

northern terminus of the US 36 EIS rail component). The downtown Longmont station was assumed at the intersection of 1st and Main (US 287). One intermediate station was assumed at the intersection of SH-119 and SH-52; this point was selected for the initial model run as it was the mid-point of the three stations under consideration for an intermediate station. This is similar to the RTD FasTracks assumptions for this corridor.

2. Boulder to downtown Longmont at 15-minute peak headways/30-minute off-peak headways in each direction (called L2-Build-a), resulting in 106 trains per day. The same station configurations described above applied to this model run. This model run is identical in service levels to the US 36 EIS rail component.
3. Boulder to downtown Longmont at 30-minute peak headways/no off-peak service (called L2-Build-b), resulting in 30 trains per day. The same station configurations described above applied to this model run. This run was designed to test the ridership and cost-effectiveness of peak-only service and to determine the extent of work-related commuting in the corridor.
4. Boulder to downtown Longmont at 30-minute peak headways/60-minute off-peak headways, with the intermediate station at 63rd St. in Gunbarrel instead of at SH-52 (called L2-Build-c).
5. Boulder through downtown Longmont to the Sugar Mill at 30-minute peak headways/60-minute off-peak headways (called L2-Build-d). This model run assumes a station at SH 52, downtown Longmont, and the Sugar Mill.
6. Boulder to downtown Longmont with no intermediate station at 30-minute peak headways/60-minute off-peak headways (called L2-Build-e). This model run was designed to test the change in ridership between Longmont and Boulder with an improved travel time provided by the absence of an intermediate station.
7. Boulder to downtown Longmont at 30-minute peak headways/60-minute off-peak headways, with the intermediate station at downtown Niwot instead of at SH-52 (called L2-Build-f).

Table 1-3 shows the results of each of the model runs, including 2025 total system ridership (including the US 36 EIS rail component) and station boardings.

The table shows that the largest increase in overall Denver-Boulder-Longmont system ridership (22.4%) occurs with the most robust service package: 15-minute peak headways/30-minute off-peak headways (L2-a, the same as that modeled for the US 36 EIS). The lowest increase in system ridership (10.9%) occurs under the scenario modeled with 30-minute peak headways and no off-peak service.

Station boardings rose and fell in rough proportion to total system boardings. Daily boardings in Longmont ranged from 1,380 under the scenario with the highest level of service (L2-a) to 710 under the scenario with the lowest level of service (L2-b).

Model run L2-d used the same operating plan as L2 (30-minute peak/60-minute off-peak) but added the Sugar Mill site east of downtown as an end-of-line station. Under L2, Longmont station boardings (using only one station in downtown Longmont) were shown at 1,020 per day. Under L2-d, with two stations in Longmont (one in downtown and one at the Sugar Mill), total Longmont area boardings increased to 1,140 (an increase of 11.8%), with roughly 75% occurring in downtown Longmont and the remaining 25% occurring at the Sugar Mill site.

Table 1-3: Results of Ridership Modeling

Model run	Total System (Denver- Boulder- Longmont) Ridership (2025)	Change from LI	Daily Station Boardings		
			Intermediate	Downtown Longmont	Sugar Mill
L1: No Action (US 36 EIS Package 4)	14,720	NA	NA	NA	NA
L2: Boulder/Longmont, 30-min peak/60-min off-peak (intermediate station at SH 52)	16,960	+2,240 (+15.2%)	SH 52: 230	1,020	NA
L2-a: Boulder/Longmont, 15-min peak/30-min off-peak (intermediate station at SH 52)	18,020	+3,300 (+22.4%)	SH 52: 400	1,380	NA
L2-b: Boulder/Longmont, 30-min peak/no off-peak (intermediate station at SH 52)	16,320	+1,600 (+10.9%)	SH 52: 190	710	NA
L2-c: Boulder/Longmont, 30-min peak/60-min off-peak (intermediate station at Gunbarrel)	17,320	+2,600 (+17.7%)	63 rd : 430	1,120	NA
L2-d: Boulder/Sugar Mill, 30-min peak/60-min off-peak (intermediate station at SH 52)	17,160	+2,440 (+16.6%)	SH 52: 240	860	280
L2-e: Boulder/Longmont, 30-min peak/60-min off-peak (no intermediate station)	16,800	+2,080 (+14.1%)	NA	1,090	NA
L2-f: Boulder/Longmont, 30-min peak/60-min off-peak (intermediate station at Niwot)	16,860	+2,140 (+14.5%)	Niwot: 140	730	NA

Source: URS Corporation, August/September 2004

Boardings at three different locations were tested for an intermediate station site. Daily boardings ranged from a low of 140 at downtown Niwot under the 30/60 operating plan to a high of 430 at 63rd in Gunbarrel under the 30/60 scenario and 400 at SH 52 under the 15/30 scenario

Impact on Bus Ridership

As each ridership model was developed, certain assumptions were made about the nature of the local and regional bus network serving the SH 119 corridor and the communities in the study area. For example, local routes in Longmont were “rerouted” in the modeling process to feed into the downtown rail station. The BOLT and Route J services were modeled as restructured to become less of an express service on SH 119 and more of a local feeder service; both routes were assumed to stop at most major points along SH 119 to feed into either the intermediate station or the Longmont or Boulder end-of-line stations. **Table 1-4** shows the impact of the various commuter rail scenarios on daily ridership for the regional/express routes (including the BOLT, J, and L) and Boulder and Longmont local routes in the study corridor.

Table 1-4: Impact of Rail Scenarios on Study Area Bus System Ridership (2025)

	Regional/ Express Routes	Boulder Local Routes	Longmont Local Routes	Study Area Bus Total	Rail Ridership	Total Transit Usage
L1: No Action (US 36 EIS Package 4)	4,220	20,610	1,270	26,100	NA	26,100
L2: Boulder/Longmont, 30-min peak/60-min off-peak (intermediate: SH 52)	1,540 (-63.5%)	21,270 (+3.2)	1,960 (+54.3%)	24,770 (-5.1%)	2,240	27,010 (+3.5%)
L2-a: Boulder/Longmont, 15-min peak/30-min off-peak (intermediate: SH 52)	1,560 (-63.0%)	21,780 (+5.7%)	2,240 (+76.4%)	25,580 (-1.9%)	3,300	28,880 (10.7%)
L2-b: Boulder/Longmont, 30-min peak/no off-peak (intermediate: SH 52)	2,470 (-41.5%)	21,100 (+2.4%)	1,640 (+29.1%)	25,210 (-3.4%)	1,600	26,810 (+2.7%)
L2-c: Boulder/Longmont, 30-min peak/60-min off-peak (intermediate: 63rd)	1,260 (-70.1%)	21,910 (+6.3%)	2,010 (+58.3%)	25,180 (-3.5%)	2,600	27,780 (+6.4%)
L2-d: Boulder/Sugar Mill, 30-min peak/60-min off-peak (intermediate: SH 52)	1,570 (-62.7%)	21,370 (+3.7%)	2,120 (+66.9%)	25,060 (-3.9%)	2,440	27,500 (+5.4%)
L2-e: Boulder/Longmont, 30-min peak/60-min off-peak (no intermediate)	1,520 (-63.9%)	21,300 (+3.3%)	2,000 (+57.5%)	24,820 (-4.9%)	2,080	26,900 (+3.1%)
L2-f: Boulder/Longmont, 30-min peak/60-min off-peak (intermediate: Niwot)	1,550 (-63.2%)	21,300 (+3.3%)	1,960 (+54.3%)	24,820 (-4.9%)	2,140	26,960 (+3.3%)

Source: URS Corporation, August/September 2004

The table shows that regional/express routes show decreases in ridership by 41-70% depending on the rail operating scenario. This is to be expected since parallel bus service along the Diagonal corridor was decreased or restructured to perform more of a feeder service to corridor rail stations. However, local routes in Boulder showed increases of 3% to 6%, and local Longmont routes showed ridership increases ranging from 30% to 76% as a result of implementation of rail service. When rail and bus services are combined, total transit ridership in the corridor increases from 3% to almost 11% depending on the scenario.

Observations and Conclusions

1. Initial analysis of modeling results showed that the majority of riders using the Longmont corridor rail system were boarding in Longmont in the AM peak period to ride to Boulder, returning in the PM peak.

2. Total system ridership was almost directly proportional to service levels. The base case scenario (30-minute peaks/60-minute off-peaks, 54 trains per day) added about 2,200 daily riders to the commuter rail network. A doubling of service using the 15-minute peak/30-minute off-peak scenario (106 trains per day) increased total Denver-Boulder-Longmont system ridership attributable to the Longmont extension by approximately 47%; consequently, daily boardings in downtown Longmont increased by 35%, and boardings at the intermediate station (SH 52) increased by more than 70%. When service levels were reduced to the 30-minute peak/no off-peak scenario (30 trains per day), total Longmont system ridership decreased from the base case by 28%; daily boardings in Longmont decreased by 30%, and boardings at the intermediate station decreased by 17%.