



2025 Executive Board

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NCITE Intersection Traffic Control Committee Meeting Minutes

Wednesday, February 12th, 2025 – 8:00 to 10:00 a.m.

In-Person (Minneapolis – 300 Border) and Virtual (Microsoft Teams)

I. Introductions

- Chair: Tyler Krage tyler.krage@co.dakota.mn.us
- Co-Chair: Mike Odell michael.odell@minneapolismn.gov
- Members Present: Naveen Mallipaddi, Phil Kulis, Austin Stroming, Nick Erpelding, Joel Wacker, Tyler Krage, Michael Odell, Jerry Schippa, Andy Wigfield, Robin DeLage, Scott Poska, Derek Lehrke, Yuping Wu, Kao Soua Yang, Mark Callahan, Marty Carlson, John Fahrendorf, Dan McCormick, Mike Larson, Zack Raven

II. Presentation by Jerry Schippa

III. Round Robin

IV. Future Meetings / Topics

Date	Time	Topic	Location
Wednesday, March 12 th	8:00am – 10:00am	Roundabout Roundtable	MnDOT Water's Edge
Wednesday, April 9 th	8:00am – 10:00am	Leading Pedestrian Intervals (LPI)	Kimley-Horn

WACKY MADISON SIGNAL STUFF



Jerry Schippa, PE

Traffic Engineer II

City of Madison

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TRANSPORTATION

TABLE OF CONTENTS

- Peer to Peer
 - Vehicle progression
 - Railroad Pre-emption assistance
 - Downtown EVP
 - Transit priority
- Rest in Red
- Pedestrian Overlaps

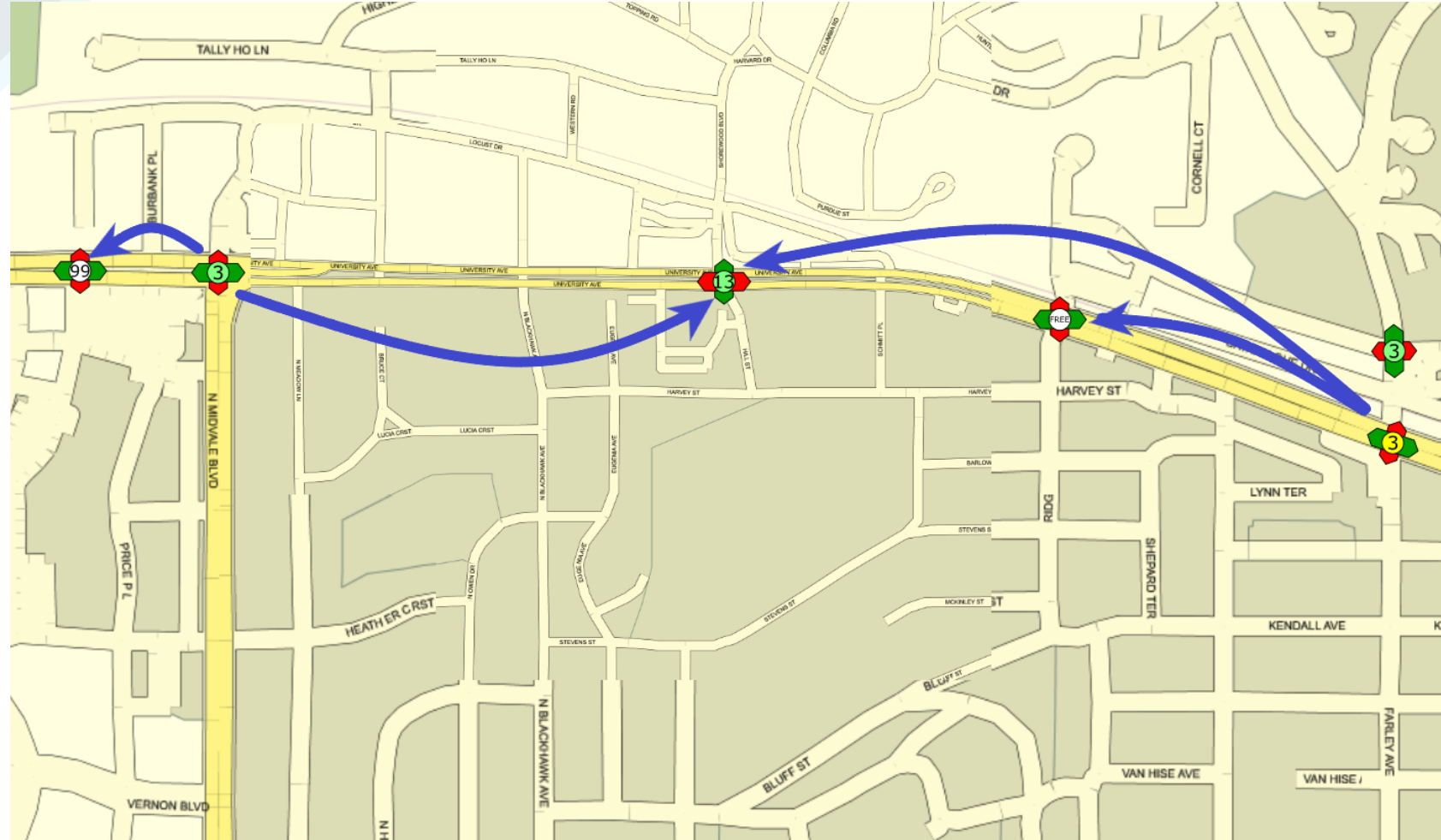
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What is Peer-to-Peer?

- Controller IP addresses allow controllers to communicate with each other directly.
- Pair with logic statements.

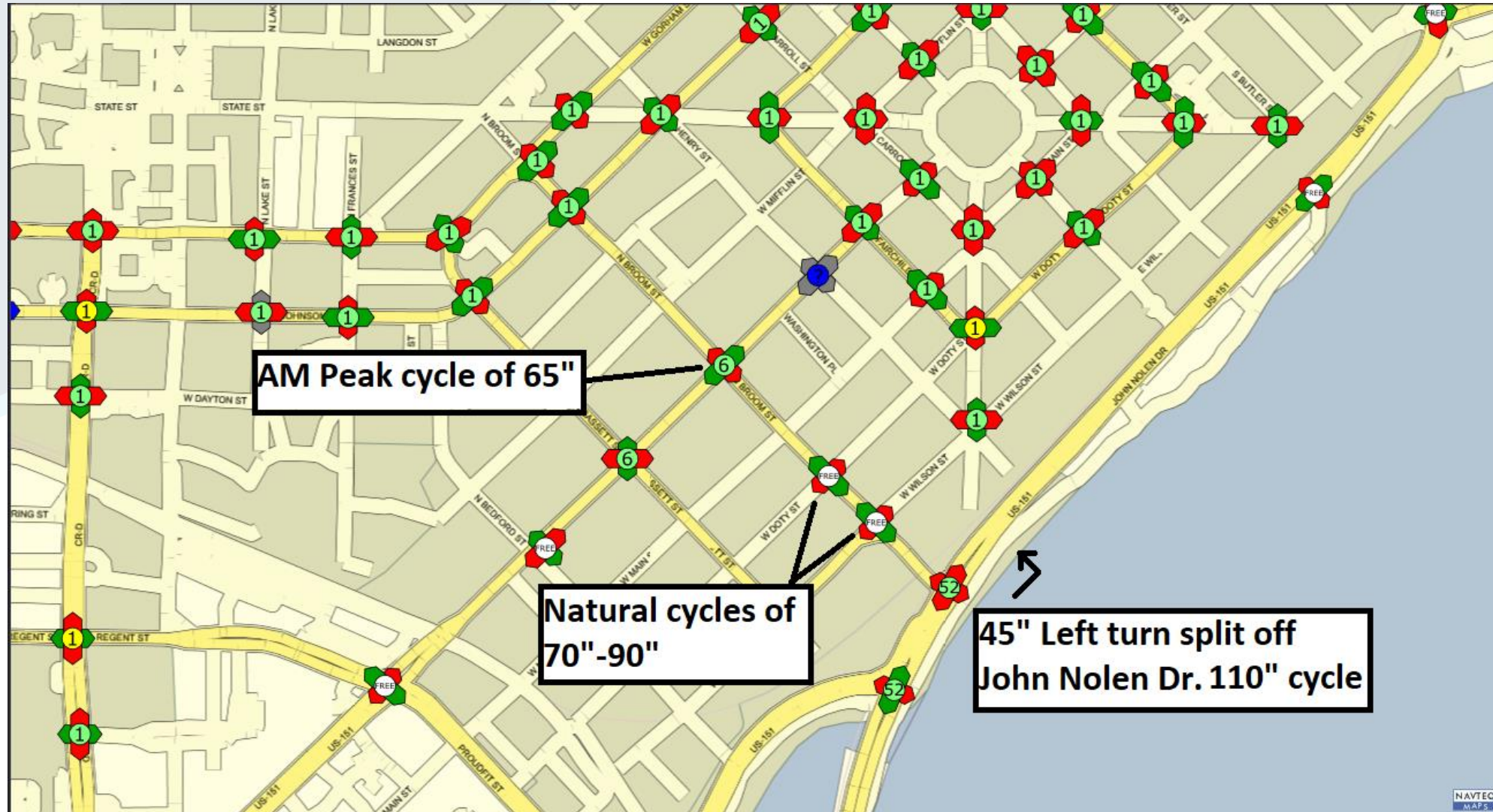


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P2P: Semi-Coordinated Free Operation



P2P: Semi-Coordinated Free Operation



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P2P: Semi-Coordinated Free Operation

Broom @ Doty - Broom and Doty - EOS - Database Editor

File Edit Utilities Communication

Configuration Controller Coordination Preempt Time Base Detectors

Ethernet Port Configuration (MM) 1-2-1

DHCP Enable ☐

Controller IP 172 23 69 167

Subnet Mask 255 255 255 240

Default Gateway IP 172 23 69 161

Server IP 10 70 10 1

Enable Web Front Panel ☐

NTCIP (MM) 1-2-5

NTCIP Backup Time (Sec) 0

NTCIP UDP Port 501

Ethernet Priority 1

Port 2(C50S) Priority 4

Port 3A(C21S) Priority 3

Port 3B(C22S) Priority 2

V2I / Connected Veh (MM) 1-2-7

SPAT/MAP Destinations

	IP 1	IP 2	IP 3	IP 4	Port
Dev-1	0	0	0	0	0
Dev-2	0	0	0	0	0
Dev-3	0	0	0	0	0
Dev-4	0	0	0	0	0

Port Configuration (MM) 1-2-2 thru 1-2-4

Port Port 2/C50S (MM) 1-2-2

Enable ☐

Data Rate (BPS) 9600

Data, Parity, Stop 8 N 1

Duplex - Half or Full Half

Flow Control ☐

Protocol NTCIP

Address 0

Group Address 0

Dropout Time 10

Single Flag Enable ☒

Peer to Peer Setup (MM) 1-2-6

Local Port 503

Port	IP 1	IP 2	IP 3	IP 4	Port	Local Port	State
1	503	172	23	69	166	1	??????????
2	503	0	0	0	0	1	??????????
3	503	0	0	0	0	1	??????????
4	503	0	0	0	0	1	??????????
5	503	0	0	0	0	1	??????????
6	503	0	0	0	0	1	??????????
7	503	0	0	0	0	1	??????????
8	503	0	0	0	0	1	??????????
9	503	0	0	0	0	1	??????????
10	503	0	0	0	0	1	??????????
11	503	0	0	0	0	1	??????????
12	503	0	0	0	0	1	??????????
13	503	0	0	0	0	1	??????????
14	503	0	0	0	0	1	??????????
15	503	0	0	0	0	1	??????????

Cabinet Settings Cabinet Mapping Communications Logging / Display Logic Proc - Pg 1 Logic Proc - Pg 2 Phase Directions

Broom @ Doty - Broom and Doty - EOS - Database Editor

File Edit Utilities Communication

Configuration Controller Coordination Preempt Time Base Detectors

Logic Processor Statements (MM) 1-5-2

Logic # 11 Name ???????????

If

IF:	PEER	T/F	Assignment	#	IS	State
AND	1	T	DET	15	IS	On
	1	T	VEH GREEN ON PH	6	IS	On
	-	F				

Then

Assignment DET SET VEH 1-16

3

State On

Else

Assignment

#

State

Cabinet Settings Cabinet Mapping Communications Logging / Display Logic Proc - Pg 1 Logic Proc - Pg 2 Phase Directions

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P2P: Railroad Pre-Emption Flush

- Hard wired connection to Johnson, no hard wire connection to University.
- RR Track clears Randall
- What if the NBLT at University is red?

Logic Processor Statements (MM) 1-5-2

Logic # Name

If

IF:	PEER	T/F	Assignment	#	IS	State
1	1	T	PMT INPUT	1	IS	On
	-	F				

Then

Assignment	#	State
PMT CALL PMT SEQ	5	On

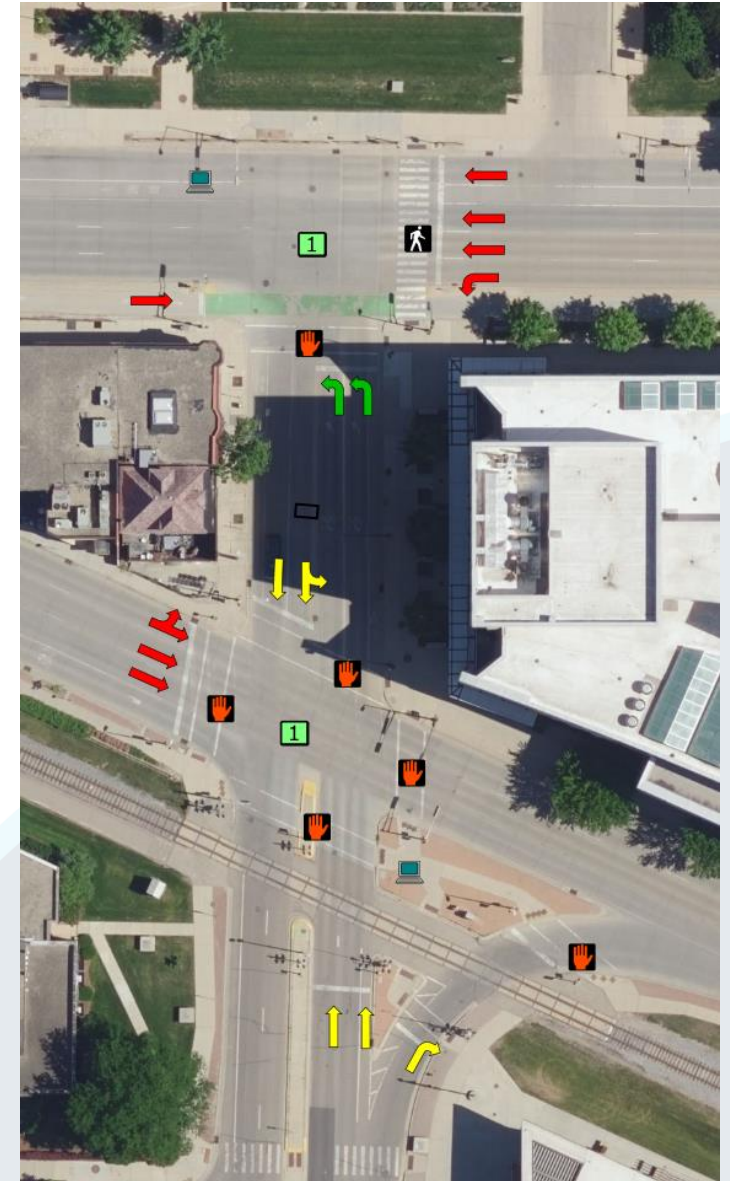
Else

Assignment	#	State

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P2P: Railroad Pre-Emption Flush

- Dummy EVP 5 calls phase 4 and ped phase 4.
- Cycles all phases while active.

Randall-University - University @ Randall - EOS - Database Editor

File Edit Utilities Communication

Controller Menu

Configuration Controller Coordination **Preempt** Time Base Detectors

Preempt Plan (MM) 4-1

Preempt Plan 5 Enable ☒

Phase/Overlap	1/A	2/B	3/C	4/D	5/E	6/F	7/G	8/H	9/I	10/J	11/K	12/L	13/M	14/N	15/O	16/P
Trk Clr Veh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trk Clr Overlap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dwell Veh	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
Dwell Ped	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dwell Overlap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Track Clearance Times

Min Green 0 Max Green 0 Red 25.5 Dwell Timing Plan 0 Yellow 25.5 Max Call 180

Ext Green 0 Yellow 25.5 Min Dwell 10 Red 25.5 Min Duration 0

Overlap A B C D E F G H I J K L M N O P

Enable Trailing ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

Entrance Times

Walk 0 Min Green 10 Dwell Flash Off Detector Lock ☒ Track Clr Re-Service ☐ Terminate Overlap Asap ☐

Ped Clear 255 Yellow 25.5 Ped Dark ☐ Override Flash ☐ Ped Clear Thru Yel ☐ Clear to Green ☐

Red 25.5 Interlock ☐ Call Delay 0 Backup Prevent ☐ Priority Override ☐

Phase/Overlap	1/A	2/B	3/C	4/D	5/E	6/F	7/G	8/H	9/I	10/J	11/K	12/L	13/M	14/N	15/O	16/P
Cycling Veh	X	X	X	X	-	X	-	-	-	-	-	-	-	-	-	-
Cycling Ped	☐	☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Cycling Overlap	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-
Exit Phases	☒	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Exit Calls	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Re-Service 0 Inhibit 0 Exit Flash Color Grm Exit Timing Plan 0

Inhibit Extension Time 0.0 Cycle Extend 0.0 Exit Options Off Linked Preemptor 0

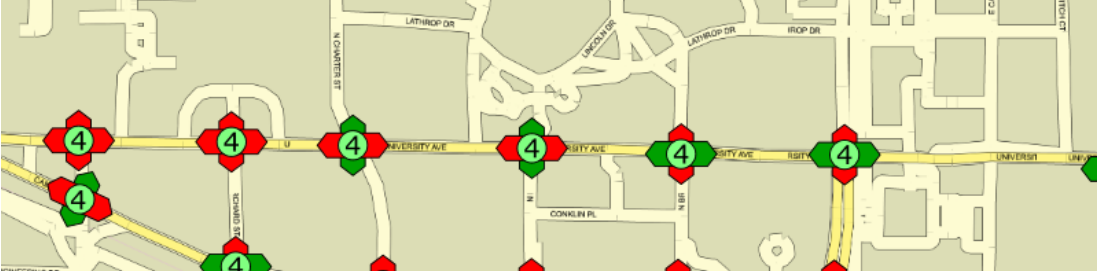
Preempt Plan Preempt Filtering TSP/SCP Plan and Split

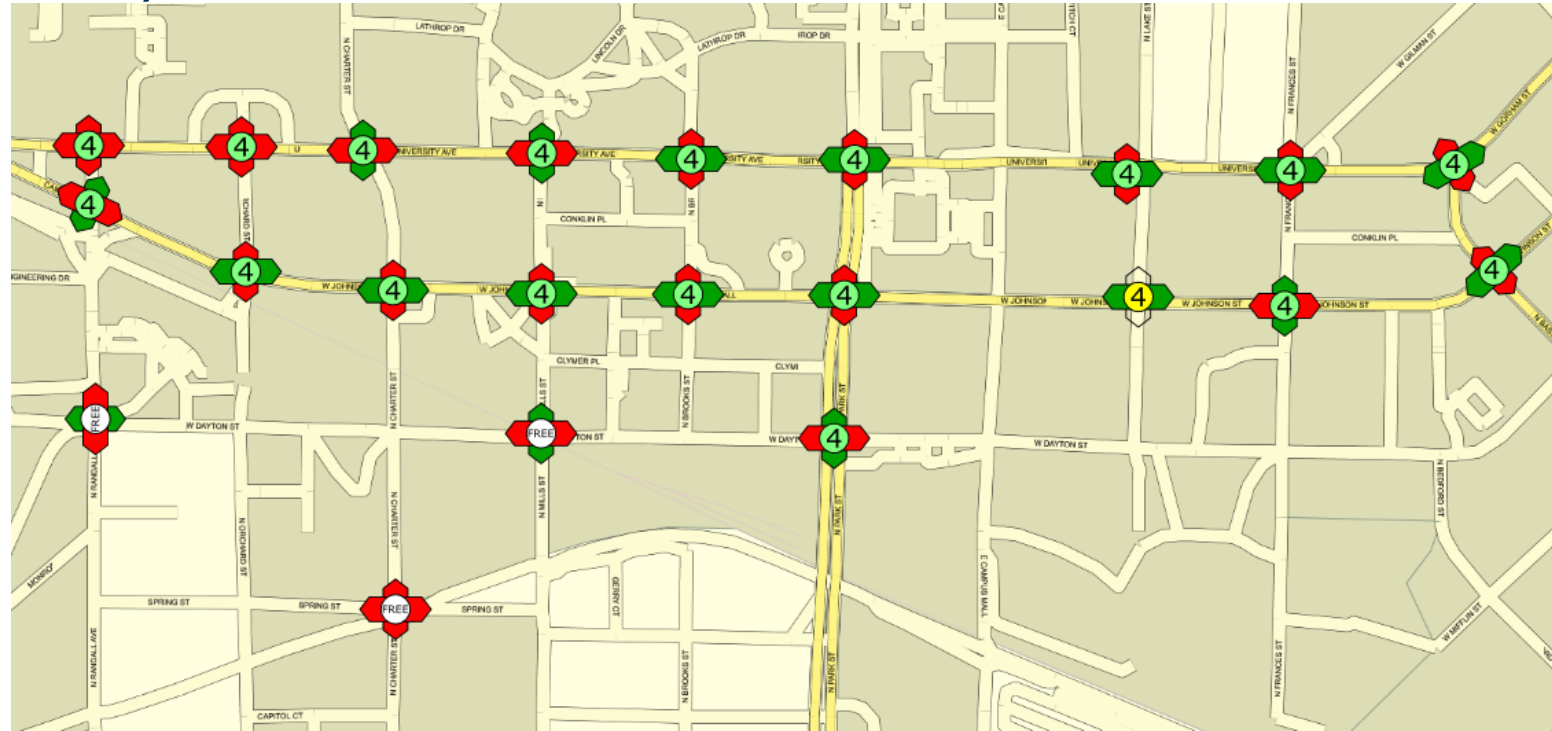
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P2P: Downtown EVP Flush

- Line-of-sight based EVP limited in tight urban areas.
 - Shorter block sizes (400')
 - Several hospitals south, UW hospitals to the west.
- 
- A map of University Avenue in Madison, Wisconsin, showing intersections with red and green diamond markers. The markers are placed at intersections with Lathrop Dr, Lincoln Dr, Conklin Pl, and University Ave. The markers are red with a green center, indicating a specific type of intersection or signal. The map shows the street layout and surrounding areas, including the University of Wisconsin-Madison campus.



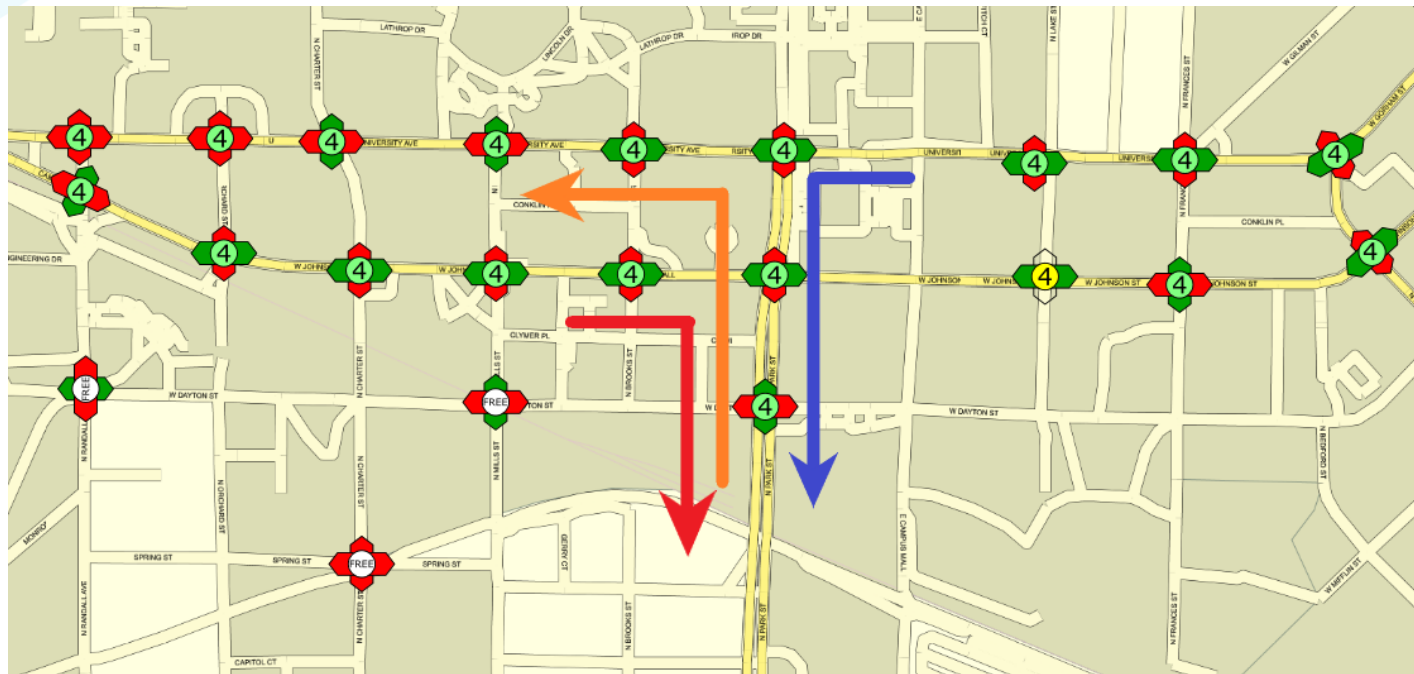
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P2P: Downtown EVP Flush

- How effective is EVP when in tight spaces?
- What are best & worst case scenarios?



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P2P: Transit Priority

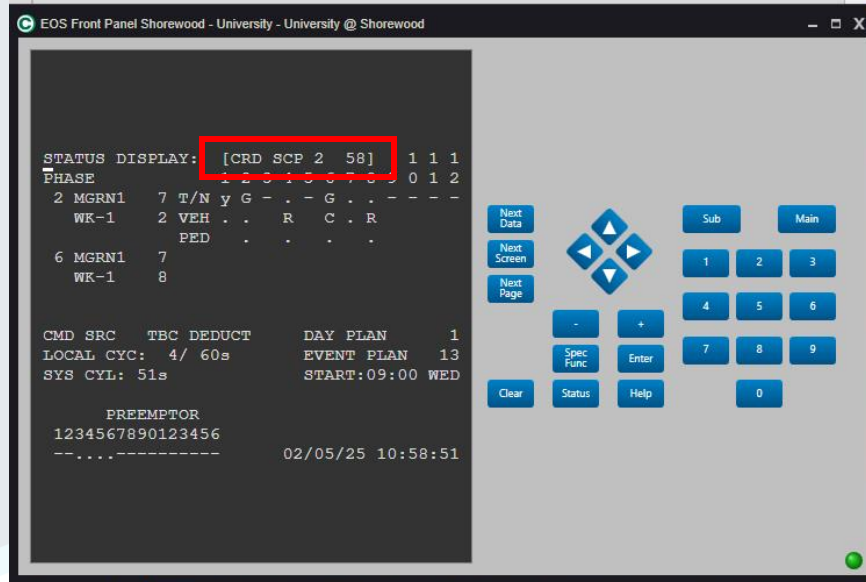


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P2P: Transit Priority



- z Fish Hatchery & Olin
- St & N Hamilt
- St & Butler & t
- & Baldwin
- ngton & First S
- n Pkwy & Eastp
- & Commercial
- oint Rd & Mid
- & Northport Dr
- rt & Sherman A
- en & North Sh
- y Ave & Segoe
- it & Spring St
- oint Rd & Sou
- y Ave & Spring

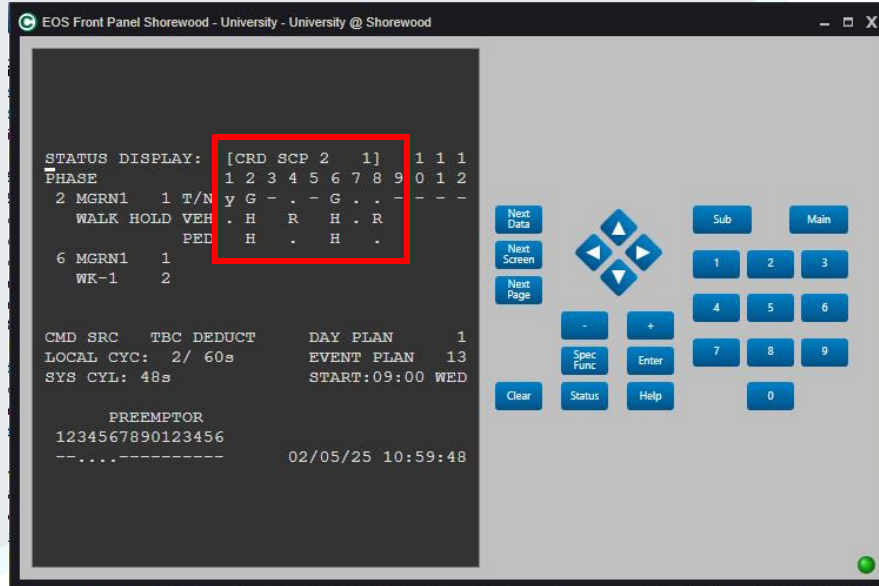


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P2P: Transit Priority



& Fish Hatchery
 & Olin
 St & N Hamilt
 St & Butler & I
 & Baldwin
 ngton & First S
 n Pkwy & Eastp
 & Commercial
 Point Rd & Mid
 & Northport Dr
 rt & Sherman A
 len & North Sh
 y Ave & Segoe
 St & Spring St
 Point Rd & Sou
 y Ave & Spring

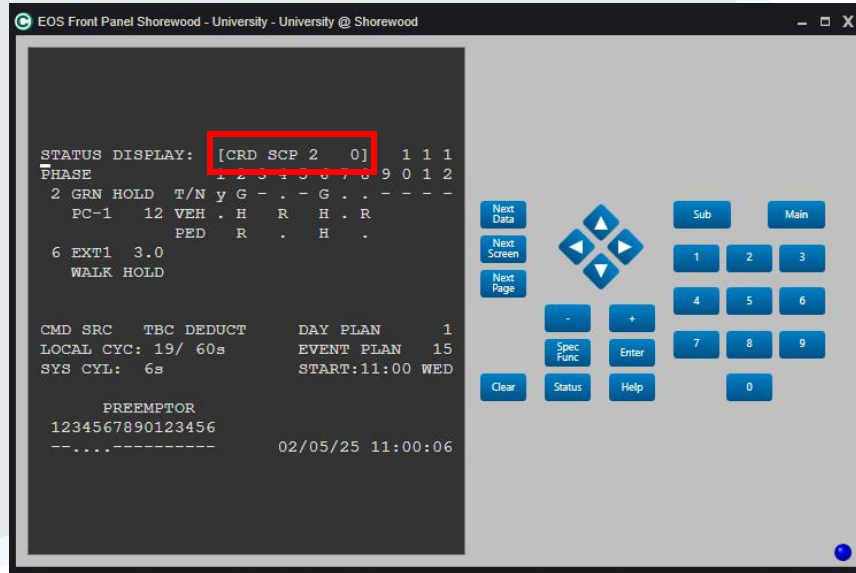


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P2P: Transit Priority



Fish Hatchery
& Olin
St & N Hamilt
St & Butler & I
& Baldwin
ngton & First S
Pkwy & East
& Commercial
oint Rd & Mid
& Northport Dr
t & Sherman A
en & North Sh
Ave & Segoe
t & Spring St
oint Rd & Sou
Ave & Spring



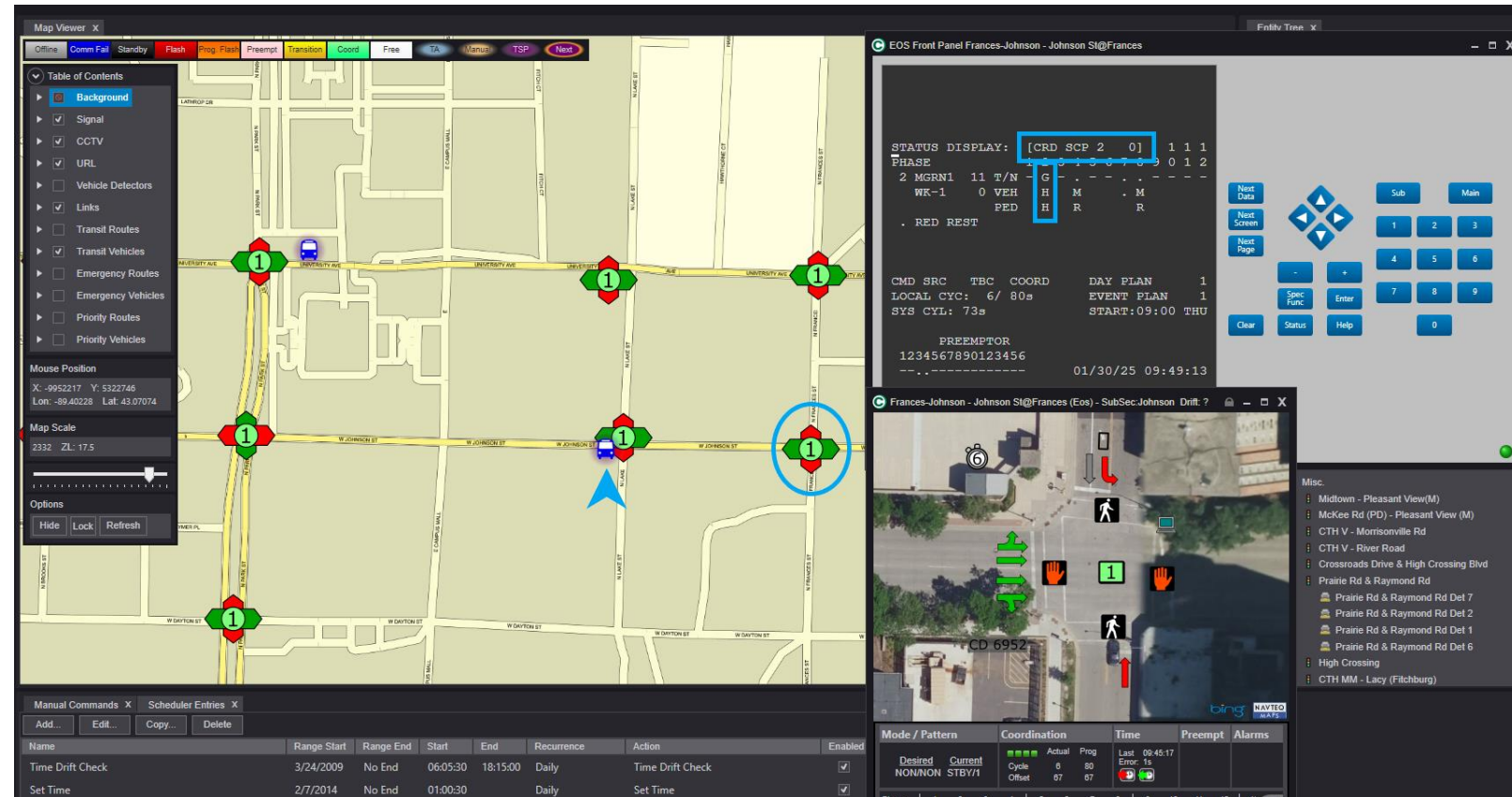
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NON P2P TSP

- Econolite Signal Control Priority (SCP)
- Level 7
- Max out green extension and modest green truncation.
- Every signal



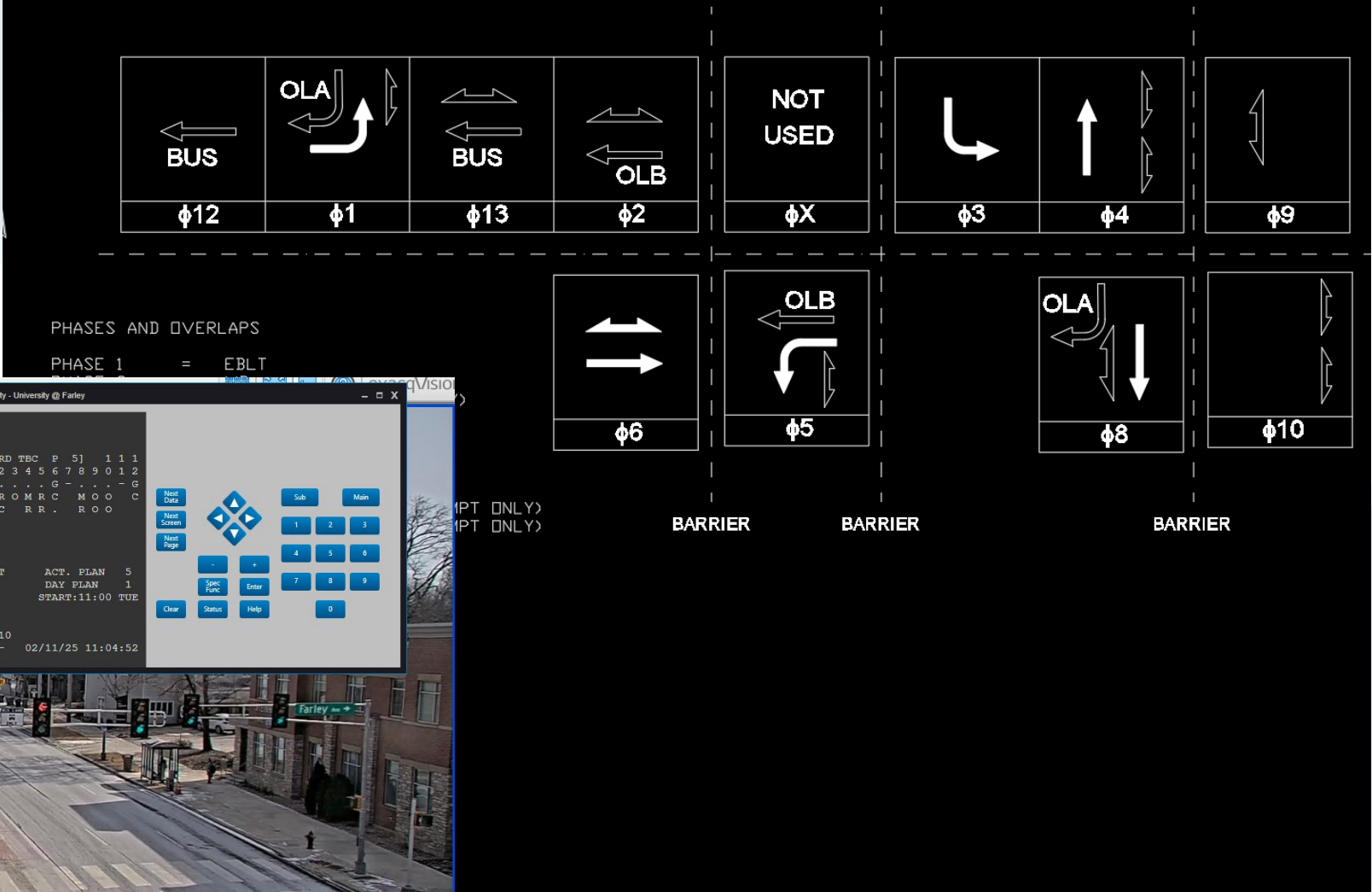
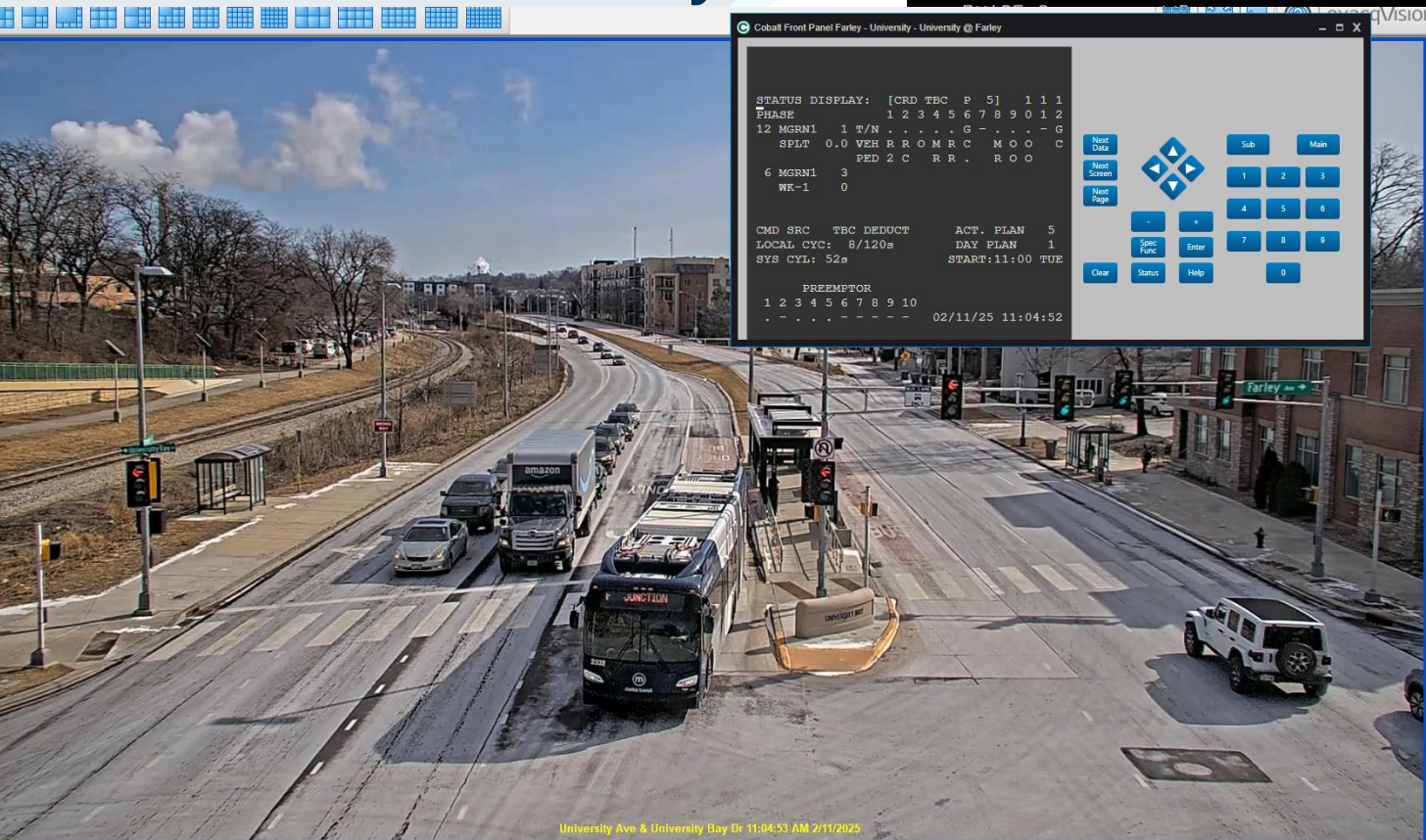
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NON P2P TSP

- Built in Priority



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REST IN RED

- Goals
 - Maintains signal operation.
 - Reduce temptation to speed.
 - Reduces user delay.
 - Not speed based.
- Two locations in Madison, more to come.



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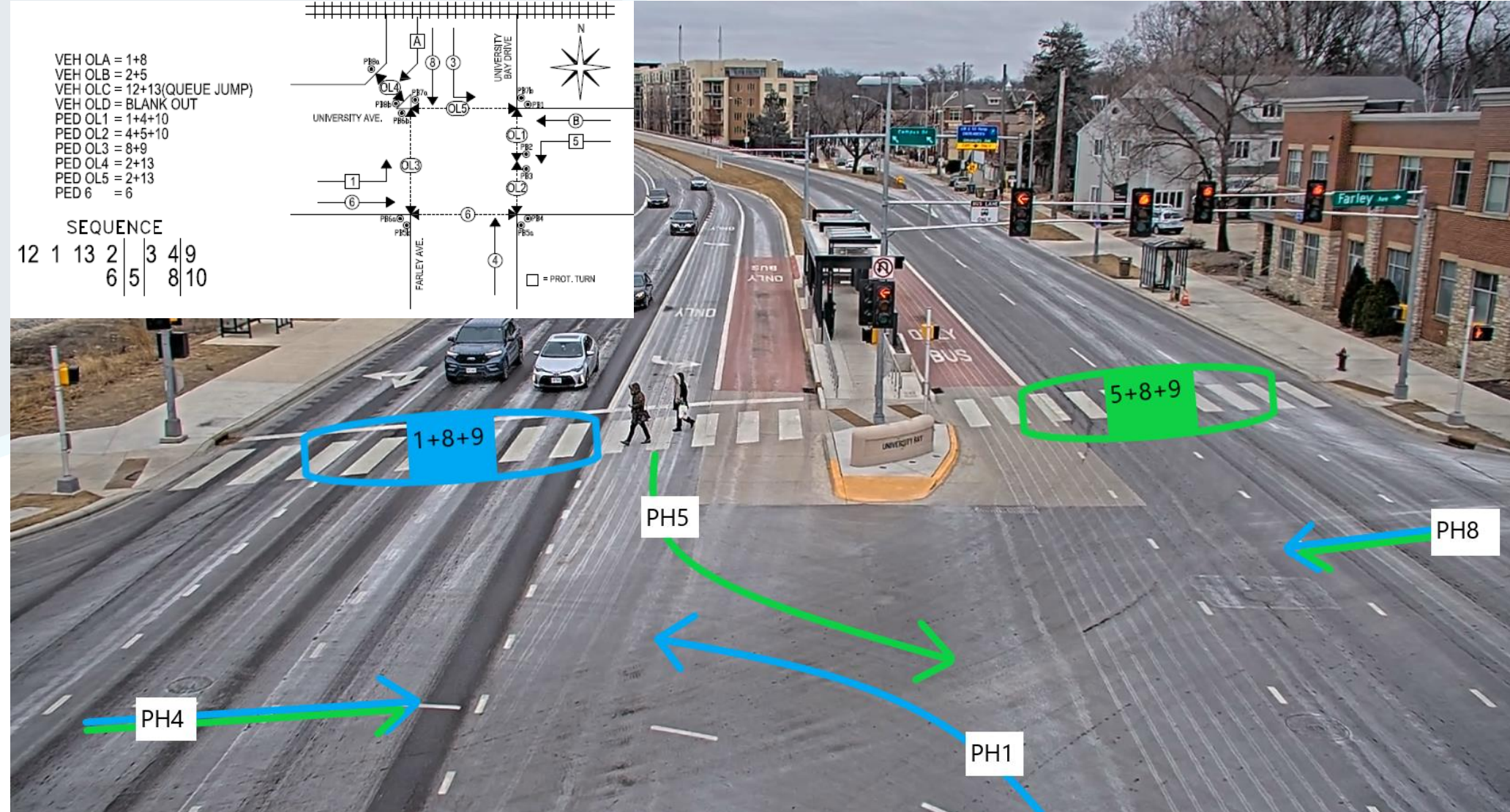


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- Requirements
 - Ped buttons
 - Stop bar detection
 - Advance detection highly desirable.



PEDESTRIAN OVERLAPS



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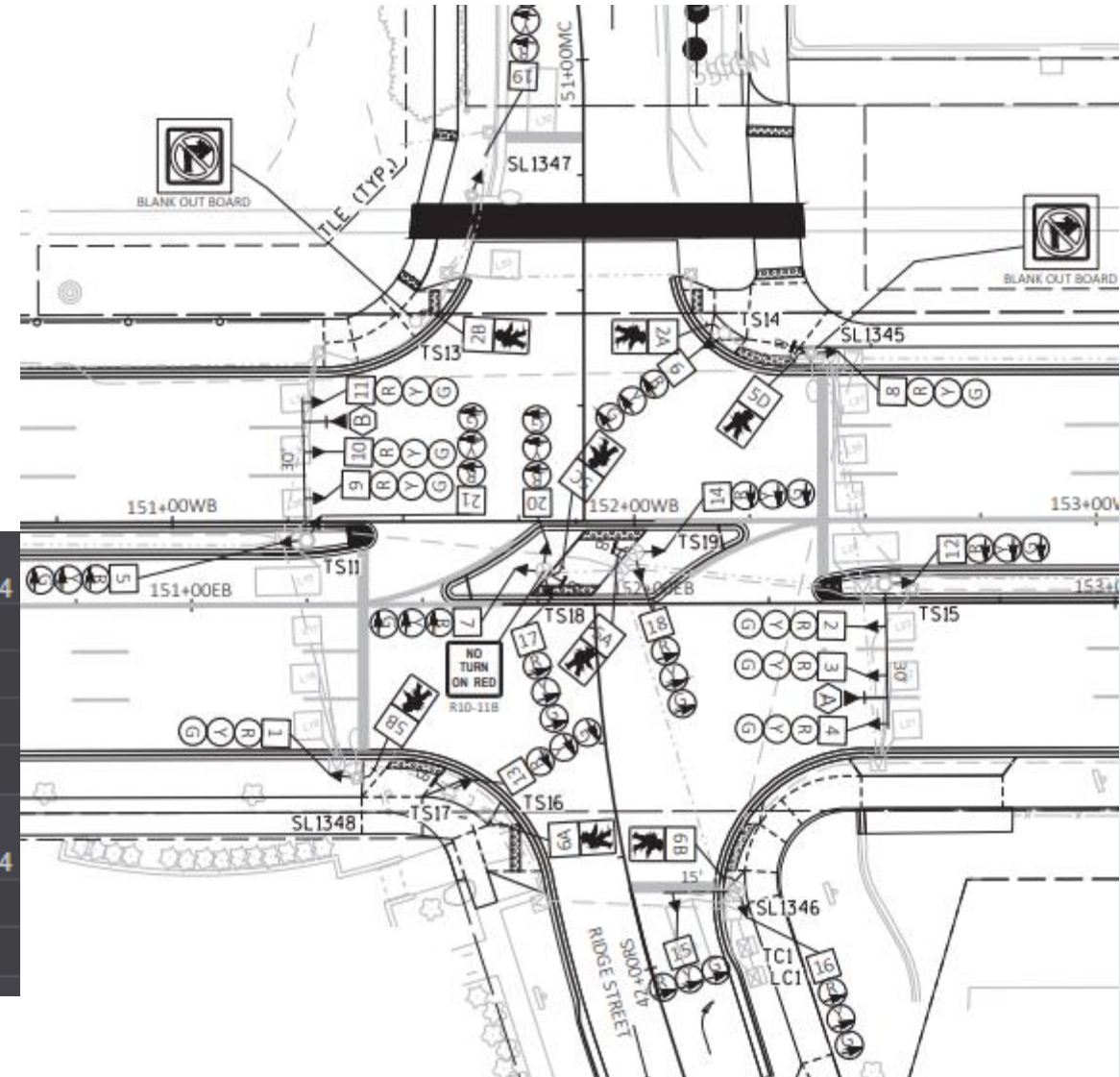
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PEDESTRIAN OVERLAPS

- Separate ped buttons on multi-stage crossings.
- Can be paired with basic Walk1/Walk2 function.

Pedestrian														
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Delay Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	7	7	0	7	7	7	0	0	0	0	0	0	0	0
Ped Clear	8	10	0	8	8	7	0	0	0	0	0	0	0	0
Advanced	5	0	0	0	5	0	0	0	0	0	0	0	0	0

Alternate														
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Walk2	13	15	0	13	13	15	0	0	0	0	0	0	0	0
Ped Clear 2	8	10	0	8	8	7	0	0	0	0	0	0	0	0



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PEDESTRIAN OVERLAPS

- Can be paired with logic statements.

Logic Processor Statements (MM) 1-5-2

Logic # Name

If

IF:	PEER	T/F	Assignment	#	IS	State
	-	F	DET PED	1	IS	On
	-	F				

Then

Assignment	#	State
LP SET LOGIC FLAG	1	On

Else

Assignment	#	State

Logic Processor Statements (MM) 1-5-2

Logic # Name

If

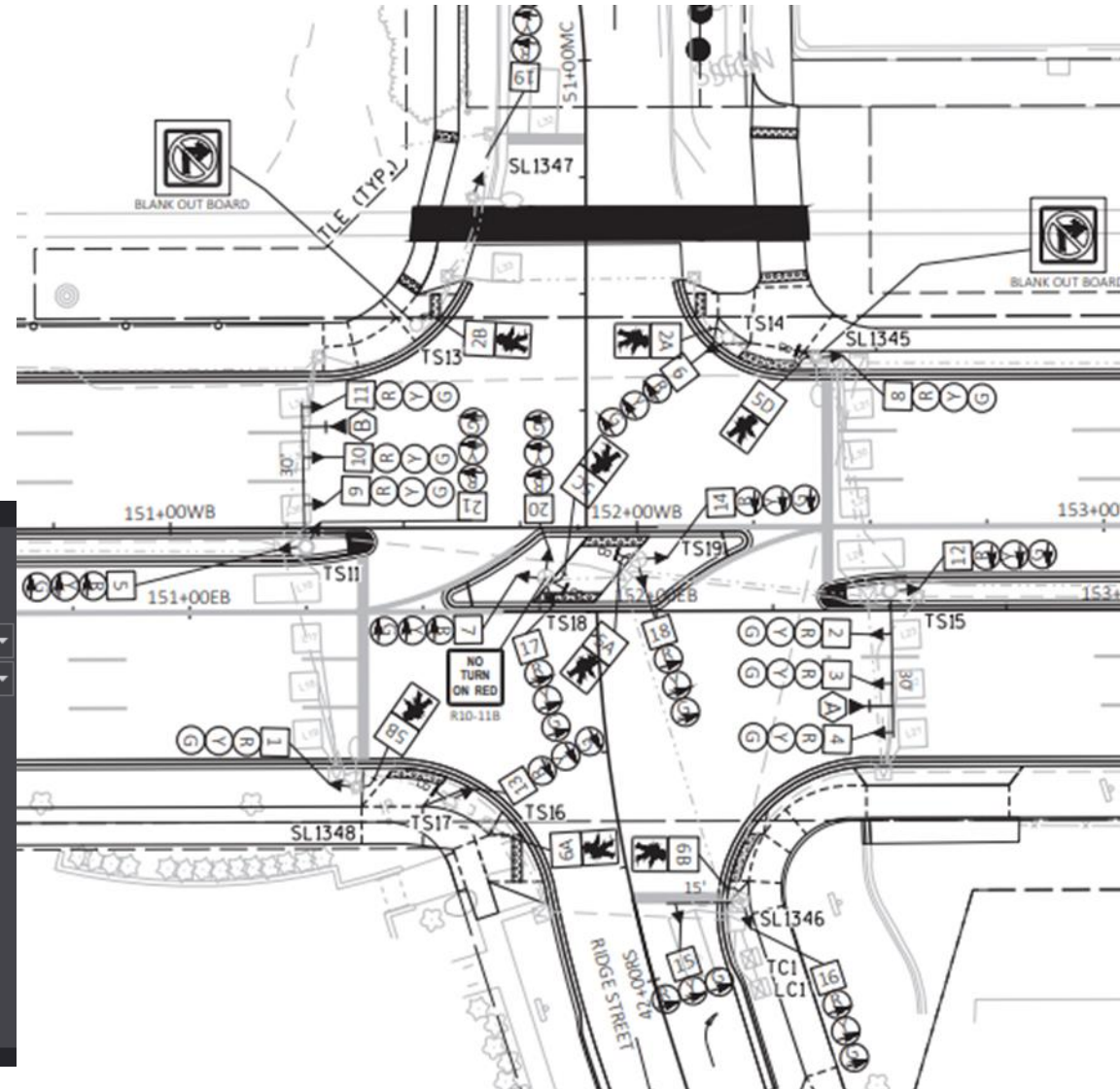
IF:	PEER	T/F	Assignment	#	IS	State
AND	-	F	LP LOGIC FLAG	1	IS	On
	-	F	PED ON PH WALK	1	IS	On
	-	F				

Then

Assignment	#	Sec.	State
LP DELAY FOR	1.0		
CTR CALL PED PHASE	5		On
LP SET LOGIC FLAG	1		Off

Else

Assignment	#	State



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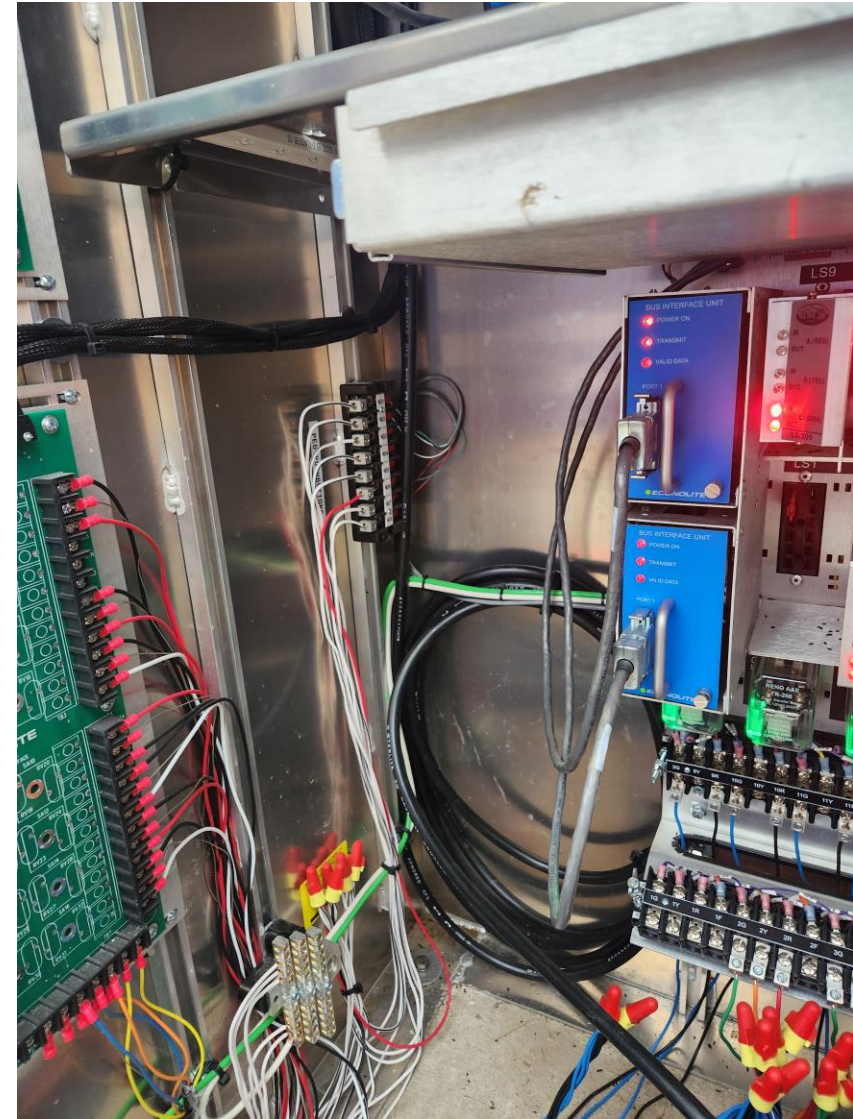
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PEDESTRIAN OVERLAPS - INPUTS

- How do we separate ped inputs?
 - 8-terminal block or mount directly to cabinet terminals.

Ped Detector Phase Assignment (MM) 6-3

Ped	Called Phase																Ext
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
2	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
3	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	☐
4	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	☐
5	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
6	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	☐
7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐
16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	☐



Thank you

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Cover Photo: <https://www.davemulder.com/2010/11/13/traffic-lights-accessibility-and-usability/>



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