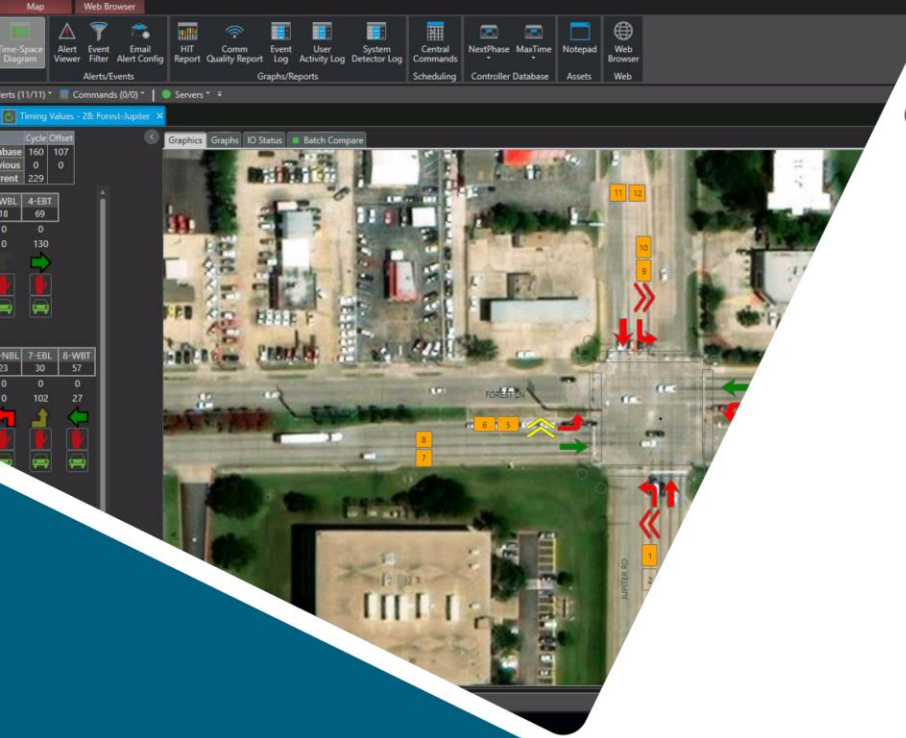




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Kimley»Horn

SMART CITIES

TECHNOLOGY FORUM

HIT Report of the Future

»»KITS

A Kimley-Horn Software Solution

»»Kadence

A Kimley-Horn Software Solution

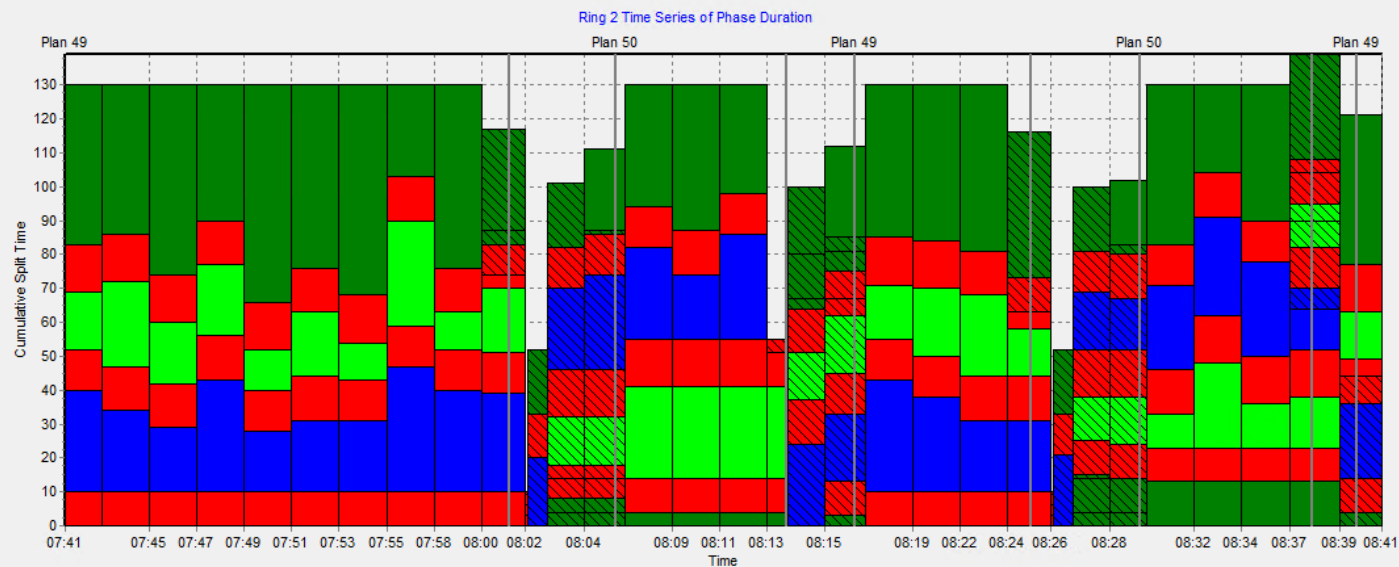
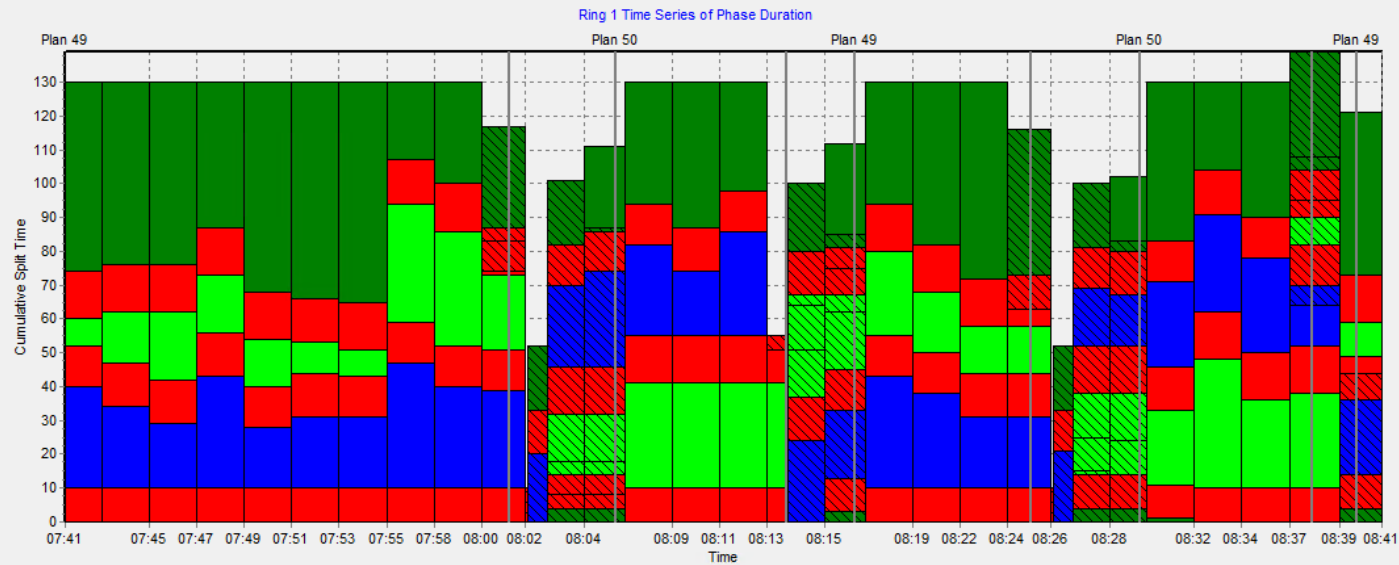
»»Traction

A Kimley-Horn Software Solution

Current HIT Report

How Does the Historical Intersection Timing Report Work?

- Shows granular phase data on a cycle-by-cycle bases
- Graphical view with accompanying text report
- Plan change, transition, and ped call data included
- Detector data displayed when enabled in Kadence
- Summary statistics



Date: 2/ 1/2021

From Current Time: No

Search Key: 51

51: Bell Rd-SR303L

0) 5472 records for 51: Bell Rd-SR303L

Chart

☐ Histograms

☒ Time Series ☐ Ped Call

Free 00:00-05:44

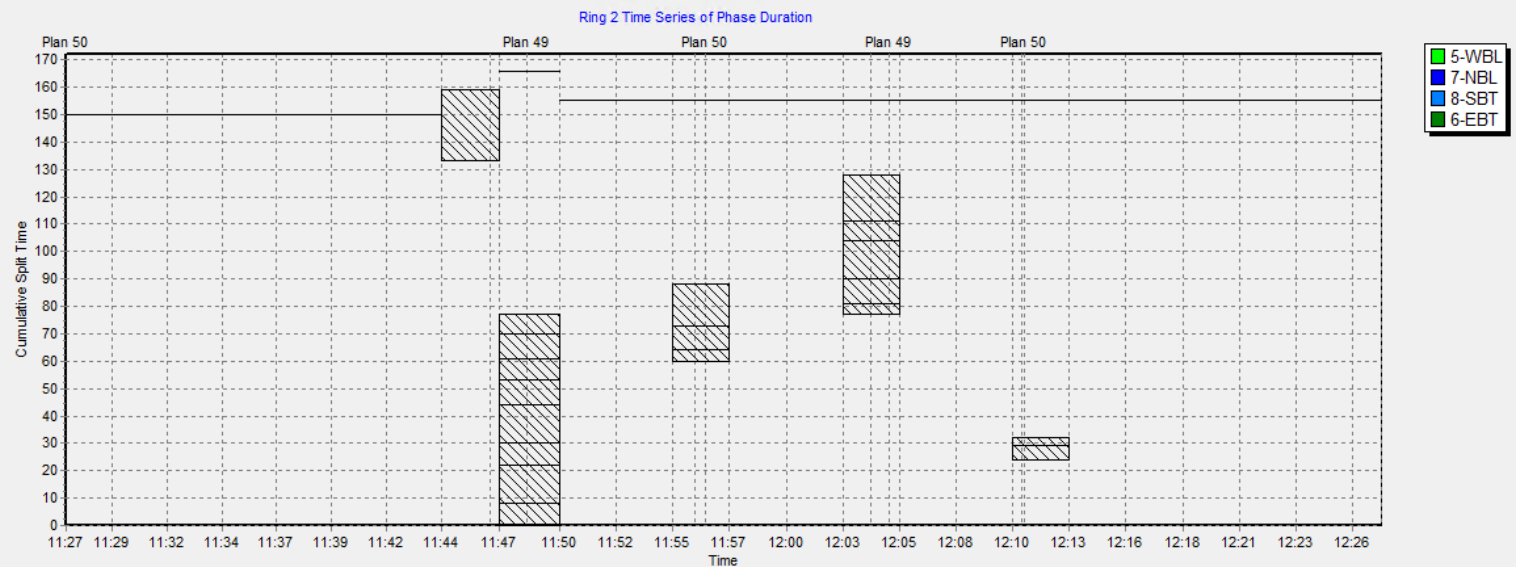
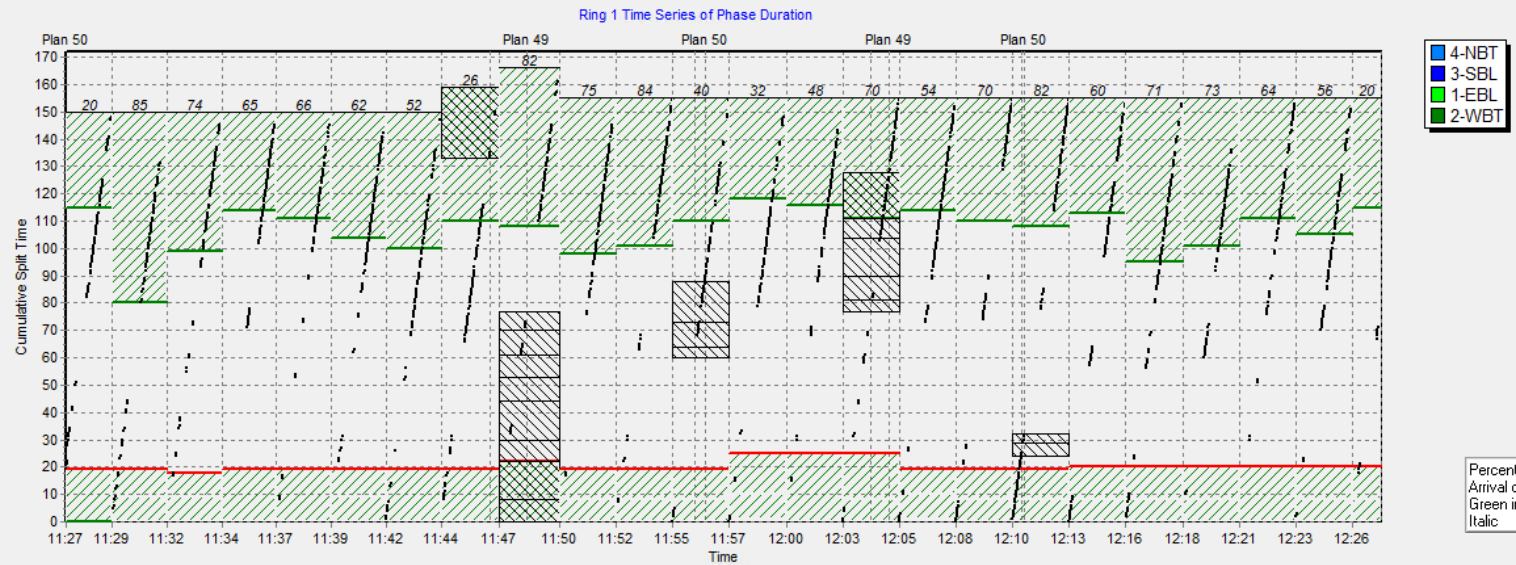
Mon 2/1/2021 3 days ago

Start Time 7:41

Period 1:00

☐ Det. Calls

Report



Date: 1/21/2021

From Current Time: No

Search Key: 1000

1000: Bell Rd-Grand Ave

0) 2841 records for 1000: Bell Rd-Grand

Chart

☐ Histograms

☒ Time Series ☐ Ped Call

Free 00:00-05:03

Thu 1/21/2021 Today

Start Time 11:27

Period 1:00

☒ Det. Calls Prog. Phase 2

Report

Historical Intersection Timing Report Int: Florence@Compton (16)

Start Time: 1/08/19 07:00 End Time: 1/08/19 11:00

Print Date 01/08/2019

Print Time 4:31 PM

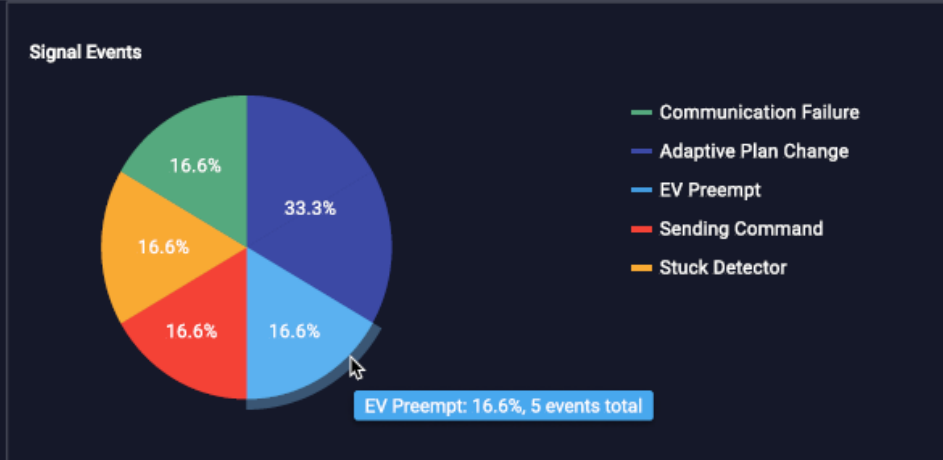
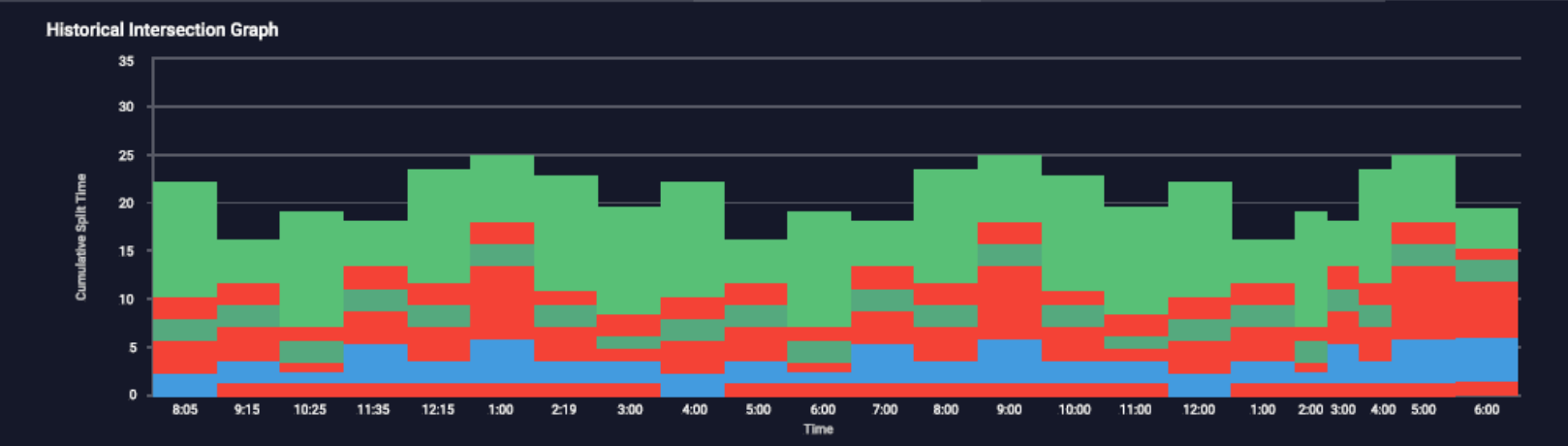
Time	Plan	Ring 1 Phase	Interval	Grn Dur	Ring 2 Phase	Interval	Grn Dur	Status	Poll Freq
1/08 07:00:33	2	4-NBT	Clear		8-SBT	Clear		Coord	
1/08 07:00:38		2-WBT	Green	64	5-WBL	Green	9		
1/08 07:00:47		2-WBT			5-WBL	Clear			
1/08 07:00:52		2-WBT			6-EBT	Green	50		
1/08 07:01:42	2	2-WBT	Clear		6-EBT	Clear		Coord	
1/08 07:01:47		4-NBT	Green	46	7-NBL	Green	9		
1/08 07:01:56		4-NBT			7-NBL	Clear			
1/08 07:02:00		4-NBT			8-SBT	Green	33		
1/08 07:02:33		4-NBT	Clear		8-SBT	Clear			
1/08 07:02:38		1-EBL	Green	17	6-EBT	Green	65		
1/08 07:02:55		1-EBL	Clear		6-EBT				
1/08 07:03:00		2-WBT	Green	43	6-EBT				
1/08 07:03:43	2	2-WBT	Clear		6-EBT	Clear		Coord	
1/08 07:03:48		3-SBL	Green	9	8-SBT	Green	53		
1/08 07:03:57		3-SBL	Clear		8-SBT				
1/08 07:04:02		4-NBT	Green	39	8-SBT				
1/08 07:04:41		4-NBT	Clear		8-SBT	Clear			
1/08 07:04:46		1-EBL	Green	8	5-WBL	Green	8		
1/08 07:04:54		1-EBL	Clear		5-WBL	Clear			
1/08 07:04:59		2-WBT	Green	44	6-EBT	Green	44		
1/08 07:05:43	2	2-WBT	Clear		6-EBT	Clear		Coord	
1/08 07:05:48		4-NBT	Green	53	8-SBT	Green	53		
1/08 07:06:41		4-NBT	Clear		8-SBT	Clear			
1/08 07:06:46		1-EBL	Green	8	5-WBL	Green	12		
1/08 07:06:54		1-EBL	Clear		5-WBL				
1/08 07:06:58					5-WBL	Clear			
1/08 07:06:59		2-WBT	Green	44					
1/08 07:07:03		2-WBT			6-EBT	Green	40		
1/08 07:07:43	2	2-WBT	Clear		6-EBT	Clear		Coord	
1/08 07:07:48		4-NBT	Green	47	7-NBL	Green	9		
1/08 07:07:57		4-NBT			7-NBL	Clear			
1/08 07:08:01		4-NBT			8-SBT	Green	34		
1/08 07:08:35		4-NBT	Clear		8-SBT	Clear			
1/08 07:08:40		2-WBT	Green	63	6-EBT	Green	63		
1/08 07:09:43	2	2-WBT	Clear		6-EBT	Clear		Coord	
1/08 07:09:48		4-NBT	Green	49	7-NBL	Green	12		
1/08 07:10:00		4-NBT			7-NBL	Clear			
1/08 07:10:04		4-NBT			8-SBT	Green	33		
1/08 07:10:37		4-NBT	Clear		8-SBT	Clear			
1/08 07:10:42		2-WBT	Green	61	6-EBT	Green	61		
1/08 07:11:43	2	2-WBT	Clear		6-EBT	Clear		Coord	
1/08 07:11:48		3-SBL	Green	9	8-SBT	Green	53		
1/08 07:11:57		3-SBL	Clear		8-SBT				
1/08 07:12:01		4-NBT	Green	40	8-SBT				
1/08 07:12:41		4-NBT	Clear		8-SBT	Clear			
1/08 07:12:46		1-EBL	Green	8	5-WBL	Green	12		

New HIT Report



HIT Report 2.0 Feature Wishlist

- Maintain all functionality from existing HIT Report
- Integration of Split Monitor data
- Summary of signal events from the Event Log
- All data viewable in a single dashboard view



Split Monitor

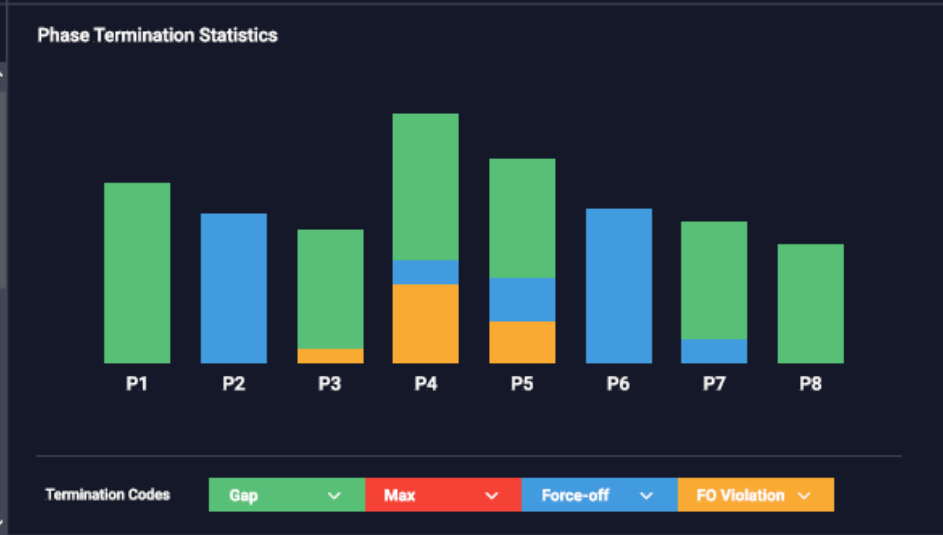
Date	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8	Veh Call	Ped Call	P1%	P2%	P3%	P4%	P5%	P6%	P7%	P8%
9/26/2022 8:05:23 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 9:15:45 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 10:25:18 AM	50	150	22	25	59	25	41	12	72	28	38	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 11:35:00 AM	50	150	22	17	68	14	51	25	60	33	32	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 12:15:23 PM	50	150	22	21	62	23	44	25	58	33	34	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 2:19:58 PM	50	150	22	21	79	22	28	19	81	27	23	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%

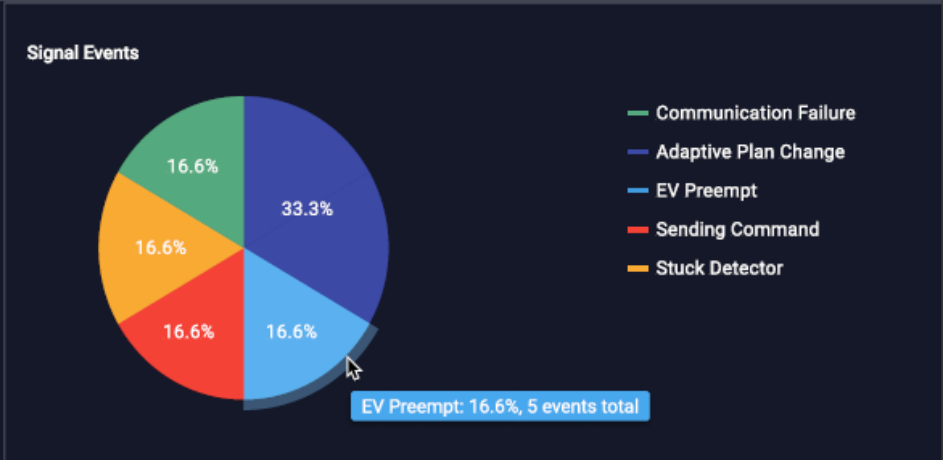
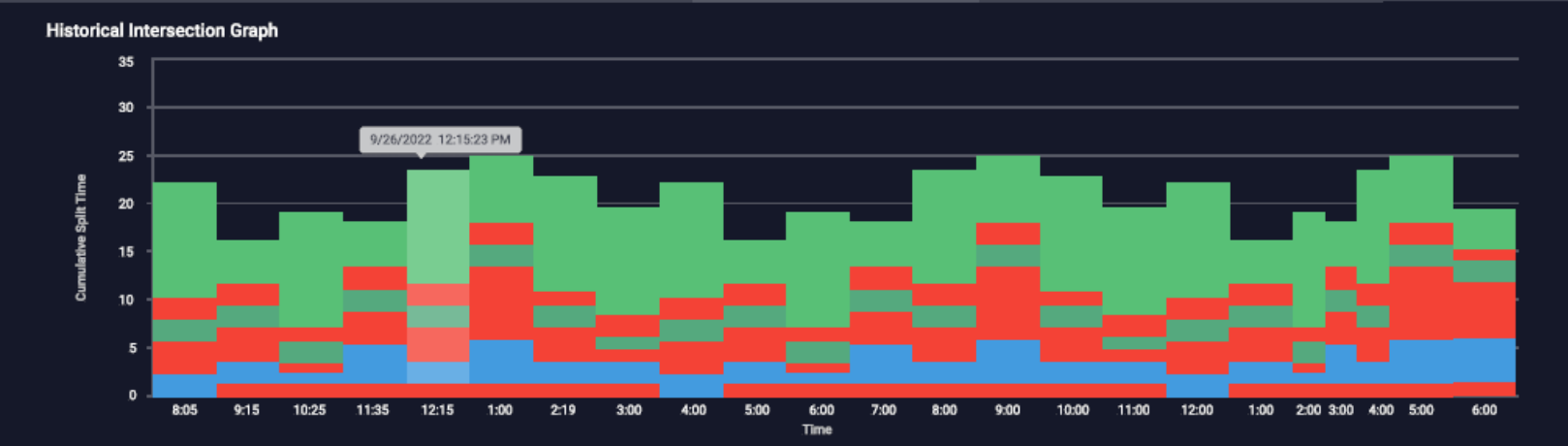
Total: 433

3 Items of page 1 - 3 of 10 Items

Programmed Splits

Name	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45





Split Monitor

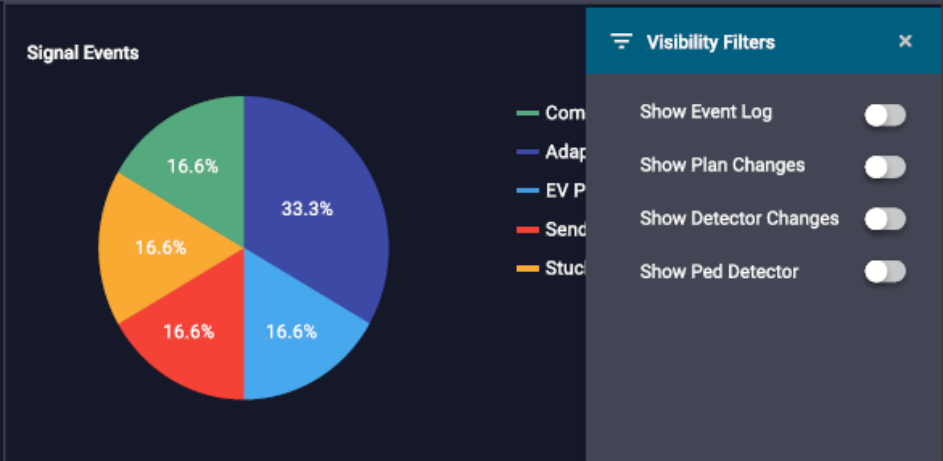
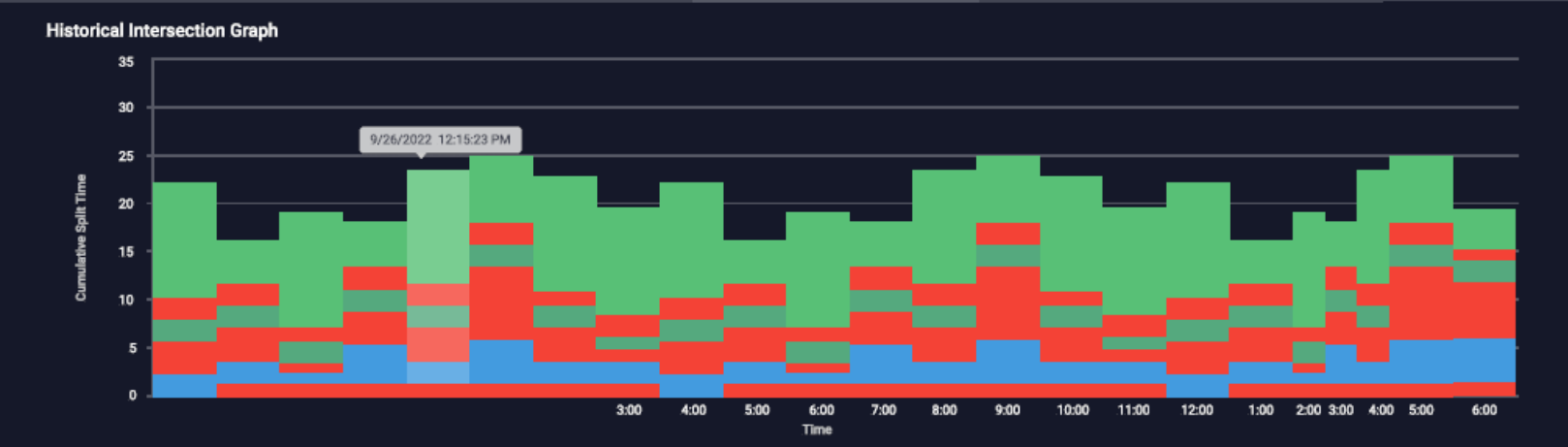
Date	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8	Veh Call	Ped Call	P1%	P2%	P3%	P4%	P5%	P6%	P7%	P8%
9/26/2022 8:05:23 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 9:15:45 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 10:25:18 AM	50	150	22	25	59	25	41	12	72	28	38	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 11:35:00 AM	50	150	22	17	68	14	51	25	60	33	32	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 12:15:23 PM	50	150	22	21	62	23	44	25	58	33	34	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 2:19:58 PM	50	150	22	21	79	22	28	19	81	27	23	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%

Total: 433

Programmed Splits

Name	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45





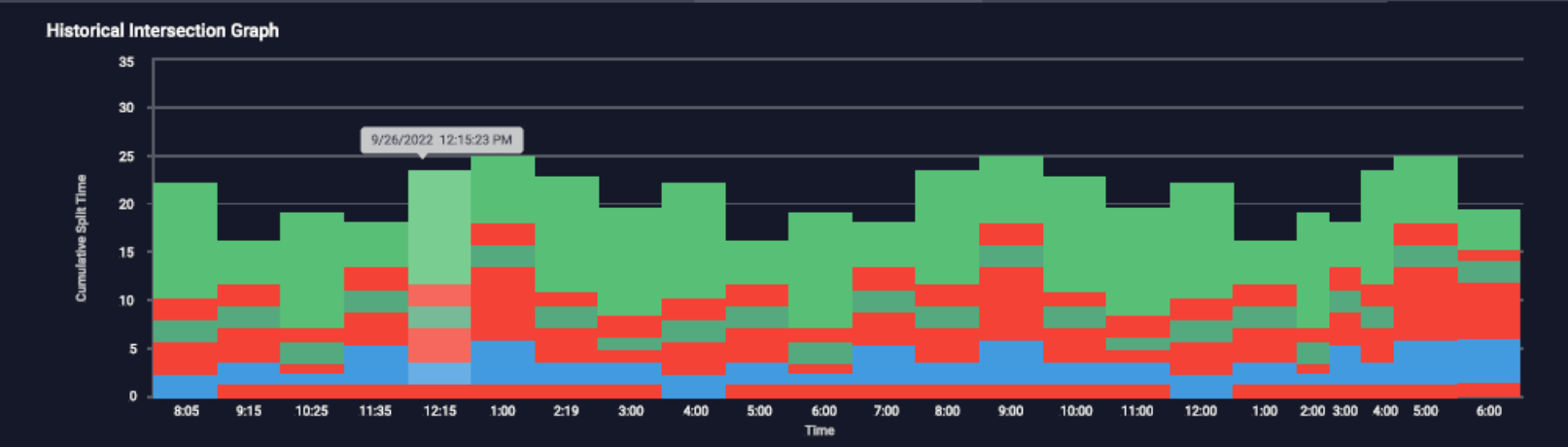
Split Monitor

Date	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8	Veh Call	Ped Call	P1%	P2%	P3%	P4%	P5%	P6%	P7%	P8%
9/26/2022 8:05:23 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 9:15:45 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 10:25:18 AM	50	150	22	25	59	25	41	12	72	28	38	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 11:35:00 AM	50	150	22	17	68	14	51	25	60	33	32	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 12:15:23 PM	50	150	22	21	62	23	44	25	58	33	34	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 2:19:58 PM	50	150	22	21	79	22	28	19	81	27	23	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%



Programmed Splits

Name	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45

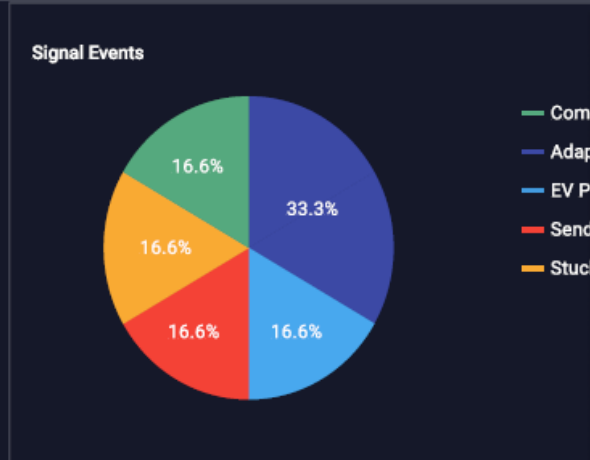


Split Monitor

Date	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8	Veh Call	Ped Call	P1%	P2%	P3%	P4%	P5%	P6%	P7%	P8%
9/26/2022 8:05:23 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 9:15:45 AM	50	150	22	21	87	16	26	20	88	23	19	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 10:25:18 AM	50	150	22	25	59	25	41	12	72	28	38	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 11:35:00 AM	50	150	22	17	68	14	51	25	60	33	32	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 12:15:23 PM	50	150	22	21	62	23	44	25	58	33	34	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%
9/26/2022 2:19:58 PM	50	150	22	21	79	22	28	19	81	27	23	12345678	—	62%	225%	39%	53%	75%	195%	64%	34%

Programmed Splits

Name	Plan	Cycle	Offset	P1	P2	P3	P4	P5	P6	P7	P8
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45



Visibility Filters

Show Event Log

Show Plan Changes

Show Detector Changes

Show Ped Detector

Show Ped Detector

All Phases

Phase 1

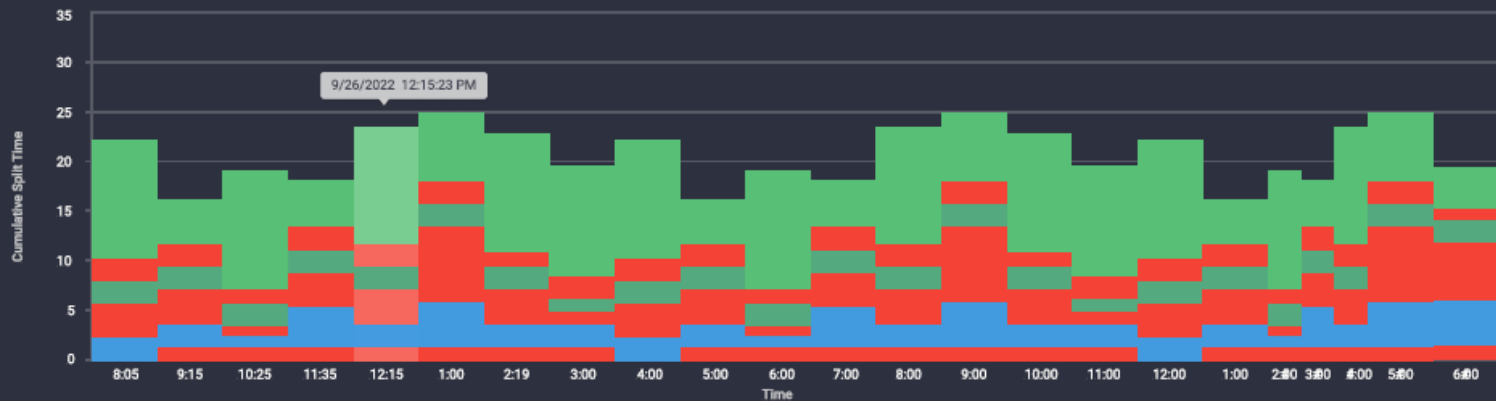
Phase 2

Phase 3

Phase 4

Report

MONTH, DAY, YEAR



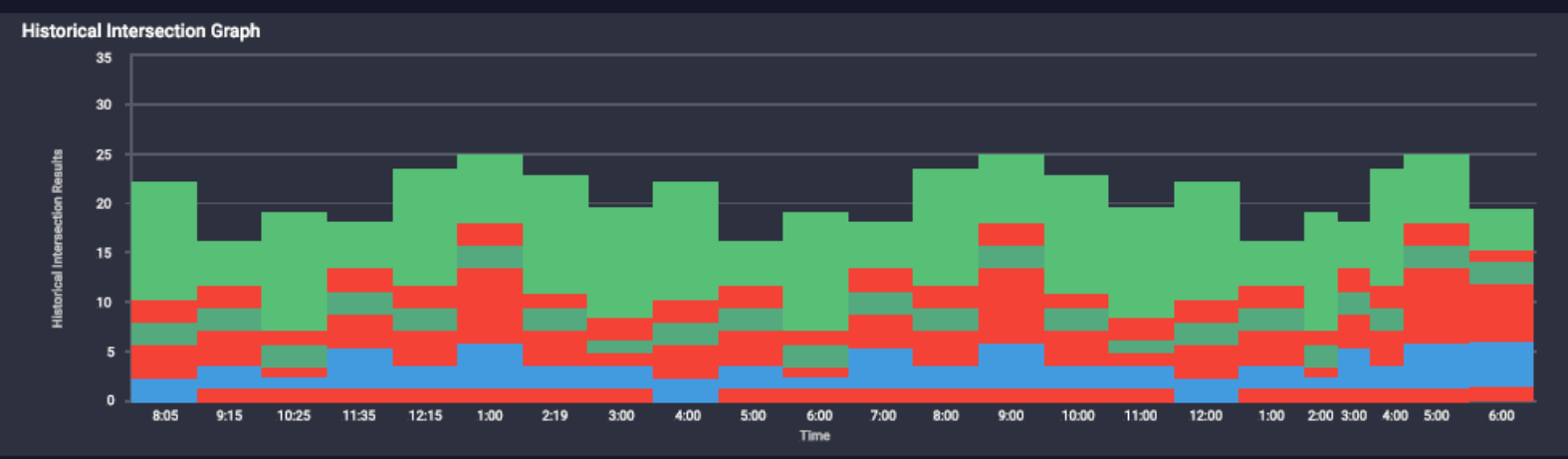
- Transition: 20%
- Plan Change: 18%
- EV Preempt: 70%
- Plan Command: 78%
- Stuck Detector: 85%

Show Ped Detector

12: Bells Rd-Reeds Rd	21	130	89	27	37	21	45	19	45	21	45
-----------------------	----	-----	----	----	----	----	----	----	----	----	----

Category	Orange	Blue	Green
P1	0	0	1000
P2	0	1000	0
P3	100	0	900
P4	400	100	500
P5	300	100	600

For



Visibility Filters

Show Event Log

Show Plan Changes

Show Detector Changes

Show Ped Detector

Show Ped Detector

All Phases

Phase 1

Phase 2

Phase 3

Phase 4

Apply

Split Monitor Report

Data

Report

Historical Intersection Timing Report

Int: Cactus-Bullard Ave (30)

Start Time: 9/28/22 10:29

End Time: 9/28/22 11:29

Print Date 09/28/2022

Print Time 11:29 AM

Time	Plan	Ring 1 Phase	Interval	Grn Dur	Ring 2 Phase	Interval	Grn Dur	Status	Poll Freq
9/28 10:29:27	Fr	3-SBL	Green	10	8-SBT	Green	10	Free	
9/28 10:29:37		3-SBL	Clear		8-SBT	Clear			

1

2

3

Total: 433

3

Items of page

1 - 3 of 10 Items



Q&A and Feedback

Feature Brainstorming

- Additional summary statistics?
- New metrics to facilitate troubleshooting?
- Integrating additional data sources?
 - Kadence raw data
 - ATSPM data
 - Connected vehicle or AVL data
- Different visualizations?

Practical Challenges

- What does the current HIT Report lack?
- What are the most difficult traffic problems to troubleshoot?
- What is the most common type of failure?

The background features a dark gray city skyline silhouette at the bottom, with various building shapes. On the left side, there are large, overlapping, light gray geometric shapes that resemble stylized buildings or abstract architectural elements.

Thank You!