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Department Memorandum

Idaho Transportation Department

ITD 0500 (Rev. 07-17)
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DATE: January 15, 2020 **Program Number(s)**

TO: District Traffic Engineers **Key Number(s)**

FROM: Kevin Sablan
Design/Traffic Services

Digitally signed by Kevin Sablan
Date: 2020.01.15 09:29:38 -07'00'

Program ID, County, Etc.

RE: Left-Turn Signal Phasing Guidance

The attached Left-Turn Phasing Guidelines flowchart developed for immediate use was recommended for adoption by the Traffic Discipline Team (November 21st Boise meeting) and presented to the Highway Leadership Team on January 8th.

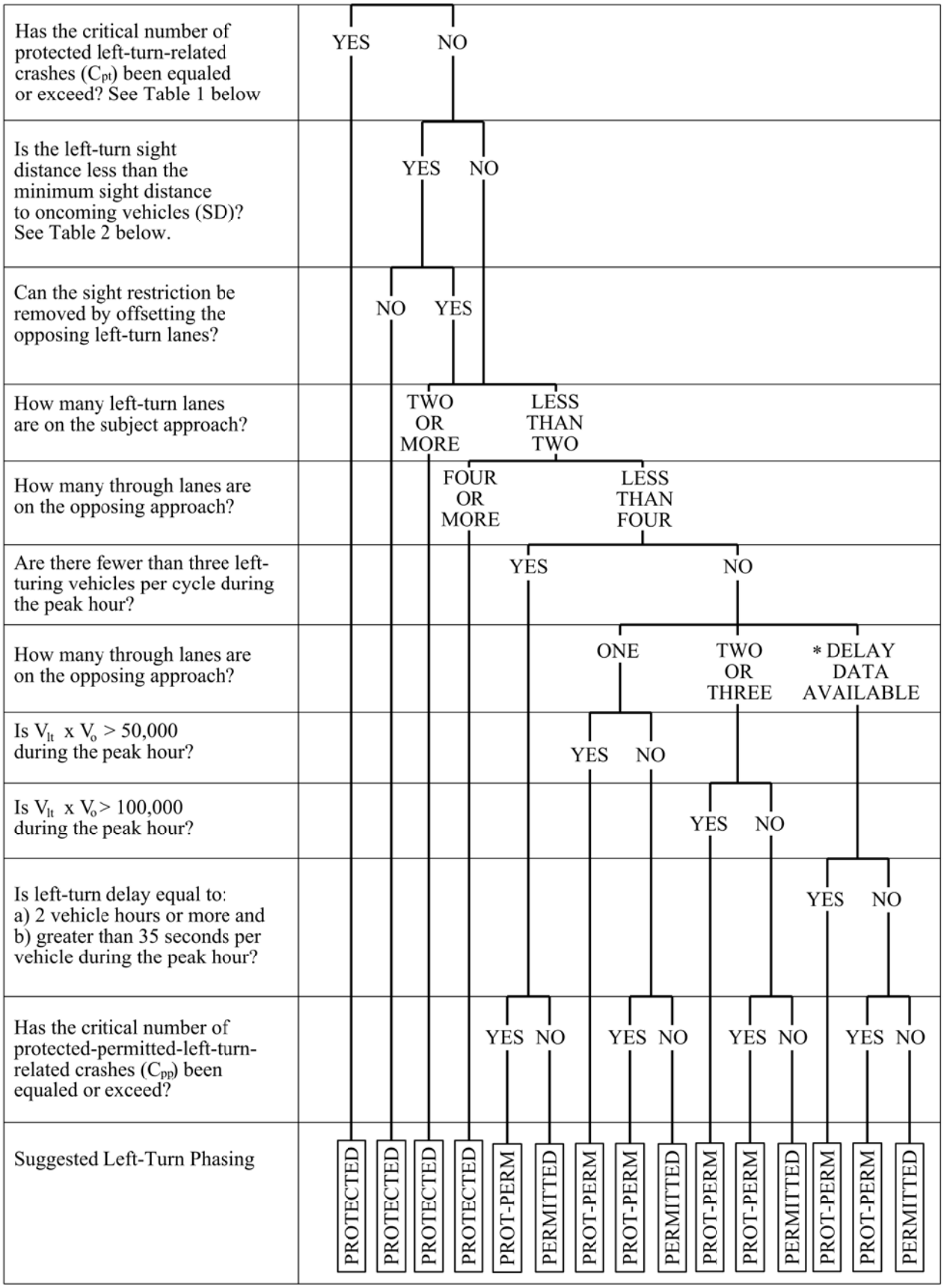
After much literature review, ITD will adopt Exhibit 4-16 Left-Turn Phasing Guidelines (NCHRP Report 812 - Signal Timing Manual, Second Edition) in part. The flowchart provides a consistent evaluation procedure for left-turn signal phasing throughout the state highway system.

When implementing permitted left-turn phasing in conjunction with the pedestrian phase of the same movement, consider the use of a leading pedestrian interval (see MUTCD Section 4E.06) or inhibit the permitted left-turn phase during such time.

If crash and volume data indicate a particular left-turn phasing for a certain time of day, consider using only such left-turn phasing during that time.

The flowchart will be incorporated into the April 2020 Traffic Manual.

cc: COO, CE/HDA, HCOA, DEs, FHWA, HDMs, HCOMs, GARVEE, DEM2s, DTMs, DCMs, DOMs



V_{lt} = Left-turn volume on subject approach (vehicles per hour)

V_o = Through plus right-turn volume on approach opposing subject left-turn movement (veh per hour)

Table 1: Left-Turn Related Crash Frequency

Number of Left-Turn Movements on Subject Road	Period during which Crashes Are Considered (Years)	Critical Left-Turn-Related Crash Count (Crashes Per Period)	
		When Considering Protected-Only (C_{pt})	When Considering Protected-Permitted (C_{pp})
One	1	6	4
	2	11	6
	3	14	7
Two	1	11	6
	2	18	9
	3	26	13

Table 2: Minimum Sight Distance

Oncoming Traffic Speed Limit (Miles Per Hour)	Minimum Sight Distance to Oncoming Vehicles (SD) (Feet)
25	200
30	240
35	280
40	320
45	360
50	400
55	440
60	480

Source: Adapted from the NCHRP Report 812, Signal Timing Manual 2nd Edition

* The left-turn delay referred to in the flowchart is the delay incurred when no left-turn phase is provided (i.e., the left-turn movement operates in the permitted mode).