**0:22:29**
	80	3.61		0:03:28	0:00:00		
SH 7/Dent			**19.87**			**0:01:00**	**0:26:57**
TOTAL			**19.87**	**0:22:57**	**0:00:00**	**0:04:00**	**0:26:57**
	Avg Stn Spacing =		**6.62 miles**			**Avg Speed =**	**44.24**
						End-to-end travel time from SH 7 to DUS	**0:31:17**
						Total travel time from Longmont to DUS	**0:58:14**

Notes:

Distances and curve restrictions from plan drawings provided by Carter Burgess October 4, 2005.

Dent segment from I-25 to SH 7 scaled from Mapquest. (Curve restriction based on rough estimate.)

Total travel time from SH 7 to DUS provided by Carter Burgess based on modeled times.

DENVER I-25 NORTH EIS
COMMUTER RAIL SOUTHBOUND TRAVEL TIME ESTIMATES
Fort Collins to DUS via I-25 (Fort Collins to SH 7 segment only)
Level 3: Package 6

Station	Max Spd . (mph)	Distance (miles) Incr.	Distance (miles) Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
Harmony/I-25 (Fort Collins)			**0.00**			**0:00:00**	**0:00:00**
	80	3.34		0:03:59			
SH 392/I-25			**3.34**			**0:01:00**	**0:04:59**
	80	3.27		0:03:55	0:00:00		
Crossroads/I-25			**6.61**			**0:01:00**	**0:09:54**
	75	1.84		0:02:51	0:00:00		
US 34/I-25 (Loveland)			**8.45**			**0:01:00**	**0:13:45**
70 mph section	70	1.86		0:02:32	0:00:00		
			10.30			**0:00:00**	**0:16:17**
SH 402 crossing	45	0.32		0:00:26	0:00:00		
			10.63			**0:00:00**	**0:16:43**
	60	0.61		0:00:47	0:00:00		
			11.23			**0:00:00**	**0:17:30**
CR-16 crossing	45	0.15		0:00:12	0:00:00		
			11.38			**0:00:00**	**0:17:42**
	70	2.14		0:02:12	0:00:00		
			13.52			**0:00:00**	**0:19:54**
CR-48 crossing	40	0.13		0:00:12	0:00:00		
			13.66			**0:00:00**	**0:20:06**
	80	1.55		0:01:41	0:00:00		
			15.21			**0:00:00**	**0:21:47**
60 mph section	55	0.30		0:00:38	0:00:00		
SH 56-60/I-25			**15.51**			**0:01:00**	**0:23:25**
	80	2.73		0:03:06	0:00:00		
			18.24			**0:00:00**	**0:26:31**
60 mph section	60	0.32		0:00:22	0:00:00		
			18.56			**0:00:00**	**0:26:53**
CR-38 crossing	40	0.17		0:00:15	0:00:00		
			18.73			**0:00:00**	**0:27:08**
	80	1.86		0:01:58	0:00:00		
			20.59			**0:00:00**	**0:29:06**
Hwy 34 crossing	40	0.17		0:00:15	0:00:00		
			20.76			**0:00:00**	**0:29:21**
	80	1.88		0:01:59	0:00:00		
			22.63			**0:00:00**	**0:31:20**
Hwy 66 crossing	40	0.15		0:00:14	0:00:00		
			22.78			**0:00:00**	**0:31:34**
	80	2.82		0:03:02	0:00:00		
SH 119/I-25			**25.61**			**0:01:00**	**0:35:36**
	80	5.00		0:05:13	0:00:00		
SH 52/I-25			**30.61**			**0:01:00**	**0:41:49**
	80	2.67		0:03:10	0:00:00		
			33.28			**0:00:00**	**0:44:59**
turn off I-25	35	0.26		0:00:26	0:00:00		
			33.53			**0:00:00**	**0:45:25**
curve section	50	1.91		0:02:25	0:00:00		
			35.44			**0:00:00**	**0:47:50**
	80	3.61		0:03:28	0:00:00		
SH 7/Dent			**39.05**			**0:01:00**	**0:52:18**
TOTAL			**39.05**	**0:45:18**	**0:00:00**	**0:07:00**	**0:52:18**
Avg Stn Spacing =			**5.58 miles**			**Avg Speed =**	**44.80**
End-to-end travel time from SH 7 to DUS							**0:31:17**
Total travel time from Fort Collins to DUS							**1:23:35**

Notes:
Distances and curve restrictions from plan drawings provided by Carter Burgess October 4, 2005.
Dent segment from I-25 to SH 7 scaled from Mapquest. (Curve restriction based on rough estimate.)
Some design curves from drawings not noted since operating speeds dictated by acceleration/deceleration rather than design speed.
Total travel time from SH 7 to DUS provided by Carter Burgess based on modeled times.

Longmont Extension to SH-119/I-25
Level 3: Package 6

Station	Max Spd . (mph)	Distance (miles) Incr.	Distance (miles) Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
Twin Peaks Mall			**0.00**			**0:01:00**	**0:01:00**
	75	1.91		0:02:54			
1st/Terry			**1.91**			**0:01:00**	**0:04:54**
	75	1.89		0:02:54			
Sugar Mill			**3.80**			**0:01:00**	**0:08:48**
	80	4.45		0:04:32			
30 mph curve			**8.25**			**0:00:00**	**0:13:20**
	30	0.47		0:01:07			
SH 119/I-25			**8.73**			**0:01:00**	**0:15:27**
TOTAL			**8.73**	**0:11:27**	**0:00:00**	**0:04:00**	**0:15:27**
	Avg Stn Spacing =		**2.91 miles**			**Avg Speed =**	**33.89**
						End-to-end travel time from Longmont to DUS via Boulder	**0:55:50**
						Total travel time from SH 119/I-25 to DUS via Boulder	**1:11:17**

Notes:

Distances and curve restrictions from plan drawings provided by Carter Burgess October 4, 2005.

Total travel time from Longmont to DUS via Boulder provided by Carter Burgess based on modeled times.

DENVER I-25 NORTH EIS
BUS RAPID TRANSIT SOUTHBOUND TRAVEL TIME ESTIMATES
Fort Collins to DUS via I-25
Level 3: Packages 3, 5 and 8

Station	Max Spd . (mph)	Distance (miles) Incr.	Distance (miles) Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
Harmony/I-25 (Fort Collins)			**0.00**			**0:00:00**	**0:00:00**
	75	3.03		0:03:18			
SH 392/I-25			**3.03**			**0:01:00**	**0:04:18**
	75	2.99		0:03:16	0:00:00		
Crossroads/I-25			**6.02**			**0:01:00**	**0:08:34**
	70	1.97		0:02:30	0:00:00		
US 34/I-25 (Loveland)			**7.99**			**0:01:00**	**0:12:04**
	75	7.08		0:06:32	0:00:00		
SH 56-60/I-25			**15.08**			**0:01:00**	**0:19:36**
	75	10.08		0:08:56	0:00:00		
SH 119/I-25			**25.15**			**0:01:00**	**0:29:32**
	75	5.04		0:04:54	0:00:00		
SH 52/I-25			**30.19**			**0:01:00**	**0:35:26**
	75	6.00		0:05:40	0:00:00		
SH 7/I-25			**36.19**			**0:01:00**	**0:42:06**
	75	6.00		0:05:40	0:00:00		
Wagon Road			**42.19**			**0:01:00**	**0:48:46**
	60	10.45		0:10:59	0:00:00		
Final approach			**52.64**			**0:00:00**	**0:59:45**
	35	1.17		0:02:08	0:00:00		
Denver Union Station			**53.82**			**0:01:00**	**1:02:53**
TOTAL			**53.82**	**0:53:53**	**0:00:00**	**0:09:00**	**1:02:53**
Avg Stn Spacing =			**5.98 miles**			**Avg Speed =**	**51.35**

Notes:
Distances scaled from Rand McNally Northern Colorado Street Guide or Denver Street Guide (2005) except as noted.
Revised September 22, 2005 to reflect continuous busway from SH 7 to DUS.
Speeds north of 120th St assume free-flow conditions. Slower speeds south of 120th St reflect speed limit reduction and increased bus volumes.

APPENDIX D
BUS OPERSTAT WORKSHEETS

North I-25 EIS
BUS OPERATING PLANS
No Action

Route	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve	E/L	Vehicles Peak	Total	Daily Veh Miles	Veh Hrs	Annual Veh Miles	Veh Hrs
Foxtrot	32.8	10.2	M-F	60.0	60.0	####	####	2	2	264.2	26.0	67,100	6,600
exist			Sat	n/a	60.0	n/a	####			264.7	26.1	13,500	1,330
ave mph	***18.56***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2			80,600	7,930
Transfort 5	28.5	6.7	M-F	60.0	60.0	####	####	1	1	173.2	13.0	44,000	3,300
modified South Transit Center			Sat	n/a	60.0	n/a	####			172.5	12.9	8,800	660
ave mph	***14.04***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								1	1			52,800	3,960
Transfort 6	28.2	7.6	M-F	60.0	60.0	####	####	1	1	196.5	13.0	49,900	3,300
modified South Transit Center			Sat	n/a	60.0	n/a	####			196.1	12.9	10,000	660
ave mph	***16.07***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								1	1			59,900	3,960
Transfort 7	25.4	6.7	M-F	30.0	30.0	####	####	2	2	347.2	26.0	88,200	6,600
modified South Transit Center			Sat	n/a	30.0	n/a	####			347.1	26.1	17,700	1,330
ave mph	***15.79***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2			105,900	7,930
Jitterbus	65.0	15.8	M-F	60.0	60.0	####	####	1	1	205.5	6.5	52,200	1,650
exist (one-way loop)			Sat	n/a	60.0	n/a	####			205.9	6.5	10,500	330
ave mph	***14.59***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								1	1			62,700	1,980

Notes for North I-25 corridor bus statistics:
(1) Distance based on coded distances provided by Carter Burgess from transportation model (PKG_RouteStatistics).
(2) Run time based on calculated travel times from transportation model.
(3) Service span based on existing service span (as of October 2005).
(3) Calculated total fleet = peak vehicle requirement * 1.2 (20% spare ratio).

NO ACTION

OPERATING ASSUMPTIONS:			approx 6am-7pm	***based on existing span of service***
WKDYPEAKHR	5.0		6am-9am; 3pm-5pm	
WKDYBASEHR	8.0		9am-3pm; 5pm-7pm	
WKDYEVEHR	0.0			
WKDYELHR	0.0	13		
SATPEAKHR	0.0			
SATBASEHR	13.0		6am-7pm	
SATELHR	0.0	13		
SUNPEAKHR	0.0			
SUNBASEHR	0.0			
SUNELHR	0.0	0		
ANNUAL WEEKDAYS	254			
ANNUAL SATURDAYS	51			
ANNUAL SUNDAYS, HOL	60	365		
ANNUALPEAK	1270			
ANNUALBASE	2695			
ANNUALEL	0			

North I-25 EIS
BUS OPERATING PLANS
MODIFIED ROUTES

Route	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve	E/L	Vehicles Peak	Total	Daily Veh Miles	Veh Hrs	Annual Veh Miles	Veh Hrs
Foxtrot	32.8	10.2	M-F	60.0	60.0	####	####	2	2	264.2	26.0	67,100	6,600
reverted to No Action			Sat	n/a	60.0	n/a	####			264.7	26.1	13,500	1,330
ave mph	***18.56***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2			80,600	7,930
Transfort 5	28.5	6.7	M-F	60.0	60.0	####	####	1	1	173.2	13.0	44,000	3,300
modified South TC (Pkg 1-6)			Sat	n/a	60.0	n/a	####			172.5	12.9	8,800	660
ave mph	***14.04***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								1	1			52,800	3,960
Transfort 5	28.5	6.7	M-F	60.0	60.0	####	####	1	1	173.2	13.0	44,000	3,300
modified South TC (Pkg 7, 8)			Sat	n/a	60.0	n/a	####			172.5	12.9	8,800	660
ave mph	***14.04***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								1	1			52,800	3,960
Transfort 6	28.2	7.6	M-F	60.0	60.0	####	####	1	1	196.5	13.0	49,900	3,300
modified South TC (Pkg 1-6)			Sat	n/a	60.0	n/a	####			196.1	12.9	10,000	660
ave mph	***16.07***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								1	1			59,900	3,960
Transfort 6	28.2	7.6	M-F	60.0	60.0	####	####	1	1	196.5	13.0	49,900	3,300
modified South TC (Pkg 7, 8)			Sat	n/a	60.0	n/a	####			196.1	12.9	10,000	660
ave mph	***16.07***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								1	1			59,900	3,960
Transfort 7	34.6	10.0	M-F	30.0	30.0	####	####	3	4	518.5	39.0	131,700	9,910
extended (Pkg 1-6)			Sat	n/a	30.0	n/a	####			517.6	39.0	26,400	1,990
ave mph	***17.28***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								3	4			158,100	11,900
Transfort 7	25.4	6.7	M-F	30.0	30.0	####	####	2	2	347.2	26.0	88,200	6,600
modified South TC (Pkg 7, 8)			Sat	n/a	30.0	n/a	####			347.1	26.1	17,700	1,330
ave mph	***15.79***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2			105,900	7,930
Jitterbus (Pkg 1, 2, 4, 7)	76.9	21.5	M-F	60.0	60.0	####	####	2	2	279.1	26.0	70,900	6,600
extended (one-way loop)			Sat	n/a	60.0	n/a	####			278.4	26.1	14,200	1,330
ave mph	***16.76***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2			85,100	7,930
Jitterbus (Pkg 3, 5, 6, 8)	78.1	21.3	M-F	30.0	60.0	####	####	3	4	383.1	31.0	97,300	7,870
extended (one-way loop)			Sat	n/a	60.0	n/a	####			276.5	26.1	14,100	1,330
ave mph	***16.36***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								3	4			111,400	9,200

Notes for North I-25 corridor bus statistics:
(1) Distance based on coded distances provided by Carter Burgess from transportation model (PKG_RouteStatistics).
(2) Run time based on calculated travel times from transportation model.
(3) Distance and run times for each route use representative model data from a single package (rather than varying by package if route is identical). See cell comments for documentation on what package was used.
(4) Calculated total fleet = peak vehicle requirement * 1.2 (20% spare ratio).

MODIFIED ROUTES				
OPERATING ASSUMPTIONS:			approx 6am-7pm	***based on existing span of service***
WKDYPEAKHR	5.0		6am-9am; 3pm-5pm	
WKDYBASEHR	8.0		9am-3pm; 5pm-7pm	
WKDYEVEHR	5.0		4am-6am; 7pm-10pm	
WKDYELHR	0.0	18		
SATPEAKHR	0.0			
SATBASEHR	13.0		6am-7pm	
SATELHR	0.0	13		
SUNPEAKHR	0.0			
SUNBASEHR	13.0		6am-7pm	
SUNELHR	0.0	13		
ANNUAL WEEKDAYS	254			
ANNUAL SATURDAYS	51			
ANNUAL SUNDAYS, HOL	60	365		
ANNUALPEAK	1270			
ANNUALBASE	3475			
ANNUALEL	1270			

North I-25 EIS
BUS OPERATING PLANS
CORRIDOR ROUTES

Route	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve	E/L	Vehicles Peak	Total	Daily Veh Miles	Veh Hrs	Annual Veh Miles	Veh Hrs
I-25 commuter bus to DUS	102.7	66.2	M-F	30.0	60.0	####	####	7	8	2,913.8	82.0	740,100	20,830
			Sat	n/a	60.0	n/a	####			1,721.6	52.0	87,800	2,650
ave mph	***38.69***		Sun	n/a	60.0	n/a	####			1,721.7	52.0	103,300	3,120
ESTIMATED TOTALS:								7	8	6,357	186	931,200	26,600
I-25 BRT to DUS	102.3	64.1	M-F	30.0	60.0	####	####	7	8	2,818.5	82.0	715,900	20,830
			Sat	n/a	60.0	n/a	####			1,664.7	52.0	84,900	2,650
ave mph	***37.58***		Sun	n/a	60.0	n/a	####			1,665.0	52.0	99,900	3,120
ESTIMATED TOTALS:								7	8	6,148	186	900,700	26,600
I-25 commuter bus to DIA	114.6	73.1	M-F	60.0	60.0	####	####	4	5	2,339.8	64.0	594,300	16,260
			Sat	n/a	60.0	n/a	####			1,902.0	52.0	97,000	2,650
ave mph	***38.28***		Sun	n/a	60.0	n/a	####			1,901.7	52.0	114,100	3,120
ESTIMATED TOTALS:								4	5	6,143	168	805,400	22,030
US 287 commuter bus	70.2	34.3	M-F	30.0	60.0	####	####	5	6	1,510.2	60.0	383,600	15,240
			Sat	n/a	60.0	n/a	####			892.2	39.0	45,500	1,990
ave mph	***29.35***		Sun	n/a	60.0	n/a	####			891.7	39.0	53,500	2,340
ESTIMATED TOTALS:								5	6	3,294	138	482,600	19,570
US 85 commuter bus to DUS	100.8	54.6	M-F	30.0	60.0	####	####	4	5	1,201.2	44.0	305,100	11,180
			Sat	n/a	60.0	n/a	####			709.8	26.1	36,200	1,330
ave mph	***32.49***		Sun	n/a	60.0	n/a	####			1,420.0	52.0	85,200	3,120
ESTIMATED TOTALS:								4	5	3,331	122	426,500	15,630
US 85 commuter bus to DIA	81.8	53.8	M-F	60.0	60.0	####	####	2	2	861.0	32.0	218,700	8,130
			Sat	n/a	60.0	n/a	####			700.0	26.1	35,700	1,330
ave mph	***39.49***		Sun	n/a	60.0	n/a	####			1,400.0	52.0	84,000	3,120
ESTIMATED TOTALS:								2	2	2,961	110	338,400	12,580

Notes for North I-25 corridor bus statistics:
(1) Distance based on coded distances provided by Carter Burgess from transportation model (PKG_RouteStatistics).
(2) Run time based on calculated travel times from transportation model.
(3) Distance and run times for each route use representative model data from a single package (rather than varying by package if route is identical). See cell comments for documentation on what package was used.
(4) Calculated total fleet = peak vehicle requirement * 1.2 (20% spare ratio).

CORRIDOR BUS ROUTES

OPERATING ASSUMPTIONS:			
			4am-11pm ***based on using similar service span as rail lines to Ft. Collins***
WKDYPEAKHR	6.0		5am-8am; 3pm-6pm
WKDYBASEHR	10.0		8am-3pm; 6pm-9pm
WKDYEVEHR	3.0		4am-5am; 9pm-11pm
WKDYELHR	0.0	19	
SATPEAKHR	0.0		
SATBASEHR	13.0		6am-7pm
SATELHR	0.0	13	
SUNPEAKHR	0.0		
SUNBASEHR	13.0		6am-7pm
SUNELHR	0.0	13	
ANNUAL WEEKDAYS	254		
ANNUAL SATURDAYS	51		
ANNUAL SUNDAYS, HOL	60	365	
ANNUALPEAK	1524		
ANNUALBASE	3983		
ANNUALEL	762		

North I-25 EIS
BUS OPERATING PLANS
FEEDER BUS ROUTES

Route	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve	E/L	Vehicles Peak	Total	Daily Veh Miles	Veh Hrs	Annual Veh Miles	Veh Hrs
Greeley-Windsor-Ft Collins	85.1	31.7	M-F	30.0	60.0	####	####	6	7	1,394.1	66.0	354,100	16,760
(Pkg 1, 2, 4)			Sat	n/a	60.0	n/a	####			823.5	39.0	42,000	1,990
ave mph	***22.34***		Sun	n/a	60.0	n/a	####			823.3	39.0	49,400	2,340
ESTIMATED TOTALS:								6	7	3,041	144	445,500	21,090
Greeley-Windsor-Ft Collins	92.1	31.9	M-F	30.0	60.0	####	####	7	8	1,402.8	82.0	356,300	20,830
(Pkg 3, 5, 6, 8)			Sat	n/a	60.0	n/a	####			829.4	52.0	42,300	2,650
ave mph	***20.77***		Sun	n/a	60.0	n/a	####			828.3	52.0	49,700	3,120
ESTIMATED TOTALS:								7	8	3,061	186	448,300	26,600
Greeley-Windsor-Ft Collins	90.7	31.8	M-F	30.0	60.0	####	####	7	8	1,397.2	82.0	354,900	20,830
(Pkg 7)			Sat	n/a	60.0	n/a	####			825.5	52.0	42,100	2,650
ave mph	***21.00***		Sun	n/a	60.0	n/a	####			825.0	52.0	49,500	3,120
ESTIMATED TOTALS:								7	8	3,048	186	446,500	26,600
Greeley-Loveland (US 34)	59.7	22.6	M-F	15.0	30.0	####	####	9	11	1,990.2	104.0	505,500	26,420
			Sat	n/a	30.0	n/a	####			1,176.5	65.1	60,000	3,320
ave mph	***22.73***		Sun	n/a	30.0	n/a	####			1,176.7	65.0	70,600	3,900
ESTIMATED TOTALS:								9	11	4,343	234	636,100	33,640
Platteville-Milliken-	53.0	25.6	M-F	60.0	60.0	####	####	2	2	818.9	32.0	208,000	8,130
Johnstown-Berthoud (Pkg 3, 5, 7-8)			Sat	n/a	####	n/a	####			0.0	0.0	0	0
ave mph	***28.96***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2	819	32	208,000	8,130
Platteville-Milliken-	37.4	15.7	M-F	60.0	60.0	####	####	2	2	503.5	32.0	127,900	8,130
Johnstown-Berthoud (Pkg 6)			Sat	n/a	####	n/a	####			0.0	0.0	0	0
ave mph	***25.27***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2	504	32	127,900	8,130
Firestone-Frederick-	44.0	17.0	M-F	60.0	60.0	####	####	2	2	542.5	32.0	137,800	8,130
Longmont (Pkg 3, 5)			Sat	n/a	####	n/a	####			0.0	0.0	0	0
ave mph	***23.12***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2	543	32	137,800	8,130
Firestone-Frederick-	29.9	9.2	M-F	30.0	60.0	####	####	2	2	406.7	22.0	103,300	5,590
Longmont (Pkg 6, 8)			Sat	n/a	####	n/a	####			0.0	0.0	0	0
ave mph	***18.52***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2	407	22	103,300	5,590
Firestone-Frederick-	34.9	15.2	M-F	30.0	60.0	####	####	3	4	666.9	38.0	169,400	9,650
Longmont (Pkg 7)			Sat	n/a	####	n/a	####			0.0	0.0	0	0
ave mph	***26.06***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								3	4	667	38	169,400	9,650
Ft Lupton - Longmont	53.0	22.0	M-F	60.0	60.0	####	####	2	2	705.1	32.0	179,100	8,130
			Sat	n/a	####	n/a	####			0.0	0.0	0	0
ave mph	***24.96***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								2	2	705	32	179,100	8,130
Ft Lupton-Boulder	81.7	26.3	M-F	30.0	60.0	####	####	6	7	1,157.5	66.0	294,000	16,760
			Sat	n/a	60.0	n/a	####			684.3	39.0	34,900	1,990
ave mph	***19.33***		Sun	n/a	####	n/a	####			0.0	0.0	0	0
ESTIMATED TOTALS:								6	7	1,842	105	328,900	18,750

Notes for North I-25 corridor bus statistics:
(1) Distance based on coded distances provided by Carter Burgess from transportation model (NoAction_RouteStatistics).
(2) Run time based on calculated travel times from transportation model.
(3) Distance and run times for each route use representative model data from a single package (rather than varying by package if route is identical). See cell comments for documentation on what package was used.
(4) Calculated total fleet = peak vehicle requirement * 1.2 (20% spare ratio).

FEEDER BUS ROUTES			
OPERATING ASSUMPTIONS:			4am-11pm ***based on using similar service span as rail lines to Ft. Collins***
WKDYPEAKHR	6.0		5am-8am; 3pm-6pm
WKDYBASEHR	10.0		8am-3pm; 6pm-9pm
WKDYEVEHR	3.0		4am-5am; 9pm-11pm
WKDYELHR	0.0	19	
SATPEAKHR	0.0		
SATBASEHR	13.0		6am-7pm
SATELHR	0.0	13	
SUNPEAKHR	0.0		
SUNBASEHR	13.0		6am-7pm
SUNELHR	0.0	13	
ANNUAL WEEKDAYS	254		
ANNUAL SATURDAYS	51		
ANNUAL SUNDAYS, HOL.	60	365	
ANNUALPEAK	1524		
ANNUALBASE	3983		
ANNUALEL	762		

APPENDIX E
RAIL OPERSTAT WORKSHEETS

North I-25 EIS
No Action
(based on FasTracks 2025 Horizon Year DMU Operating Statistics)

Rail LIne	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve.	E/L	Consist Peak	Base	Eve.	E/L	Vehicles Peak	Total	Annual Train-Mi's	Car-Miles	Train-Hrs	Car-Hrs	Trains Peak	Base	Eve.	E/L
Diagonal/Hover	54.67	37.96	M-F	30.0	30.0	60.0	n/a	2.0	2.0	2.0	n/a	8	10	678,000	1,355,000	17,850	35,700	4	4	2	0
to DUS			Sat	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			69,000	138,000	1,820	3,640	0	2	2	0
(US 36 Line)			Sun	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			77,000	154,000	2,030	4,060	0	2	2	0
Pearl/30th	42.48	27.96	M-F	30.0	n/a	n/a	n/a	2.0	n/a	n/a	n/a	8	10	57,000	114,000	2,040	4,080	4	0	0	0
to DUS			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
(US 36 Line)			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
SH-7/160th	33.10	20.45	M-F	30.0	30.0	30.0	30.0	3.0	2.0	2.0	1.0	9	11	448,000	970,000	16,450	35,570	3	3	3	3
to DUS			Sat	n/a	30.0	30.0	30.0	n/a	2.0	2.0	1.0			91,000	166,000	3,350	6,080	0	3	3	3
(North Metro Line)			Sun	n/a	30.0	30.0	30.0	n/a	2.0	2.0	1.0			102,000	185,000	3,740	6,790	0	3	3	3
124th to DUS	25.03	15.53	M-F	30.0	n/a	n/a	n/a	3.0	n/a	n/a	n/a	6	7	48,000	143,000	1,530	4,590	2	0	0	0
(North Metro Line)			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
ESTIMATED TOTALS												**31**	**38**	**1,570,000**	**3,225,000**	**48,810**	**100,510**	**13**	**7**	**5**	**3**

1. Travel time and distance calculations based on MPA travel time worksheets prepared for FasTracks Plan
2. Peak period train consists based on FI15 Fand J25 peak period line load forecasts.
3. Minimum 2-car trains assumed on all lines in the peak period. With exception of DIA-DUS line, 2-car trains assumed on all other lines in the base and eve. periods.
4. 1 power/1trailer car assumed for the US 36 line, 2 power/2 trailer casts assumed for East/DIA line, 2 power/1trailer car assumed for North Metro line.
5. Trip calculations for short turn trains on US 36 and North Metro assume 2 hours of peak direction service in each peak period.

North I-25 EIS
Package 6
North Metro Line extended to Fort Collins; US 36 Line extended to SH 119/I-25

Rail LIne	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve.	E/L	Consist Peak	Base	Eve.	E/L	Vehicles Peak	Total	Annual Train-Mi's	Car-Miles	Train-Hrs	Car-Hrs	Trains Peak	Base	Eve.	E/L
SH 119/I25	70.12	46.69	M-F	30.0	60.0	60.0	n/a	2.0	2.0	2.0	n/a	10	12	595,000	1,191,000	17,600	35,190	5	3	3	0
to DUS			Sat	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			85,000	170,000	2,730	5,460	0	3	3	0
(US 36 Line)			Sun	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			95,000	190,000	3,050	6,090	0	3	3	0
Diagonal/Hover	54.67	37.96	M-F	n/a	60.0	n/a	n/a	2.0	2.0	2.0	n/a	0	0	194,000	387,000	5,100	10,200	0	2	0	0
to DUS			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
(US 36 Line)			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
Pearl/30th	42.48	27.96	M-F	30.0	n/a	n/a	n/a	2.0	n/a	n/a	n/a	8	10	57,000	114,000	2,040	4,080	4	0	0	0
to DUS			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
(US 36 Line)			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
Ft Collins	85.40	59.50	M-F	30.0	60.0	60.0	60.0	3.0	2.0	2.0	1.0	18	22	834,000	1,957,000	21,040	49,340	6	3	3	3
to DUS			Sat	n/a	60.0	60.0	60.0	n/a	2.0	2.0	1.0			133,000	241,000	3,350	6,080	0	3	3	3
(North Metro Line)			Sun	n/a	60.0	60.0	60.0	n/a	2.0	2.0	1.0			148,000	269,000	3,740	6,790	0	3	3	3
SH-7/160th	33.10	20.45	M-F	n/a	60.0	60.0	60.0	3.0	2.0	2.0	1.0	0	0	162,000	297,000	7,910	14,540	0	2	2	2
to DUS			Sat	n/a	60.0	60.0	60.0	n/a	2.0	2.0	1.0			46,000	83,000	2,240	4,060	0	2	2	2
(North Metro Line)			Sun	n/a	60.0	60.0	60.0	n/a	2.0	2.0	1.0			51,000	93,000	2,490	4,520	0	2	2	2
124th to DUS	25.03	15.53	M-F	30.0	n/a	n/a	n/a	3.0	n/a	n/a	n/a	6	7	48,000	143,000	1,530	4,590	2	0	0	0
(North Metro Line)			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
ESTIMATED TOTALS												**42**	**51**	**2,448,000**	**5,135,000**	**72,820**	**150,940**	**17**	**10**	**8**	**5**
INCREMENTAL STATISTICS COMPARED TO NO ACTION												**11**	**13**	**878,000**	**1,910,000**	**24,010**	**50,430**	**4**	**3**	**3**	**2**

1. Travel time and distance calculations based on MPA travel time worksheets prepared for FasTracks Plan
2. Peak period train consists based on FI15 Fand J25 peak period line load forecasts.
3. Minimum 2-car trains assumed on all lines in the peak period. With exception of DIA-DUS line, 2-car trains assumed on all other lines in the base and eve. periods.
4. 1 power/1trailer car assumed for the US 36 line, 2 power/2 trailer casts assumed for East/DIA line, 2 power/1trailer car assumed for North Metro line.
5. Trip calculations for short turn trains on US 36 and North Metro assume 2 hours of peak direction service in each peak period.

North I-25 EIS
Package 7
US 36 Line extended to Fort Collins

Rail LIne	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve.	E/L	Consist Peak	Base	Eve.	E/L	Vehicles Peak	Total	Annual Train-Mi's	Car-Miles	Train-Hrs	Car-Hrs	Trains Peak	Base	Eve.	E/L
Fort Collins	104.62	70.95	M-F	30.0	60.0	60.0	n/a	2.0	2.0	2.0	n/a	16	19	905,000	1,809,000	25,500	51,000	8	4	4	0
to DUS			Sat	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			129,000	258,000	3,640	7,280	0	4	4	0
(US 36 Line)			Sun	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			144,000	288,000	4,060	8,120	0	4	4	0
Diagonal/Hover	54.67	37.96	M-F	n/a	60.0	n/a	n/a	2.0	2.0	2.0	n/a	0	0	194,000	387,000	5,100	10,200	0	2	0	0
to DUS			Sat	n/a	n/a	n/a	n/a	n/a	2.0	2.0	n/a			0	0	0	0	0	0	0	0
(US 36 Line)			Sun	n/a	n/a	n/a	n/a	n/a	2.0	2.0	n/a			0	0	0	0	0	0	0	0
Pearl/30th	42.48	27.96	M-F	30.0	n/a	n/a	n/a	2.0	n/a	n/a	n/a	8	10	57,000	114,000	2,040	4,080	4	0	0	0
to DUS			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
(US 36 Line)			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
SH-7/160th	33.10	20.45	M-F	30.0	30.0	30.0	30.0	3.0	2.0	2.0	1.0	9	11	448,000	970,000	16,450	35,570	3	3	3	3
to DUS			Sat	n/a	30.0	30.0	30.0	n/a	2.0	2.0	1.0			91,000	166,000	3,350	6,080	0	3	3	3
(North Metro Line)			Sun	n/a	30.0	30.0	30.0	n/a	2.0	2.0	1.0			102,000	185,000	3,740	6,790	0	3	3	3
124th to DUS	25.03	15.53	M-F	30.0	n/a	n/a	n/a	3.0	n/a	n/a	n/a	6	7	48,000	143,000	1,530	4,590	2	0	0	0
(North Metro Line)			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
ESTIMATED TOTALS												**39**	**47**	**2,118,000**	**4,320,000**	**65,410**	**133,710**	**17**	**9**	**7**	**3**
INCREMENTAL STATISTICS COMPARED TO NO ACTION												**8**	**9**	**548,000**	**1,095,000**	**16,600**	**33,200**	**4**	**2**	**2**	**0**

1. Travel time and distance calculations based on MPA travel time worksheets prepared for FasTracks Plan
2. Peak period train consists based on FI15 Fand J25 peak period line load forecasts.
3. Minimum 2-car trains assumed on all lines in the peak period. With exception of DIA-DUS line, 2-car trains assumed on all other lines in the base and eve. periods.
4. 1 power/1trailer car assumed for the US 36 line, 2 power/2 trailer casts assumed for East/DIA line, 2 power/1trailer car assumed for North Metro line.
5. Trip calculations for short turn trains on US 36 and North Metro assume 2 hours of peak direction service in each peak period.

North I-25 EIS
Package 8
US 36 Line extended to Fort Collins; North Metro Line extended to Longmont

Rail LIne	Run Time (minutes)	Distance (miles)	Day	Headway Peak	Base	Eve.	E/L	Consist Peak	Base	Eve.	E/L	Vehicles Peak	Total	Annual Train-Mi's	Car-Miles	Train-Hrs	Car-Hrs	Trains Peak	Base	Eve.	E/L
Fort Collins	104.62	70.95	M-F	30.0	60.0	60.0	n/a	2.0	2.0	2.0	n/a	16	19	905,000	1,809,000	25,500	51,000	8	4	4	0
to DUS			Sat	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			129,000	258,000	3,640	7,280	0	4	4	0
(US 36 Line)			Sun	n/a	60.0	60.0	n/a	n/a	2.0	2.0	n/a			144,000	288,000	4,060	8,120	0	4	4	0
Diagonal/Hover	54.67	37.96	M-F	n/a	60.0	n/a	n/a	2.0	2.0	2.0	n/a	0	0	194,000	387,000	5,100	10,200	0	2	0	0
to DUS			Sat	n/a	n/a	n/a	n/a	n/a	2.0	2.0	n/a			0	0	0	0	0	0	0	0
(US 36 Line)			Sun	n/a	n/a	n/a	n/a	n/a	2.0	2.0	n/a			0	0	0	0	0	0	0	0
Pearl/30th	42.48	27.96	M-F	30.0	n/a	n/a	n/a	2.0	n/a	n/a	n/a	8	10	57,000	114,000	2,040	4,080	4	0	0	0
to DUS			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
(US 36 Line)			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
Longmont	60.05	40.32	M-F	30.0	60.0	60.0	n/a	3.0	2.0	2.0	1.0	15	18	514,000	1,275,000	17,600	42,840	5	3	3	0
to DUS			Sat	n/a	60.0	60.0	n/a	n/a	2.0	2.0	1.0			73,000	147,000	2,730	5,460	0	3	3	0
(North Metro Line)			Sun	n/a	60.0	60.0	n/a	n/a	2.0	2.0	1.0			82,000	164,000	3,050	6,090	0	3	3	0
SH-7/160th	33.10	20.45	M-F	n/a	60.0	60.0	30.0	3.0	2.0	2.0	1.0	0	0	188,000	323,000	8,540	15,170	0	2	2	3
to DUS			Sat	n/a	60.0	60.0	30.0	n/a	2.0	2.0	1.0			54,000	91,000	2,440	4,260	0	2	2	3
(North Metro Line)			Sun	n/a	60.0	60.0	30.0	n/a	2.0	2.0	1.0			60,000	102,000	2,730	4,760	0	2	2	3
124th to DUS	25.03	15.53	M-F	30.0	n/a	n/a	n/a	3.0	n/a	n/a	n/a	6	7	48,000	143,000	1,530	4,590	2	0	0	0
(North Metro Line)			Sat	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
			Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			0	0	0	0	0	0	0	0
ESTIMATED TOTALS												**45**	**54**	**2,448,000**	**5,101,000**	**78,960**	**163,850**	**19**	**11**	**9**	**3**
INCREMENTAL STATISTICS COMPARED TO NO ACTION												**14**	**16**	**878,000**	**1,876,000**	**30,150**	**63,340**	**6**	**4**	**4**	**0**

1. Travel time and distance calculations based on MPA travel time worksheets prepared for FasTracks Plan
2. Peak period train consists based on FI15 Fand J25 peak period line load forecasts.
3. Minimum 2-car trains assumed on all lines in the peak period. With exception of DIA-DUS line, 2-car trains assumed on all other lines in the base and eve. periods.
4. 1 power/1trailer car assumed for the US 36 line, 2 power/2 trailer casts assumed for East/DIA line, 2 power/1trailer car assumed for North Metro line.
5. Trip calculations for short turn trains on US 36 and North Metro assume 2 hours of peak direction service in each peak period.