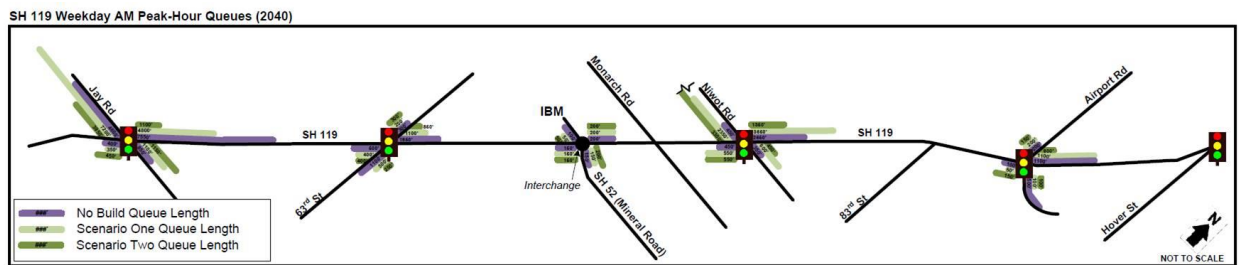


Proposed SH-119 Transit Queue Jump Lanes

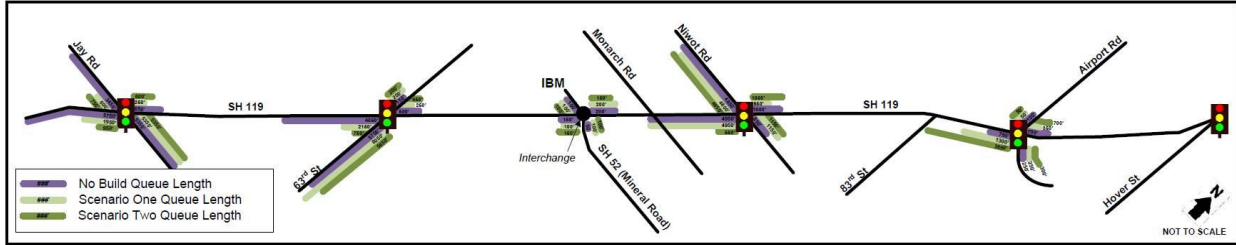
On the “trunk” of CO 119 (the rural section between Longmont and Boulder), there are currently five signalized intersections that experience significant delay in the AM and PM peaks. The below screenshots of the corridor illustrate the modelled queue lengths for these intersections in the peak periods in 2040. As the intersections are the capacity constraint on the corridor, virtually all congestion on the corridor is related to the intersections (“mid-block” congestion unassociated with an intersection doesn’t really exist). This traffic modelling was completed as part of the RTD PEL Study for the CO 119 corridor. Note that the exact modelled queues shown on the maps below have changed a bit as the planned improvements at CO 119 & CO 52 have changed from an interchange (modelled as part of the 2040 no-build scenario during the RTD Study) to a split at-grade intersection, but the basic challenge of lengthy queues on the “trunk” related to intersections remains the same.

The table below (scroll past the maps) is from the current alternatives analysis being led by CDOT, and illustrates the travel time savings potential of the transit queue jumps: they would cut transit travel times roughly in half in the NB direction in the AM and PM peaks, and would result in roughly 50% shorter transit travel times in the SB direction in the AM and PM peaks.

Extended queue jumps would allow transit operating on the corridor to bypass these intersection-related queues by entering a transit-only queue jump lane upstream of the congestion, and use this lane to reach and traverse through the intersection and reach the BRT station without being delayed. Downstream of the intersection, the bypass lanes could taper back into the general purpose lanes with buses merging back into free-flow traffic until they reach the next queue jump lane on the corridor. The merging-back-into-free flow-traffic concept is illustrated in the attached concept for Jay Rd, and a similar concept for N 63rd St is also attached. As the peak queues for many of these intersections are several thousand feet long (reference the maps below), the queue jumps would need to be sized appropriately in order to maximize the time savings for buses (i.e., if the peak queue length is 3,000’, the queue jump lane needs to provide a separate lane for transit that begins *at least* 3,000’ upstream of the intersection so that the bus can enter the queue jump lane before the congestion begins).



SH 119 Weekday PM Peak-Hour Queues (2040)



SH 119 Traffic Analysis
Vehicle and Transit Travel Time - Comparison
(Jay Road to Airport Road)

Direction of Travel	Time Interval	Travel Time (min)						
		2045 Baseline		2045 Transit Slip Lanes		2045 3 General Purpose Lanes		204
		General Traffic	Transit	General Traffic	Transit	General Traffic	Transit	General T
Northbound	6:00 AM - 7:00 AM	8.0	19.1	7.6	9.8	8.5	10.1	
	7:00 AM - 8:00 AM	9.1	19.1	8.8	9.8	8.5	10.3	
	8:00 AM - 9:00 AM	9.3	19.2	9.1	9.9	8.6	10.3	
	9:00 AM - 10:00 AM	9.0	19.2	8.9	9.9	8.8	10.5	
	10:00 AM - 11:00 AM	8.6	19.3	8.9	9.9	8.7	10.4	
	11:00 AM - 12:00 PM	8.8	19.6	9.2	9.9	9.3	10.7	
	12:00 PM - 1:00 PM	9.2	20.2	10.7	10.3	11.0	12.2	
	1:00 PM - 2:00 PM	7.5	18.4	7.5	9.9	7.3	9.9	
	2:00 PM - 3:00 PM	7.7	19.0	7.7	10.0	7.5	10.0	
	3:00 PM - 4:00 PM	7.9	19.6	8.0	10.2	9.9	12.4	
	4:00 PM - 5:00 PM	8.3	20.0	8.3	10.3	17.4	19.5	
	5:00 PM - 6:00 PM	8.2	19.5	8.3	10.4	19.6	22.7	
6:00 PM - 7:00 PM	8.1	19.0	8.1	10.3	19.0	22.0		
7:00 PM - 8:00 PM	7.6	18.0	7.5	10.0	17.8	21.4		
Southbound	6:00 AM - 7:00 AM	9.1	15.2	9.0	10.3	9.3	10.8	
	7:00 AM - 8:00 AM	9.9	16.1	9.6	10.7	11.1	12.7	
	8:00 AM - 9:00 AM	10.3	16.5	9.8	10.8	15.0	16.8	
	9:00 AM - 10:00 AM	10.3	17.7	9.7	10.7	15.2	17.2	
	10:00 AM - 11:00 AM	9.2	13.4	9.1	10.2	10.3	11.8	
	11:00 AM - 12:00 PM	8.9	14.3	8.9	10.2	8.9	10.6	
	12:00 PM - 1:00 PM	9.0	14.0	8.9	10.2	9.0	10.6	
	1:00 PM - 2:00 PM	8.8	14.4	8.4	10.6	8.2	10.6	
	2:00 PM - 3:00 PM	9.1	15.5	8.5	10.7	8.5	10.6	
	3:00 PM - 4:00 PM	8.8	14.9	8.3	10.5	8.2	10.5	
	4:00 PM - 5:00 PM	8.3	14.7	8.2	10.4	8.0	10.5	
	5:00 PM - 6:00 PM	8.3	14.3	8.2	10.3	8.1	10.6	
6:00 PM - 7:00 PM	8.2	14.4	8.1	10.4	8.0	10.5		
7:00 PM - 8:00 PM	7.9	13.3	7.9	10.4	7.9	10.5		