

FYA Dynamic Detection

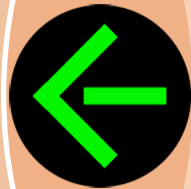
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NCITE Intersection Traffic Control Committee

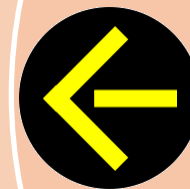
May 21, 2021

Three Phase Mode Options with FYA

Protected Only



Protected/
Permissive

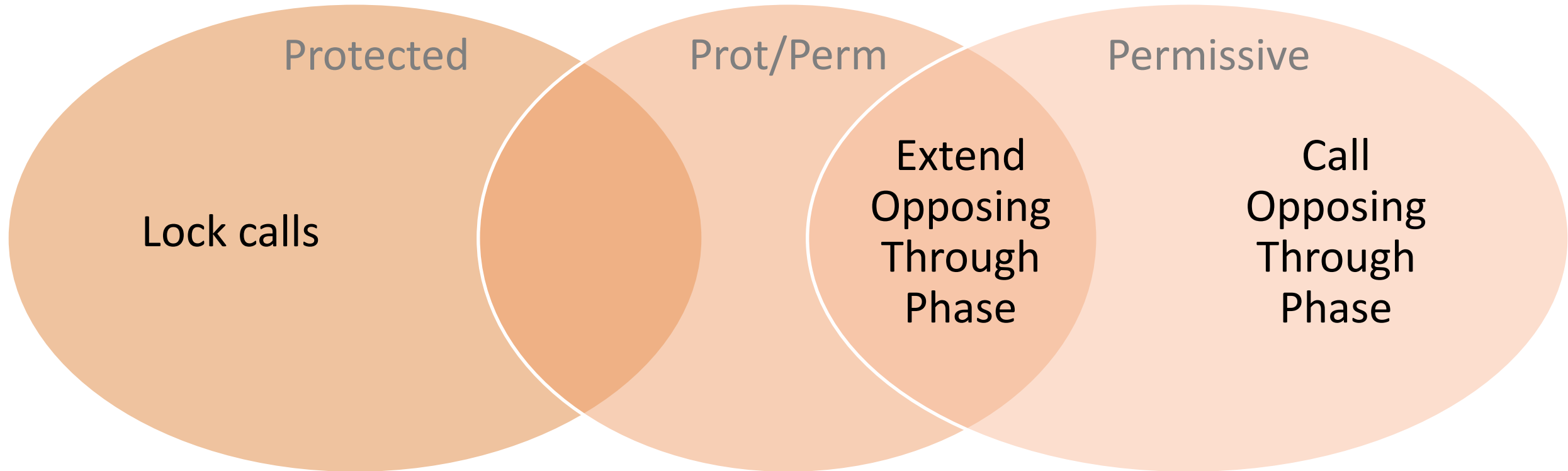


Permissive Only

Problem Statement

- Want to be able to vary left turn phase mode at an FYA signal to adapt to traffic conditions
- Want to have flexibility to be able to vary approaches independently
- Want to eliminate need for extra programming when timing plans get updated

Left Turn Detector Function Varies...



Solution

- Use series of logic statements and dummy detectors to achieve desired result
- Frees up Detector Plans for other uses
- Reduces potential for programming errors as part of future timing updates

Extend Opposing Thru Phase

```
LP#: 2 COPY FROM: 2 ACTIVE:M FALSE
IF --F DET 3 IS ON F
OR --F DET 3 IS ON F
AND --F LP COB CODE OFF 514 T
AND --F CTR OVERLAP OMIT 6 IS OFF T

THEN DET SET VEH 49-64 52 ON

ELSE
```

*LP COB Code 514 = AP Special Function Bit 3

```
VEH DETECTOR [52] VEH DET PLAN [ 1]
TYPE: N-NTCIP
TS2 DETECTOR..... X ECPI LOG..... NO
DET PH - 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
52 4 . . . X . . . . . . . . . .
CALL OPTION.... NO
EXT OPTION. PASSAGE EXTENSION TIME. 0.0
USE ADDED INITIAL . CROSS SWITCH PH.. 0
LOCK IN..... NONE NTCIP VOL . OR OCC .
PMT QUEUE DELAY- NO
```

One logic statement

+ One dummy detector per FYA phase

Lock Calls

```
LP#: 6 COPY FROM: 6 ACTIVE:M FALSE
IF --F DET 3 IS ON F
OR --F DET 3 IS ON F
AND --F CTR OVERLAP OMIT 6 IS ON F

THEN DET SET VEH 49-64 56 ON

ELSE
```

One logic statement

```
VEH DETECTOR [56] VEH DET PLAN [ 1]
TYPE: N-NTCIP
TS2 DETECTOR..... X ECPI LOG..... NO
DET PH - 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
56 3 . . X . . . . . . . . . .
CALL OPTION.... YES DELAY TIME... 0.0
EXT OPTION. PASSAGE EXTENSION TIME. 0.0
USE ADDED INITIAL . CROSS SWITCH PH.. 0
LOCK IN..... RED NTCIP VOL . OR OCC .
PMT QUEUE DELAY- NO
```

+ One dummy detector per FYA phase

Call Opposing Thru Phase

```
LP#: 9 COPY FROM: 9 ACTIVE:M FALSE
IF --F DET 3 IS ON F
OR --F DET 3 IS ON F
AND --F CTR ON PHASE CALL 3 IS OFF T
AND --F CTR PHASE TIMING 3 IS OFF T

THEN DET SET VEH 49-64 49 ON

ELSE
```

One logic statement

```
VEH DETECTOR [49] VEH DET PLAN [ 1]
TYPE: N-NTCIP
TS2 DETECTOR..... X ECPI LOG..... NO
DET PH - 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
49 4 . . . X . . . . . . . . . .
CALL OPTION.... YES DELAY TIME... 0.0
EXT OPTION. PASSAGE EXTENSION TIME. 0.0
USE ADDED INITIAL . CROSS SWITCH PH.. 0
LOCK IN..... RED NTCIP VOL . OR OCC .
PMT QUEUE DELAY- NO
```

+ One dummy detector per FYA phase

Typically not needed for mainline; Min Recall