TXDOT TRAFFIC SIGNAL PREEMPTION INSPECTION FORM

Form 2625
(Rev. 09/23)

Section 1 – General Information

Reason for Inspection: ☐ New Location ☐ Annual Inspection ☐ System Changes ☐ After Incident Other:

Safety Briefing: ☐	List of Attendees: ☐	Original Design Data Available? ☐ Yes ☐ No
Date of Inspection:	Time:	Inspector Certification ID:
TXDOT District:		TXDOT Traffic Signal ID#:
Traffic Signal Owner:		Traffic Signal Maintained by:
Operating Railroad:		Commuter or Amtrak Route? ☐ Yes ☐ No
DOT#:	Railroad Subdivision:	Railroad Milepost:
Other DOT# assigned on adjacent track: ☐ N/A		
Crossing Street Name:		Parallel Street Name:
City:	State:	County:

Any roadway geometry changes since last inspection? ☐ Yes ☐ No

a. If yes, review impact on existing preemption design calculations. Contact TXDOT Austin TRF/District Railroad Coordinator/Railroad.

Posted Roadway Speed: mph

ENS phone number posted at railroad crossing? ☐ Yes ☐ No

a. Call ENS phone number to confirm Railroad Dispatching and identify crossing location: ☐

Remarks:

Section 2 – Traffic Signal Data

1. Traffic signal cabinet type:
a. Changed since last inspection? ☐ Yes ☐ No ☐ N/A Previous Type:

2. Traffic signal controller - Type: Manufacturer: Model:
a. Changed since last inspection? ☐ Yes ☐ No ☐ N/A Previous Type: Manufacturer: Model:

3. Traffic signal controller firmware: Version:
a. Changed since last inspection? ☐ Yes ☐ No ☐ N/A Previous Version:

4. Traffic signal design plans in cabinet? ☐ Yes ☐ No
a. If yes, date on plans: b. If no, follow up with Agency to locate plans

5. Traffic signal timing data in cabinet? ☐ Yes ☐ No
a. If yes, date on data: b. If no, follow up with Agency to locate data

6. Preemption warning sticker present in cabinet? ☐ Yes ☐ No Remarks:
Preemption railroad interconnect sticker present in police access door? ☐ Yes ☐ No
a. If yes, verify information on label is correct b. If no, notify District Railroad Coordinator to install

7. Does traffic controller have existing backup power supply? ☐ Yes ☐ No If yes, type - ☐ BBU ☐ Generator ☐ Other:

8. Interconnection method - ☐ Relay Panel ☐ Solid State ☐ Isolator Card ☐ Other:

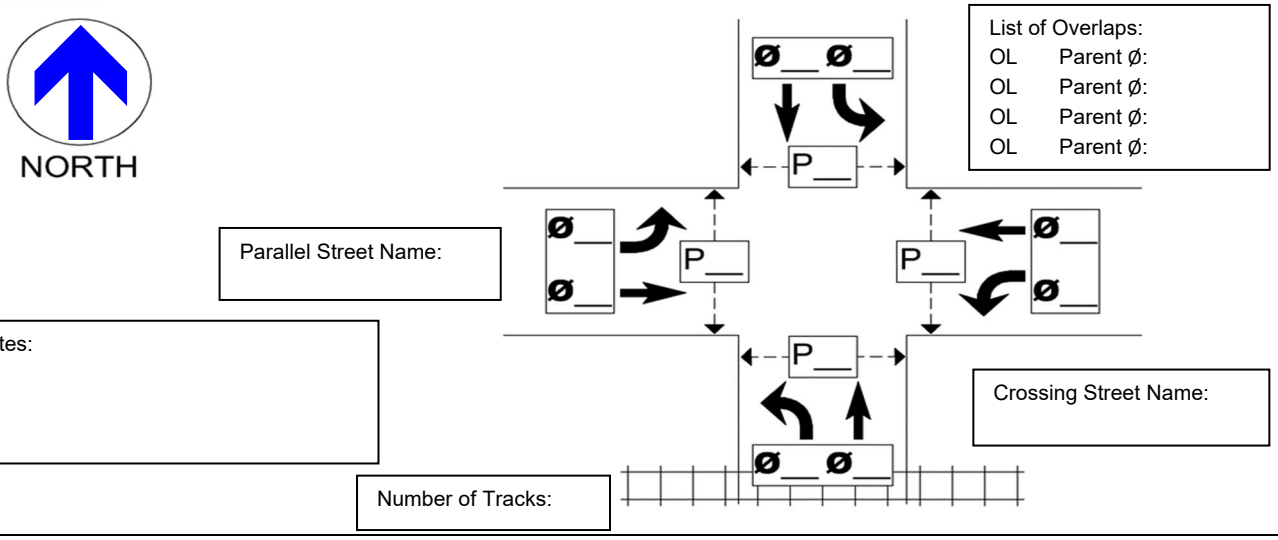
9. Interconnection voltage - ☐ 120 Vac ☐ 24 Vac ☐ 12 Vdc ☐ 24 Vdc ☐ Other:

10. Interconnection circuits:	Designed:	N/A:	Designed configuration:	Connected: Yes	Connected: No	Connected configuration:
Advance (Vehicle) Preemption	☐	☐		☐	☐	
Advance Pedestrian Preemption	☐	☐		☐	☐	
Gate Down	☐	☐		☐	☐	
Crossing Active	☐	☐		☐	☐	
Traffic Signal Health	☐	☐		☐	☐	

Comments:

Section 3 – Traffic Signal Timing/Phasing

11. Phasing Diagram under Normal Operations: (Additional diagrams available in *Appendix – Additional Intersection Diagrams* or provide sketch)



12. Controller response time to preempt (sec):

13. Worst-case conflicting vehicle phase number(s):

14. Worst-case conflicting pedestrian phase number(s):

Track clearance, dwell, and exit settings		Designed:	Programmed:
15. Track clearance –	Clearance phase number(s):		
	Clearance plan number:		
a. Preempt Trap resolution: ☐ Gate Down Circuit ☐ APT+15 ☐ Simultaneous Preemption ☐ Other:			
16. Preemption dwell –	Dwell operation:		
	Dwell plan number:		
If limited-service operation –	Dwell phase number(s):		
If flash – red/yellow operation –	Red flash phase number(s):		
	Yellow flash phase number(s):		
17. Preemption exit –	Exit phase number(s):		
	Exit plan number:		

Remarks:

18. Yellow Trap:
During normal operation resolution: Remarks:
During preemption operation resolution: Remarks:

19. Is railroad preemption highest priority in the traffic signal controller? ☐ Yes ☐ No If no, explain:

Preemption settings		Preempt 1	Preempt 2	Preempt 3	Preempt 4	Preempt 5	Preempt 6
20. Preemption plan purpose:	Designed:						
	Programmed:						

D = Designed | P = Programmed	Value in seconds											
	D	P	D	P	D	P	D	P	D	P	D	P
21. Preempt delay time												
22. Minimum green time during right-of-way transfer												
23. Other green time during right-of-way transfer												
24. Yellow change time												
25. Red clearance time												
26. Minimum walk time during right-of-way transfer												
27. Pedestrian clearance time during right-of-way transfer												
28. Track clearance green time												
29. Track clearance green extension time after gate down												
30. Preempt duration time												
31. Minimum dwell time												
32. Maximum preemption timer (min)												

Section 4 – Railroad Data

33. Railroad equipment – Predictor Model:
a. Change since last inspection? ☐ Yes ☐ No ☐ N/A Previous Predictor Model:

Preemption Programming

34. Type of Preemption: ☐ Simultaneous Preemption ☐ Advance (Vehicle) Preemption ☐ Advance Pedestrian Preemption

35. Track # 1 – Main	Railroad Design Speed (mph):			Remarks
	Designed	Programmed	N/A	
a. Warning time				
b. Advance preempt timer				
c. Preempt warning time (Vehicle)				
d. Pedestrian preempt warning time				
e. Approach (feet)				
f. Approach field measured (feet) [If applicable]:				

36. Track # 2 – ☐ Main ☐ Siding ☐ Industry/Spur ☐ N/A Remarks:	Railroad Design Speed (mph):			Remarks
	Designed	Programmed	N/A	
a. Warning time				
b. Advance preempt timer				
c. Preempt warning time (Vehicle)				
d. Pedestrian preempt warning time				
e. Approach (feet)				
f. Approach field measured (feet) [if applicable]: 0000				

37. Are there more than 2 tracks programmed at the grade crossing? ☐ Yes ☐ No **a.** If yes, include additional track data in *Appendix*

38. Do railroad switching moves take place at or within the approaches for this grade crossing? ☐ Yes ☐ No

39. Is the grade crossing controlled through a DAX (Downstream Adjacent Xing), or remote location? ☐ Yes ☐ No **a.** If yes, include DAX information in *Appendix*

Section 5 – Traffic Signal/Active Warning Preemption Testing

40. Method used for advance (vehicle) testing: ☐ Test switch ☐ Open relay ☐ Train activation ☐ Other:

41. Method used for advance pedestrian testing: ☐ N/A ☐ Test switch ☐ Open relay ☐ Train activation ☐ Other:

42. Method used for crossing active testing: ☐ N/A ☐ Test switch ☐ Open relay ☐ Train activation ☐ Other:

43. Preemption test during worst-case vehicle phase(s) – Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A a. Field measured Right-of-Way Transfer Time (RWTT) (seconds):

44. Preemption test during best-case vehicle phase – Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A a. Field measured RWTT (seconds):

45. Preemption test during worst-case pedestrian phase – Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A a. Field measured RWTT (seconds):

46. Track clearance reservice/second train - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A

47. Advance pedestrian preemption test - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A

48. Crossing active circuit test - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A a. Field measured RWTT (seconds):

49. Gate down circuit test - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A

50. Supervised circuit test - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A

51. Traffic signal health test - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A

52. Backup power supply test - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A

53. Blank out sign(s) test - Operating as designed? Remarks:
☐ Yes ☐ No ☐ N/A

List of Attendees

Name:	Company:	Email:	Phone #:

Options list

Section 2 – Traffic Signal Data

Box

1. **Traffic signal cabinet type:** TS-1; TS-2 Type 1; TS2 Type 2; 332; ACT/ITS; Other (Describe)
2. **Traffic signal controller:**
   Type: 170; 2070; NEMA; Other (Describe)
   Manufacturer: Econolite; Intelight; McCain; Siemens; Trafficware; Other (Describe)
   Model: 170E; 2070; ASC/2; ASC/3; ATX; Cobalt; EPAC 300; M50; M60; ATC; Other (Describe)
10. **Designed and Connected configurations:** Blank (if N/A selected); No supervision, single break; No supervision, double break; Supervision, single break; Supervision, double break

Section 3 – Traffic Signal Timing/Phasing

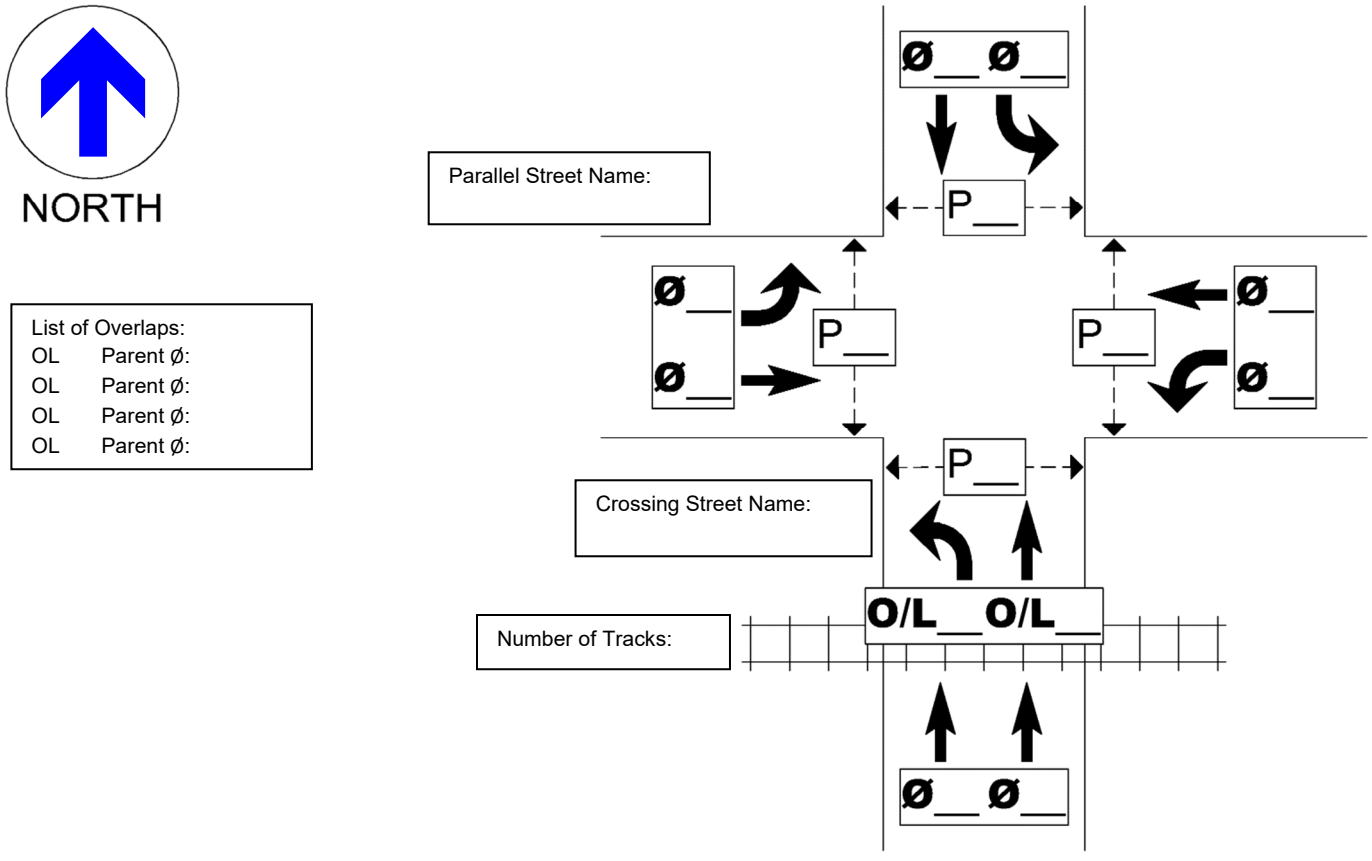
16. **Preemption dwell – Designed and Programmed:** Limited Service; Full Service; Flash – all red; Flash – red/yellow; Other (Describe)
18. **Yellow Trap Resolution – Normal operation and Preemption operation:** All-red before track clearance green; Flashing yellow arrow; Split phase; No yellow trap; Yellow trap still present
20. **Preemption plan purpose – all preempt plans, both designed and programmed:** (1) Preemption interconnect failure; (2) Advance (Vehicle) preemption - Track clearance only; (3) Simultaneous preemption – Track clearance only; (4) Advance (Vehicle) preemption – Track clearance and dwell; (5) Simultaneous preemption – Track Clearance and dwell; (6) Dwell/Limited Service; (7) Second track clearance; (8) Advance (Pedestrian) preemption; N/A

Section 4 – Railroad Data

33. **Railroad equipment** – Predictor Model: Ex – GCP3000, GCP4000, GCP5000, HXP2, HXP3, HXP3R, HXP3R2, PMD-2, PMD-3, PMD-4, XP4

Appendix – Pre-signal Data			
54. Describe location of the pre-signal relation to the railroad tracks:	☐ Upstream	☐ Downstream	Remarks:
55. Do motorists routinely stop at pre-signal stop line?	☐ Yes	☐ No	Remarks:
56. Are right turns on red restricted across the railroad tracks?	☐ Yes	☐ No	Remarks:
57. Are the downstream signal indications visible at the pre-signal stop line?	☐ Yes	☐ No	Remarks:
58. Are the pre-signal indications ball or thru arrow indications only?	☐ Yes	☐ No	Remarks:
59. Is the pre-signal progressively timed with the downstream signals?	☐ Yes	☐ No	
a. Designed Clearance Time b. Programmed Clearance Time			
60. Is a "Stop Here on Red", R10-6 sign installed adjacent to the pre-signal stop line?	☐ Yes	☐ No	Remarks:
61. Is the stop line for the pre-signal located at least 40 feet from the indications?	☐ Yes	☐ No	If no, what is the measurement:
62. Do the pre-signal indications change to and remain red during preemption?	☐ Yes	☐ No	Remarks:
Pre-signal Comments:			

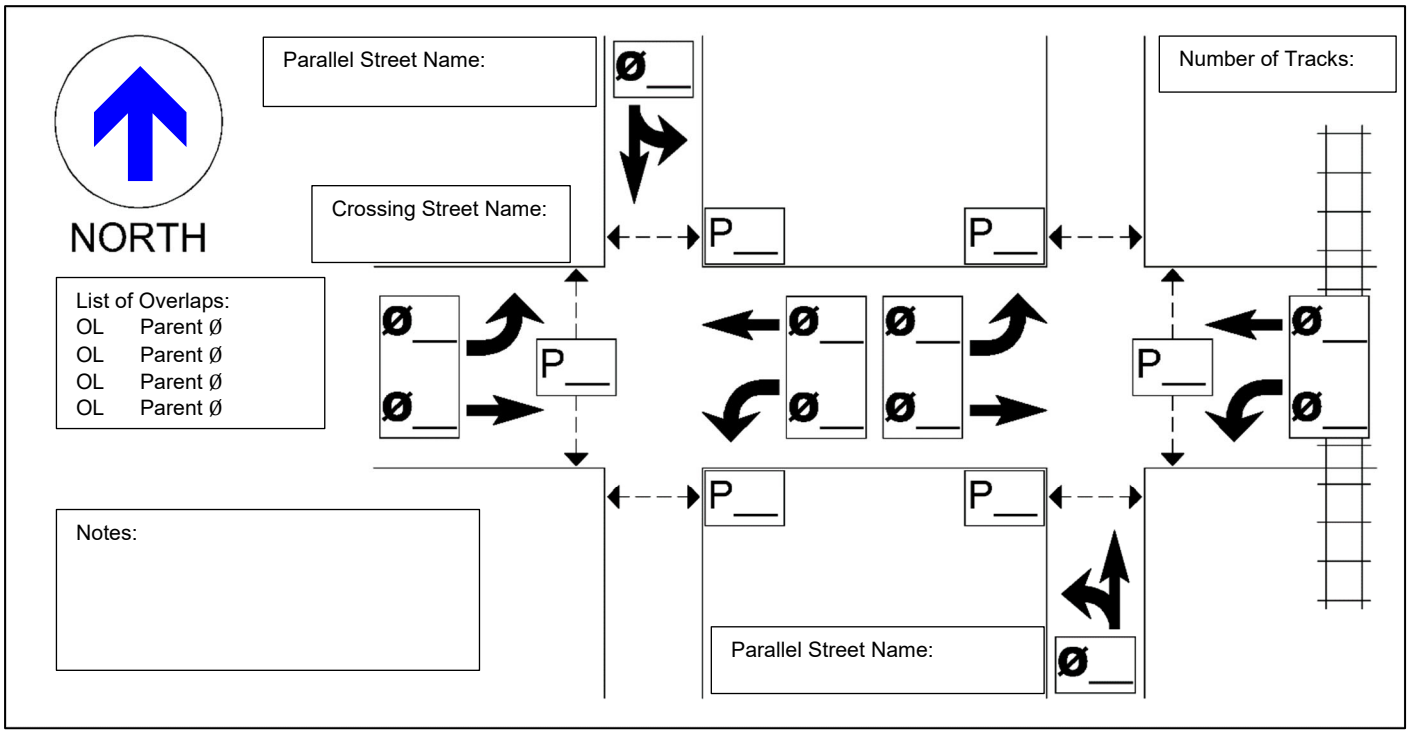
Traffic Signal Phasing with Pre-signal



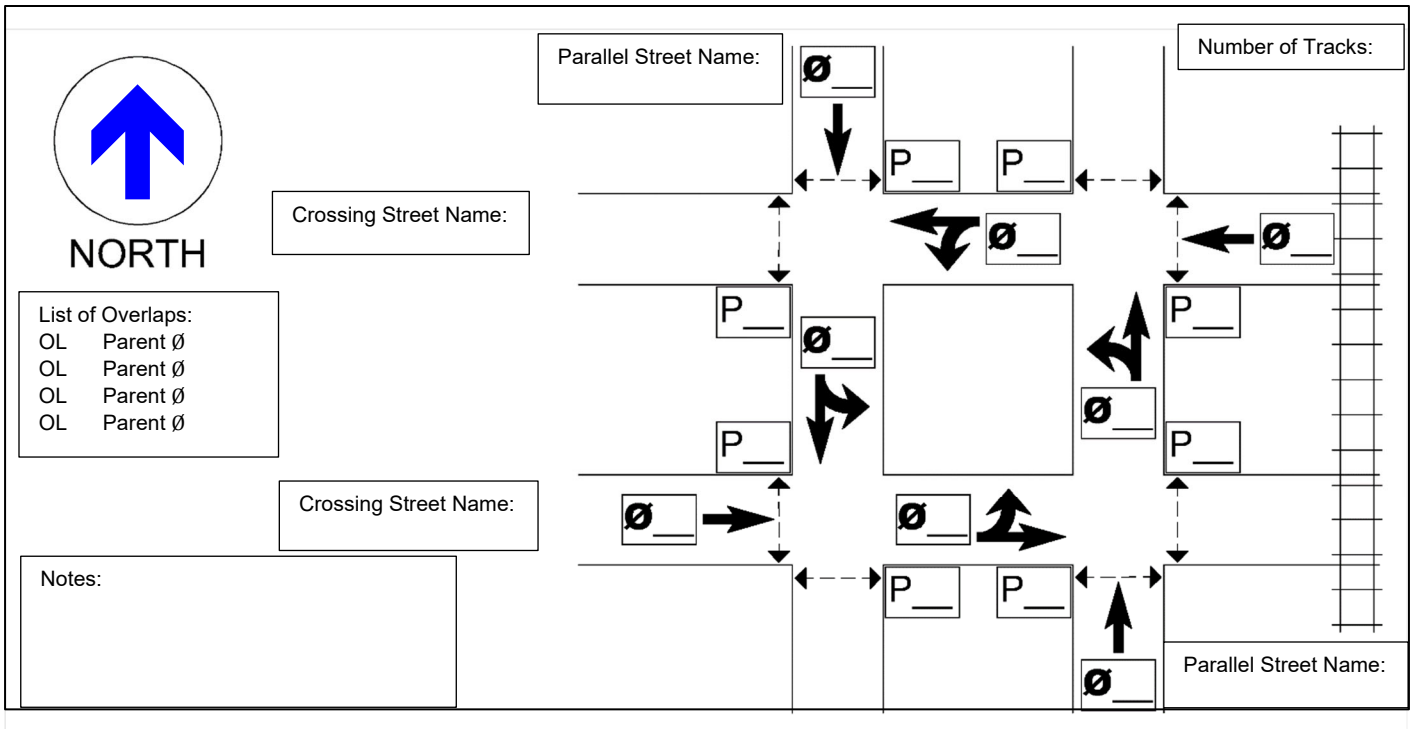
Notes:

Appendix – Additional Intersection Diagrams

Texas Diamond

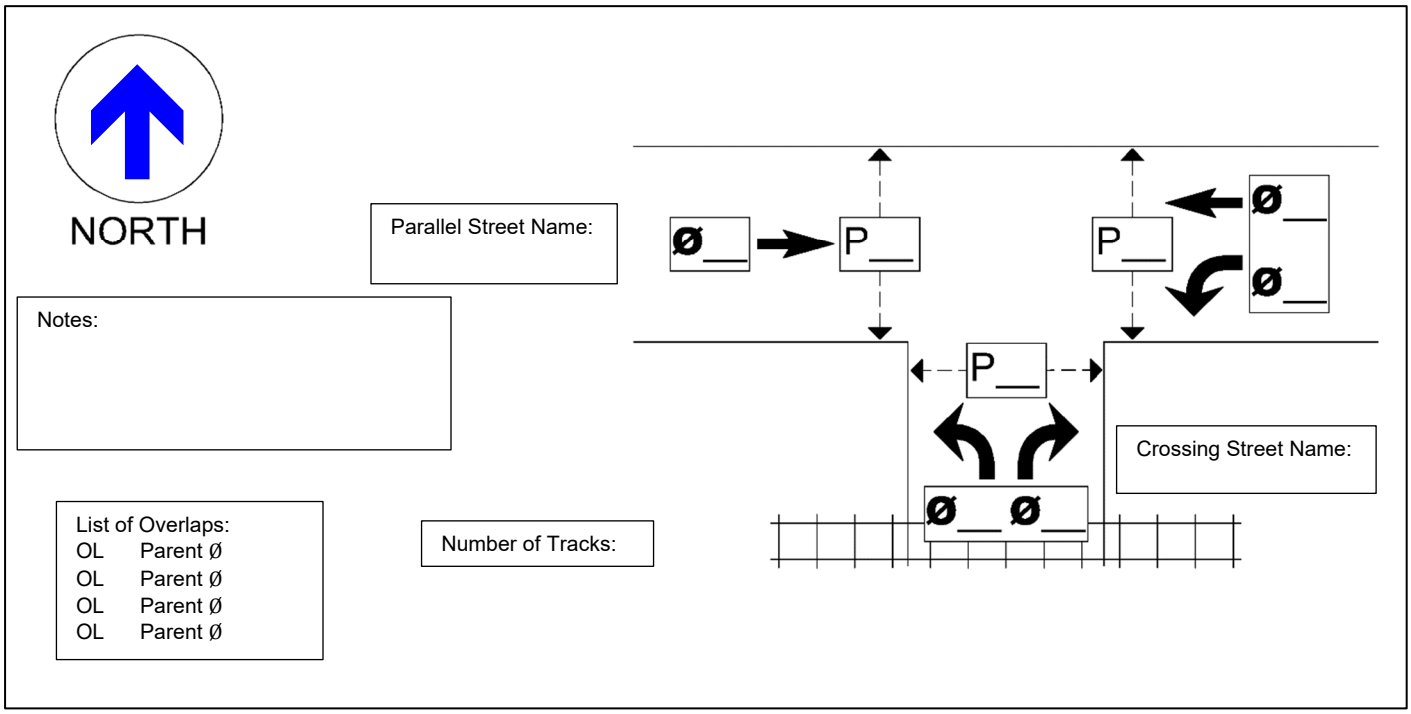


Box Diamond

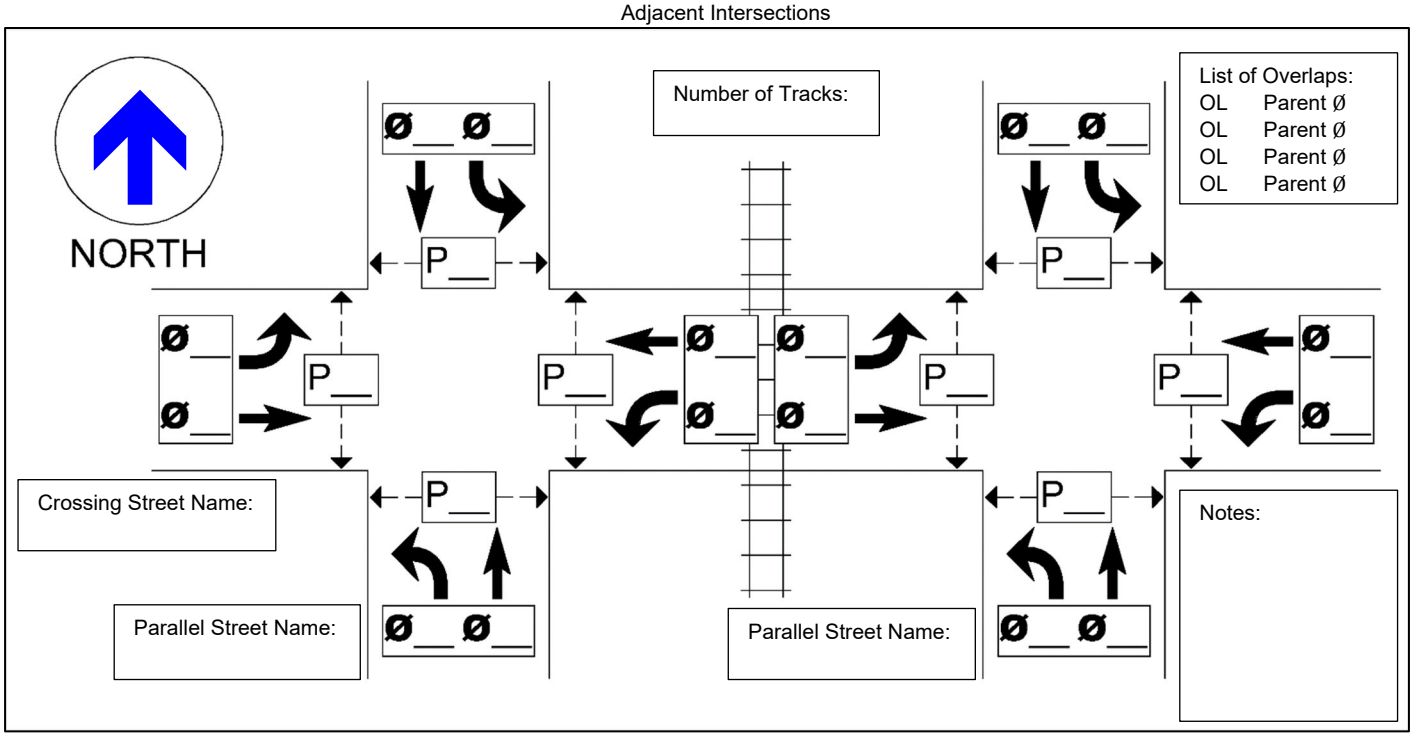


Appendix – Additional Intersection Diagrams

T-Intersection



Adjacent Intersections



Appendix – Intersection Sketch Area

Appendix – Additional Tracks				
Track #: ___ ☐Main ☐Siding ☐Industry/Spur	Railroad Design Speed (mph):			Remarks
	Designed	Programmed	N/A	
a. Warning time				
b. Advance preempt timer				
c. Preempt warning time (Vehicle)				
d. Pedestrian preempt warning time				
e. Approach (feet)				
f. Approach field measured (feet) [If applicable]:				
Track #: ___ ☐Main ☐Siding ☐Industry/Spur	Railroad Design Speed (mph):			Remarks
	Designed	Programmed	N/A	
a. Warning time				
b. Advance preempt timer				
c. Preempt warning time (Vehicle)				
d. Pedestrian preempt warning time				
e. Approach (feet)				
f. Approach field measured (feet) [If applicable]:				
Track #: ___ ☐Main ☐Siding ☐Industry/Spur	Railroad Design Speed (mph):			Remarks
	Designed	Programmed	N/A	
a. Warning time				
b. Advance preempt timer				
c. Preempt warning time (Vehicle)				
d. Pedestrian preempt warning time				
e. Approach (feet)				
f. Approach field measured (feet) [If applicable]:				
Track #: ___ ☐Main ☐Siding ☐Industry/Spur	Railroad Design Speed (mph):			Remarks
	Designed	Programmed	N/A	
a. Warning time				
b. Advance preempt timer				
c. Preempt warning time (Vehicle)				
d. Pedestrian preempt warning time				
e. Approach (feet)				
f. Approach field measured (feet) [If applicable]:				
Track #: ___ ☐Main ☐Siding ☐Industry/Spur	Railroad Design Speed (mph):			Remarks
	Designed	Programmed	N/A	
a. Warning time				
b. Advance preempt timer				
c. Preempt warning time (Vehicle)				
d. Pedestrian preempt warning time				
e. Approach (feet)				
f. Approach field measured (feet) [If applicable]:				

Appendix – DAX (Downstream Adjacent Xing) Locations					
Crossing DOT#:	Milepost:	Roadway Name (IF applicable):			
Track #:	DAX Identifier:	Designed	Programmed	N/A	Remarks
a. Warning time					
b. DAX warning time					
c. Offset distance (feet)					
d. Approach (feet)					
e. Approach field measured (feet) [if applicable]:					
Crossing DOT#:	Milepost:	Roadway Name (IF applicable):			
Track #:	DAX Identifier:	Designed	Programmed	N/A	Remarks
a. Warning time					
b. DAX warning time					
c. Offset distance (feet)					
d. Approach (feet)					
e. Approach field measured (feet) [if applicable]:					
Crossing DOT#:	Milepost:	Roadway Name (IF applicable):			
Track #:	DAX Identifier:	Designed	Programmed	N/A	Remarks
a. Warning time					
b. DAX warning time					
c. Offset distance (feet)					
d. Approach (feet)					
e. Approach field measured (feet) [if applicable]:					
Crossing DOT#:	Milepost:	Roadway Name (IF applicable):			
Track #:	DAX Identifier:	Designed	Programmed	N/A	Remarks
a. Warning time					
b. DAX warning time					
c. Offset distance (feet)					
d. Approach (feet)					
e. Approach field measured (feet) [if applicable]:					
Crossing DOT#:	Milepost:	Roadway Name (IF applicable):			
Track #:	DAX Identifier:	Designed	Programmed	N/A	Remarks
a. Warning time					
b. DAX warning time					
c. Offset distance (feet)					
d. Approach (feet)					
e. Approach field measured (feet) [if applicable]:					
Crossing DOT#:	Milepost:	Roadway Name (IF applicable):			
Track #:	DAX Identifier:	Designed	Programmed	N/A	Remarks
a. Warning time					
b. DAX warning time					
c. Offset distance (feet)					
d. Approach (feet)					
e. Approach field measured (feet) [if applicable]:					