



Interchange Modeling Strategy

June 27, 2005

The following outline describes four highway modeling runs to determine the impact of adding additional interchanges and enhancing east-west mobility.

Model Run 1: 6-Lane I-25 No New Interchanges

This model run will consist of 6-lanes on I-25 with existing interchanges.

Model Run 2: 6-Lane I-25 Three New Interchanges

This model run will consist of 6-lanes on I-25 and three new interchanges at the following locations listed below. Both the Sheridan Boulevard and LCR 16 road interchanges were included in the 8-lane alternative with new interchanges (see Hwy. 2 model run).

1. Sheridan Boulevard – This new interchange is located at the mid-point of SH 7 and CR 8. (see Hwy 2 model run for Sheridan Boulevard road classification, number of lanes and alignment)
2. LCR 16 (Johnson's Corner) – This interchange is two miles north of SH 60 and one-mile south of south of SH 402. Provide ramps for all movements to existing interchange. Upgrade LCR 16 to a minor arterial with two-lane to the west and four-lanes to the east to the WCR 13 alignment.
3. Ketcher Road / LCR 36. This new interchange is located two miles north of SH 392 and one-mile south of Harmony Road. Upgrade Ketcher Road to a four-lane minor arterial.

Model Run 3: 8-Lane I-25 with Five New Interchanges

This model run will consist of 8-lanes on I-25 with five new interchanges. These new interchanges will include the three described above plus the two listed below. Both of these interchanges were included in the 8-lane I-25 alternative with new interchanges (see Hwy. 2 model run)

1. WCR 12 (Erie) – This new interchange is located two miles north of WCR 8 and one-mile south of SH 52. Upgrade cross street to a 4-lane minor arterial.
2. WCR 38 (Mead) – This new interchange is located two mile north of WCR 34 and three miles south of SH 56. Upgrade cross street to a 2-lane minor arterial.

Model Run 4: 8-Lane I-25 with Existing Interchanges and Enhanced East-West Roadways

This model run will consist of eight lanes on I-25 with no new interchanges and enhanced east-west cross streets. To conduct this run the number of lanes and/or the roadway classification needs to be upgraded for the following cross streets:

1. SH 7 – upgrade to four-lanes on both sides of I-25
2. CR 8 – upgrade to four-lane minor arterial on both sides of I-25



3. SH 52 – upgrade to four-lanes west of I-25 and upgrade to four-lane principal arterial east of I-25.
4. SH 119 – upgrade to four lanes west of I-25 and upgrade to four-lane principal arterial east of I-25
5. SH 66 – upgrade to four-lanes on both sides of I-25
6. CR 34 (Mead) – upgrade to a two-lane minor arterial
7. SH 56 – upgrade to four-lanes on the west side of I-25
8. SH 60 – upgrade to four-lane on east side of I-25
9. SH 402 – upgrade to four lanes on both sides of I-25
10. Crossroads (CR 26) – upgrade to four-lane minor arterial west of I-25 and to a four-lane principal arterial east of I-25.
11. SH 392 – upgrade to four lanes on both side of I-25
12. Harmony Road – Upgrade to six lanes west of I-25 and upgrade to four lanes east of I-25
13. Prospect – upgrade to four lane west of I-25
14. SH 14 – upgrade to four lanes east of I-25

REF

North I-25
Level 2B Screening

Model Run List

Feb 17	No Action Highway	D	
Feb 18	8-lane	B	
Feb 18	8-lane + intch	A	
Mar 1	HOV	A	
	Toll	A	
March 8	Toll	B	Corrected zero in tollcost field instead of blank
	Toll		Discovered peak/offpeak split unreasonable
March 10	Limited Access	A	
March 15	Limited Access	B	Corected unhooked link on express lanes near US-36
March 10	H6 I-85	A	
April 20	H7 Parallel Roads	A	NOTE: Transit results faulty (regional transit low by 30k, determined not significant for north I-25 volumes)
Mar 3	No Action Transit	D	
Mar 19	Trt 1 Western	A	Used FasTracks speeds on US-36 portion
April 19	Trt 1 Western	B	Added station at 96 th ; changed speeds. 5A5B only
Mar 25	Trt 2 Mid-western	A	
April 13	Trt 2 Mid-western	B	Extended US-36 rail end-of-line to be North rail station (at Sugar Mill) 5A5B only
April 6	Trt 3 Central	A	
April 12	Trt 4 Interior	A	Used FasTracks speeds on North Metro
	Trt 4 Interior	B	New speeds 5A5B
April 22	Trt 4 Interior	C	Corrected wrong file input? (unknown error corrected)
April 20	Trt 5 High Speed	A	

R:_transportation\Projects\North I-25\Level 2B runs>List of model runs.doc

Level 2B Screening Transit Alternatives



Abbreviation Key:
 CR = Commuter Rail
 HSR = High Speed Rail
 BRT = Bus Rapid Transit

Level 2B Screening: Transit Model Runs

Alignment Tests:



Speed Test:



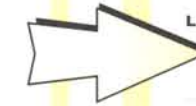
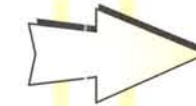
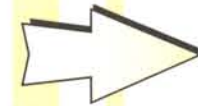
High Speed Rail

Test BRT Direct Connect:

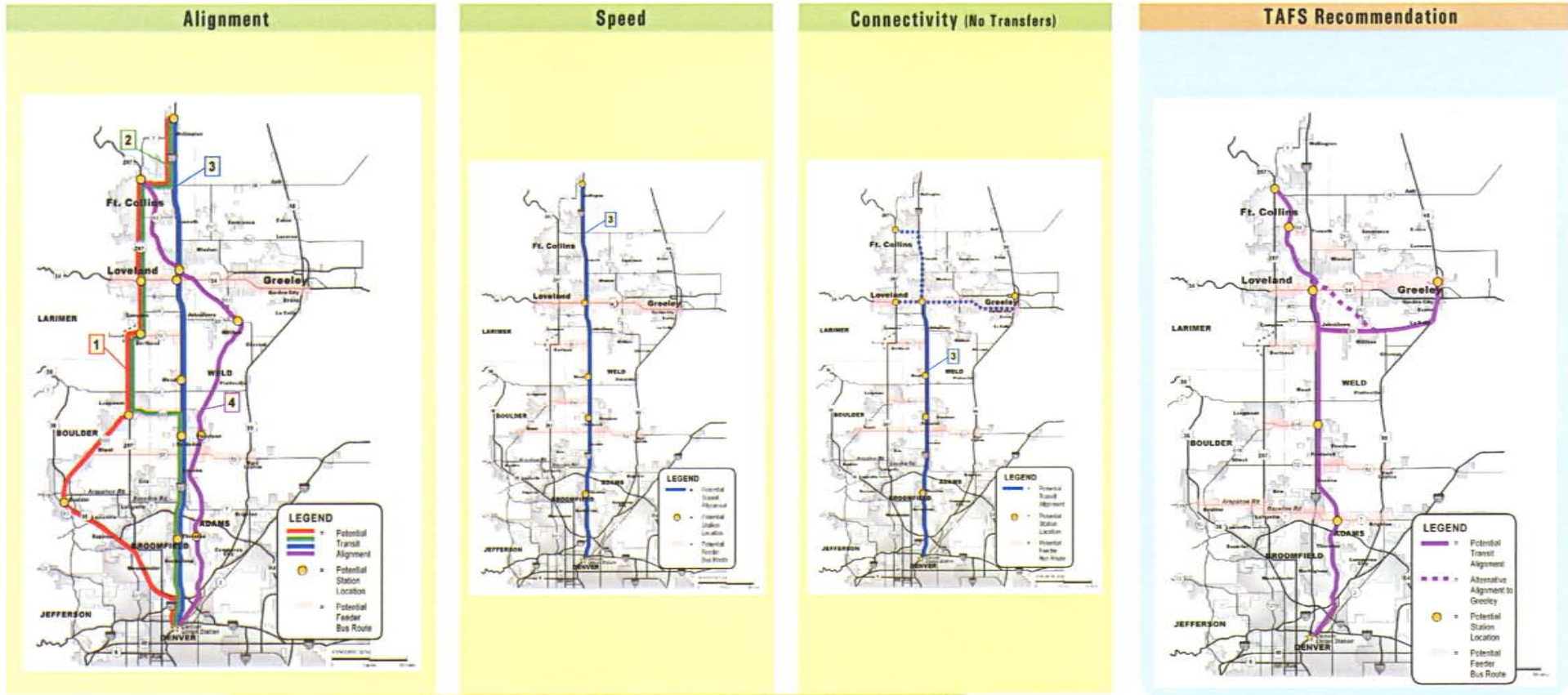


Bus Rapid Transit

TAFS Test:



Level 2B Screening: Transit Modeling Approach



Outcomes

- Alignment with highest ridership
- Increase in passengers due to travel speed
- Increase in passengers due to "one seat ride" (no transfers)
- Performance of TAFS Recommendation



FELSBURG HOLT & ULLEVIG

CARTER-BURGESS

PRACO



NORTH I-25
EIS
information. cooperation. transportation.

North I-25 EIS
 Level 2B 2030 Model Runs

Date	No.	Model Run	Name	Lane Miles				Traffic			Transit Trips	
				Fwy	HOV	Toll	Total	VMT	VHT	Speed	Unlinked	Linked
9-Feb			DRCOG RTP	1,885	79	297	11,614	109,403,435	3,678,053	29.7	714,752	431,050
17-Feb		D	No Action Highway	2,081	82	297	15,002	125,896,630	4,345,766	29.0	658,116	401,977
18-Feb	H1	B	8-Lane	2,271	82	297	15,192	126,699,491	4,332,712	29.2	657,957	402,487
18-Feb	H2	A	8-Lane + Intch	2,271	82	297	15,272	125,896,630	4,345,766	29.0	658,116	401,977
8-Mar	H3	B	Toll	2,294	82	510	15,215	126,539,262	4,343,753	29.1	656,651	401,542
1-Mar	H4	A	HOV	2,189	190	297	15,110	126,042,821	4,325,641	29.1	655,928	400,938
15-Mar	H5	B	Limited Access	2,293	82	297	15,214	126,613,398	4,319,829	29.3	656,195	401,523
10-Mar	H6	A	US-85 Freeway	2,081	82	297	14,913	126,121,348	4,330,172	29.1	657,474	401,589
20-Apr	H7	A	Parallel Roads	2,081	82	297	15,087	126,384,878	4,375,121	28.9	603,173	367,085
3-Mar		D	No Action Transit	2,081	82	297	15,002	125,759,463	4,336,079	29.0	726,473	440,672
19-Apr	T1	B	Western	2,081	82	297	15,002	125,375,332	4,299,284	29.2	744,141	450,192
13-Apr	T2	B	Mid-Western	2,081	82	297	15,002	125,461,993	4,308,466	29.1	745,621	450,818
6-Apr	T3	A	Central	2,081	82	297	15,002	125,408,305	4,302,113	29.2	742,730	449,618
22-Apr	T4	C	Interior	2,081	82	297	15,002	125,493,678	4,307,490	29.1	742,490	449,531
20-Apr	T5	A	High Speed	2,081	82	297	15,002	125,396,949	4,300,794	29.2	745,348	450,882

J:_Transportation\071609.400\manage\report\Chris Primus Notebook\Notebook 8 - Level 2B Application\Application\6-Model Run List\18-Sep-07