Figure 1

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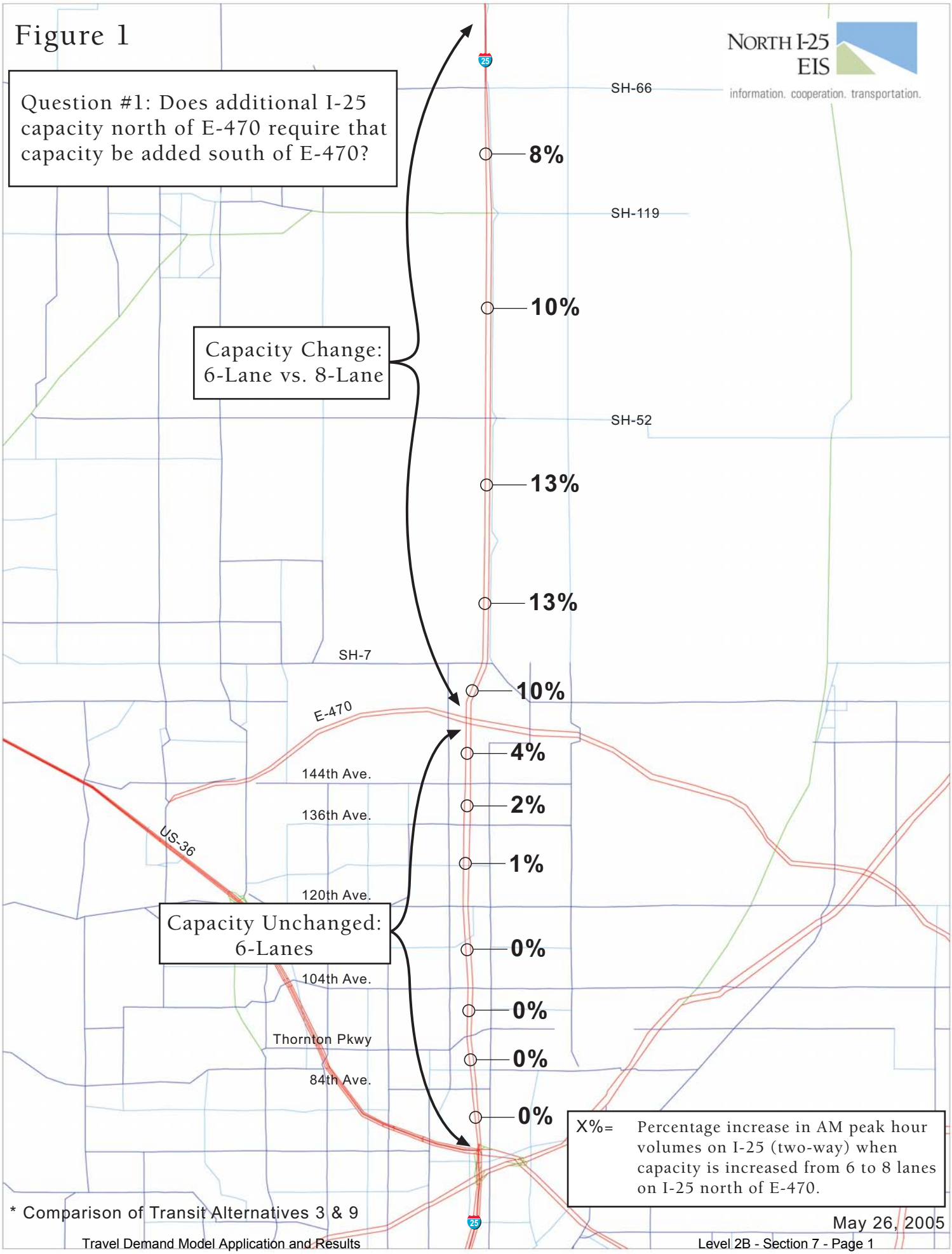
Question #1: Does additional I-25 capacity north of E-470 require that capacity be added south of E-470?

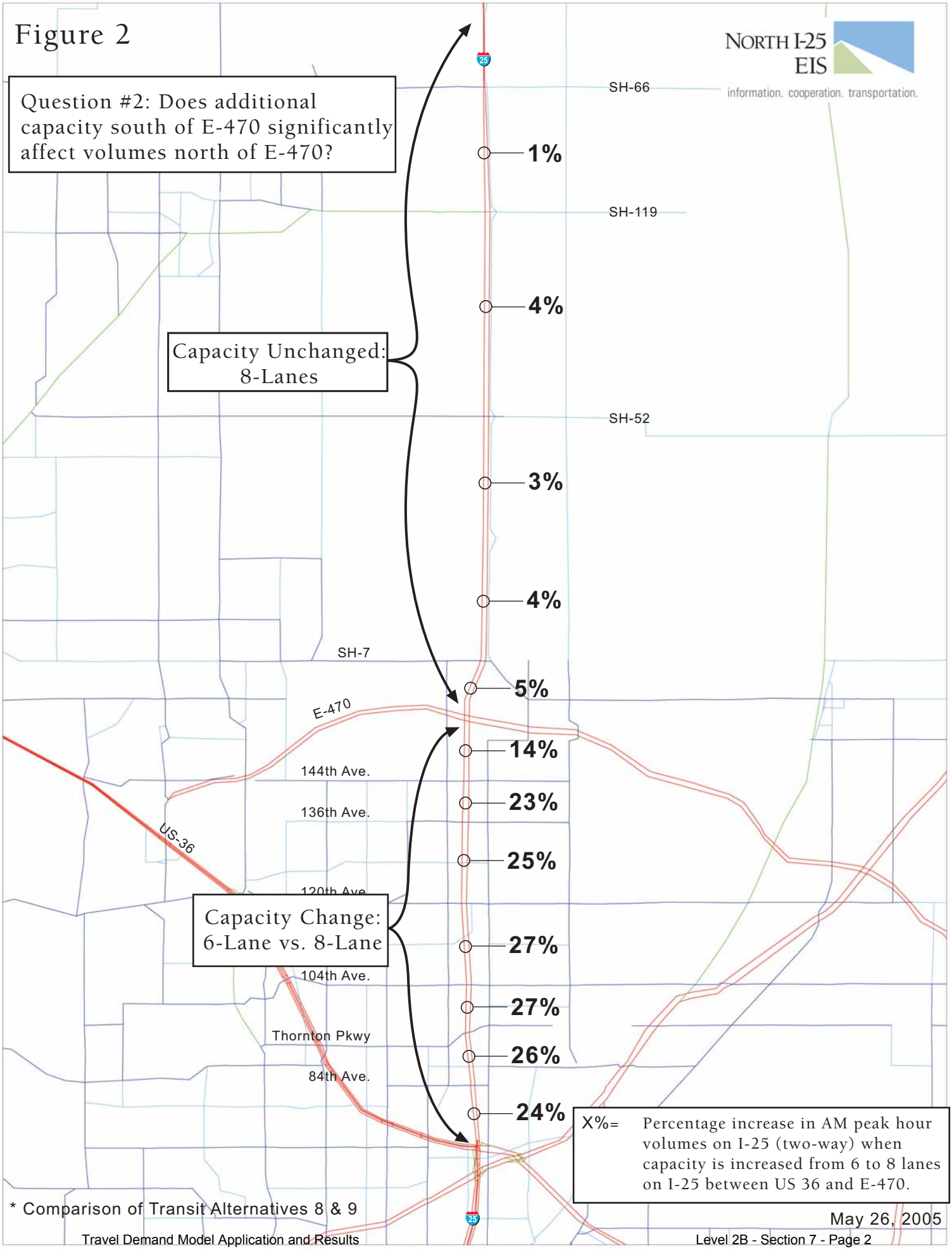


X%= Percentage increase in AM peak hour volumes on I-25 (two-way) when capacity is increased from 6 to 8 lanes on I-25 north of E-470.

* Comparison of Transit Alternatives 3 & 9

May 26, 2005

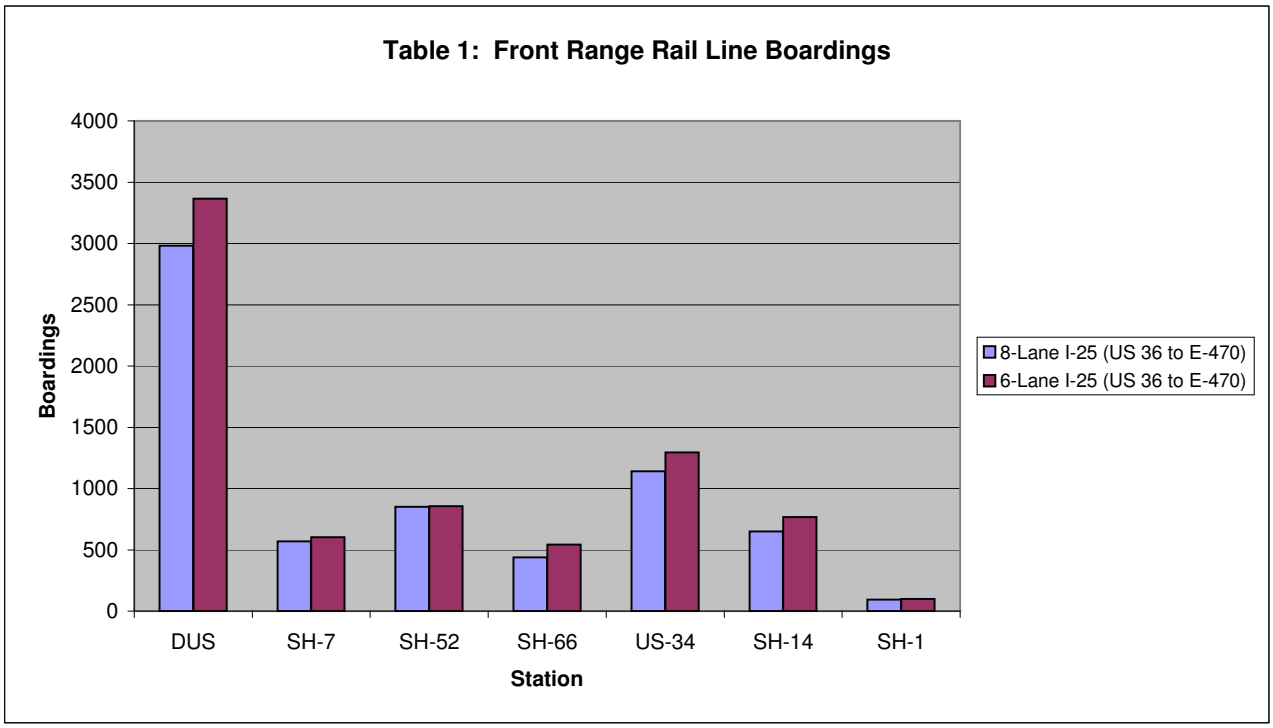
Figure 2

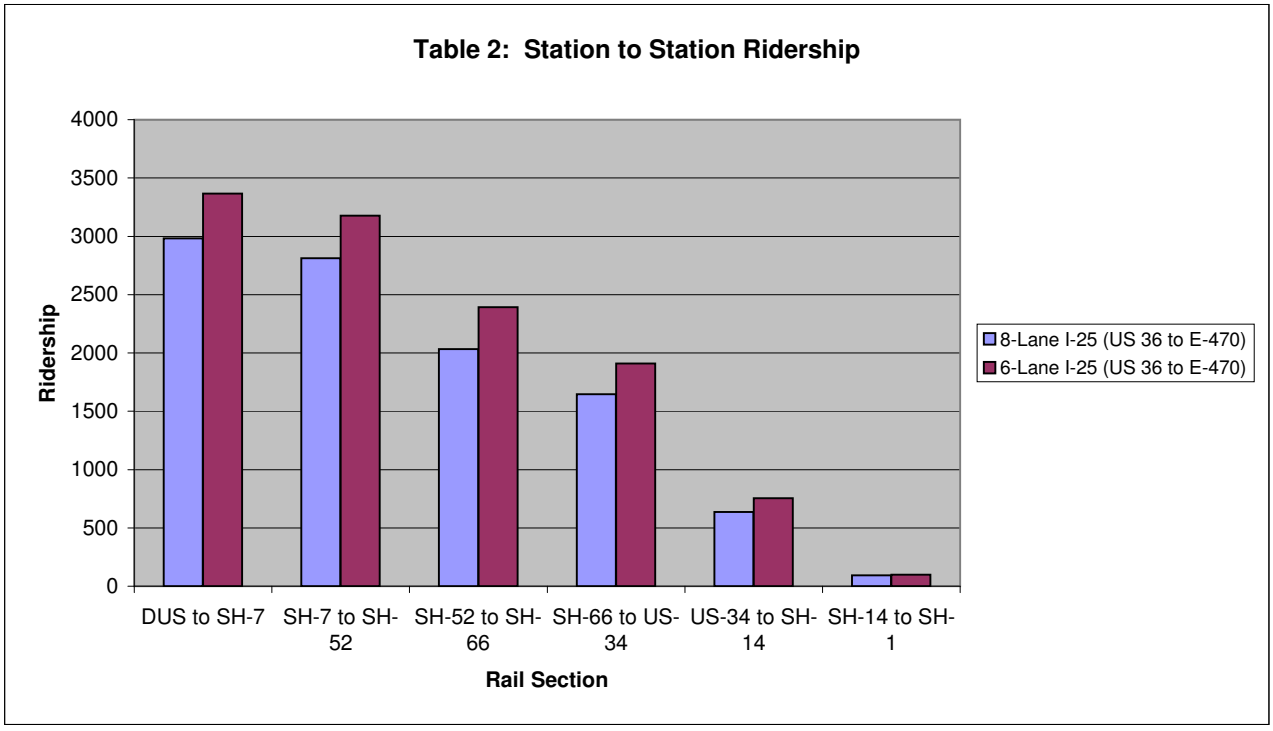


* Comparison of Transit Alternatives 8 & 9

May 26, 2005

Question 3: Does additional I-25 capacity south of E-470 affect transit volumes on a Front Range rail line?





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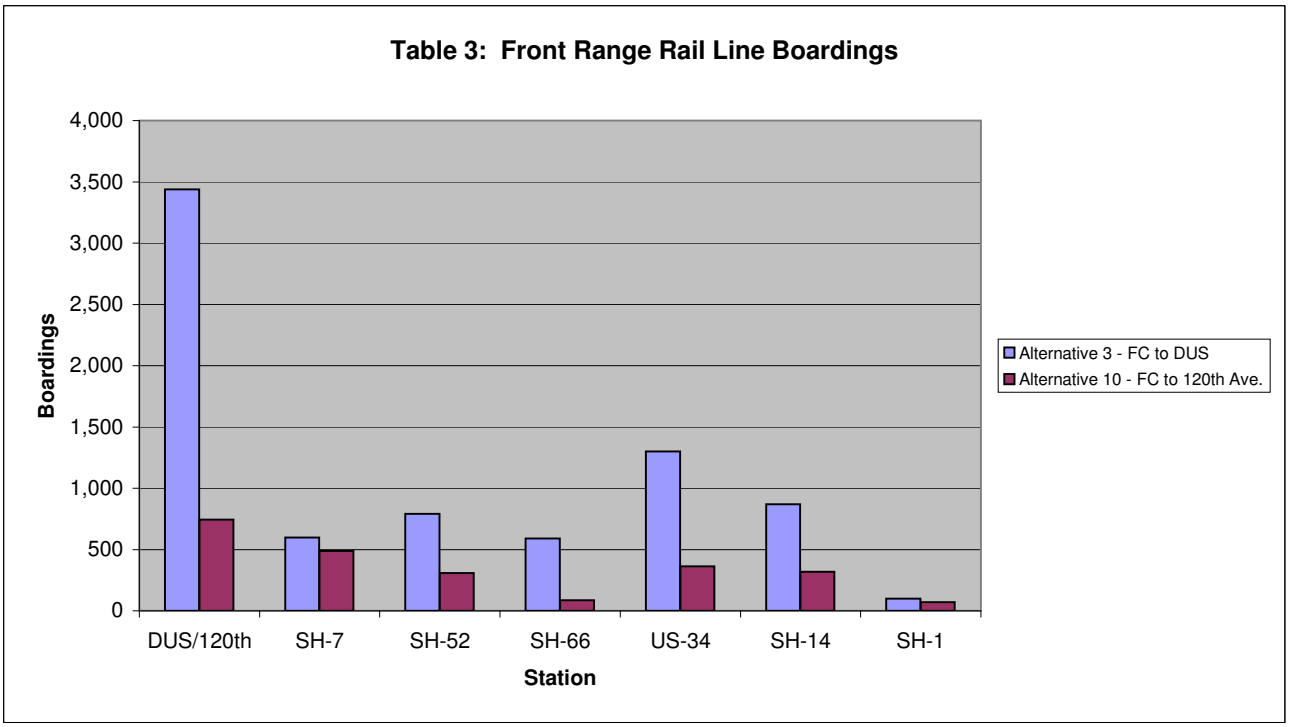
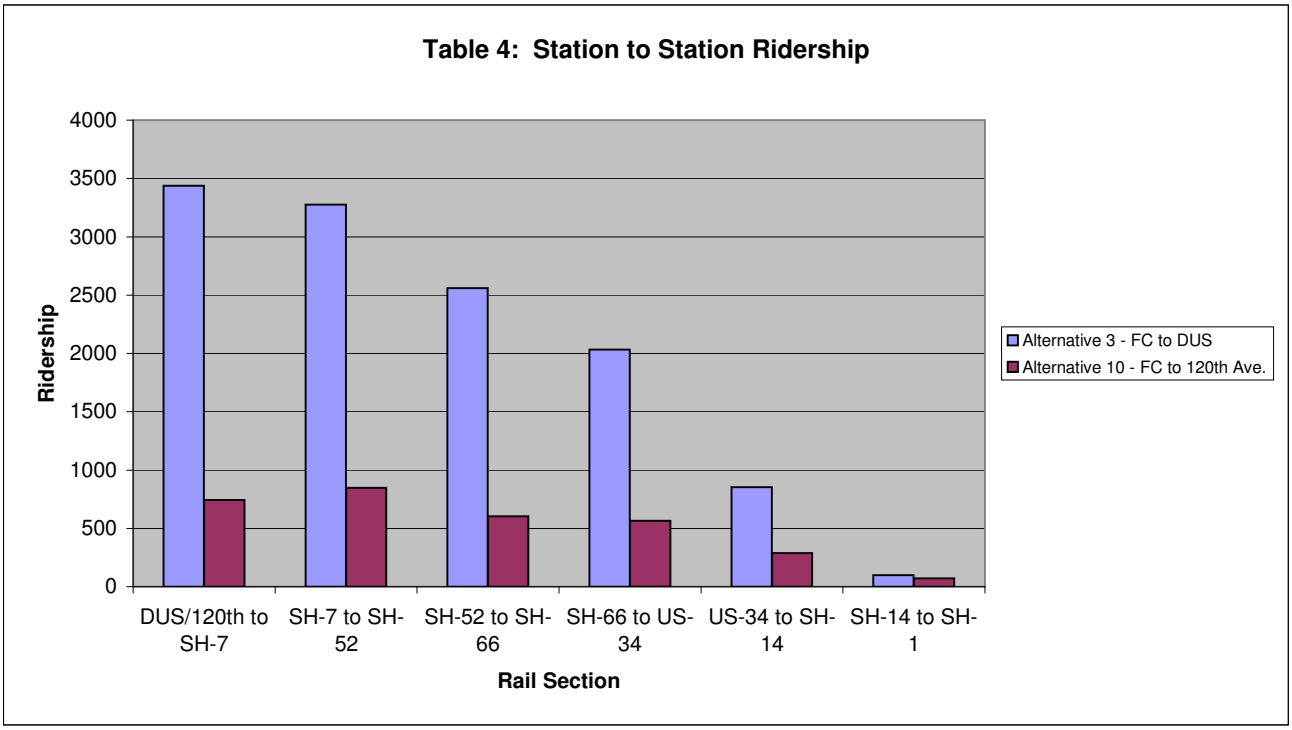
Question 4: Does terminating a Front Range rail line at 120th Avenue (Wagon Road park-n-Ride), thus requiring a transfer to express buses in order to reach the DUS, affect rail ridership significantly?





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Portion of Southbound Traffic on I-25 That Originates North of SH-66

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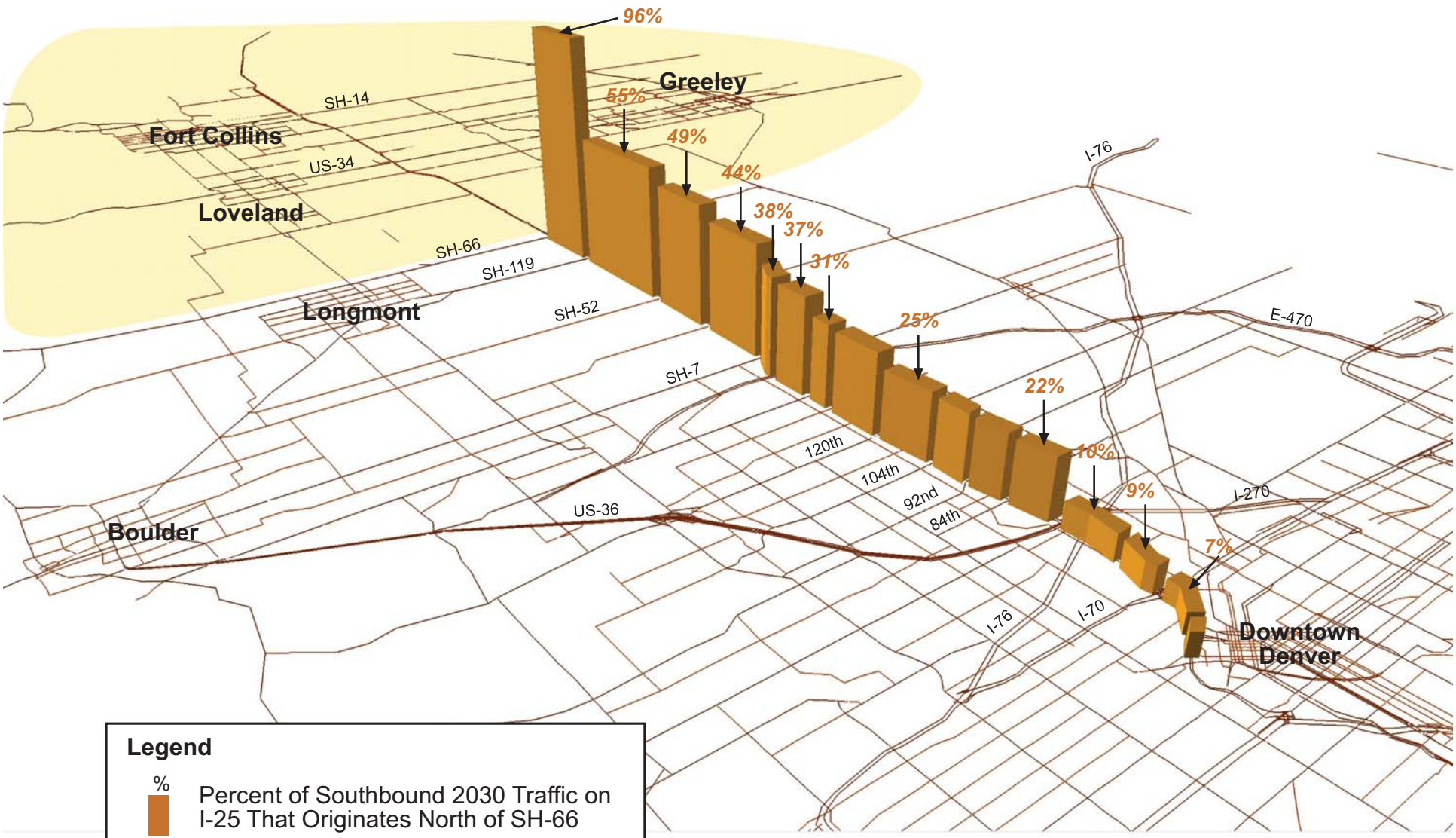

Source: North I-25 EIS Model Level 2B screening, 8-lane Alternative AM Peak AON select link analysis.

Southbound I-25 Traffic Volumes Remaining From Traffic Originating North of SH-66

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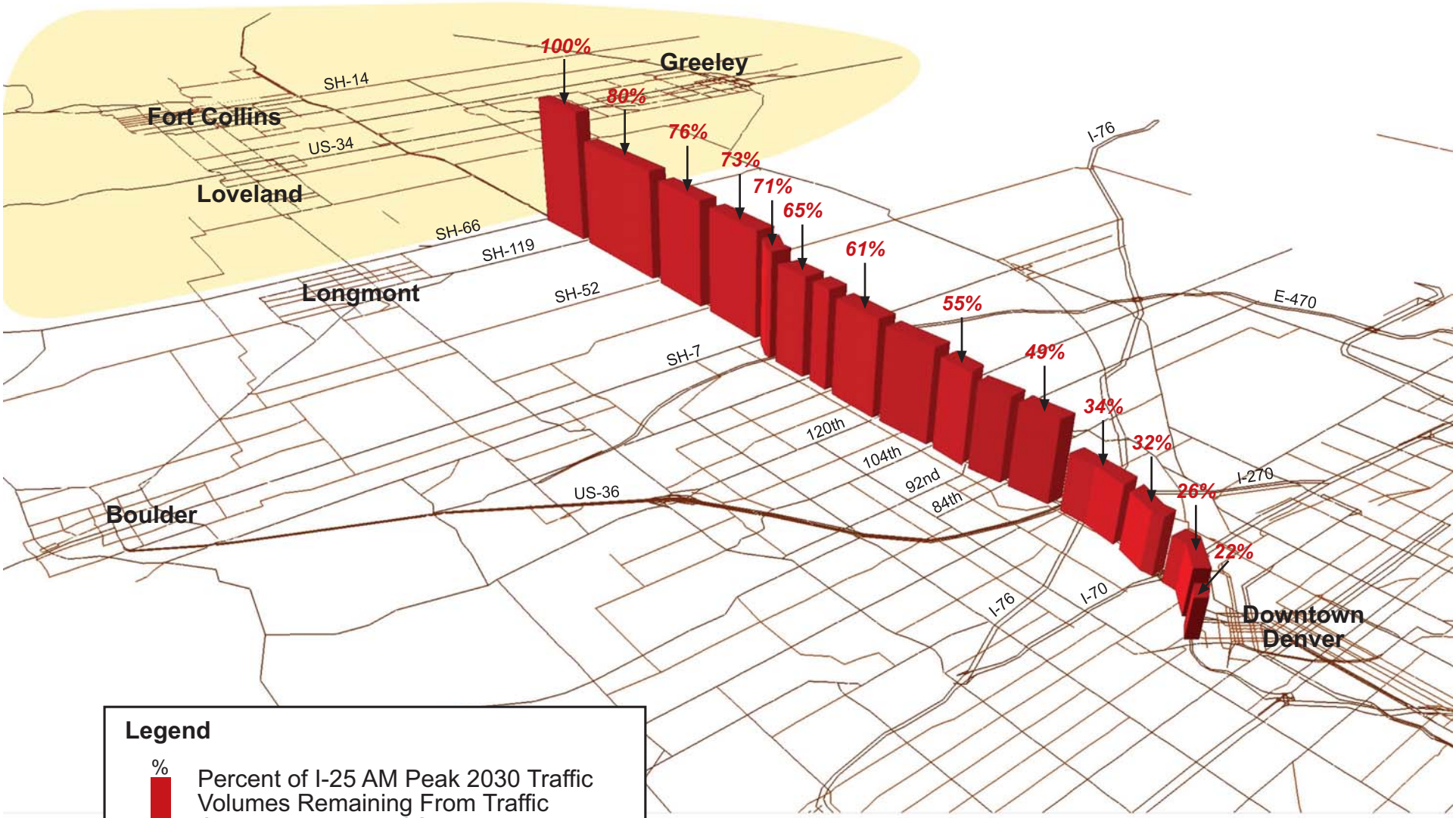

Legend

% Percent of I-25 AM Peak 2030 Traffic Volumes Remaining From Traffic Originating North of SH-66

Trip Origin Area

Source: North I-25 EIS Model Level 2B screening, 8-lane Alternative AM Peak AON select link analysis.

Portion of Southbound Traffic on I-25 That Originates North of SH-7

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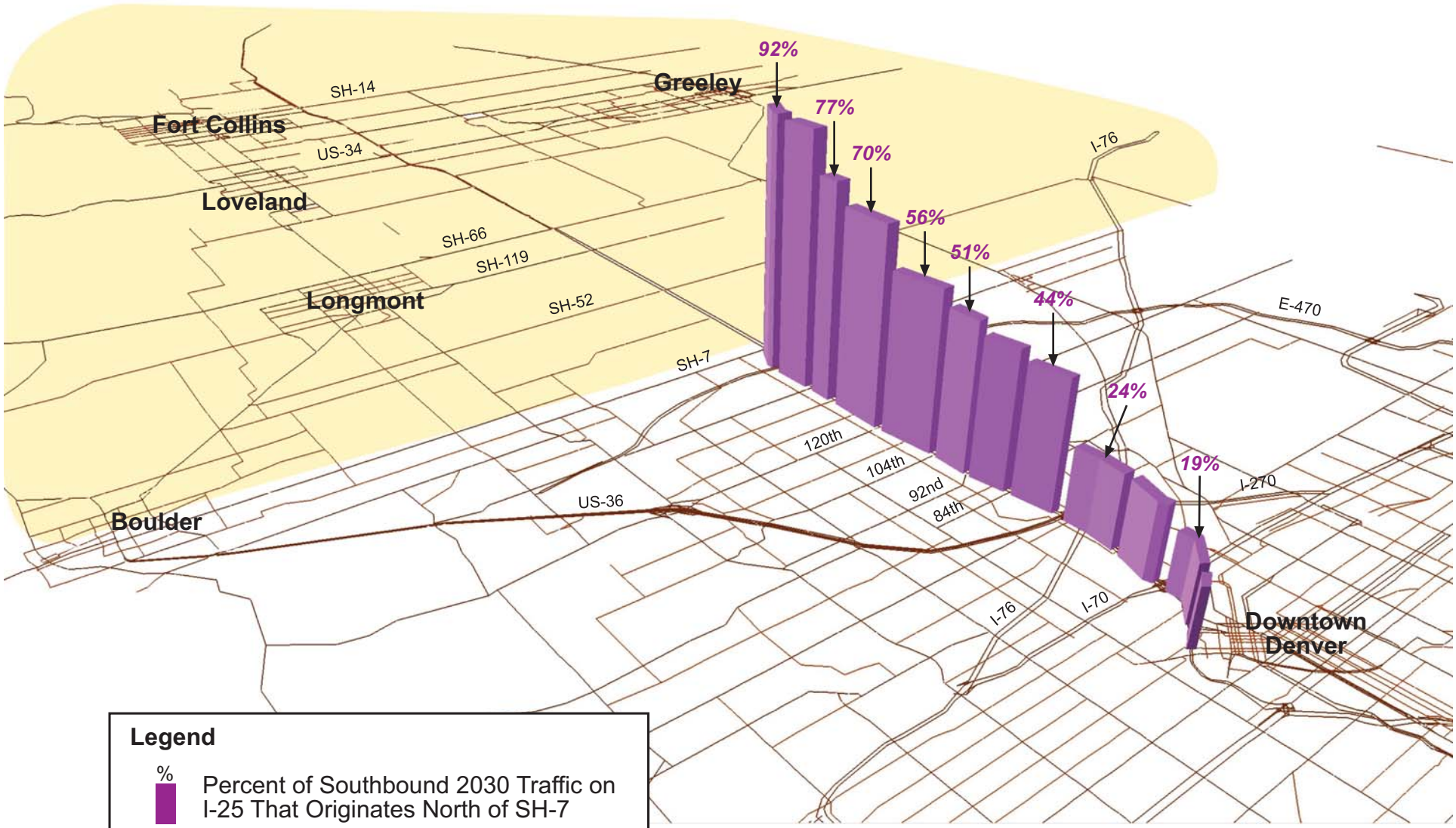
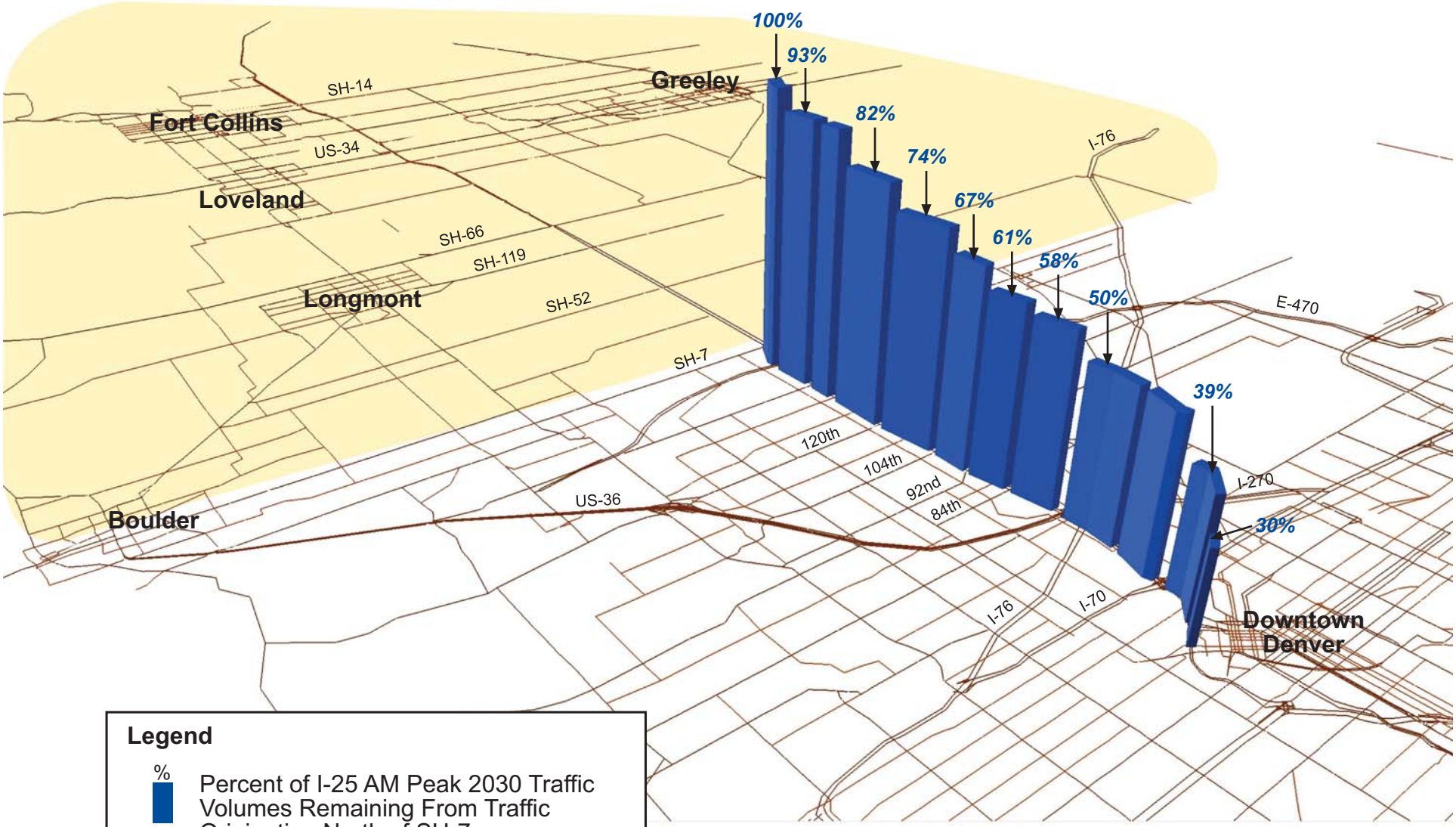


Source: North I-25 EIS Model Level 2B screening, 8-lane Alternative AM Peak AON select link analysis.

Southbound I-25 Traffic Volumes Remaining From Traffic Originating North of SH-7

NORTH I-25 EIS
information. cooperation. transportation.



Legend

% Percent of I-25 AM Peak 2030 Traffic Volumes Remaining From Traffic Originating North of SH-7

Trip Origin Area

Source: North I-25 EIS Model Level 2B screening, 8-lane Alternative AM Peak AON select link analysis.

Southern Terminus Model Run Results

Alternative Performance

	Transit Alt 3 (6&6)	Transit Alt 9 (8&6)	Transit Alt 8 (8&8)
North of E-470 Laneage:	6	8	8
	E-470	E-470	E-470
US 36 to E-470 Laneage:	6	6	8

AM2 Volumes

	TAlt 3 -- 6&6		TAlt 9 -- 8&6		TAlt 8 -- 8&8	
	SB	NB	SB	NB	SB	NB
S of SH-66	4.1	3.3	4.4	3.6	4.5	3.6
S of SH-119	5.1	3.9	5.6	4.3	5.9	4.4
S of SH-52	6.1	4.4	6.9	5	7.1	5.2
S of CR-8	6.8	5.2	7.6	5.9	8	6.1
S of SH7	6.5	7.1	7.3	7.7	7.7	8.1
S of E-470	6.3	6.4	6.6	6.6	7.7	7.4
S of 144th	5.7	5.8	5.8	5.9	7.4	7
S of 136th	6.5	5.5	6.5	5.6	8.3	6.8
S of 120th	6.9	5.3	6.8	5.4	8.9	6.6
S of 104th	7.5	5	7.4	5.1	9.7	6.2
S of Thrntn Pkwy	7.9	4.8	7.8	4.8	10.1	5.8
S of 84th	8.8	5.6	8.7	5.7	11.2	6.7

AM2 V/C Ratio

	TAlt 3 -- 6&6		TAlt 9 -- 8&6		TAlt 8 -- 8&8	
	SB	NB	SB	NB	SB	NB
S of SH-66	0.7	0.57	0.56	0.46	0.57	0.46
S of SH-119	0.89	0.69	0.74	0.57	0.77	0.58
S of SH-52	1.08	0.79	0.9	0.67	0.94	0.7
S of CR-8	1.21	0.93	1.01	0.78	1.05	0.81
S of SH7	1.18	1.26	0.99	1.04	1.05	1.08
S of E-470	1.13	1.14	1.18	1.18	1.04	0.99
S of 144th	1.04	1.05	1.06	1.07	1.01	0.96
S of 136th	1.17	1	1.17	1.01	1.12	0.91
S of 120th	1.24	0.99	1.23	1	1.2	0.92
S of 104th	1.35	0.94	1.33	0.95	1.31	0.86
S of Thrntn Pkwy	1.41	0.89	1.4	0.9	1.35	0.82
S of 84th	1.58	1.05	1.56	1.06	1.5	0.94

AM2 Speed

	TAlt 3 -- 6&6		TAlt 9 -- 8&6		TAlt 8 -- 8&8	
	SB	NB	SB	NB	SB	NB
S of SH-66	70.4	73.2	73.4	74.4	73.2	74.4
S of SH-119	56.6	64.4	63.3	65.6	62.4	65.5
S of SH-52	39.1	61.7	55.5	64.7	52.5	64.3
S of CR-8	25.2	53.2	46	62	41.5	60.8
S of SH7	27.1	19.6	46.5	42	40.9	37.1
S of E-470	33.3	32	28.1	27.2	43	48.2
S of 144th	42.6	41.6	40.4	39.6	45.8	51.3
S of 136th	28	45.8	27.6	44.4	33	53.1
S of 120th	21.6	46.8	22	45.8	25.4	52.9
S of 104th	13.2	41.3	14.4	40.3	16.2	47.3
S of Thrntn Pkwy	11.2	45.1	11.5	44.4	13.1	50.3
S of 84th	4.9	40.1	5.3	39.1	6.8	51.3

Alternative Comparisons

	Alt 3 vs. Alt9 6&6 vs. 8&6		Alt 9 vs. Alt 8 8&6 vs. 8&8		Alt 3 vs. Alt 8 6&6 vs. 8&8	
North of E-470 Laneage:	6	8	8	8	6	8
	E-470		E-470		E-470	
US 36 to E-470 Laneage:	6	6	6	8	6	8

AM2 Volume Percent Difference

	Alt3 Growth to Alt9		Alt9 Growth to Alt8		Alt3 Growth to Alt8	
	SB	NB	SB	NB	SB	NB
S of SH-66	7.3%	9.1%	2.3%	0.0%	9.8%	9.1%
S of SH-119	9.8%	10.3%	5.4%	2.3%	15.7%	12.8%
S of SH-52	13.1%	13.6%	2.9%	4.0%	16.4%	18.2%
S of CR-8	11.8%	13.5%	5.3%	3.4%	17.6%	17.3%
S of SH7	12.3%	8.5%	5.5%	5.2%	18.5%	14.1%
S of E-470	4.8%	3.1%	16.7%	12.1%	22.2%	15.6%
S of 144th	1.8%	1.7%	27.6%	18.6%	29.8%	20.7%
S of 136th	0.0%	1.8%	27.7%	21.4%	27.7%	23.6%
S of 120th	-1.4%	1.9%	30.9%	22.2%	29.0%	24.5%
S of 104th	-1.3%	2.0%	31.1%	21.6%	29.3%	24.0%
S of Thrntn Pkwy	-1.3%	0.0%	29.5%	20.8%	27.8%	20.8%
S of 84th	-1.1%	1.8%	28.7%	17.5%	27.3%	19.6%

AM2 V/C Percent Difference

	Alt3 Growth to Alt9		Alt9 Growth to Alt8		Alt3 Growth to Alt8	
	SB	NB	SB	NB	SB	NB
S of SH-66	-20.0%	-19.3%	1.8%	0.0%	-18.6%	-19.3%
S of SH-119	-16.9%	-17.4%	4.1%	1.8%	-13.5%	-15.9%
S of SH-52	-16.7%	-15.2%	4.4%	4.5%	-13.0%	-11.4%
S of CR-8	-16.5%	-16.1%	4.0%	3.8%	-13.2%	-12.9%
S of SH7	-16.1%	-17.5%	6.1%	3.8%	-11.0%	-14.3%
S of E-470	4.4%	3.5%	-11.9%	-16.1%	-8.0%	-13.2%
S of 144th	1.9%	1.9%	-4.7%	-10.3%	-2.9%	-8.6%
S of 136th	0.0%	1.0%	-4.3%	-9.9%	-4.3%	-9.0%
S of 120th	-0.8%	1.0%	-2.4%	-8.0%	-3.2%	-7.1%
S of 104th	-1.5%	1.1%	-1.5%	-9.5%	-3.0%	-8.5%
S of Thrntn Pkwy	-0.7%	1.1%	-3.6%	-8.9%	-4.3%	-7.9%
S of 84th	-1.3%	1.0%	-3.8%	-11.3%	-5.1%	-10.5%

AM2 Speed Percent Difference

	Alt3 Growth to Alt9		Alt9 Growth to Alt8		Alt3 Growth to Alt8	
	SB	NB	SB	NB	SB	NB
S of SH-66	4.3%	1.6%	-0.3%	0.0%	4.0%	1.6%
S of SH-119	11.8%	1.9%	-1.4%	-0.2%	10.2%	1.7%
S of SH-52	41.9%	4.9%	-5.4%	-0.6%	34.3%	4.2%
S of CR-8	82.5%	16.5%	-9.8%	-1.9%	64.7%	14.3%
S of SH7	71.6%	114.3%	-12.0%	-11.7%	50.9%	89.3%
S of E-470	-15.6%	-15.0%	53.0%	77.2%	29.1%	50.6%
S of 144th	-5.2%	-4.8%	13.4%	29.5%	7.5%	23.3%
S of 136th	-1.4%	-3.1%	19.6%	19.6%	17.9%	15.9%
S of 120th	1.9%	-2.1%	15.5%	15.5%	17.6%	13.0%
S of 104th	9.1%	-2.4%	12.5%	17.4%	22.7%	14.5%
S of Thrntn Pkwy	2.7%	-1.6%	13.9%	13.3%	17.0%	11.5%
S of 84th	8.2%	-2.5%	28.3%	31.2%	38.8%	27.9%

5/26/2005

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	Boardings & Alightings		
	TAlt 8 -- 8&8	TAlt 9 -- 8&6	Percent Difference
SH-1	93	98	5.4%
SH-14	650	768	18.2%
US-34	1140	1295	13.6%
SH-66	438	543	24.0%
SH-52	850	856	0.7%
SH-7	569	604	6.2%
DUS	2983	3365	12.8%

	Station to Station Volumes		
	TAlt 8	TAlt 9	Percent Difference
SH-1 to SH-14	93	98	5.4%
SH-14 to US-34	636	755	18.7%
US-34 to SH-66	1646	1909	16.0%
SH-66 to SH-52	2033	2392	17.7%
SH-52 to SH-7	2813	3176	12.9%
SH-7 to DUS	2983	3365	12.8%

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Southern Terminus Analysis
Travel Model Run Results

In order to assist in determining the location of the southern terminus of the North I-25 EIS Study Area, analysis of several TransCAD North I-25 Travel Model[1] scenarios was performed to answer the following questions:

1. **Does additional I-25 capacity north of E-470 require that additional capacity be added *south* of E-470?**

   This analysis compared performance of I-25 under two scenarios, one with 6 lanes total north of E-470 and one with 8 lanes. Laneage south of E-470 was kept constant at 6 lanes total.

Answer: No. An increase in I-25 capacity north of E-470 does not require capacity improvements south of E-470. Volumes on I-25 just north of E-470 increase up to 10 to 15 %. However, south of E-470, volumes change only minimally. See **Figure 1**.

2. **Does additional I-25 capacity south of E-470 significantly affect volumes on I-25 *north* of E-470?**

   This analysis compared performance of I-25 under two scenarios, one with 6 lanes total south of E-470 and one with 8 lanes. Laneage north of E-470 was kept constant at 8 lanes total.

Answer: No. An increase in capacity on I-25 south of E-470 does not significantly affect volumes north of E-470. Volumes increase only about 5% on I-25 just north of E-470. Further north, near and beyond SH-66, the change in volumes becomes negligible. See **Figure 2**.

3. **Does additional I-25 capacity south of E-470 affect transit volumes on a Front Range rail line?**

   Two model runs were performed with varying laneage on I-25 from US 36 to E-470, one with 6-lanes total, the other with 8. Laneage

[1] The North I-25 TransCAD Model is combined from the NFRMPO and DRCOG regional travel models. The Level 2B Screening model set was used for this analysis.

north of E-470 was kept constant at 8 lanes total. The rail line alignment modeled goes from DUS to Ft. Collins adjacent to I-25[2].

Yes. Increased capacity on I-25 from US 36 to E-470 results in decreased transit ridership on the Denver to Ft. Collins transit line.

- Transit boardings range from 0 to 25% higher under the 6-lane I-25 scenario, as opposed to the 8-lane scenario. See **Table 1**.
- Station to station transit ridership is 5-20% higher under the 6-lane I-25 scenario. See **Table 2**.
- Total transit ridership on the Ft. Collins to DUS rail line is 12% higher under the 6-lane I-25 scenario.

4. Does terminating a Front Range rail line at 120th Avenue (Wagon Road park-n-Ride), thus requiring a transfer to express buses in order to reach the DUS, affect rail ridership significantly?

This analysis compared performance of a DUS to Ft. Collins rail line adjacent to I-25[3], with an identical rail line terminating at I-25/120th Ave. (Wagon Road park-n-Ride) instead of DUS[4].

Yes. A forced transfer results in decreased ridership along a Denver to Ft. Collins rail line.

- Transit boardings at rail stations decrease up to 85% under the forced transfer rail line scenario. See **Table 3**.
- Station to station transit ridership decreases up to 80% with a forced transfer at 120th Avenue. See **Table 4**.
- Total transit ridership on the Ft. Collins to Denver rail line drops nearly 70% with the forced transfer.
- Shorter transit trips, e.g. Ft. Collins to Longmont, continue to exist on the forced transfer rail line, but long trips from the North Front Range into Denver decrease dramatically.

5/25/2005

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[2] North I-25 Transit Alternative 3
[3] North I-25 Transit Alternative 3
[4] North I-25 Transit Alternative 10