

2015 Network Preparation Process

The 2030 Package-B network will be used as a base for the 2015 network.

NFR Area

The following changes will be made to the combined 2030 network (Package B) to produce 2015 network.

- We will reduce the number of lanes for those highlighted links in **Lane Improvements** graphic to match with 2010 network except for US-34 Business improvements.
- And in **Facility Type Improvements** graphic; we will delete the red links (new facilities) and change the facility type of the green links to match the 2010 network.
- Additional projects identified by the project team for 2030 No-Action will remain.

DRCOG Area

Projects that will be deleted from 2030 Package-B network are listed below (per guidance from DRCOG):

Staging	ProjectLocation
x	Arapahoe Rd: Cherryvale Rd to 75th St
2030	Arapahoe Rd: I-25 to Havana St
2030	Hampden Ave: Colorado Blvd to I-25
2020	I-25: Arapahoe Rd
x2030	I-25: US-36 (future)
2030	I-25: US-36 to Thornton Pkwy (+ reconstruction)
2030	I-270: I-76 to Vasquez Blvd
x2020	I-70 viaduct (East Corridor): Brighton Blvd to Colorado Blvd, Phase I
x2030	I-70: Eisenhower Tunnel to C-470 (7th Pot - Mountain Corridor)
2030	I-70: I-270 to Havana St (East MIS)
2030	I-70: Kipling St
2015	I-70: SH-58 [add missing ramps] (not fully funded in TIP)
x2030	I-70: SH-58 [move 44th Ave ramps] (not fully funded in TIP)

NORTH I-25 EIS

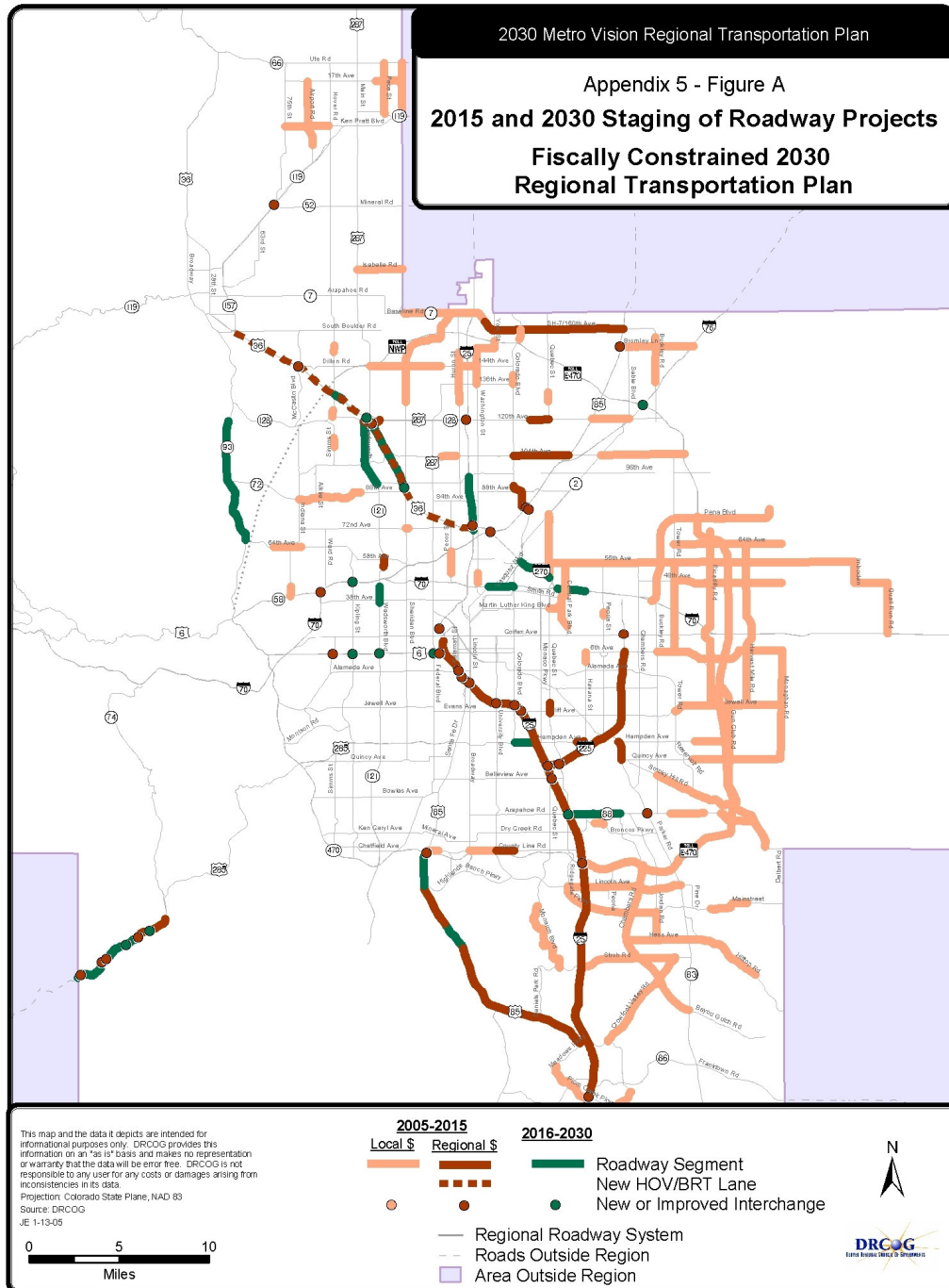


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x2030	Longmont Diagonal: US-36 to Hover Rd
x	SH-119: Black Hawk to Black Hawk Tunnel [interchange]
x	SH-119: Black Hawk to Black Hawk Tunnel [widen]
2030	SH-93: 64th Ave to Boulder County line
2030	US-285: Park County line to Richmond Hill Rd (+ 4 grade separations)
2015	US-285: Park County line to Richmond Hill Rd [US-285: Elk Creek School]
2030	US-285: Park County line to Richmond Hill Rd [US-285: Green Valley Ranch]
2030	US-285: Park County line to Richmond Hill Rd [US-285: Kings Valley Dr]
2030	US-36: 96th St to Interlocken East
2030	US-36: Sheridan Blvd
2030	US-36: Wadsworth Blvd (includes 120th Ave extension \$)
2030	US-36: Wadsworth Blvd to Sheridan Blvd
x2020	US-6: Federal Blvd (West MIS)
2020	US-6: Kipling St (West MIS)
2020	US-6: Wadsworth Blvd (West MIS)
2020	US-85 (Santa Fe Dr): C-470, Phase I - bridge widening
2020	US-85: C-470 to I-25 [C-470 to Highlands Ranch Pkwy] (not fully funded in TIP)
2015/2020	US-85: C-470 to I-25 [Titan Rd to Meadows Pkwy] (not fully funded in TIP)
2030	Wadsworth Pkwy: 92nd Ave to SH-128/120th Ave

x = not modeled

Below image highlights the above listed projects in green color



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MEMORANDUM

To: I-25 EIS Project File
From: Scott Jones, Carter & Burgess
Date: July 31, 2006
Subject: Documentation of DEIS Alternative Travel Model Coding

PURPOSE

The purpose of this memorandum is to document the project specific network coding changes and strategies used to evaluate the DEIS Alternatives *No-Action*, *Package A*, *Package B*, and the various DEIS Component runs for the North I-25 EIS. The information provides a bulleted list of changes made for each of the alternatives.

PACKAGE A DESCRIPTION

The Package A alternative included the following improvements:

Highway Improvements:

- Additional general purpose lane on I-25 in each direction between SH-14 and 66
 - Additional lane was added to links for these segments
- Additional general purpose lane on I-25 in each direction between SH-52 and E-470
 - Additional lane was added to links for these segments
- Auxiliary lane in each direction of I-25 added between SH-60 and Crossroads
 - Additional lane was added to links for these segments
- Necessary interchange improvements between SH-7 and SH-14
 - Full access was added at the Johnstown Interchange
 - System to system ramp at US-34/I-25 modeled using Facility Type 2

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- Access control along SH-85
 - No modeling changes were made for this improvement

Transit Improvements:

- Added Commuter Rail Service
 - Added Service from Ft Collins to DUS
 - Extension of RTD North Metro Commuter Rail line
 - Service to DUS 30 minute peak and 60 minute off-peak headways
 - Headways on North Metro line adjusted to be consistent with RTD operating plans – DUS to 124th (30 minute peak), DUS to SH-7 (60 minute off-peak)
 - Mode 9 was used
 - Stations with park-n-Rides (pnR) assumed at:
 - Ft. Collins North Transit Center
 - CSU (no pnR)
 - Ft. Collins South Transit Center
 - Loveland – 29th Street
 - Loveland – US-34 (4th Street and BNSF)
 - Berthoud
 - Longmont – SH-66
 - Longmont – Sugar Mill
 - Erie – SH-52
 - All proposed North Metro line stations (9 including DUS)
 - RTD's US-36 Commuter Rail line to Longmont was extended from 1st/Terry in Longmont (the planned terminus) to the Sugar Mill Station to provide connectivity.
 - Diesel-Multiple-Unit (DMU) technology was assumed, and estimated travel times were provided by Connetics Transportation Group.
- New Express Transit Routes
 - Added route from Greeley to DUS: begins in north Greeley and heads south along US 85, providing stops at US-85/D St, 8th/8th, 10th Ave/24th St, Evans-37th St, Platteville-SH-66, Ft. Lupton-SH-52, Brighton-existing pnR, Commerce City (North Metro line connection) and DUS.
 - Service frequency is defined at 30 minute peak, 60 minute base on weekdays
 - Mode 8 was used
 - Greeley to DIA: begins in north Greeley and heads south along US 85, providing stops at US-85/D St, 8th/8th, 10th Ave/24th St, Evans-37th St, Platteville-SH-66, Ft. Lupton-SH-52, Brighton-existing pnR and DIA.
 - Service frequency is defined as 60 minutes all day
 - Mode 8 was used

- New Local Transit Routes
 - Added route “Greeley - Windsor - Fort Collins”: begins at Greeley Transit Center and proceeds west along Hwy 34, north on Hwy 257, west on Harmony Rd, and north on US 287 to the Fort Collins North Transit Center.
 - Service frequency is 30 minutes peak, 60 minute base service frequencies
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
 - Added route “Greeley - Loveland via US 34”: begins at the Greeley Transit Center and proceeds west along Hwy 34 (business)/US 34 to west Loveland (US 34 at Wilson Avenue).
 - Service frequency is 15 minutes peak, 30 minute base service frequencies
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
 - Added route “Platteville - Longmont via US 66”: begins at US 85/SH 66, travel west on SH 66 to Longmont. Terminate at nearest Longmont CRT station.
 - Service frequency is 60 minutes peak, 60 minutes base service frequencies
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
 - Added route “Ft Lupton – Niwot via US 52”: begins at Fort Lupton at SH 52/US85 and proceeds west on SH 52, terminating at IBM/Niwot CRT Station.
 - Service frequency is 30 minutes peak, 60 minutes base service frequencies.
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
 - Added route “Foxtrot” same as No-Action; relocate to Ft Collins South Transit Center for Package A.
 - Service frequency is 60 minutes peak, 60 minutes base service frequencies
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
 - Ft Collins Rt 1: relocated South Transit Center to south of Harmony
 - Ft Collins Rt 5: relocated South Transit Center to south of Harmony
 - Ft Collins Rt 6: relocated South Transit Center to south of Harmony
 - Ft Collins Rt 7: relocated South Transit Center to south of Harmony

- Jitterbus Service improved to 60 minute peak, 60 minute base service frequencies
- Enhanced carpool lot parking capacity and amenities
 - Added pnR nodes at each of the commuter rail stations except CSU

PACKAGE B DESCRIPTION

The Package B alternative included the following improvements:

Highway Improvements:

- One buffer-separated managed lane in each direction between SH-14 and SH-392.
- Two barrier-separated managed lanes in each direction between SH-392 and SH-60.
- One buffer-separated managed lane in each direction between SH-60 and IH-270

Transit Improvements:

- BRT Service – 3 patterns
 - Ft Collins to DIA:
 - Service frequency is defined as 60 minutes all day
 - Mode 8 was used
 - Median stations modeled using Type 2 – transit only links with a distance of X' and a T_Speed of XX mph.
 - Ft Collins to DUS:
 - Service frequency is defined as 20 minutes peak and 60 minute base
 - Mode 8 was used
 - Median stations modeled using Type 2 – transit only links with a distance of X' and a T_Speed of XX mph.
 - Greeley to DUS:
 - Service frequency is defined as 20 minute peak and 60 minute base
 - Mode 8 was used
 - Median stations modeled using Type 2 – transit only links with a distance of X' and a T_Speed of XX mph.
- Feeder bus network

- Windsor – Fort Collins: beginning at US34/257, head north on 257, west on 392, north on 257, west on road through to Timnath to Ft Collins.
 - Assumes a 60 minute all day service frequency
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
- Johnstown – Firestone area: beginning at Johnstown BRT station, head west on SH 56, south on US 287, east on SH 119 to BRT station at I-25.
 - Assumes a 60 minute all day service frequency
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
- Ft Lupton – Niwot via US 52: begins at Fort Lupton at SH 52/US85 and proceeds west on SH 52, terminating at IBM/Niwot CRT station.
 - Assumes 30 minutes peak, 60 minutes base service frequencies
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
- Jitterbus: extend route to Crossroads BRT station.
 - Assumes a 30 minute peak and 60 minute base frequency
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections
- Loveland to Crossroads BRT station: from downtown Loveland, east on US 34 and terminate at Crossroads BRT station.
 - Assumes a 30 minute peak and 60 minute base frequency
 - Mode 11 was used
 - Stops were assumed at model intersections and centroid connections

General Modeling Techniques:

Several additional pieces of information were needed to help better evaluate the individual components of each alternative. They include:

- Ability to estimate the number of transfers between pnR and BRT/Commuter Rail station
- Ability to estimate the number of transfers between feeder/local bus and BRT/Commuter Rail
- Ability to estimate the number of people walking to the station

In its current form, the model aggregates this information as boarding/alightings at a transit station. For this project the concept of an “exploded node” was developed. The exploded node provides a method of tracking each of the individual activities that occur at a transit facility. Figure 1 shows an example of an exploded node.

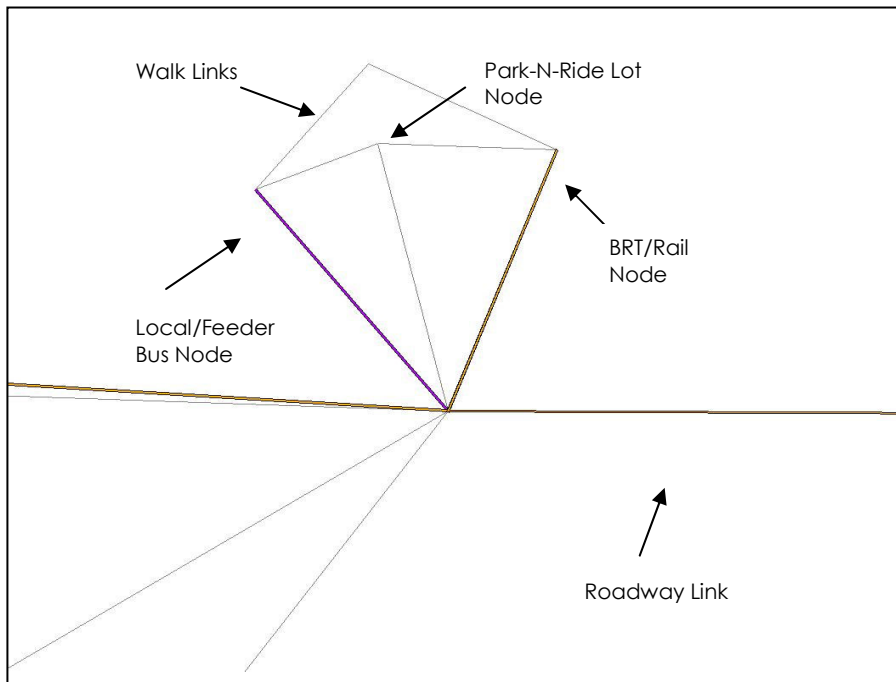
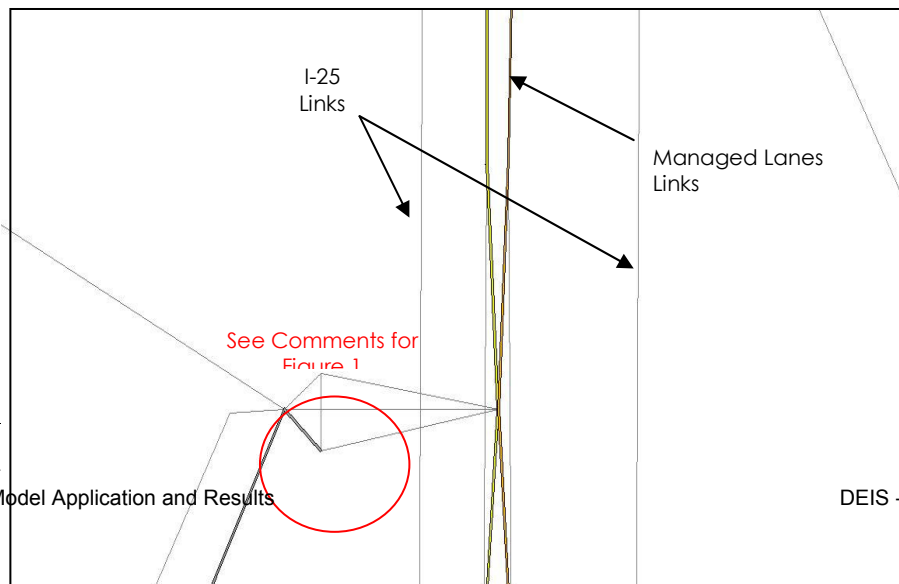


Figure 1: Exploded Node

Similarly along I-25, the need to extract ridership forecasts at the median stations and users in the managed lanes was necessary. The exploded node methodology was implemented in addition to adding transit only links (type 2) and managed lanes (Use 2) that linked to the I-25 mainline. Figure 2 illustrates how these were coded in the I-25 travel model.



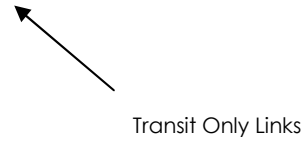


Figure 2: Managed Lane/Median Station



2030 No-Action network changes that need to be incorporated from Version D to Version E

Highway network

- Override_FFSPPEED = 75 for all TOLL = 1 links in the highway network
- Arapahoe & Parker link tagged as toll link. Change it to a non-toll link

Transit network

- 410L (EB/WB) ---- change mode to 6
- ART (EB/WB) --- change mode to 4
- CBD (NB/SB) ----- change headways to 2.5 / 7.5
- J (SB) ---- change mode to 8
- US36Laf (NB/SB) -- change mode to 12
- **This change is only for No-Action and Package B:** The US-36 Commuter Rail line goes to Sugar Mill in the network we are using. We need to delete the stop at Sugar Mill and the segment from 1st / Terry to Sugar Mill - just as it is in the Parent Run.

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