

# Appendix: Traffic Counts

**Neville at WV16 - TMC**

Tue Apr 25, 2017

Full Length (12AM-12AM(+1))

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

Leg Direction	WV16 - Robert C Byrd Drive Southbound						WV3 - Neville Street Westbound						WV16 - Robert C Byrd Drive Northbound						WV3 - Neville Street Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2017-04-25 12:00AM	0	16	6	0	22	0	0	0	0	0	0	0	5	12	0	1	18	0	4	6	1	0	11	0	51
12:15AM	0	14	0	0	14	0	0	0	0	0	0	0	3	10	0	0	13	1	1	6	3	0	10	0	37
12:30AM	0	12	1	0	13	1	0	0	0	0	0	1	1	17	0	0	18	1	2	6	0	0	8	0	39
12:45AM	0	4	0	0	4	1	0	0	0	0	0	0	3	3	0	0	6	2	3	12	2	0	17	0	27
Hourly Total	0	46	7	0	53	2	0	0	0	0	0	1	12	42	0	1	55	4	10	30	6	0	46	0	154
1:00AM	0	7	3	0	10	0	0	0	0	0	0	0	3	6	0	0	9	1	1	5	1	0	7	0	26
1:15AM	0	3	5	0	8	0	0	0	0	0	0	0	2	7	0	0	9	0	1	6	1	0	8	0	25
1:30AM	1	9	3	0	13	0	0	0	0	0	0	0	0	4	0	0	4	0	2	6	1	0	9	0	26
1:45AM	0	5	2	0	7	0	0	0	0	0	0	0	1	3	0	0	4	1	5	6	4	0	15	0	26
Hourly Total	1	24	13	0	38	0	0	0	0	0	0	0	6	20	0	0	26	2	9	23	7	0	39	0	103
2:00AM	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	3	1	5	2	0	8	0	18
2:15AM	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	0	0	3	3	0	6	0	10
2:30AM	0	10	0	0	10	0	0	0	0	0	0	2	2	3	0	0	5	0	0	1	3	0	4	0	19
2:45AM	0	6	0	0	6	0	0	0	0	0	0	0	0	5	0	0	5	0	2	4	0	0	6	0	17
Hourly Total	0	24	0	0	24	0	0	0	0	0	0	2	2	14	0	0	16	3	3	13	8	0	24	0	64
3:00AM	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	0	1	4	1	0	6	0	12
3:15AM	0	0	1	0	1	0	0	0	0	0	0	0	1	6	0	0	7	0	1	1	1	0	3	0	11
3:30AM	0	5	1	0	6	0	0	0	0	0	0	0	0	3	0	0	3	0	2	2	0	0	4	0	13
3:45AM	0	4	3	0	7	0	0	0	0	0	0	0	1	6	0	0	7	0	1	3	1	0	5	0	19
Hourly Total	0	13	5	0	18	0	0	0	0	0	0	0	2	17	0	0	19	0	5	10	3	0	18	0	55
4:00AM	0	4	2	0	6	0	0	0	0	0	0	0	3	2	0	0	5	0	1	2	2	0	5	0	16
4:15AM	0	3	2	0	5	0	0	0	0	0	0	0	1	6	0	0	7	1	3	4	2	0	9	0	21
4:30AM	0	9	0	0	9	2	0	0	0	0	0	0	1	9	0	0	10	0	1	6	3	0	10	0	29
4:45AM	0	7	2	0	9	0	0	0	0	0	0	0	1	13	0	0	14	0	4	4	5	0	13	0	36
Hourly Total	0	23	6	0	29	2	0	0	0	0	0	0	6	30	0	0	36	1	9	16	12	0	37	0	102
5:00AM	0	9	2	0	11	0	0	0	0	0	0	0	1	9	0	0	10	0	2	5	4	0	11	1	32
5:15AM	0	10	2	0	12	0	0	0	0	0	0	0	2	13	0	0	15	0	4	8	4	0	16	0	43
5:30AM	0	14	3	0	17	0	0	0	0	0	0	0	4	23	0	0	27	1	3	4	7	0	14	0	58
5:45AM	0	17	1	0	18	0	0	0	0	0	0	0	12	39	0	0	51	0	4	15	4	0	23	0	92
Hourly Total	0	50	8	0	58	0	0	0	0	0	0	0	19	84	0	0	103	1	13	32	19	0	64	1	225
6:00AM	0	30	4	0	34	0	0	0	0	0	0	0	4	40	0	0	44	0	3	15	10	0	28	0	106
6:15AM	0	34	8	0	42	0	0	0	0	0	0	0	7	51	0	0	58	0	8	22	15	0	45	0	145
6:30AM	0	33	6	0	39	0	0	0	0	0	0	0	12	72	0	0	84	2	13	43	34	0	90	1	213
6:45AM	0	43	33	0	76	0	0	0	0	0	0	0	28	94	0	0	122	0	7	79	41	0	127	0	325
Hourly Total	0	140	51	0	191	0	0	0	0	0	0	0	51	257	0	0	308	2	31	159	100	0	290	1	789
7:00AM	0	57	41	0	98	0	0	0	0	0	0	0	13	91	0	0	104	1	13	73	37	0	123	0	325
7:15AM	0	59	11	0	70	0	0	0	0	0	0	0	16	103	0	0	119	0	11	39	30	0	80	0	269
7:30AM	0	93	21	0	114	0	0	0	0	0	0	0	22	114	0	0	136	0	13	70	48	0	131	0	381
7:45AM	0	93	34	0	127	0	0	0	0	0	0	0	40	139	0	0	179	0	28	74	40	0	142	0	448
Hourly Total	0	302	107	0	409	0	0	0	0	0	0	0	91	447	0	0	538	1	65	256	155	0	476	0	1423
8:00AM	0	70	34	0	104	2	0	0	0	0	0	0	33	119	0	0	152	0	14	101	32	0	147	0	403
8:15AM	0	74	34	0	108	0	0	0	0	0	0	0	53	142	0	0	195	0	19	82	43	0	144	1	447
8:30AM	0	61	28	0	89	0	0	0	0	0	0	0	39	129	0	0	168	0	9	76	30	0	115	0	372
8:45AM	0	92	38	0	130	0	0	0	0	0	0	0	35	137	0	0	172	2	12	70	40	0	122	2	424
Hourly Total	0	297	134	0	431	2	0	0	0	0	0	0	160	527	0	0	687	2	54	329	145	0	528	3	1646
9:00AM	0	66	24	0	90	0	0	0	0	0	0	0	27	117	0	0	144	1	15	66	40	0	121	0	355
9:15AM	1	86	33	0	120	1	0	0	0	0	0	0	16	103	0	0	119	3	25	58	47	0	130	0	369
9:30AM	0	79	21	0	100	0	0	0	0	0	0	0	27	108	0	0	135	0	20	77	37	0	134	0	369
9:45AM	0	98	24	0	122	1	0	0	0	0	0	0	18	100	0	0	118	0	19	68	37	0	124	0	364
Hourly Total	1	329	102	0	432	2	0	0	0	0	0	0	88	428	0	0	516	4	79	269	161	0	509	0	1457
10:00AM	0	95	19	0	114	0	0	0	0	0	0	0	27	128	0	0	155	1	15	67	49	0	131	0	400
10:15AM	0	105	22	0	127	2	0	0	0	0	0	0	31	119	0	0	150	2	19	57	49	0	125	0	402
10:30AM	0	91	31	0	122	0	0	0	0	0	0	0	13	124	0	0	137	0	25	77	74	0	176	0	435
10:45AM	0	86	44	0	130	0	0	0	0	0	0	0	30	123	0	0	153	2	24	72	45	0	141	0	424
Hourly Total	0	377	116	0	493	2	0	0	0	0	0	0	101	494	0	0	595	5	83	273	217	0	573	0	1661
11:00AM	0	122	12	0	134	1	0	0	0	0	0	0	20	142	0	0	162	2	22	69	54	0	145	0	441
11:15AM	0	119	32	0	151	1	0	0	0	0	0	0	18	124	0	0	142	2	24	75	59	0	158	0	451
11:30AM	0	126	31	0	157	1	0	0	0	0	0	0	28	146	0	0	174	2	21	85	62	0	168	0	499
11:45AM	0	132	43	0	175	0	0	0	0	0	1	19	129	0	0	148	0	17	79	71	0	167	1	490	
Hourly Total	0	499	118	0	617	3	0	0	0	0	1	85	541	0	0	626	6	84	308	246	0	638	1	1881	
12:00PM	0	148	37	0	185	0	0	0	0	0	0	0	23	136	0	0	159	1	29	69	59	0	157	0	501
12:15PM	0	141	42	0	183	4	0	0	0	0	0	0	23	130	0	0	153	3	26	83	59	0	168	0	504

Leg Direction	WV16 - Robert C Byrd Drive Southbound						WV3 - Neville Street Westbound						WV16 - Robert C Byrd Drive Northbound						WV3 - Neville Street Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
12:30PM	0	122	54	0	176	0	0	0	0	0	0	29	146	0	0	175	4	34	74	61	0	169	0	520	
12:45PM	0	131	56	0	187	0	0	0	0	0	0	32	117	0	0	149	3	22	67	50	0	139	0	475	
Hourly Total	0	542	189	0	731	4	0	0	0	0	0	107	529	0	0	636	11	111	293	229	0	633	0	2000	
1:00PM	0	143	30	0	173	0	0	0	0	0	0	25	113	0	0	138	2	29	92	62	0	183	0	494	
1:15PM	0	127	47	0	174	0	0	0	0	0	0	18	108	0	0	126	1	16	78	64	0	158	0	458	
1:30PM	0	147	49	0	196	0	0	0	0	0	1	28	140	0	0	168	7	29	79	61	0	169	0	533	
1:45PM	0	130	51	0	181	0	0	0	0	0	0	12	132	0	0	144	1	31	65	48	0	144	0	469	
Hourly Total	0	547	177	0	724	0	0	0	0	0	1	83	493	0	0	576	11	105	314	235	0	654	0	1954	
2:00PM	0	133	39	0	172	0	0	0	0	0	0	26	125	0	0	151	3	19	89	49	0	157	0	480	
2:15PM	0	146	52	0	198	0	0	0	0	0	0	18	122	0	0	140	3	21	85	50	0	156	1	494	
2:30PM	0	120	41	0	161	1	0	0	0	0	1	21	147	0	0	168	4	19	76	54	0	149	2	478	
2:45PM	0	152	42	0	194	2	0	1	0	0	1	20	118	0	0	138	2	23	90	42	0	155	0	488	
Hourly Total	0	551	174	0	725	3	0	1	0	0	1	85	512	0	0	597	12	82	340	195	0	617	3	1940	
3:00PM	0	159	46	0	205	1	0	0	0	0	1	28	172	0	0	200	3	46	98	69	0	213	0	618	
3:15PM	0	124	46	0	170	1	0	0	0	0	0	24	120	0	0	144	3	30	82	52	0	164	0	478	
3:30PM	0	147	40	0	187	0	0	0	0	0	0	31	153	0	0	184	2	45	104	80	0	229	0	600	
3:45PM	0	163	36	0	199	1	0	0	0	0	0	24	123	0	0	147	1	29	90	62	0	181	0	527	
Hourly Total	0	593	168	0	761	3	0	0	0	0	1	107	568	0	0	675	9	150	374	263	0	787	0	2223	
4:00PM	0	152	49	0	201	0	0	0	0	0	0	24	138	0	0	162	0	22	99	66	0	187	0	550	
4:15PM	0	189	44	0	233	0	0	0	0	0	2	20	141	0	0	161	0	34	84	76	0	194	0	588	
4:30PM	0	144	34	0	178	0	0	0	0	0	2	32	135	0	0	167	0	34	89	59	0	182	0	527	
4:45PM	0	179	42	0	221	0	0	0	0	0	2	22	134	0	0	156	3	25	72	58	0	155	0	532	
Hourly Total	0	664	169	0	833	0	0	0	0	0	6	98	548	0	0	646	3	115	344	259	0	718	0	2197	
5:00PM	0	170	39	0	209	0	0	0	0	0	0	17	129	0	0	146	2	37	103	63	0	203	0	558	
5:15PM	0	174	38	0	212	0	1	0	0	0	1	14	130	0	0	144	1	26	80	48	0	154	0	511	
5:30PM	0	147	29	0	176	1	0	0	0	0	0	16	113	0	0	129	2	36	84	60	0	180	1	485	
5:45PM	0	127	32	0	159	2	0	0	0	0	2	10	121	0	0	131	2	22	69	47	0	138	0	428	
Hourly Total	0	618	138	0	756	3	1	0	0	0	1	57	493	0	0	550	7	121	336	218	0	675	1	1982	
6:00PM	0	115	48	0	163	2	0	0	0	0	0	13	93	1	0	107	2	11	65	36	0	112	0	382	
6:15PM	0	148	34	0	182	0	0	0	0	0	0	15	102	1	0	118	2	16	55	37	0	108	0	408	
6:30PM	0	95	38	0	133	0	0	0	0	0	1	5	77	0	0	82	2	19	65	29	0	113	0	328	
6:45PM	0	109	25	0	134	1	0	0	0	0	4	13	96	1	0	110	2	14	52	33	0	99	0	343	
Hourly Total	0	467	145	0	612	3	0	0	0	0	5	46	368	3	0	417	8	60	237	135	0	432	0	1461	
7:00PM	0	105	24	0	129	2	0	0	0	0	1	10	82	0	0	92	4	14	54	43	0	111	0	332	
7:15PM	0	91	20	0	111	0	0	0	0	0	0	9	79	0	0	88	4	12	58	35	0	105	0	304	
7:30PM	0	75	28	0	103	0	0	0	0	0	3	15	66	0	0	81	1	21	47	30	0	98	0	282	
7:45PM	0	109	25	0	134	2	0	0	0	0	1	9	63	0	0	72	0	11	47	23	0	81	0	287	
Hourly Total	0	380	97	0	477	4	0	0	0	0	5	43	290	0	0	333	9	58	206	131	0	395	0	1205	
8:00PM	0	73	18	0	91	2	0	0	0	0	4	6	73	0	0	79	2	18	48	19	0	85	0	255	
8:15PM	0	93	26	0	119	0	0	0	0	0	0	8	76	0	0	84	0	18	65	29	0	112	0	315	
8:30PM	0	61	19	0	80	1	0	0	0	0	1	14	63	0	0	77	1	14	42	22	0	78	0	235	
8:45PM	1	59	15	0	75	1	1	0	0	0	1	7	60	0	0	67	2	17	45	21	0	83	0	226	
Hourly Total	1	286	78	0	365	4	1	0	0	0	1	35	272	0	0	307	5	67	200	91	0	358	0	1031	
9:00PM	0	72	17	0	89	1	0	0	0	0	1	3	32	0	0	35	2	14	43	16	0	73	0	197	
9:15PM	0	58	19	0	77	0	0	0	0	0	0	3	47	1	0	51	1	19	38	16	0	73	0	201	
9:30PM	0	48	18	0	66	2	0	0	0	0	0	4	22	0	0	26	2	17	33	16	0	66	0	158	
9:45PM	0	32	4	0	36	0	0	0	0	0	0	6	35	0	0	41	4	13	30	13	0	56	0	133	
Hourly Total	0	210	58	0	268	3	0	0	0	0	1	16	136	1	0	153	9	63	144	61	0	268	0	689	
10:00PM	0	35	9	0	44	0	0	0	0	0	0	5	24	0	0	29	3	14	22	11	0	47	0	120	
10:15PM	0	37	11	0	48	0	0	0	0	0	0	3	26	0	0	29	0	13	15	10	0	38	0	115	
10:30PM	0	26	8	0	34	0	0	0	0	0	0	1	15	0	0	16	3	4	16	5	0	25	0	75	
10:45PM	0	18	3	0	21	0	0	0	0	0	0	3	15	0	0	18	1	3	16	7	0	26	0	65	
Hourly Total	0	116	31	0	147	0	0	0	0	0	0	12	80	0	0	92	7	34	69	33	0	136	0	375	
11:00PM	0	24	4	0	28	1	0	0	0	0	1	2	18	0	0	20	4	2	22	6	0	30	0	78	
11:15PM	0	18	3	0	21	0	0	0	0	0	0	3	12	0	0	15	0	5	21	6	0	32	0	68	
11:30PM	0	22	2	0	24	0	0	0	0	0	0	2	20	0	0	22	1	4	8	6	0	18	0	64	
11:45PM	0	27	2	0	29	0	0	0	0	0	0	6	18	0	0	24	2	6	17	9	0	32	0	85	
Hourly Total	0	91	11	0	102	1	0	0	0	0	1	13	68	0	0	81	7	17	68	27	0	112	0	295	
<b>Total</b>	<b>3</b>	<b>7189</b>	<b>2102</b>	<b>0</b>	<b>9294</b>	<b>41</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1325</b>	<b>7258</b>	<b>4</b>	<b>1</b>	<b>8588</b>	<b>129</b>	<b>1428</b>	<b>4643</b>	<b>2956</b>	<b>0</b>	<b>9027</b>	<b>10</b>	<b>26912</b>	
<b>% Approach</b>	<b>0%</b>	<b>77.4%</b>	<b>22.6%</b>	<b>0%</b>	<b>-</b>	<b>-</b>	<b>66.7%</b>	<b>33.3%</b>	<b>0%</b>	<b>0%</b>	<b>-</b>	<b>15.4%</b>	<b>84.5%</b>	<b>0%</b>	<b>0%</b>	<b>-</b>	<b>-</b>	<b>15.8%</b>	<b>51.4%</b>	<b>32.7%</b>	<b>0%</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>% Total</b>	<b>0%</b>	<b>26.7%</b>	<b>7.8%</b>	<b>0%</b>	<b>34.5%</b>	<b>-</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>4.9%</b>	<b>27.0%</b>	<b>0%</b>	<b>0%</b>	<b>31.9%</b>	<b>-</b>	<b>5.3%</b>	<b>17.3%</b>	<b>11.0%</b>	<b>0%</b>	<b>33.5%</b>	<b>-</b>	<b>-</b>	
<b>Lights</b>	<b>3</b>	<b>6986</b>	<b>2058</b>	<b>0</b>	<b>9047</b>	<b>-</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1307</b>	<b>7054</b>	<b>4</b>	<b>1</b>	<b>8366</b>	<b>-</b>	<b>1404</b>	<b>4581</b>	<b>2889</b>	<b>0</b>	<b>8874</b>	<b>-</b>	<b>26290</b>	
<b>% Lights</b>	<b>100%</b>	<b>97.2%</b>	<b>97.9%</b>	<b>0%</b>	<b>97.3%</b>	<b>-</b>	<b>100%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>98.6%</b>	<b>97.2%</b>	<b>100%</b>	<b>100%</b>	<b>97.4%</b>	<b>-</b>	<b>98.3%</b>	<b>98.7%</b>	<b>97.7%</b>	<b>0%</b>	<b>98.3%</b>	<b>-</b>	<b>97.7%</b>	
<b>Articulated Trucks and Single-Unit Trucks</b>	<b>0</b>	<b>150</b>	<b>31</b>	<b>0</b>	<b>181</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>166</b>	<b>0</b>	<b>0</b>	<b>175</b>	<b>-</b>	<b>22</b>	<b>31</b>	<b>58</b>	<b>0</b>	<b>111</b>	<b>-</b>	<b>467</b>	
<b>% Articulated Trucks and Single-Unit Trucks</b>	<b>0%</b>	<b>2.1%</b>	<b>1.5%</b>	<b>0%</b>	<b>1.9%</b>	<b>-</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0.7%</b>	<b>2.3%</b>	<b>0%</b>	<b>0%</b>	<b>2.0%</b>	<b>-</b>	<b>1.5%</b>	<b>0.7%</b>	<b>2.0%</b>	<b>0%</b>	<b>1.2%</b>	<b>-</b>	<b>1.7%</b>	

Leg Direction	WV16 - Robert C Byrd Drive Southbound						WV3 - Neville Street Westbound						WV16 - Robert C Byrd Drive Northbound						WV3 - Neville Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
<b>Buses</b>	0	53	13	0	<b>66</b>	-	0	0	0	0	<b>0</b>	-	9	38	0	0	<b>47</b>	-	2	31	9	0	<b>42</b>	-	155
<b>% Buses</b>	0%	0.7%	0.6%	0%	<b>0.7%</b>	-	0%	0%	0%	0%	<b>0%</b>	-	0.7%	0.5%	0%	0%	<b>0.5%</b>	-	0.1%	0.7%	0.3%	0%	<b>0.5%</b>	-	0.6%
Pedestrians	-	-	-	-	41	-	-	-	-	-	34	-	-	-	-	-	129	-	-	-	-	-	10	-	10
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	100%

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Neville at WV16 - TMC**

Tue Apr 25, 2017

Full Length (12AM-12AM (+1))

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

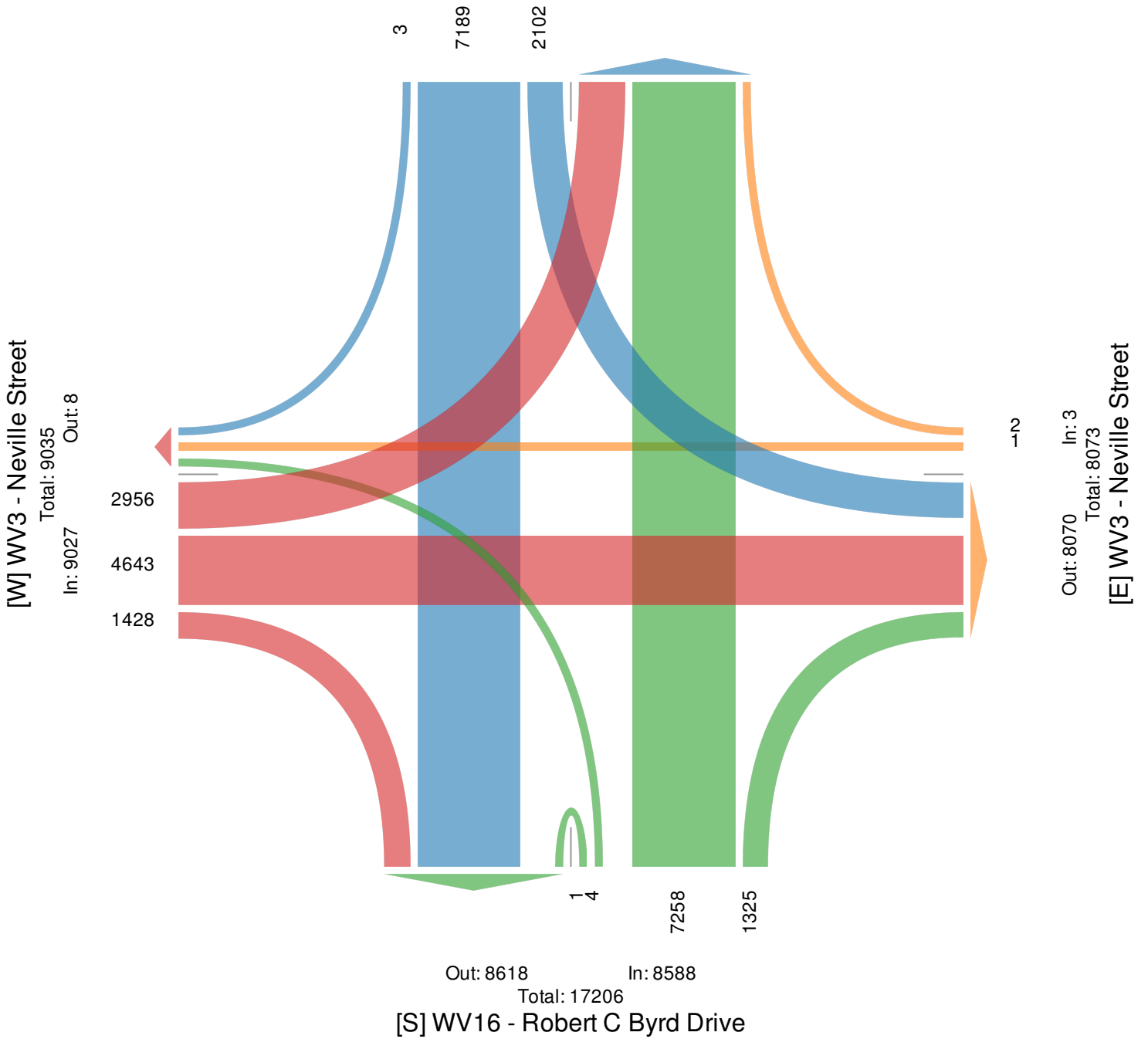
ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 19510

In: 9294

Out: 10216



**Neville at WV16 - TMC**

Tue Apr 25, 2017

AM Peak (Apr 25 2017 10:45AM - 11:45AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

Leg Direction	WV16 - Robert C Byrd Drive Southbound						WV3 - Neville Street Westbound						WV16 - Robert C Byrd Drive Northbound						WV3 - Neville Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-04-25 10:45AM	0	86	44	0	130	0	0	0	0	0	0	0	30	123	0	0	153	2	24	72	45	0	141	0	424
11:00AM	0	122	12	0	134	1	0	0	0	0	0	0	20	142	0	0	162	2	22	69	54	0	145	0	441
11:15AM	0	119	32	0	151	1	0	0	0	0	0	0	18	124	0	0	142	2	24	75	59	0	158	0	451
11:30AM	0	126	31	0	157	1	0	0	0	0	0	0	28	146	0	0	174	2	21	85	62	0	168	0	499
<b>Total</b>	0	453	119	0	572	3	0	0	0	0	0	0	96	535	0	0	631	8	91	301	220	0	612	0	1815
<b>% Approach</b>	0%	79.2%	20.8%	0%	-	-	0%	0%	0%	0%	-	-	15.2%	84.8%	0%	0%	-	-	14.9%	49.2%	35.9%	0%	-	-	-
<b>% Total</b>	0%	25.0%	6.6%	0%	31.5%	-	0%	0%	0%	0%	0%	-	5.3%	29.5%	0%	0%	34.8%	-	5.0%	16.6%	12.1%	0%	33.7%	-	-
<b>PHF</b>	-	0.899	0.676	-	0.911	-	-	-	-	-	-	-	0.800	0.916	-	-	0.907	-	0.948	0.885	0.887	-	0.911	-	0.909
<b>Lights</b>	0	437	114	0	551	-	0	0	0	0	0	-	96	512	0	0	608	-	91	299	216	0	606	-	1765
<b>% Lights</b>	0%	96.5%	95.8%	0%	96.3%	-	0%	0%	0%	0%	-	-	100%	95.7%	0%	0%	96.4%	-	100%	99.3%	98.2%	0%	99.0%	-	97.2%
<b>Articulate d Trucks and Single-Unit Trucks</b>	0	14	4	0	18	-	0	0	0	0	0	-	0	22	0	0	22	-	0	0	3	0	3	-	43
<b>% Articulate d Trucks and Single-Unit Trucks</b>	0%	3.1%	3.4%	0%	3.1%	-	0%	0%	0%	0%	-	-	0%	4.1%	0%	0%	3.5%	-	0%	0%	1.4%	0%	0.5%	-	2.4%
<b>Buses</b>	0	2	1	0	3	-	0	0	0	0	0	-	0	1	0	0	1	-	0	2	1	0	3	-	7
<b>% Buses</b>	0%	0.4%	0.8%	0%	0.5%	-	0%	0%	0%	0%	-	-	0%	0.2%	0%	0%	0.2%	-	0%	0.7%	0.5%	0%	0.5%	-	0.4%
<b>Pedestrians</b>	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	0	-	0
<b>% Pedestrians</b>	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Neville at WV16 - TMC**

Tue Apr 25, 2017

AM Peak (Apr 25 2017 10:45AM - 11:45AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 1327

In: 572

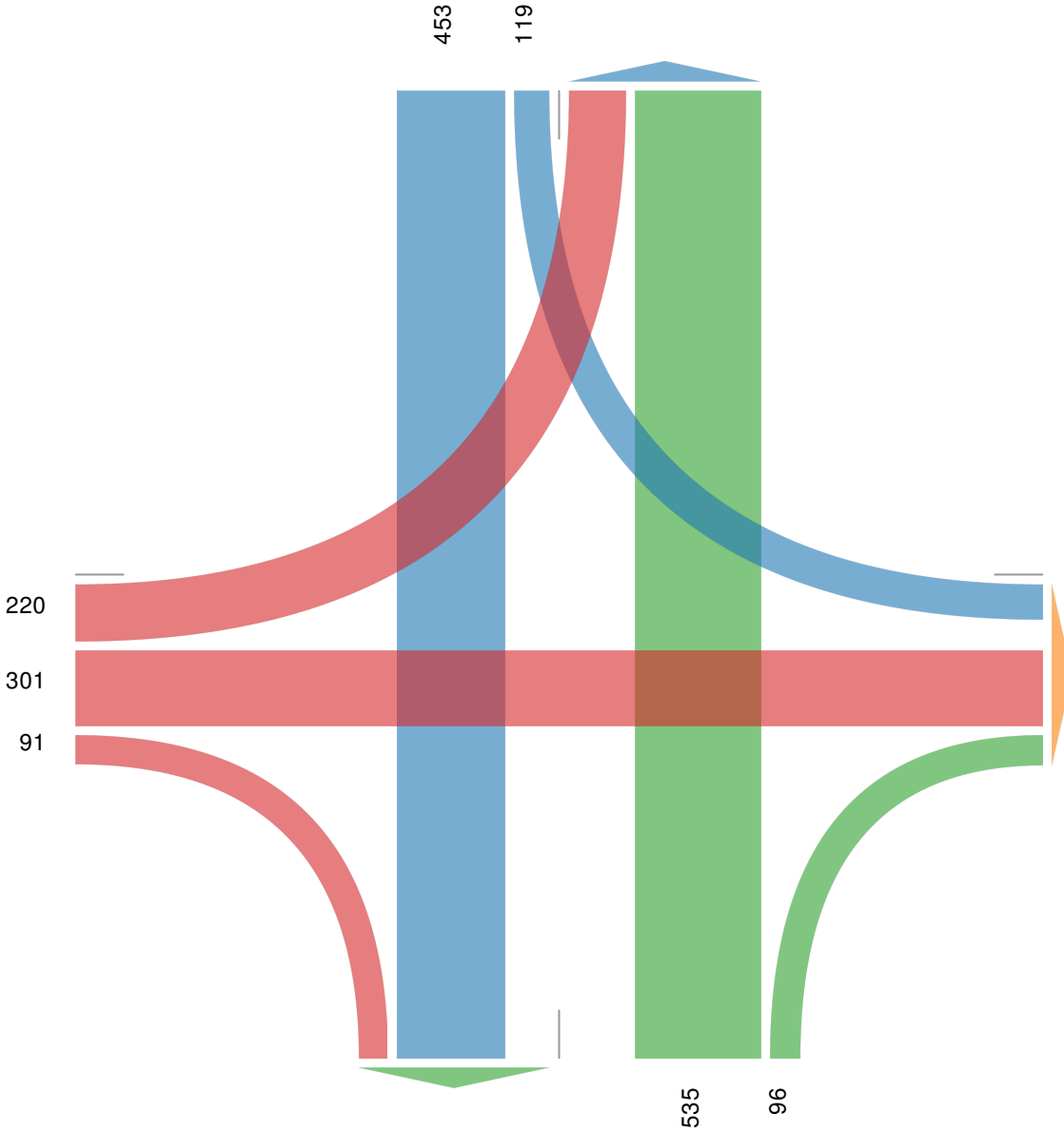
Out: 755

**[W] WV3 - Neville Street**

Total: 612

Out: 0

In: 612



**[S] WV16 - Robert C Byrd Drive**

Out: 544

In: 631

Total: 1175

Out: 516 In: 0

Total: 516

**[E] WV3 - Neville Street**

**Neville at WV16 - TMC**

Tue Apr 25, 2017

Midday Peak (Apr 25 2017 11:45AM - 12:45PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

Leg Direction	WV16 - Robert C Byrd Drive Southbound						WV3 - Neville Street Westbound						WV16 - Robert C Byrd Drive Northbound						WV3 - Neville Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-04-25 11:45AM	0	132	43	0	175	0	0	0	0	0	0	1	19	129	0	0	148	0	17	79	71	0	167	1	490
12:00PM	0	148	37	0	185	0	0	0	0	0	0	0	23	136	0	0	159	1	29	69	59	0	157	0	501
12:15PM	0	141	42	0	183	4	0	0	0	0	0	0	23	130	0	0	153	3	26	83	59	0	168	0	504
12:30PM	0	122	54	0	176	0	0	0	0	0	0	0	29	146	0	0	175	4	34	74	61	0	169	0	520
<b>Total</b>	0	543	176	0	719	4	0	0	0	0	0	1	94	541	0	0	635	8	106	305	250	0	661	1	2015
<b>% Approach</b>	0%	75.5%	24.5%	0%	-	-	0%	0%	0%	0%	-	-	14.8%	85.2%	0%	0%	-	-	16.0%	46.1%	37.8%	0%	-	-	-
<b>% Total</b>	0%	26.9%	8.7%	0%	35.7%	-	0%	0%	0%	0%	0%	-	4.7%	26.8%	0%	0%	31.5%	-	5.3%	15.1%	12.4%	0%	32.8%	-	-
<b>PHF</b>	-	0.917	0.815	-	0.972	-	-	-	-	-	-	-	0.810	0.926	-	-	0.907	-	0.779	0.919	0.880	-	0.978	-	0.969
<b>Lights</b>	0	526	174	0	700	-	0	0	0	0	0	-	92	523	0	0	615	-	102	301	246	0	649	-	1964
<b>% Lights</b>	0%	96.9%	98.9%	0%	97.4%	-	0%	0%	0%	0%	-	-	97.9%	96.7%	0%	0%	96.9%	-	96.2%	98.7%	98.4%	0%	98.2%	-	97.5%
<b>Articulated Trucks and Single-Unit Trucks</b>	0	13	2	0	15	-	0	0	0	0	0	-	2	16	0	0	18	-	4	2	4	0	10	-	43
<b>% Articulated Trucks and Single-Unit Trucks</b>	0%	2.4%	1.1%	0%	2.1%	-	0%	0%	0%	0%	-	-	2.1%	3.0%	0%	0%	2.8%	-	3.8%	0.7%	1.6%	0%	1.5%	-	2.1%
<b>Buses</b>	0	4	0	0	4	-	0	0	0	0	0	-	0	2	0	0	2	-	0	2	0	0	2	-	8
<b>% Buses</b>	0%	0.7%	0%	0%	0.6%	-	0%	0%	0%	0%	-	-	0%	0.4%	0%	0%	0.3%	-	0%	0.7%	0%	0%	0.3%	-	0.4%
<b>Pedestrians</b>	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	8	-	-	-	-	-	1	-	1
<b>% Pedestrians</b>	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



**Neville at WV16 - TMC**

Tue Apr 25, 2017

Midday Peak (Apr 25 2017 11:45AM - 12:45PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

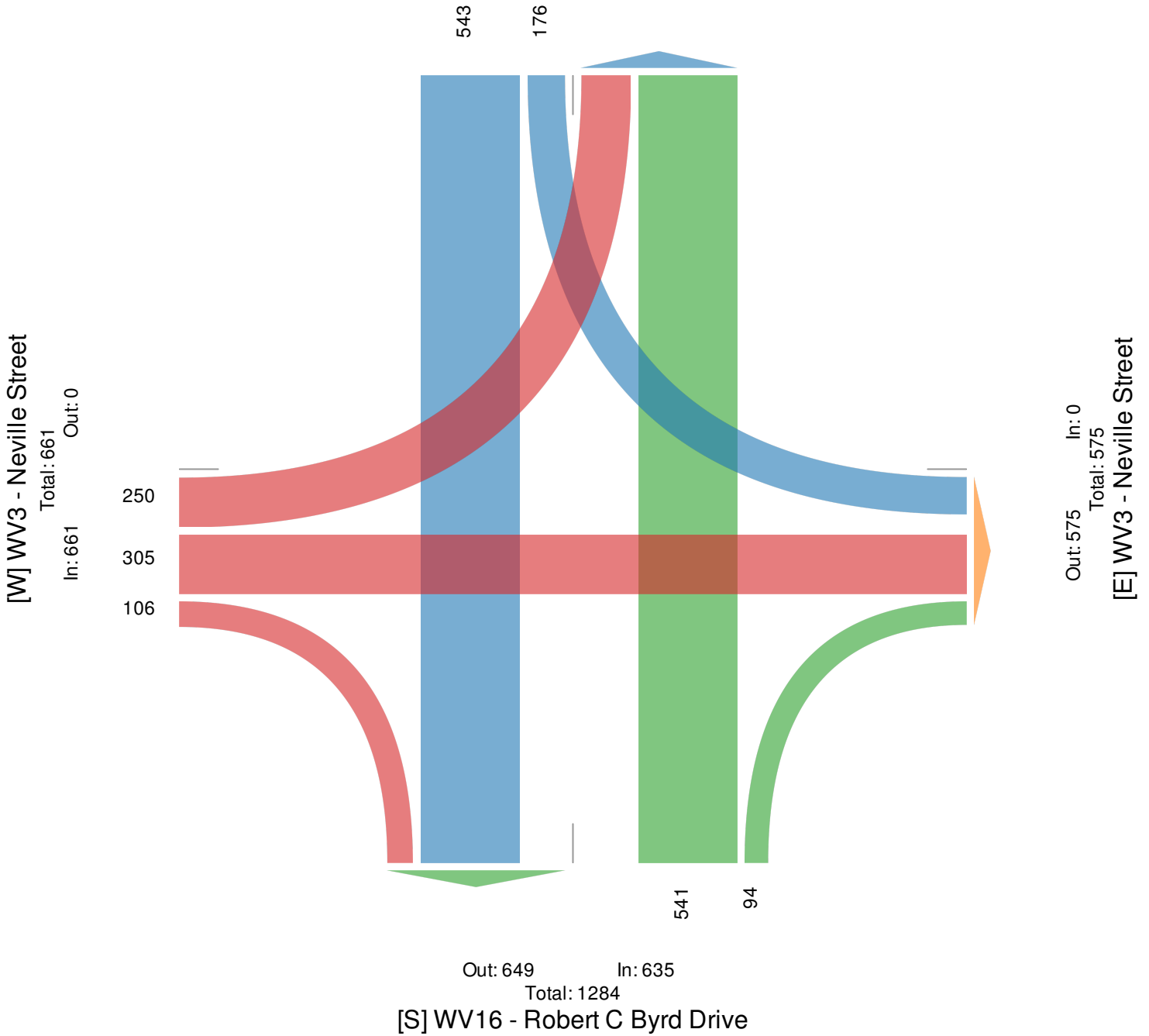
ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 1510

In: 719

Out: 791



**Neville at WV16 - TMC**

Tue Apr 25, 2017

PM Peak (Apr 25 2017 3:30PM - 4:30PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

Leg Direction	WV16 - Robert C Byrd Drive Southbound						WV3 - Neville Street Westbound						WV16 - Robert C Byrd Drive Northbound						WV3 - Neville Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-04-25 3:30PM	0	147	40	0	187	0	0	0	0	0	0	0	31	153	0	0	184	2	45	104	80	0	229	0	600
3:45PM	0	163	36	0	199	1	0	0	0	0	0	0	24	123	0	0	147	1	29	90	62	0	181	0	527
4:00PM	0	152	49	0	201	0	0	0	0	0	0	0	24	138	0	0	162	0	22	99	66	0	187	0	550
4:15PM	0	189	44	0	233	0	0	0	0	0	0	2	20	141	0	0	161	0	34	84	76	0	194	0	588
<b>Total</b>	0	651	169	0	820	1	0	0	0	0	0	2	99	555	0	0	654	3	130	377	284	0	791	0	2265
<b>% Approach</b>	0%	79.4%	20.6%	0%	-	-	0%	0%	0%	0%	-	-	15.1%	84.9%	0%	0%	-	-	16.4%	47.7%	35.9%	0%	-	-	-
<b>% Total</b>	0%	28.7%	7.5%	0%	36.2%	-	0%	0%	0%	0%	0%	-	4.4%	24.5%	0%	0%	28.9%	-	5.7%	16.6%	12.5%	0%	34.9%	-	-
<b>PHF</b>	-	0.861	0.862	-	0.880	-	-	-	-	-	-	-	0.798	0.907	-	-	0.889	-	0.722	0.906	0.888	-	0.864	-	0.944
<b>Lights</b>	0	636	168	0	804	-	0	0	0	0	0	-	98	540	0	0	638	-	128	369	278	0	775	-	2217
<b>% Lights</b>	0%	97.7%	99.4%	0%	98.0%	-	0%	0%	0%	0%	-	-	99.0%	97.3%	0%	0%	97.6%	-	98.5%	97.9%	97.9%	0%	98.0%	-	97.9%
<b>Articulated Trucks and Single-Unit Trucks</b>	0	10	0	0	10	-	0	0	0	0	0	-	1	10	0	0	11	-	2	4	6	0	12	-	33
<b>% Articulated Trucks and Single-Unit Trucks</b>	0%	1.5%	0%	0%	1.2%	-	0%	0%	0%	0%	-	-	1.0%	1.8%	0%	0%	1.7%	-	1.5%	1.1%	2.1%	0%	1.5%	-	1.5%
<b>Buses</b>	0	5	1	0	6	-	0	0	0	0	0	-	0	5	0	0	5	-	0	4	0	0	4	-	15
<b>% Buses</b>	0%	0.8%	0.6%	0%	0.7%	-	0%	0%	0%	0%	-	-	0%	0.9%	0%	0%	0.8%	-	0%	1.1%	0%	0%	0.5%	-	0.7%
<b>Pedestrians</b>	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Neville at WV16 - TMC**

Tue Apr 25, 2017

PM Peak (Apr 25 2017 3:30PM - 4:30PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

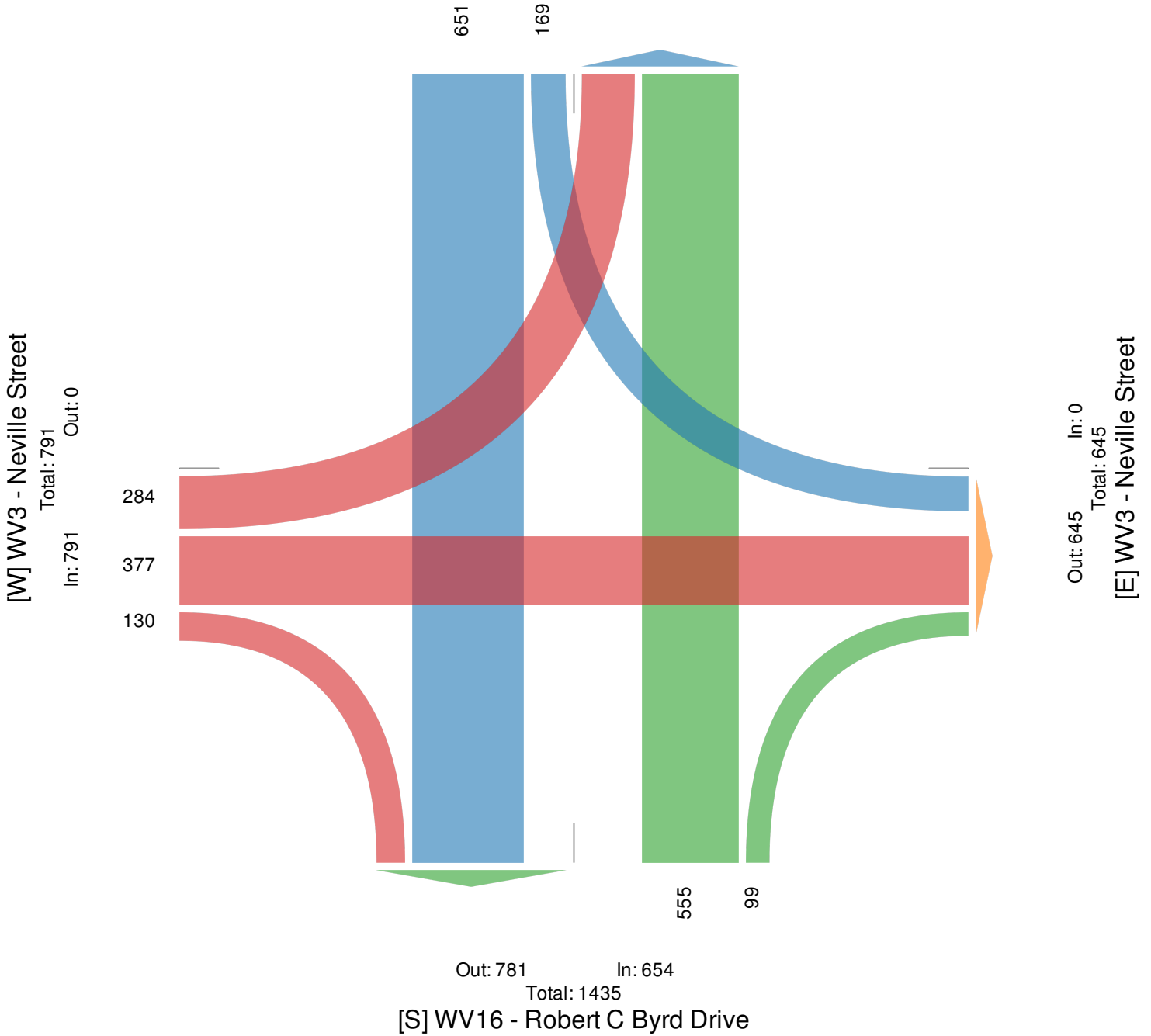
ID: 407168, Location: 37.775578, -81.194517, Site Code: Site 14 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 1659

In: 820

Out: 839



**Prince at WV16 - TMC**

Tue Apr 25, 2017

Full Length (12AM-12AM(+1))

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

Leg Direction	WV16 - Robert C Byrd Drive Southbound						Prince Street Westbound						WV16 - Robert C Byrd Drive Northbound						Prince Street Eastbound						Int						
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*							
2017-04-25 12:00AM	3	13	0	0	16	0	2	9	5	0	16	0	0	9	4	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	45
12:15AM	1	10	0	0	11	0	0	3	5	0	8	0	0	11	2	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	32
12:30AM	5	7	0	0	12	0	1	3	3	0	7	0	0	13	6	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	38
12:45AM	2	5	0	0	7	1	0	2	1	0	3	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Hourly Total	11	35	0	0	46	1	3	17	14	0	34	0	0	39	12	0	51	0	0	0	0	0	0	0	0	0	0	0	0	0	131
1:00AM	1	6	0	0	7	0	0	6	2	0	8	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	22
1:15AM	2	8	0	0	10	0	0	1	1	0	2	0	0	5	3	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	20
1:30AM	1	9	0	0	10	0	1	2	2	0	5	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	18
1:45AM	2	4	0	0	6	0	0	2	3	0	5	0	0	6	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Hourly Total	6	27	0	0	33	0	1	11	8	0	20	0	0	19	7	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	79
2:00AM	0	4	0	0	4	0	0	1	2	0	3	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	14
2:15AM	0	2	0	0	2	0	0	3	0	0	3	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	9
2:30AM	0	6	0	0	6	0	0	2	4	0	6	0	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	18
2:45AM	0	8	0	0	8	0	0	2	0	0	2	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Hourly Total	0	20	0	0	20	0	0	8	6	0	14	0	0	21	1	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	56
3:00AM	1	2	0	0	3	0	0	1	1	0	2	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	8
3:15AM	0	2	0	0	2	0	1	0	0	0	1	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	10
3:30AM	1	5	0	0	6	0	0	2	0	0	2	0	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	11
3:45AM	3	5	0	0	8	0	0	3	1	0	4	0	0	4	1	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Hourly Total	5	14	0	0	19	0	1	6	2	0	9	0	0	16	2	1	19	0	0	0	0	0	0	0	0	0	0	0	0	0	47
4:00AM	1	4	0	0	5	0	1	2	2	0	5	0	0	4	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	14
4:15AM	0	5	0	0	5	0	0	2	0	0	2	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	15
4:30AM	1	9	0	0	10	0	0	3	0	0	3	0	0	9	3	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	25
4:45AM	2	9	0	0	11	0	1	10	0	0	11	0	0	15	1	0	16	0	0	0	0	0	0	0	0	0	0	0	0	1	38
Hourly Total	4	27	0	0	31	0	2	17	2	0	21	0	0	36	4	0	40	1	0	0	0	0	0	0	0	0	0	0	0	1	92
5:00AM	1	10	0	0	11	0	0	6	1	0	7	0	0	12	2	0	14	0	0	0	0	0	0	0	0	0	0	0	0	1	32
5:15AM	7	13	0	0	20	0	0	6	0	0	6	0	0	13	4	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	43
5:30AM	6	15	0	0	21	0	4	10	2	0	16	0	0	26	5	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	68
5:45AM	9	11	0	0	20	0	3	12	6	0	21	0	0	32	10	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	83
Hourly Total	23	49	0	0	72	0	7	34	9	0	50	0	0	83	21	0	104	0	0	0	0	0	0	0	0	0	0	0	0	1	226
6:00AM	3	25	0	0	28	0	1	20	9	0	30	0	0	41	7	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	106
6:15AM	5	34	0	0	39	0	4	26	8	0	38	0	0	60	9	0	69	0	0	0	0	0	0	0	0	0	0	0	0	0	146
6:30AM	11	29	0	0	40	0	8	36	8	0	52	0	0	102	7	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	201
6:45AM	10	58	0	0	68	0	11	52	17	0	80	0	0	114	18	0	132	0	0	0	0	0	0	0	0	0	0	0	0	0	280
Hourly Total	29	146	0	0	175	0	24	134	42	0	200	0	0	317	41	0	358	0	0	0	0	0	0	0	0	0	0	0	0	0	733
7:00AM	26	80	0	0	106	0	21	49	17	0	87	0	0	110	21	0	131	0	0	0	0	0	0	0	0	0	0	0	0	0	324
7:15AM	36	59	0	0	95	0	23	48	13	0	84	0	0	119	15	0	134	0	0	0	1	0	1	1	0	0	0	0	0	0	314
7:30AM	21	90	0	0	111	0	13	52	22	0	87	0	0	140	22	0	162	0	0	0	0	0	0	0	0	0	0	0	0	0	360
7:45AM	33	97	0	0	130	0	18	55	27	0	100	0	0	151	26	0	177	0	0	0	0	0	0	0	0	0	0	0	0	0	407
Hourly Total	116	326	0	0	442	0	75	204	79	0	358	0	0	520	84	0	604	0	0	0	1	0	1	1	0	0	0	0	0	0	1405
8:00AM	19	83	0	0	102	0	12	57	17	0	86	0	0	140	16	0	156	0	0	0	0	0	0	0	0	0	0	0	0	0	344
8:15AM	27	76	0	0	103	0	10	69	29	0	108	0	0	163	24	0	187	0	0	0	0	0	0	0	0	0	0	0	0	2	398
8:30AM	24	71	0	0	95	2	29	55	19	0	103	0	0	137	23	0	160	0	0	0	0	0	0	0	0	0	0	0	0	2	358
8:45AM	35	92	0	0	127	0	27	58	33	0	118	0	0	151	25	0	176	1	0	0	0	0	0	0	0	0	0	0	0	0	421
Hourly Total	105	322	0	0	427	2	78	239	98	0	415	0	0	591	88	0	679	1	0	0	0	0	0	0	0	0	0	0	0	4	1521
9:00AM	24	86	0	0	110	0	25	56	15	0	96	0	0	136	31	0	167	0	0	0	0	0	0	0	0	0	0	0	0	3	373
9:15AM	21	89	0	0	110	0	19	50	22	0	91	0	0	148	19	0	167	0	0	0	0	0	0	0	0	0	0	0	0	0	368
9:30AM	41	80	0	0	121	1	25	67	20	0	112	0	0	135	27	0	162	0	0	0	0	0	0	0	0	0	0	0	0	1	395
9:45AM	28	95	0	0	123	0	17	62	24	0	103	0	0	127	23	0	150	0	0	0	0	0	0	0	0	0	0	0	0	0	376
Hourly Total	114	350	0	0	464	1	86	235	81	0	402	0	0	546	100	0	646	0	0	0	0	0	0	0	0	0	0	0	0	5	1512
10:00AM	27	99	0	0	126	0	27	50	19	0	96	0	0	154	29	0	183	0	0	0	0	0	0	0	0	0	0	0	0	1	405
10:15AM	34	97	0	0	131	1	33	49	25	0	107	0	0	137	26	0	163	0	0	0	0	0	0	0	0	0	0	0	0	1	401
10:30AM	31	102	0	0	133	1	27	63	21	0	111	0	0	175	27	0	202	0	0	0	0	0	0	0	0	0	0	0	0	0	446
10:45AM	27	98	1	0	126	1	38	63	21	0	122	0	0	146	19	0	165	0	0	0	0	0	0	0</							

Leg Direction	WV16 - Robert C Byrd Drive Southbound						Prince Street Westbound						WV16 - Robert C Byrd Drive Northbound						Prince Street Eastbound						Int	
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*		
3:00PM	37	172	0	1	210	2	41	65	34	0	140	1	0	211	31	0	242	0	0	0	0	0	0	3	592	
3:15PM	44	140	0	0	184	0	35	92	24	0	151	0	0	151	22	0	173	0	0	0	0	0	0	1	508	
3:30PM	50	159	0	0	209	0	39	77	34	0	150	0	2	193	33	0	228	0	0	0	0	0	0	0	587	
3:45PM	52	154	0	0	206	1	34	60	41	0	135	1	0	170	26	0	196	0	0	0	0	0	0	0	537	
Hourly Total	183	625	0	1	809	3	149	294	133	0	576	2	2	725	112	0	839	0	0	0	0	0	0	4	2224	
4:00PM	56	184	0	0	240	2	46	85	34	0	165	0	0	179	24	0	203	0	0	0	0	0	0	0	608	
4:15PM	41	173	0	0	214	0	50	91	43	0	184	0	0	184	33	0	217	0	0	0	0	0	0	0	615	
4:30PM	52	164	0	0	216	0	40	96	31	0	167	0	0	169	26	0	195	0	0	0	0	0	0	0	578	
4:45PM	48	178	0	0	226	0	39	82	33	0	154	2	0	164	22	0	186	0	0	0	0	0	0	0	566	
Hourly Total	197	699	0	0	896	2	175	354	141	0	670	2	0	696	105	0	801	0	0	0	0	0	0	0	3	2367
5:00PM	40	170	0	0	210	0	45	85	46	0	176	0	0	170	27	0	197	3	0	0	0	0	0	0	583	
5:15PM	52	171	0	0	223	0	21	55	28	0	104	1	0	166	18	0	184	0	0	0	0	0	0	0	511	
5:30PM	39	158	0	0	197	0	21	70	30	0	121	0	0	159	23	0	182	2	0	0	0	0	0	0	500	
5:45PM	38	150	0	0	188	0	20	73	23	0	116	2	0	155	18	0	173	1	0	0	0	0	0	0	477	
Hourly Total	169	649	0	0	818	0	107	283	127	0	517	3	0	650	86	0	736	6	0	0	0	0	0	0	1	2071
6:00PM	55	153	0	0	208	0	20	61	24	0	105	0	0	114	16	0	130	0	0	0	0	0	0	0	0	443
6:15PM	34	150	0	0	184	0	19	60	17	0	96	0	0	119	17	0	136	1	0	0	0	0	0	0	1	416
6:30PM	32	126	0	0	158	0	13	42	19	0	74	0	0	82	28	0	110	1	0	0	0	0	0	0	0	342
6:45PM	39	102	0	0	141	0	21	54	20	0	95	1	0	111	19	0	130	3	0	0	0	0	0	0	2	366
Hourly Total	160	531	0	0	691	0	73	217	80	0	370	1	0	426	80	0	506	5	0	0	0	0	0	0	3	1567
7:00PM	45	106	0	0	151	2	16	47	24	0	87	1	0	109	15	1	125	0	0	0	0	0	0	0	0	363
7:15PM	26	95	0	0	121	0	17	44	17	0	78	0	0	91	12	0	103	1	0	0	0	0	0	0	4	302
7:30PM	30	94	0	0	124	1	14	35	19	0	68	0	0	87	18	0	105	0	0	0	0	0	0	0	3	297
7:45PM	24	104	0	0	128	1	14	32	22	0	68	2	0	67	18	0	85	1	0	0	0	0	0	0	5	281
Hourly Total	125	399	0	0	524	4	61	158	82	0	301	3	0	354	63	1	418	2	0	0	0	0	0	0	12	1243
8:00PM	40	89	0	0	129	1	13	36	12	0	61	3	0	77	21	0	98	3	0	0	0	0	0	0	0	288
8:15PM	35	94	0	0	129	0	17	45	17	0	79	0	0	86	21	0	107	0	0	0	0	0	0	0	0	315
8:30PM	17	71	0	0	88	0	8	34	14	0	56	1	0	70	17	0	87	1	0	0	0	0	0	0	1	231
8:45PM	24	57	0	0	81	1	7	38	14	0	59	0	0	63	17	2	82	0	0	0	0	0	0	0	1	222
Hourly Total	116	311	0	0	427	2	45	153	57	0	255	4	0	296	76	2	374	4	0	0	0	0	0	0	2	1056
9:00PM	30	75	0	0	105	0	8	32	13	0	53	0	0	42	10	0	52	0	0	0	0	0	0	0	0	210
9:15PM	24	59	0	0	83	0	8	30	15	0	53	0	0	52	12	0	64	0	0	0	0	0	0	0	0	200
9:30PM	19	59	0	0	78	0	4	27	6	0	37	0	0	33	7	0	40	0	0	0	0	0	0	0	0	155
9:45PM	19	23	0	0	42	0	4	18	13	0	35	0	0	30	14	0	44	1	0	0	0	0	0	0	0	121
Hourly Total	92	216	0	0	308	0	24	107	47	0	178	0	0	157	43	0	200	1	0	0	0	0	0	0	0	686
10:00PM	14	44	0	0	58	0	3	17	6	0	26	0	0	28	11	0	39	0	0	0	0	0	0	0	0	123
10:15PM	14	38	0	0	52	1	2	11	8	0	21	0	0	28	6	0	34	0	0	0	0	0	0	0	0	107
10:30PM	11	32	0	0	43	0	2	6	5	0	13	0	0	18	3	0	21	0	0	0	0	0	0	0	0	77
10:45PM	8	13	0	0	21	0	2	12	3	0	17	0	0	12	10	0	22	0	0	0	0	0	0	0	0	60
Hourly Total	47	127	0	0	174	1	9	46	22	0	77	0	0	86	30	0	116	0	0	0	0	0	0	0	0	367
11:00PM	7	30	0	0	37	2	2	11	2	0	15	0	0	16	8	0	24	0	0	0	0	0	0	0	0	76
11:15PM	6	17	0	0	23	0	0	11	1	0	12	0	0	15	3	0	18	0	0	0	0	0	0	0	0	53
11:30PM	6	18	0	0	24	1	3	15	7	0	25	0	0	17	9	0	26	2	0	0	0	0	0	0	1	75
11:45PM	4	26	0	0	30	0	0	5	2	0	7	0	0	19	6	0	25	0	0	0	0	0	0	0	0	62
Hourly Total	23	91	0	0	114	3	5	42	12	0	59	0	0	67	26	0	93	2	0	0	0	0	0	0	1	266
<b>Total</b>	<b>2337</b>	<b>7639</b>	<b>1</b>	<b>2</b>	<b>9979</b>	<b>33</b>	<b>1632</b>	<b>3906</b>	<b>1621</b>	<b>0</b>	<b>7159</b>	<b>22</b>	<b>3</b>	<b>8923</b>	<b>1433</b>	<b>5</b>	<b>10364</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>54</b>	<b>27503</b>	
<b>% Approach</b>	23.4%	76.6%	0%	0%	-	-	22.8%	54.6%	22.6%	0%	-	-	0%	86.1%	13.8%	0%	-	-	0%	0%	100%	0%	-	-	-	
<b>% Total</b>	8.5%	27.8%	0%	0%	36.3%	-	5.9%	14.2%	5.9%	0%	26.0%	-	0%	32.4%	5.2%	0%	37.7%	-	0%	0%	0%	0%	0%	-	-	
<b>Lights</b>	2269	7446	1	2	9718	-	1602	3855	1583	0	7040	-	3	8674	1407	5	10089	-	0	0	1	0	1	-	26848	
<b>% Lights</b>	97.1%	97.5%	100%	100%	97.4%	-	98.2%	98.7%	97.7%	0%	98.3%	-	100%	97.2%	98.2%	100%	97.3%	-	0%	0%	100%	0%	100%	-	97.6%	
<b>Articulated Trucks and Single-Unit Trucks</b>	58	149	0	0	207	-	8	25	18	0	51	-	0	205	22	0	227	-	0	0	0	0	0	-	485	
<b>% Articulated Trucks and Single-Unit Trucks</b>	2.5%	2.0%	0%	0%	2.1%	-	0.5%	0.6%	1.1%	0%	0.7%	-	0%	2.3%	1.5%	0%	2.2%	-	0%	0%	0%	0%	0%	-	1.8%	
<b>Buses</b>	10	44	0	0	54	-	22	26	20	0	68	-	0	44	4	0	48	-	0	0	0	0	0	-	170	
<b>% Buses</b>	0.4%	0.6%	0%	0%	0.5%	-	1.3%	0.7%	1.2%	0%	0.9%	-	0%	0.5%	0.3%	0%	0.5%	-	0%	0%	0%	0%	0%	-	0.6%	
Articulated Trucks and Single-Unit Trucks	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	1	
% Articulated Trucks and Single-Unit Trucks	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	1.9%	
Pedestrians	-	-	-	-	33	-	-	-	-	-	22	-	-	-	-	-	25	-								

**Prince at WV16 - TMC**

Tue Apr 25, 2017

Full Length (12AM-12AM (+1))

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

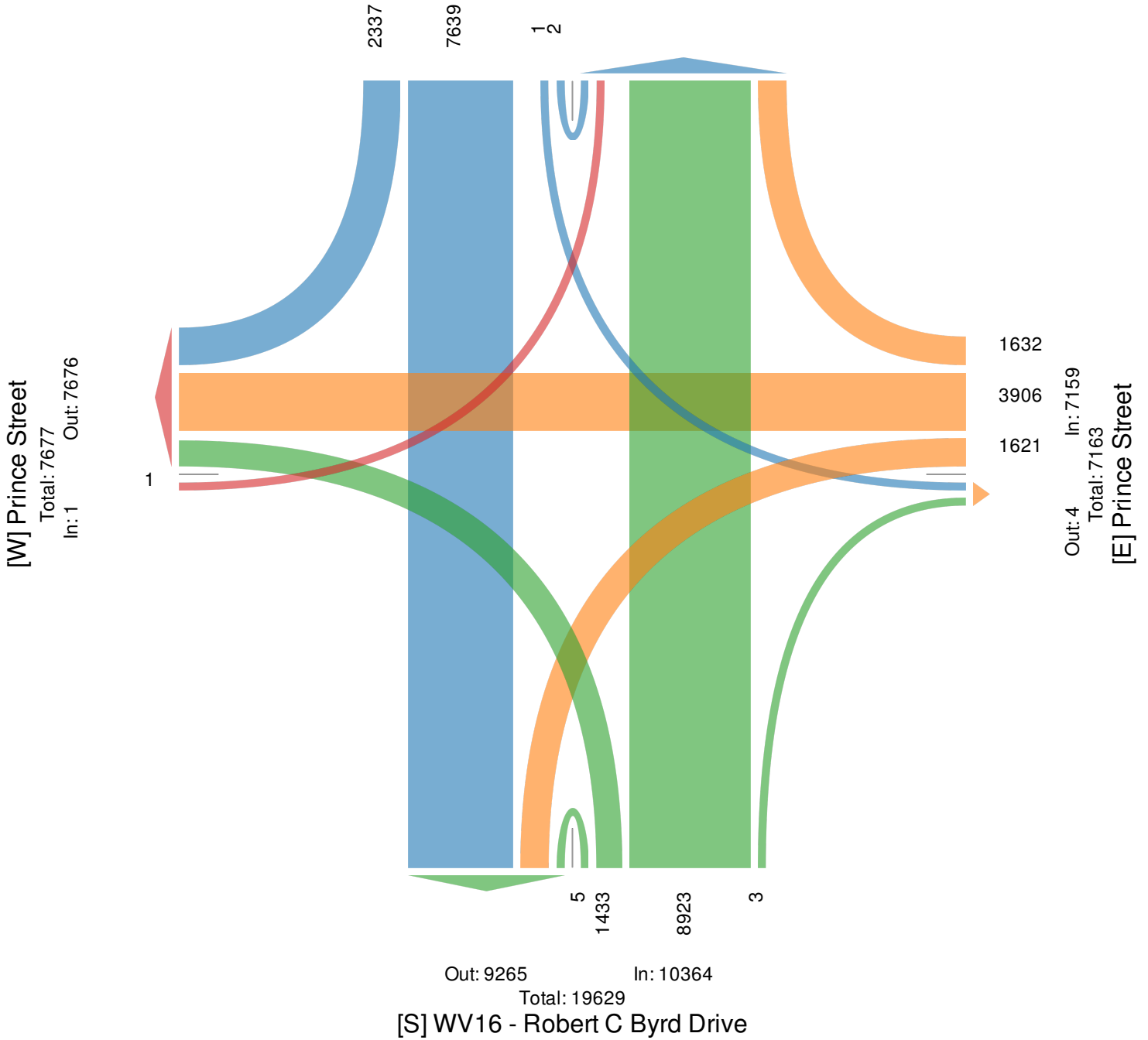
ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 20537

In: 9979

Out: 10558



**Prince at WV16 - TMC**

Tue Apr 25, 2017

AM Peak (Apr 25 2017 10:45AM - 11:45AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

Leg Direction Time	WV16 - Robert C Byrd Drive Southbound						Prince Street Westbound						WV16 - Robert C Byrd Drive Northbound						Prince Street Eastbound						Int	
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*		
2017-04-25 10:45AM	27	98	1	0	126	1	38	63	21	0	122	0	0	146	19	0	165	0	0	0	0	0	0	0	3	413
11:00AM	30	111	0	0	141	2	35	55	32	0	122	0	0	183	13	0	196	0	0	0	0	0	0	0	0	459
11:15AM	45	125	0	0	170	2	29	55	21	0	105	1	0	158	24	0	182	0	0	0	0	0	0	0	0	457
11:30AM	38	133	0	0	171	0	29	80	29	0	138	0	0	188	22	0	210	0	0	0	0	0	0	0	0	519
<b>Total</b>	140	467	1	0	608	5	131	253	103	0	487	1	0	675	78	0	753	0	0	0	0	0	0	0	3	1848
<b>% Approach</b>	23.0%	76.8%	0.2%	0%	-	-	26.9%	52.0%	21.1%	0%	-	-	0%	89.6%	10.4%	0%	-	-	0%	0%	0%	0%	-	-	-	-
<b>% Total</b>	7.6%	25.3%	0.1%	0%	32.9%	-	7.1%	13.7%	5.6%	0%	26.4%	-	0%	36.5%	4.2%	0%	40.7%	-	0%	0%	0%	0%	0%	0%	-	-
<b>PHF</b>	0.778	0.878	0.250	-	0.889	-	0.862	0.791	0.805	-	0.882	-	-	0.898	0.813	-	0.896	-	-	-	-	-	-	-	-	0.890
<b>Lights</b>	136	454	1	0	591	-	129	252	101	0	482	-	0	648	77	0	725	-	0	0	0	0	0	0	-	1798
<b>% Lights</b>	97.1%	97.2%	100%	0%	97.2%	-	98.5%	99.6%	98.1%	0%	99.0%	-	0%	96.0%	98.7%	0%	96.3%	-	0%	0%	0%	0%	-	-	-	97.3%
<b>Articulated Trucks and Single-Unit Trucks</b>	3	12	0	0	15	-	1	1	2	0	4	-	0	25	1	0	26	-	0	0	0	0	0	0	-	45
<b>% Articulated Trucks and Single-Unit Trucks</b>	2.1%	2.6%	0%	0%	2.5%	-	0.8%	0.4%	1.9%	0%	0.8%	-	0%	3.7%	1.3%	0%	3.5%	-	0%	0%	0%	0%	-	-	-	2.4%
<b>Buses</b>	1	1	0	0	2	-	1	0	0	0	1	-	0	2	0	0	2	-	0	0	0	0	0	0	-	5
<b>% Buses</b>	0.7%	0.2%	0%	0%	0.3%	-	0.8%	0%	0%	0%	0.2%	-	0%	0.3%	0%	0%	0.3%	-	0%	0%	0%	0%	-	-	-	0.3%
Articulated Trucks and Single-Unit Trucks	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	-	-	0	0
% Articulated Trucks and Single-Unit Trucks	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	-	-	0%	0%
Pedestrians	-	-	-	-	5	1	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	-	-	3	3
% Pedestrians	-	-	-	-	100%	100%	-	-	-	-	100%	100%	-	-	-	-	0%	0%	-	-	-	-	-	-	100%	100%

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Prince at WV16 - TMC**

Tue Apr 25, 2017

AM Peak (Apr 25 2017 10:45AM - 11:45AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

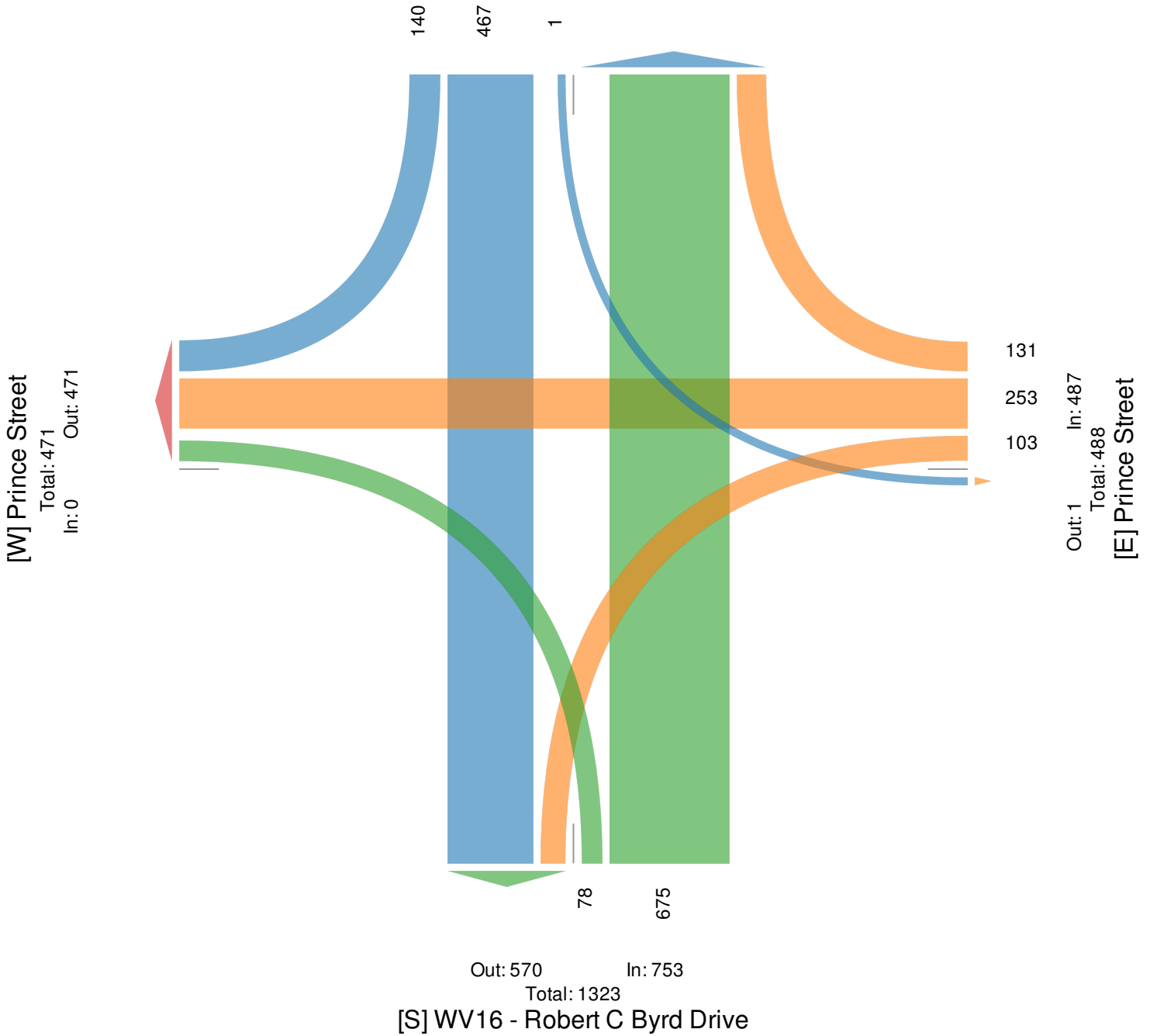
ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 1414

In: 608

Out: 806





**Prince at WV16 - TMC**

Tue Apr 25, 2017

Midday Peak (Apr 25 2017 11:45AM - 12:45PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

Leg Direction	WV16 - Robert C Byrd Drive Southbound						Prince Street Westbound						WV16 - Robert C Byrd Drive Northbound						Prince Street Eastbound						Int	
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*		
2017-04-25 11:45AM	35	135	0	0	170	0	46	79	31	0	156	0	0	185	20	0	205	0	0	0	0	0	0	0	531	
12:00PM	53	143	0	0	196	0	55	82	46	0	183	0	0	172	22	0	194	0	0	0	0	0	0	0	573	
12:15PM	44	139	0	0	183	0	47	59	34	0	140	0	0	168	23	0	191	0	0	0	0	0	0	0	514	
12:30PM	38	154	0	0	192	0	29	69	29	0	127	0	0	193	16	0	209	0	0	0	0	0	0	0	528	
<b>Total</b>	170	571	0	0	741	0	177	289	140	0	606	0	0	718	81	0	799	0	0	0	0	0	0	0	3	2146
<b>% Approach</b>	22.9%	77.1%	0%	0%	-	-	29.2%	47.7%	23.1%	0%	-	-	0%	89.9%	10.1%	0%	-	-	0%	0%	0%	0%	-	-	-	-
<b>% Total</b>	7.9%	26.6%	0%	0%	34.5%	-	8.2%	13.5%	6.5%	0%	28.2%	-	0%	33.5%	3.8%	0%	37.2%	-	0%	0%	0%	0%	0%	0%	-	-
<b>PHF</b>	0.802	0.927	-	-	0.945	-	0.805	0.881	0.761	-	0.828	-	-	0.930	0.880	-	0.956	-	-	-	-	-	-	-	-	0.936
<b>Lights</b>	167	556	0	0	723	-	175	288	138	0	601	-	0	701	80	0	781	-	0	0	0	0	0	0	-	2105
<b>% Lights</b>	98.2%	97.4%	0%	0%	97.6%	-	98.9%	99.7%	98.6%	0%	99.2%	-	0%	97.6%	98.8%	0%	97.7%	-	0%	0%	0%	0%	-	-	-	98.1%
<b>Articulated Trucks and Single-Unit Trucks</b>	3	13	0	0	16	-	1	1	2	0	4	-	0	15	1	0	16	-	0	0	0	0	0	0	-	36
<b>% Articulated Trucks and Single-Unit Trucks</b>	1.8%	2.3%	0%	0%	2.2%	-	0.6%	0.3%	1.4%	0%	0.7%	-	0%	2.1%	1.2%	0%	2.0%	-	0%	0%	0%	0%	-	-	-	1.7%
<b>Buses</b>	0	2	0	0	2	-	1	0	0	0	1	-	0	2	0	0	2	-	0	0	0	0	0	0	-	5
<b>% Buses</b>	0%	0.4%	0%	0%	0.3%	-	0.6%	0%	0%	0%	0.2%	-	0%	0.3%	0%	0%	0.3%	-	0%	0%	0%	0%	-	-	-	0.2%
Articulated Trucks and Single-Unit Trucks	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0
% Articulated Trucks and Single-Unit Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	3
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Prince at WV16 - TMC**

Tue Apr 25, 2017

Midday Peak (Apr 25 2017 11:45AM - 12:45PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

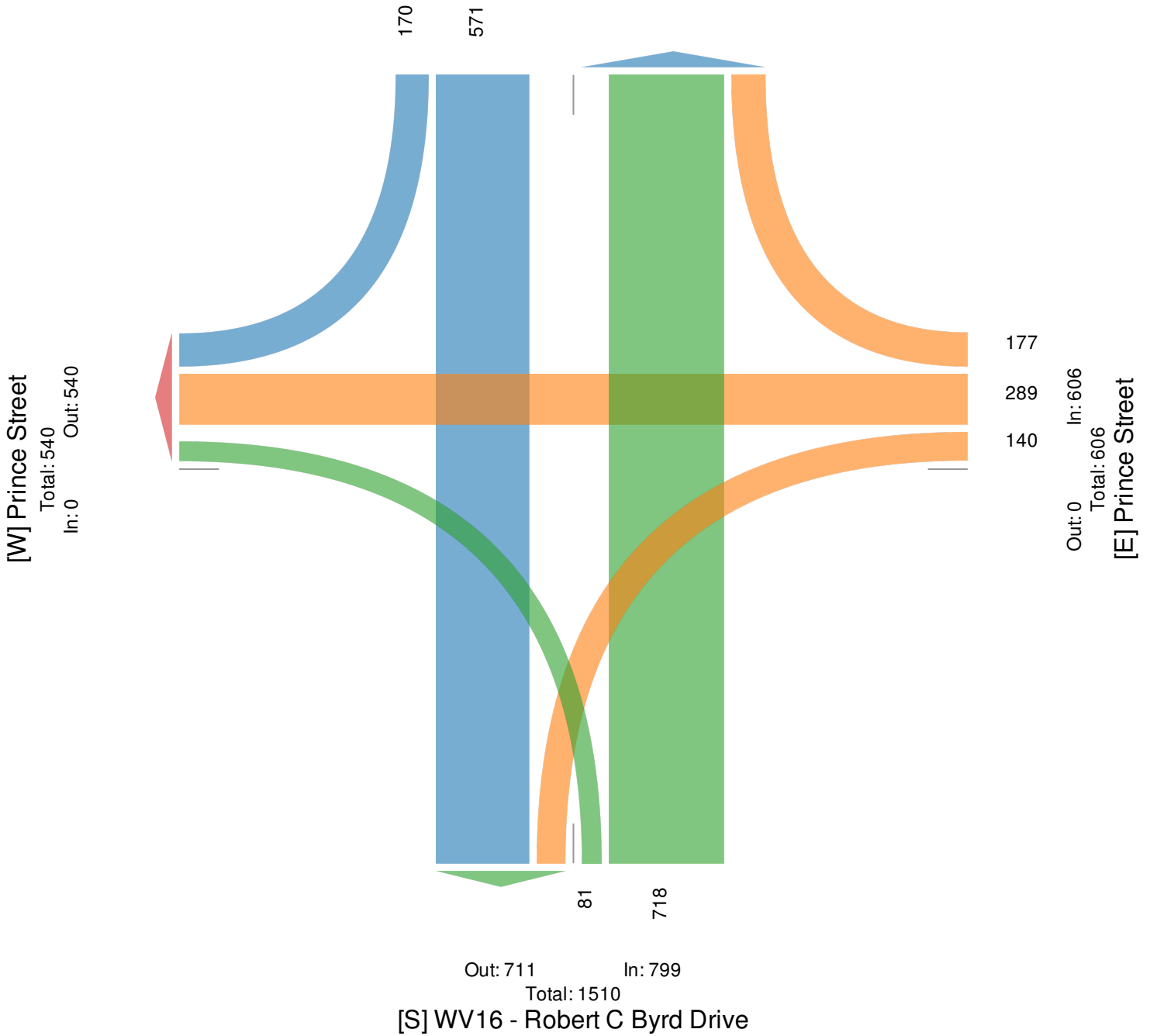
ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 1636

In: 741

Out: 895



**Prince at WV16 - TMC**

Tue Apr 25, 2017

PM Peak (Apr 25 2017 4PM - 5PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

Leg Direction	WV16 - Robert C Byrd Drive Southbound						Prince Street Westbound						WV16 - Robert C Byrd Drive Northbound						Prince Street Eastbound						Int	
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*		
2017-04-25 4:00PM	56	184	0	0	240	2	46	85	34	0	165	0	0	179	24	0	203	0	0	0	0	0	0	0	608	
4:15PM	41	173	0	0	214	0	50	91	43	0	184	0	0	184	33	0	217	0	0	0	0	0	0	0	615	
4:30PM	52	164	0	0	216	0	40	96	31	0	167	0	0	169	26	0	195	0	0	0	0	0	0	0	578	
4:45PM	48	178	0	0	226	0	39	82	33	0	154	2	0	164	22	0	186	0	0	0	0	0	0	0	566	
<b>Total</b>	197	699	0	0	896	2	175	354	141	0	670	2	0	696	105	0	801	0	0	0	0	0	0	0	3	2367
<b>% Approach</b>	22.0%	78.0%	0%	0%	-	-	26.1%	52.8%	21.0%	0%	-	-	0%	86.9%	13.1%	0%	-	-	0%	0%	0%	0%	-	-	-	
<b>% Total</b>	8.3%	29.5%	0%	0%	37.9%	-	7.4%	15.0%	6.0%	0%	28.3%	-	0%	29.4%	4.4%	0%	33.8%	-	0%	0%	0%	0%	0%	-	-	
<b>PHF</b>	0.879	0.950	-	-	0.933	-	0.875	0.922	0.820	-	0.910	-	-	0.946	0.795	-	0.923	-	-	-	-	-	-	-	0.962	
<b>Lights</b>	197	692	0	0	889	-	173	353	141	0	667	-	0	679	103	0	782	-	0	0	0	0	0	-	2338	
<b>% Lights</b>	100%	99.0%	0%	0%	99.2%	-	98.9%	99.7%	100%	0%	99.6%	-	0%	97.6%	98.1%	0%	97.6%	-	0%	0%	0%	0%	-	-	98.8%	
<b>Articulated Trucks and Single-Unit Trucks</b>	0	5	0	0	5	-	0	0	0	0	0	-	0	14	2	0	16	-	0	0	0	0	0	-	21	
<b>% Articulated Trucks and Single-Unit Trucks</b>	0%	0.7%	0%	0%	0.6%	-	0%	0%	0%	0%	0%	-	0%	2.0%	1.9%	0%	2.0%	-	0%	0%	0%	0%	-	-	0.9%	
<b>Buses</b>	0	2	0	0	2	-	2	1	0	0	3	-	0	3	0	0	3	-	0	0	0	0	0	-	8	
<b>% Buses</b>	0%	0.3%	0%	0%	0.2%	-	1.1%	0.3%	0%	0%	0.4%	-	0%	0.4%	0%	0%	0.4%	-	0%	0%	0%	0%	-	-	0.3%	
Articulated Trucks and Single-Unit Trucks	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	0	
% Articulated Trucks and Single-Unit Trucks	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	
Pedestrians	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Prince at WV16 - TMC**

Tue Apr 25, 2017

PM Peak (Apr 25 2017 4PM - 5PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)

All Movements

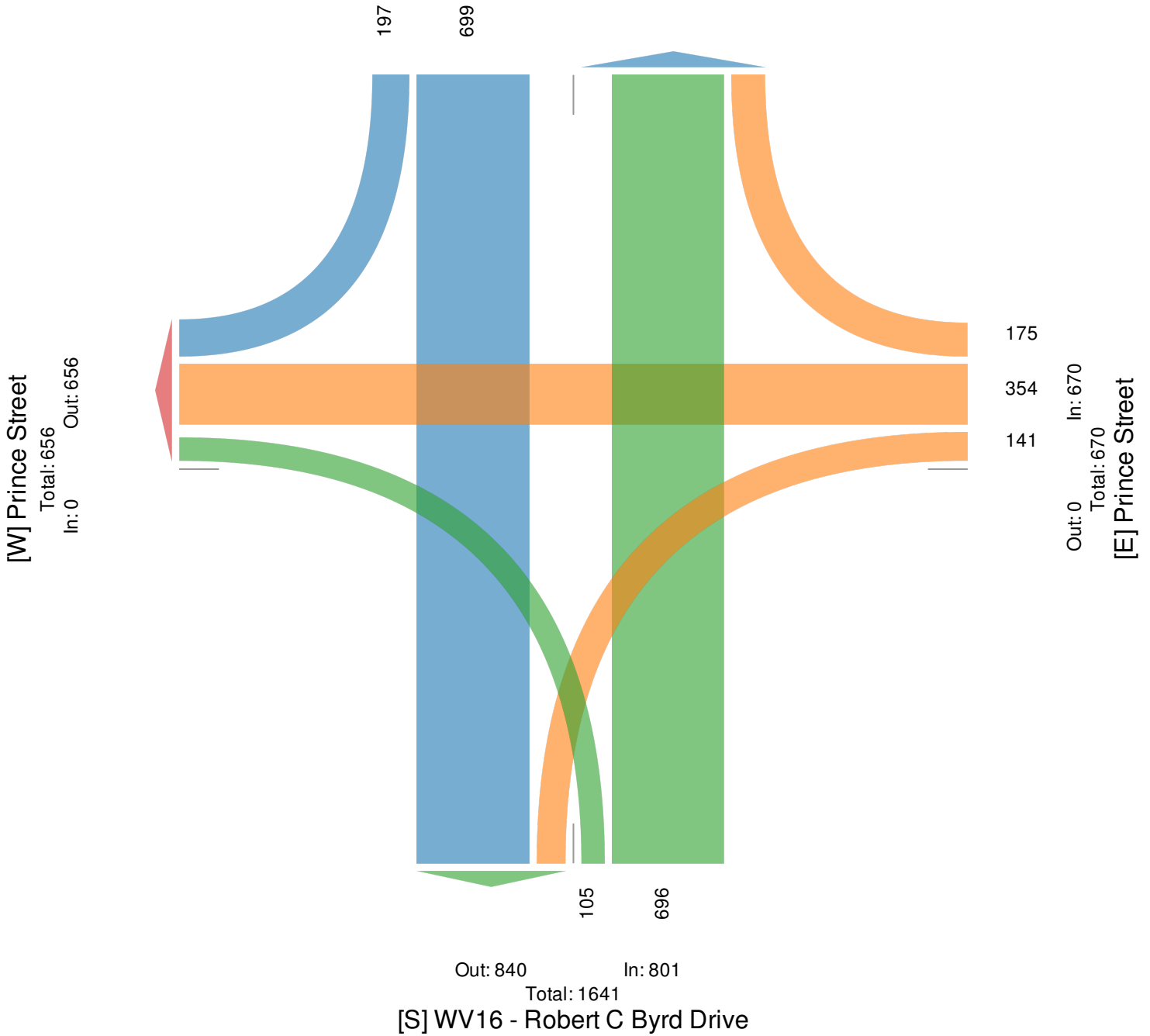
ID: 407165, Location: 37.776312, -81.194492, Site Code: Site 13 - Tuesday

**[N] WV16 - Robert C Byrd Drive**

Total: 1767

In: 896




















Out: 871



# Appendix: Existing Conditions Analysis



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street 2017 Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Future Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1826	1870	1767	1900	1870	0	0	1885	1885
Adj Flow Rate, veh/h				116	277	72	104	653	0	0	389	132
Peak Hour Factor				0.82	0.84	0.74	0.85	0.91	0.92	0.92	0.89	0.76
Percent Heavy Veh, %				5	2	9	0	2	0	0	1	1
Cap, veh/h				452	486	389	728	2345	0	0	2267	709
Arrive On Green				0.26	0.26	0.26	0.05	0.22	0.00	0.00	0.46	0.46
Sat Flow, veh/h				1739	1870	1497	1810	3647	0	0	5193	1542
Grp Volume(v), veh/h				116	277	72	104	653	0	0	383	138
Grp Sat Flow(s),veh/h/ln				1739	1870	1497	1810	1777	0	0	1621	1608
Q Serve(g_s), s				5.3	12.9	3.7	2.4	15.3	0.0	0.0	4.6	5.1
Cycle Q Clear(g_c), s				5.3	12.9	3.7	2.4	15.3	0.0	0.0	4.6	5.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.96
Lane Grp Cap(c), veh/h				452	486	389	728	2345	0	0	2237	739
V/C Ratio(X)				0.26	0.57	0.18	0.14	0.28	0.00	0.00	0.17	0.19
Avail Cap(c_a), veh/h				452	486	389	728	2345	0	0	2237	739
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.93	0.93	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.3	32.1	28.8	8.1	19.3	0.0	0.0	15.8	15.9
Incr Delay (d2), s/veh				1.4	4.8	1.0	0.4	0.3	0.0	0.0	0.2	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	6.4	3.6	0.9	7.3	0.0	0.0	1.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.7	36.9	29.8	8.5	19.6	0.0	0.0	16.0	16.5
LnGrp LOS				C	D	C	A	B	A	A	B	B
Approach Vol, veh/h					465			757			521	
Approach Delay, s/veh					34.3			18.0			16.1	
Approach LOS					C			B			B	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.0		30.0	20.0	50.0						
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0						
Max Green Setting (Gmax), s		66.0		26.0	16.0	46.0						
Max Q Clear Time (g_c+I1), s		17.3		14.9	4.4	7.1						
Green Ext Time (p_c), s		5.0		1.7	0.2	3.7						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				21.8								
HCM 6th LOS				C								

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

Pedestrian Accommodations at RCB/Prince/Neville  
2017 Existing Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0
Future Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	*0.68	0.95	1.00
Fr <sub>t</sub>			0.850					0.960				
Fl <sub>t</sub> Protected		0.984								0.950		
Satd. Flow (prot)	0	3505	1615	0	0	0	0	4838	0	2455	3438	0
Fl <sub>t</sub> Permitted		0.984								0.264		
Satd. Flow (perm)	0	3505	1615	0	0	0	0	4838	0	682	3438	0
Satd. Flow (RTOR)			74					113				
Adj. Flow (vph)	192	404	112	0	0	0	0	571	211	137	371	0
Lane Group Flow (vph)	0	596	112	0	0	0	0	782	0	137	371	0
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4		4							2		
Total Split (s)	35.0	35.0	35.0					45.0		20.0	65.0	
Total Lost Time (s)		4.0	4.0					4.0		3.0	4.0	
Act Effct Green (s)		31.0	31.0					41.0		62.0	61.0	
Actuated g/C Ratio		0.31	0.31					0.41		0.62	0.61	
v/c Ratio		0.55	0.20					0.38		0.19	0.18	
Control Delay		31.0	11.3					18.0		8.8	6.6	
Queue Delay		0.0	0.0					0.0		0.0	0.8	
Total Delay		31.0	11.3					18.0		8.8	7.4	
LOS		C	B					B		A	A	
Approach Delay		27.9						18.0			7.8	
Approach LOS		C						B			A	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 4 (4%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 18.9

Intersection LOS: B

Intersection Capacity Utilization 52.5%

ICU Level of Service A

Analysis Period (min) 15

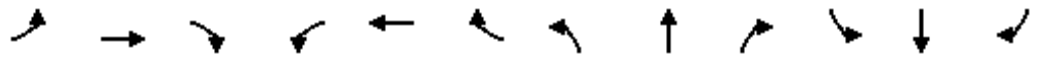
\* User Entered Value

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street





HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 2: Robert C. Byrd Drive & Neville Street 2017 Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗					↕↕↕		↖↖	↕↕	
Traffic Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Future Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1841	1841	1900	1826	0
Adj Flow Rate, veh/h	192	404	112				0	571	211	137	371	0
Peak Hour Factor	0.85	0.81	0.66				0.92	0.90	0.70	0.90	0.89	0.92
Percent Heavy Veh, %	0	2	0				0	4	4	0	5	0
Cap, veh/h	342	771	499				0	1494	538	846	2116	0
Arrive On Green	0.31	0.31	0.31				0.00	0.41	0.41	0.34	1.00	0.00
Sat Flow, veh/h	1104	2487	1610				0	3808	1312	2461	3561	0
Grp Volume(v), veh/h	316	280	112				0	524	258	137	371	0
Grp Sat Flow(s),veh/h/ln	1815	1777	1610				0	1675	1605	1230	1735	0
Q Serve(g_s), s	14.5	12.9	5.2				0.0	10.9	11.3	2.0	0.0	0.0
Cycle Q Clear(g_c), s	14.5	12.9	5.2				0.0	10.9	11.3	2.0	0.0	0.0
Prop In Lane	0.61		1.00				0.00		0.82	1.00		0.00
Lane Grp Cap(c), veh/h	563	551	499				0	1374	658	846	2116	0
V/C Ratio(X)	0.56	0.51	0.22				0.00	0.38	0.39	0.16	0.18	0.00
Avail Cap(c_a), veh/h	563	551	499				0	1374	658	846	2116	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	28.8	28.3	25.6				0.0	20.6	20.7	7.5	0.0	0.0
Incr Delay (d2), s/veh	4.0	3.3	1.0				0.0	0.8	1.8	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	5.9	5.4				0.0	4.3	4.4	0.5	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	31.6	26.6				0.0	21.4	22.5	7.9	0.2	0.0
LnGrp LOS	C	C	C				A	C	C	A	A	A
Approach Vol, veh/h		708						782			508	
Approach Delay, s/veh		31.4						21.8			2.3	
Approach LOS		C						C			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		65.0		35.0	20.0	45.0						
Change Period (Y+Rc), s		4.0		4.0	3.0	4.0						
Max Green Setting (Gmax), s		61.0		31.0	17.0	41.0						
Max Q Clear Time (g_c+I1), s		2.0		16.5	4.0	13.3						
Green Ext Time (p_c), s		2.6		3.5	0.3	5.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			20.2									
HCM 6th LOS			C									

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	L	T	R	L	T	T	T	T	T	TR	
Maximum Queue (ft)	105	237	71	41	47	44	7	74	134	81	
Average Queue (ft)	34	112	26	13	16	10	1	14	49	10	
95th Queue (ft)	80	201	59	35	37	32	4	47	113	47	
Link Distance (ft)	455	455	455	205	205	205			721		
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)							300	300	250		
Storage Blk Time (%)											
Queuing Penalty (veh)											

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	LT	T	R	T	T	TR	L	L	T	T	
Maximum Queue (ft)	325	259	66	110	220	211	72	90	144	115	
Average Queue (ft)	191	112	20	36	132	90	12	30	65	29	
95th Queue (ft)	290	229	47	86	207	182	39	68	120	93	
Link Distance (ft)	340	340		411	411	411	205	205	205	205	
Upstream Blk Time (%)	0										
Queuing Penalty (veh)	0										
Storage Bay Dist (ft)			75								
Storage Blk Time (%)			4								
Queuing Penalty (veh)			4								

**Network Summary**

Network wide Queuing Penalty: 4
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Lanes, Volumes, Timings  
1: Robert C. Byrd Drive & Prince Street

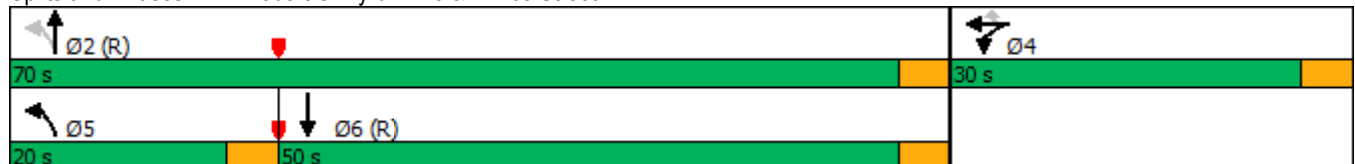
Pedestrian Accommodations at RCB/Prince/Neville  
2017 Existing Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	152	313	169	116	726	0	0	670	199
Future Volume (vph)	0	0	0	152	313	169	116	726	0	0	670	199
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.86	0.86
Frt						0.850					0.965	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1770	1881	1568	1805	3574	0	0	6293	0
Flt Permitted				0.950			0.216					
Satd. Flow (perm)	0	0	0	1770	1881	1568	410	3574	0	0	6293	0
Satd. Flow (RTOR)						199					102	
Adj. Flow (vph)	0	0	0	173	364	199	132	772	0	0	736	224
Lane Group Flow (vph)	0	0	0	173	364	199	132	772	0	0	960	0
Turn Type				Split	NA	Perm	pm+pt	NA			NA	
Protected Phases				4	4		5	2			6	
Permitted Phases						4	2					
Total Split (s)				30.0	30.0	30.0	20.0	70.0			50.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Act Effct Green (s)				26.0	26.0	26.0	66.0	66.0			46.0	
Actuated g/C Ratio				0.26	0.26	0.26	0.66	0.66			0.46	
v/c Ratio				0.38	0.74	0.36	0.27	0.33			0.33	
Control Delay				33.2	44.7	6.3	8.5	6.6			15.5	
Queue Delay				0.0	0.0	0.0	0.4	0.8			0.0	
Total Delay				33.2	44.7	6.3	9.0	7.4			15.5	
LOS				C	D	A	A	A			B	
Approach Delay					31.6			7.6			15.5	
Approach LOS					C			A			B	




















Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 89 (89%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 17.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 55.3%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Robert C. Byrd Drive & Prince Street



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street 2017 Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Future Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No				No			No	
Adj Sat Flow, veh/h/ln				1870	1885	1856	1900	1885	0	0	1900	1900
Adj Flow Rate, veh/h				173	364	199	132	772	0	0	736	224
Peak Hour Factor				0.88	0.86	0.85	0.88	0.94	0.92	0.92	0.91	0.89
Percent Heavy Veh, %				2	1	3	0	1	0	0	0	0
Cap, veh/h				463	490	409	578	2364	0	0	2324	682
Arrive On Green				0.26	0.26	0.26	0.32	1.00	0.00	0.00	0.46	0.46
Sat Flow, veh/h				1781	1885	1572	1810	3676	0	0	5317	1484
Grp Volume(v), veh/h				173	364	199	132	772	0	0	713	247
Grp Sat Flow(s),veh/h/ln				1781	1885	1572	1810	1791	0	0	1634	1633
Q Serve(g_s), s				8.0	17.7	10.7	2.5	0.0	0.0	0.0	9.2	9.6
Cycle Q Clear(g_c), s				8.0	17.7	10.7	2.5	0.0	0.0	0.0	9.2	9.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.91
Lane Grp Cap(c), veh/h				463	490	409	578	2364	0	0	2255	751
V/C Ratio(X)				0.37	0.74	0.49	0.23	0.33	0.00	0.00	0.32	0.33
Avail Cap(c_a), veh/h				463	490	409	578	2364	0	0	2255	751
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.94	0.94	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				30.3	33.9	31.3	6.3	0.0	0.0	0.0	17.1	17.2
Incr Delay (d2), s/veh				2.3	9.8	4.1	0.9	0.3	0.0	0.0	0.4	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.7	9.3	10.1	0.9	0.1	0.0	0.0	3.4	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.6	43.7	35.4	7.1	0.3	0.0	0.0	17.4	18.3
LnGrp LOS				C	D	D	A	A	A	A	B	B
Approach Vol, veh/h					736			904			960	
Approach Delay, s/veh					38.9			1.3			17.7	
Approach LOS					D			A			B	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.0		30.0	20.0	50.0						
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0						
Max Green Setting (Gmax), s		66.0		26.0	16.0	46.0						
Max Q Clear Time (g_c+I1), s		2.0		19.7	4.5	11.6						
Green Ext Time (p_c), s		6.3		1.9	0.2	7.5						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.0								
HCM 6th LOS				B								

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

Pedestrian Accommodations at RCB/Prince/Neville  
2017 Existing Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0
Future Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	*0.64	0.95	1.00
Fr <sub>t</sub>			0.850					0.975				
Fl <sub>t</sub> Protected		0.979								0.950		
Satd. Flow (prot)	0	3495	1615	0	0	0	0	4934	0	2310	3539	0
Fl <sub>t</sub> Permitted		0.979								0.284		
Satd. Flow (perm)	0	3495	1615	0	0	0	0	4934	0	691	3539	0
Satd. Flow (RTOR)			98					52				
Adj. Flow (vph)	319	414	181	0	0	0	0	610	124	197	757	0
Lane Group Flow (vph)	0	733	181	0	0	0	0	734	0	197	757	0
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4		4							2		
Total Split (s)	35.0	35.0	35.0					45.0		20.0	65.0	
Total Lost Time (s)		4.0	4.0					4.0		3.0	4.0	
Act Effct Green (s)		31.0	31.0					41.0		62.0	61.0	
Actuated g/C Ratio		0.31	0.31					0.41		0.62	0.61	
v/c Ratio		0.68	0.32					0.36		0.28	0.35	
Control Delay		33.9	14.0					19.4		6.9	7.5	
Queue Delay		0.0	0.0					0.0		0.0	0.2	
Total Delay		33.9	14.0					19.4		6.9	7.7	
LOS		C	B					B		A	A	
Approach Delay		30.0						19.4			7.5	
Approach LOS		C						B			A	

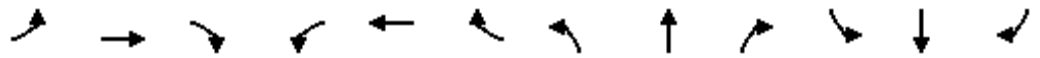
Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 4 (4%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 18.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 55.3%  
 ICU Level of Service B  
 Analysis Period (min) 15  
 \* User Entered Value

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 2: Robert C. Byrd Drive & Neville Street 2017 Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗					↕↕↕		↖↖	↕↕	
Traffic Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Future Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1856	1856	1900	1870	0
Adj Flow Rate, veh/h	319	414	181				0	610	124	197	757	0
Peak Hour Factor	0.89	0.91	0.72				0.92	0.91	0.80	0.86	0.86	0.92
Percent Heavy Veh, %	0	2	0				0	3	3	0	2	0
Cap, veh/h	460	647	499				0	1736	347	828	2168	0
Arrive On Green	0.31	0.31	0.31				0.00	0.41	0.41	0.34	1.00	0.00
Sat Flow, veh/h	1485	2088	1610				0	4401	847	2316	3647	0
Grp Volume(v), veh/h	386	347	181				0	485	249	197	757	0
Grp Sat Flow(s),veh/h/ln	1796	1777	1610				0	1689	1703	1158	1777	0
Q Serve(g_s), s	18.9	16.8	8.7				0.0	9.9	10.1	3.3	0.0	0.0
Cycle Q Clear(g_c), s	18.9	16.8	8.7				0.0	9.9	10.1	3.3	0.0	0.0
Prop In Lane	0.83		1.00				0.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	557	551	499				0	1385	698	828	2168	0
V/C Ratio(X)	0.69	0.63	0.36				0.00	0.35	0.36	0.24	0.35	0.00
Avail Cap(c_a), veh/h	557	551	499				0	1385	698	828	2168	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.95	0.95	0.00
Uniform Delay (d), s/veh	30.3	29.6	26.8				0.0	20.3	20.4	7.6	0.0	0.0
Incr Delay (d2), s/veh	6.9	5.4	2.0				0.0	0.7	1.4	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	7.8	8.8				0.0	3.9	4.2	0.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	35.0	28.9				0.0	21.0	21.8	8.2	0.4	0.0
LnGrp LOS	D	C	C				A	C	C	A	A	A
Approach Vol, veh/h		914						734			954	
Approach Delay, s/veh		34.7						21.3			2.0	
Approach LOS		C						C			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		65.0		35.0	20.0	45.0						
Change Period (Y+Rc), s		4.0		4.0	3.0	4.0						
Max Green Setting (Gmax), s		61.0		31.0	17.0	41.0						
Max Q Clear Time (g_c+I1), s		2.0		20.9	5.3	12.1						
Green Ext Time (p_c), s		6.1		3.8	0.5	5.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			B									

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	T	TR
Maximum Queue (ft)	155	307	106	108	100	84	34	142	218	189
Average Queue (ft)	62	165	47	38	45	33	2	29	125	70
95th Queue (ft)	127	266	81	81	87	72	17	89	201	171
Link Distance (ft)	455	455	455	205	205	205			721	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)							300	300		250
Storage Blk Time (%)									0	
Queuing Penalty (veh)									0	

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	T	R	T	T	TR	L	L	T	T
Maximum Queue (ft)	355	339	137	126	225	207	58	84	120	99
Average Queue (ft)	273	170	36	38	140	92	21	39	51	47
95th Queue (ft)	369	296	83	90	214	181	45	72	98	87
Link Distance (ft)	340	340		411	411	411	205	205	205	205
Upstream Blk Time (%)	3	0								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			75							
Storage Blk Time (%)		8	0							
Queuing Penalty (veh)		10	0							

**Network Summary**

Network wide Queuing Penalty: 11
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# Appendix: Clearance Intervals



### WV 16 (Robert C. Byrd Drive) and Neville Street

ASSOCIATED PHASE	DIRECTION	FACTORS							CALCULATED (ITE & NCHRP REPORT 731)		
		PERCEPTION/RE ACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED*	ALL RED APPROACH SPEED**	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR
		t	V <sub>Y</sub>	V <sub>R</sub>	a	W	L	g	Y	AR	TOTAL
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC
2	SBT	1	42	42	10	75	20	0	4.1	0.5	4.6
4	EBL	1	25	20	10	80	20	-3	3.0	2.4	5.4
4	EBT	1	37	37	10	90	20	-3	4.0	1.0	5.0
5	SBL	1	30	20	10	75	20	0	3.2	2.2	5.4
6	NBT	1	42	42	10	45	20	0	4.1	0.1	4.2

FINAL CLEARANCE (BASED ON NCHRP REPORT 731)				
ASSOCIATED PHASE	DIRECTION	YELLOW	ALL RED	Y + AR
		Y (3-6s TYP)	AR (1-3s TYP)	TOTAL
		SEC	SEC	SEC
2	SBT	4.1	1.0	5.1
4	EB	4.0	2.4	6.4
5	SBL	3.2	2.2	5.4
6	NBT	4.1	1.0	5.1

- \* - NCHRP Report 731 Recommends the following yellow change approach speeds
  - Speed Limit + 7 MPH for through traffic
  - Speed Limit - 5 MPH for left-turn traffic
- \*\* - NCHRP Report 731 recommended the following all red approach speeds
  - Speed Limit + 7 MPH for through traffic
  - 20 MPH for left-turn traffic regardless of speed limit

$$Y = t + \frac{1.47V}{2a+64.4g} \quad \text{Equation 12}$$

$$R = \frac{W+L}{1.47V} - 1 \quad \text{Equation 13}$$

### WV 16 (Robert C. Byrd Drive) and Prince Street

ASSOCIATED PHASE	DIRECTION	FACTORS							CALCULATED (ITE & NCHRP REPORT 731)		
		PERCEPTION/RE ACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED*	ALL RED APPROACH SPEED**	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR
		t	V <sub>Y</sub>	V <sub>R</sub>	a	W	L	g	Y	AR	TOTAL
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC
2	NBT	1	42	42	10	100	20	-3	4.4	0.9	5.3
4	WBL	1	25	20	10	90	20	3	2.7	2.7	5.4
4	WBT	1	37	37	10	95	20	3	3.5	1.1	4.6
5	NBL	1	30	20	10	70	20	-3	3.4	2.1	5.5
6	SBT	1	42	42	10	60	20	0	4.1	0.3	4.4

FINAL CLEARANCE (BASED ON NCHRP REPORT 731)				
ASSOCIATED PHASE	DIRECTION	YELLOW	ALL RED	Y + AR
		Y (3-6s TYP)	AR (1-3s TYP)	TOTAL
		SEC	SEC	SEC
2	NBT	4.4	1.0	5.4
4	WB	3.5	2.7	6.2
5	NBL	3.4	2.1	5.5
6	SBT	4.4	1.0	5.4

- \* - NCHRP Report 731 Recommends the following yellow change approach speeds
  - Speed Limit + 7 MPH for through traffic
  - Speed Limit - 5 MPH for left-turn traffic
- \*\* - NCHRP Report 731 recommended the following all red approach speeds
  - Speed Limit + 7 MPH for through traffic
  - 20 MPH for left-turn traffic regardless of speed limit

$$Y = t + \frac{1.47V}{2a+64.4g} \quad \text{Equation 12}$$

$$R = \frac{W+L}{1.47V} - 1 \quad \text{Equation 13}$$

# Appendix: No Build Conditions Analysis

Lanes, Volumes, Timings  
1: Robert C. Byrd Drive & Prince Street

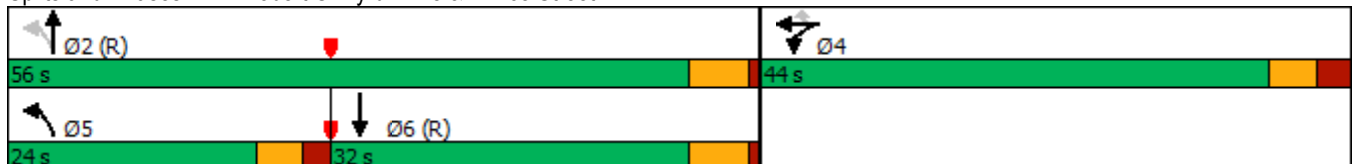
Pedestrian Accommodations at RCB/Prince/Neville  
2017 No Build (With Revised Clearance Intervals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	233	53	88	594	0	0	346	100
Future Volume (vph)	0	0	0	95	233	53	88	594	0	0	346	100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.86	0.86
Frt							0.850				0.962	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1719	1863	1482	1805	3539	0	0	6210	0
Flt Permitted				0.950			0.343					
Satd. Flow (perm)	0	0	0	1719	1863	1482	652	3539	0	0	6210	0
Satd. Flow (RTOR)							86				84	
Adj. Flow (vph)	0	0	0	116	277	72	104	653	0	0	389	132
Lane Group Flow (vph)	0	0	0	116	277	72	104	653	0	0	521	0
Turn Type				Split	NA	Perm	pm+pt	NA			NA	
Protected Phases				4	4		5	2			6	
Permitted Phases						4	2					
Total Split (s)				44.0	44.0	44.0	24.0	56.0			32.0	
Total Lost Time (s)				6.2	6.2	6.2	5.5	5.4			5.4	
Act Effct Green (s)				37.8	37.8	37.8	50.5	50.6			26.6	
Actuated g/C Ratio				0.38	0.38	0.38	0.50	0.51			0.27	
v/c Ratio				0.18	0.39	0.12	0.19	0.36			0.30	
Control Delay				21.7	24.8	3.9	10.7	11.1			24.9	
Queue Delay				0.0	0.0	0.0	0.0	0.2			0.0	
Total Delay				21.7	24.8	3.9	10.7	11.3			24.9	
LOS				C	C	A	B	B			C	
Approach Delay					20.8			11.2			24.9	
Approach LOS					C			B			C	

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 30 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.39  
 Intersection Signal Delay: 17.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 56.6%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Robert C. Byrd Drive & Prince Street



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street 2017 No Build (With Revised Clearance Intervals)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↕	↗	↙	↕			↕↗↘	
Traffic Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Future Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1826	1870	1767	1900	1870	0	0	1885	1885
Adj Flow Rate, veh/h				116	277	72	104	653	0	0	389	132
Peak Hour Factor				0.82	0.84	0.74	0.85	0.91	0.92	0.92	0.89	0.76
Percent Heavy Veh, %				5	2	9	0	2	0	0	1	1
Cap, veh/h				657	707	566	583	1798	0	0	1311	410
Arrive On Green				0.38	0.38	0.38	0.12	0.34	0.00	0.00	0.27	0.27
Sat Flow, veh/h				1739	1870	1497	1810	3647	0	0	5193	1542
Grp Volume(v), veh/h				116	277	72	104	653	0	0	383	138
Grp Sat Flow(s),veh/h/ln				1739	1870	1497	1810	1777	0	0	1621	1608
Q Serve(g_s), s				4.4	10.8	3.1	3.4	13.9	0.0	0.0	6.3	6.9
Cycle Q Clear(g_c), s				4.4	10.8	3.1	3.4	13.9	0.0	0.0	6.3	6.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.96
Lane Grp Cap(c), veh/h				657	707	566	583	1798	0	0	1294	428
V/C Ratio(X)				0.18	0.39	0.13	0.18	0.36	0.00	0.00	0.30	0.32
Avail Cap(c_a), veh/h				657	707	566	583	1798	0	0	1294	428
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.87	0.87	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.7	22.7	20.3	16.5	20.9	0.0	0.0	29.2	29.5
Incr Delay (d2), s/veh				0.6	1.6	0.5	0.6	0.5	0.0	0.0	0.6	2.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.9	5.0	3.3	1.5	6.2	0.0	0.0	2.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.3	24.3	20.8	17.1	21.4	0.0	0.0	29.8	31.4
LnGrp LOS				C	C	C	B	C	A	A	C	C
Approach Vol, veh/h					465			757			521	
Approach Delay, s/veh					23.0			20.8			30.3	
Approach LOS					C			C			C	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		56.0		44.0	24.0	32.0						
Change Period (Y+Rc), s		5.4		* 6.2	5.5	5.4						
Max Green Setting (Gmax), s		50.6		* 38	18.5	26.6						
Max Q Clear Time (g_c+I1), s		15.9		12.8	5.4	8.9						
Green Ext Time (p_c), s		4.9		2.2	0.2	3.1						

**Intersection Summary**

HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

**Notes**

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

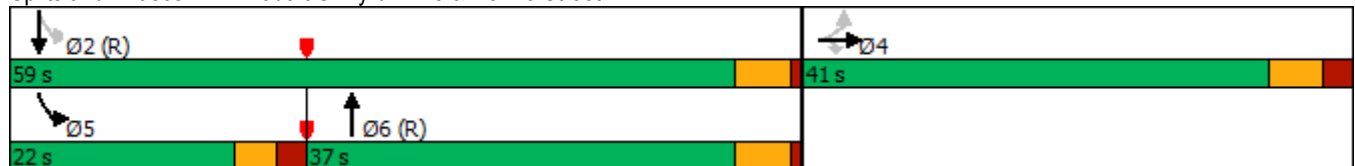
Pedestrian Accommodations at RCB/Prince/Neville  
2017 No Build (With Revised Clearance Intervals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0
Future Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	*0.68	0.95	1.00
Fr <sub>t</sub>			0.850					0.960				
Fl <sub>t</sub> Protected		0.984								0.950		
Satd. Flow (prot)	0	3505	1615	0	0	0	0	4838	0	2455	3438	0
Fl <sub>t</sub> Permitted		0.984								0.222		
Satd. Flow (perm)	0	3505	1615	0	0	0	0	4838	0	574	3438	0
Satd. Flow (RTOR)			82					98				
Adj. Flow (vph)	192	404	112	0	0	0	0	571	211	137	371	0
Lane Group Flow (vph)	0	596	112	0	0	0	0	782	0	137	371	0
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4		4							2		
Total Split (s)	41.0	41.0	41.0					37.0		22.0	59.0	
Total Lost Time (s)		6.4	6.4					5.1		5.4	5.1	
Act Effct Green (s)		34.6	34.6					31.9		53.6	53.9	
Actuated g/C Ratio		0.35	0.35					0.32		0.54	0.54	
v/c Ratio		0.49	0.18					0.49		0.22	0.20	
Control Delay		27.5	8.9					25.0		16.6	10.0	
Queue Delay		0.0	0.0					0.0		0.0	0.4	
Total Delay		27.5	8.9					25.0		16.6	10.4	
LOS		C	A					C		B	B	
Approach Delay		24.5						25.0			12.1	
Approach LOS		C						C			B	

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 21 (21%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.49  
 Intersection Signal Delay: 21.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 56.6%  
 ICU Level of Service B  
 Analysis Period (min) 15  
 \* User Entered Value

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street



# HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville

## 2: Robert C. Byrd Drive & Neville Street

2017 No Build (With Revised Clearance Intervals)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗					↕↕↕		↖↖	↕↕	
Traffic Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Future Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1841	1841	1900	1826	0
Adj Flow Rate, veh/h	192	404	112				0	571	211	137	371	0
Peak Hour Factor	0.85	0.81	0.66				0.92	0.90	0.70	0.90	0.89	0.92
Percent Heavy Veh, %	0	2	0				0	4	4	0	5	0
Cap, veh/h	382	861	557				0	1162	418	733	1870	0
Arrive On Green	0.35	0.35	0.35				0.00	0.32	0.32	0.33	1.00	0.00
Sat Flow, veh/h	1104	2487	1610				0	3808	1312	2461	3561	0
Grp Volume(v), veh/h	316	280	112				0	524	258	137	371	0
Grp Sat Flow(s),veh/h/ln	1815	1777	1610				0	1675	1605	1230	1735	0
Q Serve(g_s), s	13.8	12.3	4.9				0.0	12.6	13.1	2.5	0.0	0.0
Cycle Q Clear(g_c), s	13.8	12.3	4.9				0.0	12.6	13.1	2.5	0.0	0.0
Prop In Lane	0.61		1.00				0.00		0.82	1.00		0.00
Lane Grp Cap(c), veh/h	628	615	557				0	1069	512	733	1870	0
V/C Ratio(X)	0.50	0.46	0.20				0.00	0.49	0.50	0.19	0.20	0.00
Avail Cap(c_a), veh/h	628	615	557				0	1069	512	733	1870	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	25.9	25.4	23.0				0.0	27.5	27.6	11.3	0.0	0.0
Incr Delay (d2), s/veh	2.9	2.4	0.8				0.0	1.6	3.5	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	5.5	5.3				0.0	5.1	5.4	0.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	27.8	23.8				0.0	29.1	31.2	11.9	0.2	0.0
LnGrp LOS	C	C	C				A	C	C	B	A	A
Approach Vol, veh/h		708						782			508	
Approach Delay, s/veh		27.6						29.8			3.4	
Approach LOS		C						C			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		59.0		41.0	22.0	37.0						
Change Period (Y+Rc), s		5.1		6.4	5.4	5.1						
Max Green Setting (Gmax), s		53.9		34.6	16.6	31.9						
Max Q Clear Time (g_c+I1), s		2.0		15.8	4.5	15.1						
Green Ext Time (p_c), s		2.6		3.9	0.3	4.7						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	L	T	R	L	T	T	T	T	T	TR	
Maximum Queue (ft)	90	237	66	116	95	93	49	95	158	138	
Average Queue (ft)	30	94	24	40	47	44	2	26	72	25	
95th Queue (ft)	70	181	54	84	85	82	23	69	141	92	
Link Distance (ft)	455	455	455	205	205	205			721		
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)							300	300	250		
Storage Blk Time (%)											
Queuing Penalty (veh)											

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	LT	T	R	T	T	TR	L	L	T	T	
Maximum Queue (ft)	301	211	46	116	247	226	64	89	108	93	
Average Queue (ft)	177	87	20	40	154	110	17	35	45	36	
95th Queue (ft)	265	195	41	87	231	205	46	68	86	81	
Link Distance (ft)	340	340		411	411	411	205	205	205	205	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				75							
Storage Blk Time (%)			2								
Queuing Penalty (veh)			2								

**Network Summary**

Network wide Queuing Penalty: 2
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HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street 2017 No Build (Revised Clearance Intervals)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↑	↗	↙	↑↑			↑↑↑	↗
Traffic Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Future Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No		No			No
Adj Sat Flow, veh/h/ln				1870	1885	1856	1900	1885	0	0	1900	1900
Adj Flow Rate, veh/h				173	364	199	132	772	0	0	736	224
Peak Hour Factor				0.88	0.86	0.85	0.88	0.94	0.92	0.92	0.91	0.89
Percent Heavy Veh, %				2	1	3	0	1	0	0	0	0
Cap, veh/h				691	731	610	458	1777	0	0	1394	409
Arrive On Green				0.39	0.39	0.39	0.33	0.99	0.00	0.00	0.28	0.28
Sat Flow, veh/h				1781	1885	1572	1810	3676	0	0	5317	1484
Grp Volume(v), veh/h				173	364	199	132	772	0	0	713	247
Grp Sat Flow(s),veh/h/ln				1781	1885	1572	1810	1791	0	0	1634	1633
Q Serve(g_s), s				6.6	14.6	8.9	3.7	0.3	0.0	0.0	12.3	12.9
Cycle Q Clear(g_c), s				6.6	14.6	8.9	3.7	0.3	0.0	0.0	12.3	12.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.91
Lane Grp Cap(c), veh/h				691	731	610	458	1777	0	0	1353	451
V/C Ratio(X)				0.25	0.50	0.33	0.29	0.43	0.00	0.00	0.53	0.55
Avail Cap(c_a), veh/h				691	731	610	458	1777	0	0	1353	451
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.85	0.85	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.7	23.2	21.4	13.5	0.2	0.0	0.0	30.7	30.9
Incr Delay (d2), s/veh				0.9	2.4	1.4	1.3	0.7	0.0	0.0	1.5	4.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.9	6.9	9.1	1.5	0.2	0.0	0.0	4.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.6	25.6	22.9	14.9	0.9	0.0	0.0	32.1	35.6
LnGrp LOS				C	C	C	B	A	A	A	C	D
Approach Vol, veh/h					736			904			960	
Approach Delay, s/veh					23.9			2.9			33.0	
Approach LOS					C			A			C	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		55.0		45.0	22.0	33.0						
Change Period (Y+Rc), s		5.4		* 6.2	5.5	5.4						
Max Green Setting (Gmax), s		49.6		* 39	16.5	27.6						
Max Q Clear Time (g_c+I1), s		2.3		16.6	5.7	14.9						
Green Ext Time (p_c), s		6.2		3.5	0.2	5.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				20.0								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

Pedestrian Accommodations at RCB/Prince/Neville  
2017 No Build (Revised Clearance Intervals)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0
Future Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	*0.64	0.95	1.00
Fr <sub>t</sub>			0.850					0.975				
Fl <sub>t</sub> Protected		0.979								0.950		
Satd. Flow (prot)	0	3495	1615	0	0	0	0	4934	0	2310	3539	0
Fl <sub>t</sub> Permitted		0.979								0.227		
Satd. Flow (perm)	0	3495	1615	0	0	0	0	4934	0	552	3539	0
Satd. Flow (RTOR)			108					43				
Adj. Flow (vph)	319	414	181	0	0	0	0	610	124	197	757	0
Lane Group Flow (vph)	0	733	181	0	0	0	0	734	0	197	757	0
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4		4							2		
Total Split (s)	44.0	44.0	44.0					34.0		22.0	56.0	
Total Lost Time (s)		6.4	6.4					5.1		5.4	5.1	
Act Effct Green (s)		37.6	37.6					28.9		50.6	50.9	
Actuated g/C Ratio		0.38	0.38					0.29		0.51	0.51	
v/c Ratio		0.56	0.27					0.50		0.35	0.42	
Control Delay		26.6	10.3					29.2		21.6	9.9	
Queue Delay		0.0	0.0					0.0		0.0	0.3	
Total Delay		26.6	10.3					29.2		21.6	10.2	
LOS		C	B					C		C	B	
Approach Delay		23.4						29.2			12.5	
Approach LOS		C						C			B	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 89 (89%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 21.1

Intersection LOS: C

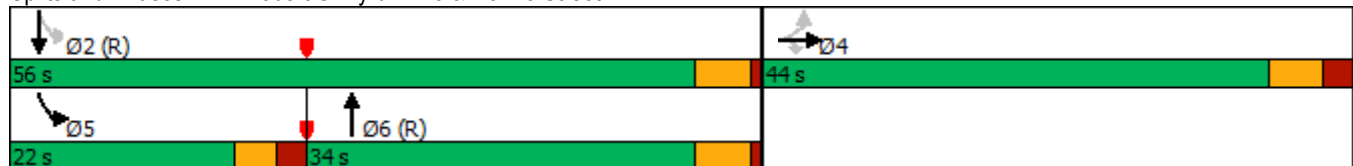
Intersection Capacity Utilization 59.4%

ICU Level of Service B

Analysis Period (min) 15

\* User Entered Value

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 2: Robert C. Byrd Drive & Neville Street 2017 No Build (Revised Clearance Intervals)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗					↕↕↕		↖↖	↕↕	
Traffic Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Future Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1856	1856	1900	1870	0
Adj Flow Rate, veh/h	319	414	181				0	610	124	197	757	0
Peak Hour Factor	0.89	0.91	0.72				0.92	0.91	0.80	0.86	0.86	0.92
Percent Heavy Veh, %	0	2	0				0	3	3	0	2	0
Cap, veh/h	558	785	605				0	1223	245	685	1809	0
Arrive On Green	0.38	0.38	0.38				0.00	0.29	0.29	0.33	1.00	0.00
Sat Flow, veh/h	1485	2088	1610				0	4401	847	2316	3647	0
Grp Volume(v), veh/h	386	347	181				0	485	249	197	757	0
Grp Sat Flow(s),veh/h/ln	1796	1777	1610				0	1689	1703	1158	1777	0
Q Serve(g_s), s	17.1	15.2	7.9				0.0	11.9	12.2	4.3	0.0	0.0
Cycle Q Clear(g_c), s	17.1	15.2	7.9				0.0	11.9	12.2	4.3	0.0	0.0
Prop In Lane	0.83		1.00				0.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	675	668	605				0	976	492	685	1809	0
V/C Ratio(X)	0.57	0.52	0.30				0.00	0.50	0.51	0.29	0.42	0.00
Avail Cap(c_a), veh/h	675	668	605				0	976	492	685	1809	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.86	0.86	0.00
Uniform Delay (d), s/veh	24.8	24.2	21.9				0.0	29.5	29.6	12.9	0.0	0.0
Incr Delay (d2), s/veh	3.5	2.9	1.3				0.0	1.8	3.7	0.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	6.8	8.4				0.0	4.9	5.4	1.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	27.1	23.2				0.0	31.3	33.3	13.8	0.6	0.0
LnGrp LOS	C	C	C				A	C	C	B	A	A
Approach Vol, veh/h		914						734			954	
Approach Delay, s/veh		26.8						32.0			3.3	
Approach LOS		C						C			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		56.0		44.0	22.0	34.0						
Change Period (Y+Rc), s		5.1		6.4	5.4	5.1						
Max Green Setting (Gmax), s		50.9		37.6	16.6	28.9						
Max Q Clear Time (g_c+I1), s		2.0		19.1	6.3	14.2						
Green Ext Time (p_c), s		6.0		5.1	0.4	4.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	T	TR
Maximum Queue (ft)	138	286	102	129	164	153	59	151	273	229
Average Queue (ft)	52	143	45	57	84	76	5	47	170	127
95th Queue (ft)	113	242	84	106	136	123	31	112	254	217
Link Distance (ft)	455	455	455	205	205	205			721	
Upstream Blk Time (%)					0	0				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)							300	300		250
Storage Blk Time (%)									1	0
Queuing Penalty (veh)									5	0

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	T	R	T	T	TR	L	L	T	T
Maximum Queue (ft)	352	259	120	118	245	211	98	117	140	129
Average Queue (ft)	242	141	34	43	162	109	36	57	68	59
95th Queue (ft)	342	251	79	92	229	205	77	100	123	112
Link Distance (ft)	340	340		411	411	411	205	205	205	205
Upstream Blk Time (%)	1									
Queuing Penalty (veh)	0									
Storage Bay Dist (ft)			75							
Storage Blk Time (%)		5	0							
Queuing Penalty (veh)		6	0							

**Network Summary**

Network wide Queuing Penalty: 12
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# Appendix: Modified Clearance Intervals

**WV 16 (Robert C. Byrd Drive) and Neville Street - Concept A**

ASSOCIATED PHASE	DIRECTION	FACTORS							CALCULATED (ITE & NCHRP REPORT 731)		
		PERCEPTION/RE ACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED*	ALL RED APPROACH SPEED**	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR
		t	V <sub>Y</sub>	V <sub>R</sub>	a	W	L	g	Y	AR	TOTAL
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC
2	SBT	1	42	42	10	75	20	0	4.1	0.5	4.6
4	EBL	1	25	20	10	85	20	-3	3.0	2.6	5.6
4	EBT	1	37	37	10	95	20	-3	4.0	1.1	5.1
5	SBL	1	30	20	10	75	20	0	3.2	2.2	5.4
6	NBT	1	42	42	10	75	20	0	4.1	0.5	4.6

FINAL CLEARANCE (BASED ON NCHRP REPORT 731)				
ASSOCIATED PHASE	DIRECTION	YELLOW	ALL RED	Y + AR
		Y (3-6s TYP)	AR (1-3s TYP)	TOTAL
		SEC	SEC	SEC
2	SBT	4.1	1.0	5.1
4	EB	4.0	2.6	6.6
5	SBL	3.2	2.2	5.4
6	NBT	4.1	1.0	5.1

- \* - NCHRP Report 731 Recommends the following yellow change approach speeds  
 Speed Limit + 7 MPH for through traffic  
 Speed Limit - 5 MPH for left-turn traffic
- \*\* - NCHRP Report 731 recommended the following all red approach speeds  
 Speed Limit + 7 MPH for through traffic  
 20 MPH for left-turn traffic regardless of speed limit

$$Y = t + \frac{1.47V}{2a+64.4g} \quad \text{Equation 12}$$

$$R = \frac{W+L}{1.47V} - 1 \quad \text{Equation 13}$$

**WV 16 (Robert C. Byrd Drive) and Prince Street - Concept A**

ASSOCIATED PHASE	DIRECTION	FACTORS							CALCULATED (ITE & NCHRP REPORT 731)		
		PERCEPTION/RE ACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED*	ALL RED APPROACH SPEED**	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR
		t	V <sub>Y</sub>	V <sub>R</sub>	a	W	L	g	Y	AR	TOTAL
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC
2	NBT	1	42	42	10	100	20	-3	4.4	0.9	5.3
4	WBL	1	25	20	10	95	20	3	2.7	2.9	5.6
4	WBT	1	37	37	10	100	20	3	3.5	1.2	4.7
5	NBL	1	30	20	10	70	20	-3	3.4	2.1	5.5
6	SBT	1	42	42	10	80	20	0	4.1	0.6	4.7

FINAL CLEARANCE (BASED ON NCHRP REPORT 731)				
ASSOCIATED PHASE	DIRECTION	YELLOW	ALL RED	Y + AR
		Y (3-6s TYP)	AR (1-3s TYP)	TOTAL
		SEC	SEC	SEC
2	NBT	4.4	1.0	5.4
4	WB	3.5	2.9	6.4
5	NBL	3.4	2.1	5.5
6	SBT	4.4	1.0	5.4

- \* - NCHRP Report 731 Recommends the following yellow change approach speeds  
 Speed Limit + 7 MPH for through traffic  
 Speed Limit - 5 MPH for left-turn traffic
- \*\* - NCHRP Report 731 recommended the following all red approach speeds  
 Speed Limit + 7 MPH for through traffic  
 20 MPH for left-turn traffic regardless of speed limit

$$Y = t + \frac{1.47V}{2a+64.4g} \quad \text{Equation 12}$$

$$R = \frac{W+L}{1.47V} - 1 \quad \text{Equation 13}$$



**WV 16 (Robert C. Byrd Drive) and Neville Street - Concept A**

ASSOCIATED PHASE	DIRECTION	FACTORS							CALCULATED (ITE & NCHRP REPORT 731)		
		PERCEPTION/RE ACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED*	ALL RED APPROACH SPEED**	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR
		t	V <sub>Y</sub>	V <sub>R</sub>	a	W	L	g	Y	AR	TOTAL
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC
2	SBT	1	42	42	10	75	20	0	4.1	0.5	4.6
4	EBL	1	25	20	10	85	20	-3	3.0	2.6	5.6
4	EBT	1	37	37	10	95	20	-3	4.0	1.1	5.1
5	SBL	1	30	20	10	75	20	0	3.2	2.2	5.4
6	NBT	1	42	42	10	75	20	0	4.1	0.5	4.6

FINAL CLEARANCE (BASED ON NCHRP REPORT 731)				
ASSOCIATED PHASE	DIRECTION	YELLOW	ALL RED	Y + AR
		Y (3-6s TYP)	AR (1-3s TYP)	TOTAL
		SEC	SEC	SEC
2	SBT	4.1	1.0	5.1
4	EB	4.0	2.6	6.6
5	SBL	3.2	2.2	5.4
6	NBT	4.1	1.0	5.1

- \* - NCHRP Report 731 Recommends the following yellow change approach speeds
  - Speed Limit + 7 MPH for through traffic
  - Speed Limit - 5 MPH for left-turn traffic
- \*\* - NCHRP Report 731 recommended the following all red approach speeds
  - Speed Limit + 7 MPH for through traffic
  - 20 MPH for left-turn traffic regardless of speed limit

$$Y = t + \frac{1.47V}{2a+64.4g} \quad \text{Equation 12}$$

$$R = \frac{W+L}{1.47V} - 1 \quad \text{Equation 13}$$

### WV 16 (Robert C. Byrd Drive) and Prince Street - Concept B

ASSOCIATED PHASE	DIRECTION	FACTORS							CALCULATED (ITE & NCHRP REPORT 731)		
		PERCEPTION/RE ACTION TIME (1s TYP)	YELLOW CHANGE APPROACH SPEED*	ALL RED APPROACH SPEED**	DECELERATION RATE (10 sq. fps TYP)	WIDTH OF INTERSECTION	LENGTH OF VEHICLE (20 ft TYP)	APPROACH GRADE	YELLOW	ALL RED	Y + AR
		t	V <sub>Y</sub>	V <sub>R</sub>	a	W	L	g	Y	AR	TOTAL
		SEC	MPH	MPH	SQ. FPS	FT	FT	%	SEC	SEC	SEC
2	NBT	1	42	42	10	100	20	-3	4.4	0.9	5.3
4	WBL	1	25	20	10	95	20	3	2.7	2.9	5.6
4	WBT	1	37	37	10	100	20	3	3.5	1.2	4.7
5	NBL	1	30	20	10	70	20	-3	3.4	2.1	5.5
6	SBT	1	42	42	10	80	20	0	4.1	0.6	4.7

FINAL CLEARANCE (BASED ON NCHRP REPORT 731)				
ASSOCIATED PHASE	DIRECTION	YELLOW	ALL RED	Y + AR
		Y (3-6s TYP)	AR (1-3s TYP)	TOTAL
		SEC	SEC	SEC
2	NBT	4.4	1.0	5.4
4	WB	3.5	2.9	6.4
5	NBL	3.4	2.1	5.5
6	SBT	4.4	1.0	5.4

- \* - NCHRP Report 731 Recommends the following yellow change approach speeds
  - Speed Limit + 7 MPH for through traffic
  - Speed Limit - 5 MPH for left-turn traffic
- \*\* - NCHRP Report 731 recommended the following all red approach speeds
  - Speed Limit + 7 MPH for through traffic
  - 20 MPH for left-turn traffic regardless of speed limit

$$Y = t + \frac{1.47V}{2a+64.4g} \quad \text{Equation 12}$$

$$R = \frac{W+L}{1.47V} - 1 \quad \text{Equation 13}$$

# Appendix: Pedestrian Clearance Intervals

**WV 16 (Robert C. Byrd Drive) and Neville Street - Concept A**

ASSOCIATED PHASE	DIRECTION	CROSSWALK LENGTH	DISTANCE TO PUSH BUTTON	WALK TIME	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	PUSH BUTTON CHECK (L+P)/3 FPS	7 SEC WALK + PED CHANGE	IS Y >= X?	ADDITIONAL WALK REQUIRED
		L	P			PED CLEAR - 3 SEC BUFFER	X	Y		X-Y
		FT	FT			SEC	SEC	SEC		SEC
2	SB	50	6	3.5	14.3	11.3	18.7	18.3	NO	0.4
4	EB	35	6	3.5	10.0	7.0	13.7	14.0	YES	--
6	NB	35	6	3.5	10.0	7.0	13.7	14.0	YES	--

FINAL PED TIMING			
ASSOCIATED PHASE	DIRECTION	WALK INTERVAL	PED CHANGE INTERVAL (FDW)
		SEC	SEC
		2	SB
4	EB	7	7
6	NB	7	7

\*Based on MUTCD Guidance

**WV 16 (Robert C. Byrd Drive) and Prince Street - Concept A**

ASSOCIATED PHASE	DIRECTION	CROSSWALK LENGTH	DISTANCE TO PUSH BUTTON	WALK TIME	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	PUSH BUTTON CHECK (L+P)/3 FPS	7 SEC WALK + PED CHANGE	IS Y >= X?	ADDITIONAL WALK REQUIRED
		L	P			PED CLEAR - 3 SEC BUFFER	X	Y		X-Y
		FT	FT			SEC	SEC	SEC		SEC
2	NB	30	6	3.5	8.6	5.6	12.0	12.6	YES	-0.6
4	WB	40	6	3.5	11.4	8.4	15.3	15.4	YES	-0.1
6	SB	30	6	3.5	8.6	5.6	12.0	12.6	YES	-0.6

FINAL PED TIMING			
ASSOCIATED PHASE	DIRECTION	WALK INTERVAL	PED CHANGE INTERVAL (FDW)
		SEC	SEC
2	NB	7	6
4	WB	7	9
6	SB	7	6

\*Based on MUTCD Guidance

**WV 16 (Robert C. Byrd Drive) and Neville Street - Concept A**

ASSOCIATED PHASE	DIRECTION	CROSSWALK LENGTH	DISTANCE TO PUSH BUTTON	WALK TIME	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	PUSH BUTTON CHECK (L+P)/3 FPS	7 SEC WALK + PED CHANGE	IS Y >= X?	ADDITIONAL WALK REQUIRED
		L	P			PED CLEAR - 3 SEC BUFFER	X	Y		X-Y
		FT	FT			SEC	SEC	SEC		SEC
2	SB	50	6	3.5	14.3	11.3	18.7	18.3	NO	0.4
4	EB	80	6	3.5	22.9	19.9	28.7	26.9	NO	--
6	NB	35	6	3.5	10.0	7.0	13.7	14.0	YES	--

FINAL PED TIMING			
ASSOCIATED PHASE	DIRECTION	WALK INTERVAL	PED CHANGE INTERVAL (FDW)
		SEC	SEC
		2	SB
4	EB	7	20
6	NB	7	7

\*Based on MUTCD Guidance

**WV 16 (Robert C. Byrd Drive) and Prince Street - Concept B**

ASSOCIATED PHASE	DIRECTION	CROSSWALK LENGTH	DISTANCE TO PUSH BUTTON	WALK TIME	CALCULATED PED CLEARANCE	PED CHANGE INTERVAL (FDW)	PUSH BUTTON CHECK (L+P)/3 FPS	7 SEC WALK + PED CHANGE	IS Y >= X?	ADDITIONAL WALK REQUIRED
		L	P			PED CLEAR - 3 SEC BUFFER	X	Y		X-Y
		FT	FT			SEC	SEC	SEC		SEC
2	NB	30	6	3.5	8.6	5.6	12.0	12.6	YES	0.0
4	WB	85	6	3.5	24.3	21.3	30.3	28.3	NO	2.0
6	SB	30	6	3.5	8.6	5.6	12.0	12.6	YES	0.0

FINAL PED TIMING			
ASSOCIATED PHASE	DIRECTION	WALK INTERVAL	PED CHANGE INTERVAL (FDW)
		SEC	SEC
		2	NB
4	WB	10	22
6	SB	7	6

\*Based on MUTCD Guidance

Appendix:  
Build Conditions Analysis



Lanes, Volumes, Timings  
1: Robert C. Byrd Drive & Prince Street

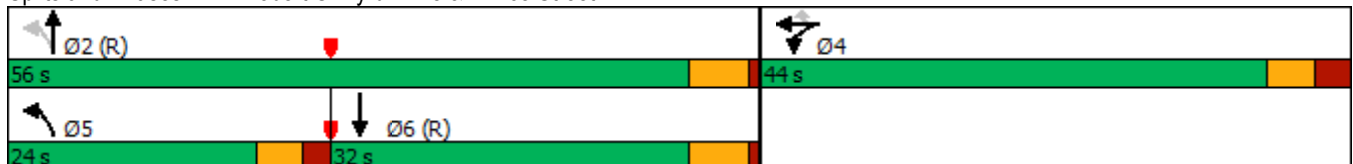
Pedestrian Accommodations at RCB/Prince/Neville  
Concept A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	233	53	88	594	0	0	346	100
Future Volume (vph)	0	0	0	95	233	53	88	594	0	0	346	100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt								0.850				0.962
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1719	1863	1482	1805	3539	0	0	4928	0
Flt Permitted				0.950			0.401					
Satd. Flow (perm)	0	0	0	1719	1863	1482	762	3539	0	0	4928	0
Satd. Flow (RTOR)							86				84	
Adj. Flow (vph)	0	0	0	116	277	72	104	653	0	0	389	132
Lane Group Flow (vph)	0	0	0	116	277	72	104	653	0	0	521	0
Turn Type				Split	NA	Perm	pm+pt	NA			NA	
Protected Phases				4	4		5	2			6	
Permitted Phases						4	2					
Total Split (s)				44.0	44.0	44.0	24.0	56.0			32.0	
Total Lost Time (s)				6.4	6.4	6.4	5.5	5.4			5.4	
Act Effct Green (s)				21.0	21.0	21.0	67.1	67.2			51.6	
Actuated g/C Ratio				0.21	0.21	0.21	0.67	0.67			0.52	
v/c Ratio				0.32	0.71	0.19	0.16	0.27			0.20	
Control Delay				34.3	46.3	5.9	1.5	1.3			13.0	
Queue Delay				0.0	0.0	0.0	0.0	0.1			0.0	
Total Delay				34.3	46.3	5.9	1.5	1.4			13.0	
LOS				C	D	A	A	A			B	
Approach Delay					37.0			1.4			13.0	
Approach LOS					D			A			B	





















Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 30 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 14.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 56.8%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Robert C. Byrd Drive & Prince Street



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street Concept A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Future Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No				No			No	
Adj Sat Flow, veh/h/ln				1826	1870	1767	1900	1870	0	0	1885	1885
Adj Flow Rate, veh/h				116	277	72	104	653	0	0	389	132
Peak Hour Factor				0.82	0.84	0.74	0.85	0.91	0.92	0.92	0.89	0.76
Percent Heavy Veh, %				5	2	9	0	2	0	0	1	1
Cap, veh/h				319	343	275	717	2482	0	0	1965	638
Arrive On Green				0.18	0.18	0.18	0.26	1.00	0.00	0.00	0.51	0.51
Sat Flow, veh/h				1739	1870	1497	1810	3647	0	0	4014	1247
Grp Volume(v), veh/h				116	277	72	104	653	0	0	345	176
Grp Sat Flow(s),veh/h/ln				1739	1870	1497	1810	1777	0	0	1716	1661
Q Serve(g_s), s				5.8	14.2	4.1	1.9	0.0	0.0	0.0	5.5	5.8
Cycle Q Clear(g_c), s				5.8	14.2	4.1	1.9	0.0	0.0	0.0	5.5	5.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.75
Lane Grp Cap(c), veh/h				319	343	275	717	2482	0	0	1754	849
V/C Ratio(X)				0.36	0.81	0.26	0.15	0.26	0.00	0.00	0.20	0.21
Avail Cap(c_a), veh/h				654	703	563	812	2482	0	0	1754	849
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.92	0.92	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.7	39.1	35.0	5.4	0.0	0.0	0.0	13.3	13.4
Incr Delay (d2), s/veh				0.7	4.5	0.5	0.1	0.2	0.0	0.0	0.3	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	6.9	3.7	0.6	0.1	0.0	0.0	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.4	43.6	35.5	5.4	0.2	0.0	0.0	13.5	13.9
LnGrp LOS				D	D	D	A	A	A	A	B	B
Approach Vol, veh/h					465			757			521	
Approach Delay, s/veh					40.6			1.0			13.7	
Approach LOS					D			A			B	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		75.2		24.8	18.7	56.5						
Change Period (Y+Rc), s		5.4		6.4	5.5	5.4						
Max Green Setting (Gmax), s		50.6		37.6	18.5	26.6						
Max Q Clear Time (g_c+I1), s		2.0		16.2	3.9	7.8						
Green Ext Time (p_c), s		5.0		2.2	0.2	3.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				15.3								
HCM 6th LOS				B								

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

Pedestrian Accommodations at RCB/Prince/Neville

Concept A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0	
Future Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00	
Fr <sub>t</sub>			0.850					0.960					
Fl <sub>t</sub> Protected		0.984								0.950			
Satd. Flow (prot)	0	3505	1615	0	0	0	0	4838	0	1805	3438	0	
Fl <sub>t</sub> Permitted		0.984								0.950			
Satd. Flow (perm)	0	3505	1615	0	0	0	0	4838	0	1805	3438	0	
Satd. Flow (RTOR)			82					96					
Adj. Flow (vph)	192	404	112	0	0	0	0	571	211	137	371	0	
Lane Group Flow (vph)	0	596	112	0	0	0	0	782	0	137	371	0	
Turn Type	Perm	NA	Perm					NA		Prot	NA		
Protected Phases		4						6		5	2		
Permitted Phases	4		4										
Total Split (s)	39.0	39.0	39.0					36.0		25.0	61.0		
Total Lost Time (s)		6.6	6.6					5.1		5.4	5.1		
Act Effct Green (s)		24.3	24.3					39.0		19.6	64.0		
Actuated g/C Ratio		0.24	0.24					0.39		0.20	0.64		
v/c Ratio		0.70	0.25					0.40		0.39	0.17		
Control Delay		38.9	11.2					20.6		31.0	2.9		
Queue Delay		0.0	0.0					0.0		1.1	0.2		
Total Delay		38.9	11.2					20.6		32.1	3.1		
LOS		D	B					C		C	A		
Approach Delay		34.5						20.6			10.9		
Approach LOS		C						C			B		

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 19 (19%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 23.0

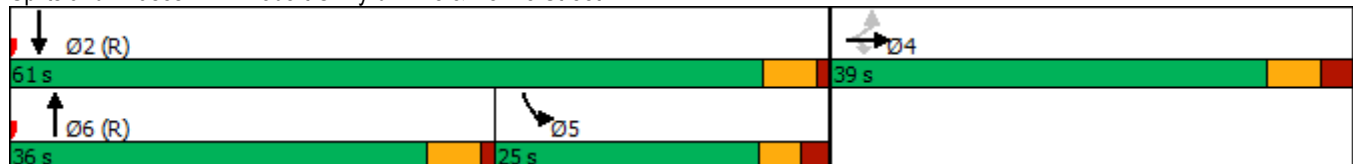
Intersection LOS: C

Intersection Capacity Utilization 56.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street



# HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville

## 2: Robert C. Byrd Drive & Neville Street

Concept A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗					↕↕↕		↗	↕↕	
Traffic Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Future Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1841	1841	1900	1826	0
Adj Flow Rate, veh/h	192	404	112				0	571	211	137	371	0
Peak Hour Factor	0.85	0.81	0.66				0.92	0.90	0.70	0.90	0.89	0.92
Percent Heavy Veh, %	0	2	0				0	4	4	0	5	0
Cap, veh/h	242	545	353				0	1126	405	545	2293	0
Arrive On Green	0.22	0.22	0.22				0.00	0.31	0.31	0.60	1.00	0.00
Sat Flow, veh/h	1104	2487	1610				0	3808	1312	1810	3561	0
Grp Volume(v), veh/h	316	280	112				0	524	258	137	371	0
Grp Sat Flow(s),veh/h/ln	1815	1777	1610				0	1675	1605	1810	1735	0
Q Serve(g_s), s	16.4	14.6	5.8				0.0	12.8	13.2	3.6	0.0	0.0
Cycle Q Clear(g_c), s	16.4	14.6	5.8				0.0	12.8	13.2	3.6	0.0	0.0
Prop In Lane	0.61		1.00				0.00		0.82	1.00		0.00
Lane Grp Cap(c), veh/h	398	389	353				0	1035	496	545	2293	0
V/C Ratio(X)	0.79	0.72	0.32				0.00	0.51	0.52	0.25	0.16	0.00
Avail Cap(c_a), veh/h	588	576	522				0	1035	496	545	2293	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	36.9	36.2	32.8				0.0	28.3	28.4	14.6	0.0	0.0
Incr Delay (d2), s/veh	4.5	2.5	0.5				0.0	1.8	3.9	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	6.5	5.6				0.0	5.2	5.5	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	38.7	33.3				0.0	30.1	32.3	14.9	0.1	0.0
LnGrp LOS	D	D	C				A	C	C	B	A	A
Approach Vol, veh/h		708						782			508	
Approach Delay, s/veh		39.1						30.8			4.1	
Approach LOS		D						C			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		71.5		28.5	35.5	36.0						
Change Period (Y+Rc), s		* 5.4		6.6	5.4	5.1						
Max Green Setting (Gmax), s		* 56		32.4	19.6	30.9						
Max Q Clear Time (g_c+I1), s		2.0		18.4	5.6	15.2						
Green Ext Time (p_c), s		2.6		3.5	0.3	4.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			27.0									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	TR
Maximum Queue (ft)	102	232	66	71	86	51	56	68	141
Average Queue (ft)	42	122	25	22	11	3	10	2	35
95th Queue (ft)	87	204	53	53	45	26	35	36	98
Link Distance (ft)	455	455	455	213	213	213			721
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)							300	300	
Storage Blk Time (%)									
Queuing Penalty (veh)									

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	LT	T	R	T	T	TR	L	T	T
Maximum Queue (ft)	340	267	112	129	266	222	163	109	142
Average Queue (ft)	198	98	21	38	138	96	77	40	70
95th Queue (ft)	296	223	56	95	225	197	137	93	128
Link Distance (ft)	347	347		409	409	409	213	213	213
Upstream Blk Time (%)	0	0							
Queuing Penalty (veh)	0	0							
Storage Bay Dist (ft)			75						
Storage Blk Time (%)		5	0						
Queuing Penalty (veh)		4	0						

**Network Summary**

Network wide Queuing Penalty: 4
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Lanes, Volumes, Timings  
1: Robert C. Byrd Drive & Prince Street

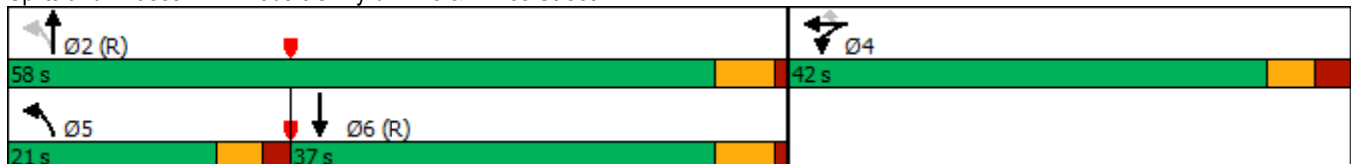
Pedestrian Accommodations at RCB/Prince/Neville  
Concept A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	152	313	169	116	726	0	0	670	199
Future Volume (vph)	0	0	0	152	313	169	116	726	0	0	670	199
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.965	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1770	1881	1568	1805	3574	0	0	4994	0
Flt Permitted				0.950			0.202					
Satd. Flow (perm)	0	0	0	1770	1881	1568	384	3574	0	0	4994	0
Satd. Flow (RTOR)						158					80	
Adj. Flow (vph)	0	0	0	173	364	199	132	772	0	0	736	224
Lane Group Flow (vph)	0	0	0	173	364	199	132	772	0	0	960	0
Turn Type				Split	NA	Perm	pm+pt	NA			NA	
Protected Phases				4	4		5	2			6	
Permitted Phases						4	2					
Total Split (s)				42.0	42.0	42.0	21.0	58.0			37.0	
Total Lost Time (s)				6.4	6.4	6.4	5.5	5.4			5.4	
Act Effct Green (s)				26.3	26.3	26.3	61.8	61.9			42.4	
Actuated g/C Ratio				0.26	0.26	0.26	0.62	0.62			0.42	
v/c Ratio				0.37	0.74	0.38	0.30	0.35			0.44	
Control Delay				30.8	42.0	8.9	9.1	1.7			20.5	
Queue Delay				0.0	0.0	0.0	0.1	0.2			0.0	
Total Delay				30.8	42.0	8.9	9.2	1.8			20.5	
LOS				C	D	A	A	A			C	
Approach Delay					30.4			2.9			20.5	
Approach LOS					C			A			C	




















Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 89 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 17.2  
 Intersection LOS: B  
 Intersection Capacity Utilization 59.9%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Robert C. Byrd Drive & Prince Street



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street Concept A

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Future Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1885	1856	1900	1885	0	0	1900	1900
Adj Flow Rate, veh/h				173	364	199	132	772	0	0	736	224
Peak Hour Factor				0.88	0.86	0.85	0.88	0.94	0.92	0.92	0.91	0.89
Percent Heavy Veh, %				2	1	3	0	1	0	0	0	0
Cap, veh/h				417	442	368	515	2320	0	0	1804	543
Arrive On Green				0.23	0.23	0.23	0.27	1.00	0.00	0.00	0.46	0.46
Sat Flow, veh/h				1781	1885	1572	1810	3676	0	0	4125	1190
Grp Volume(v), veh/h				173	364	199	132	772	0	0	643	317
Grp Sat Flow(s),veh/h/ln				1781	1885	1572	1810	1791	0	0	1729	1686
Q Serve(g_s), s				8.2	18.3	11.1	2.8	0.0	0.0	0.0	12.4	12.6
Cycle Q Clear(g_c), s				8.2	18.3	11.1	2.8	0.0	0.0	0.0	12.4	12.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.71
Lane Grp Cap(c), veh/h				417	442	368	515	2320	0	0	1578	769
V/C Ratio(X)				0.41	0.82	0.54	0.26	0.33	0.00	0.00	0.41	0.41
Avail Cap(c_a), veh/h				634	671	560	549	2320	0	0	1578	769
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.88	0.88	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.5	36.3	33.6	7.9	0.0	0.0	0.0	18.2	18.2
Incr Delay (d2), s/veh				0.7	5.1	1.2	0.2	0.3	0.0	0.0	0.8	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.6	8.9	9.9	0.9	0.1	0.0	0.0	4.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				33.1	41.4	34.8	8.1	0.3	0.0	0.0	18.9	19.8
LnGrp LOS				C	D	C	A	A	A	A	B	B
Approach Vol, veh/h					736			904			960	
Approach Delay, s/veh					37.7			1.5			19.2	
Approach LOS					D			A			B	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.2		29.8	19.1	51.0						
Change Period (Y+Rc), s		5.4		6.4	5.5	5.4						
Max Green Setting (Gmax), s		52.6		35.6	15.5	31.6						
Max Q Clear Time (g_c+I1), s		2.0		20.3	4.8	14.6						
Green Ext Time (p_c), s		6.2		3.1	0.2	5.9						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.3								
HCM 6th LOS				B								

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

Pedestrian Accommodations at RCB/Prince/Neville

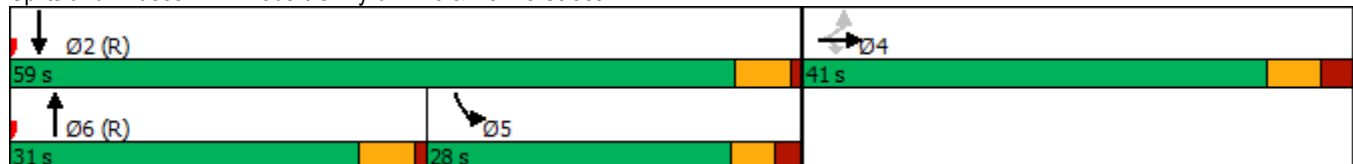
Concept A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0	
Future Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00	
Fr <sub>t</sub>			0.850					0.975					
Fl <sub>t</sub> Protected		0.979								0.950			
Satd. Flow (prot)	0	3495	1615	0	0	0	0	4934	0	1805	3539	0	
Fl <sub>t</sub> Permitted		0.979								0.950			
Satd. Flow (perm)	0	3495	1615	0	0	0	0	4934	0	1805	3539	0	
Satd. Flow (RTOR)			103					42					
Adj. Flow (vph)	319	414	181	0	0	0	0	610	124	197	757	0	
Lane Group Flow (vph)	0	733	181	0	0	0	0	734	0	197	757	0	
Turn Type	Perm	NA	Perm					NA		Prot	NA		
Protected Phases		4						6		5	2		
Permitted Phases	4		4										
Total Split (s)	41.0	41.0	41.0					31.0		28.0	59.0		
Total Lost Time (s)		6.6	6.6					5.1		5.4	5.1		
Act Effct Green (s)		28.7	28.7					31.6		22.6	59.6		
Actuated g/C Ratio		0.29	0.29					0.32		0.23	0.60		
v/c Ratio		0.73	0.34					0.46		0.48	0.36		
Control Delay		36.4	13.3					27.8		30.0	3.5		
Queue Delay		0.0	0.0					0.0		3.5	0.3		
Total Delay		36.4	13.3					27.8		33.6	3.8		
LOS		D	B					C		C	A		
Approach Delay		31.8						27.8			9.9		
Approach LOS		C						C			A		

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 91 (91%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 22.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 59.9%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street





# HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville

## 2: Robert C. Byrd Drive & Neville Street

Concept A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗					↕↕↕		↘	↕↕	
Traffic Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Future Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1856	1856	1900	1870	0
Adj Flow Rate, veh/h	319	414	181				0	610	124	197	757	0
Peak Hour Factor	0.89	0.91	0.72				0.92	0.91	0.80	0.86	0.86	0.92
Percent Heavy Veh, %	0	2	0				0	3	3	0	2	0
Cap, veh/h	392	551	425				0	1096	219	554	2190	0
Arrive On Green	0.26	0.26	0.26				0.00	0.26	0.26	0.21	0.41	0.00
Sat Flow, veh/h	1485	2088	1610				0	4401	847	1810	3647	0
Grp Volume(v), veh/h	386	347	181				0	485	249	197	757	0
Grp Sat Flow(s),veh/h/ln	1796	1777	1610				0	1689	1703	1810	1777	0
Q Serve(g_s), s	20.1	17.9	9.3				0.0	12.4	12.7	9.3	14.6	0.0
Cycle Q Clear(g_c), s	20.1	17.9	9.3				0.0	12.4	12.7	9.3	14.6	0.0
Prop In Lane	0.83		1.00				0.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	474	469	425				0	875	441	554	2190	0
V/C Ratio(X)	0.81	0.74	0.43				0.00	0.55	0.57	0.36	0.35	0.00
Avail Cap(c_a), veh/h	618	611	554				0	875	441	554	2190	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	34.5	33.7	30.5				0.0	32.1	32.2	31.3	15.6	0.0
Incr Delay (d2), s/veh	6.4	3.4	0.7				0.0	2.5	5.2	0.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	8.0	8.8				0.0	5.2	5.7	4.2	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	37.1	31.2				0.0	34.6	37.3	31.6	15.9	0.0
LnGrp LOS	D	D	C				A	C	D	C	B	A
Approach Vol, veh/h		914						734			954	
Approach Delay, s/veh		37.5						35.5			19.2	
Approach LOS		D						D			B	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		67.0		33.0	36.0	31.0						
Change Period (Y+Rc), s		* 5.4		6.6	5.4	5.1						
Max Green Setting (Gmax), s		* 54		34.4	22.6	25.9						
Max Q Clear Time (g_c+I1), s		16.6		22.1	11.3	14.7						
Green Ext Time (p_c), s		5.9		4.2	0.4	3.5						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			30.2									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	TR
Maximum Queue (ft)	160	319	97	132	69	31	94	255	324
Average Queue (ft)	67	165	51	51	18	5	26	70	145
95th Queue (ft)	133	264	92	99	51	22	69	205	276
Link Distance (ft)	455	455	455	213	213	213			721
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)							300	300	
Storage Blk Time (%)									0
Queuing Penalty (veh)									2

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	LT	T	R	T	T	TR	L	T	T
Maximum Queue (ft)	362	330	118	116	259	216	179	190	210
Average Queue (ft)	254	150	35	45	157	109	99	89	106
95th Queue (ft)	352	282	75	94	234	205	163	172	196
Link Distance (ft)	347	347		409	409	409	213	213	213
Upstream Blk Time (%)	1	0					0	0	0
Queuing Penalty (veh)	0	0					0	0	0
Storage Bay Dist (ft)			75						
Storage Blk Time (%)		5	1						
Queuing Penalty (veh)		7	1						

**Network Summary**

Network wide Queuing Penalty: 10
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Lanes, Volumes, Timings  
1: Robert C. Byrd Drive & Prince Street

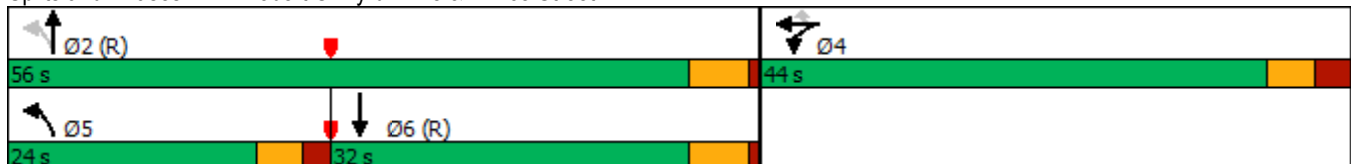
Pedestrian Accommodations at RCB/Prince/Neville  
Concept B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	233	53	88	594	0	0	346	100
Future Volume (vph)	0	0	0	95	233	53	88	594	0	0	346	100
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.86	0.86
Frt						0.850					0.962	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1719	1863	1482	1805	3539	0	0	6210	0
Flt Permitted				0.950			0.343					
Satd. Flow (perm)	0	0	0	1719	1863	1482	652	3539	0	0	6210	0
Satd. Flow (RTOR)							86				84	
Adj. Flow (vph)	0	0	0	116	277	72	104	653	0	0	389	132
Lane Group Flow (vph)	0	0	0	116	277	72	104	653	0	0	521	0
Turn Type				Split	NA	Perm	pm+pt	NA			NA	
Protected Phases				4	4		5	2			6	
Permitted Phases						4	2					
Total Split (s)				44.0	44.0	44.0	24.0	56.0			32.0	
Total Lost Time (s)				6.4	6.4	6.4	5.5	5.4			5.4	
Act Effct Green (s)				37.6	37.6	37.6	50.5	50.6			26.6	
Actuated g/C Ratio				0.38	0.38	0.38	0.50	0.51			0.27	
v/c Ratio				0.18	0.40	0.12	0.19	0.36			0.30	
Control Delay				21.9	25.0	4.0	10.7	11.2			24.9	
Queue Delay				0.0	0.0	0.0	0.0	0.2			0.0	
Total Delay				21.9	25.0	4.0	10.7	11.3			24.9	
LOS				C	C	A	B	B			C	
Approach Delay					21.0			11.2			24.9	
Approach LOS					C			B			C	





















Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 30 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 17.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 56.8%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Robert C. Byrd Drive & Prince Street



HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street Concept B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Future Volume (veh/h)	0	0	0	95	233	53	88	594	0	0	346	100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No				No			No	
Adj Sat Flow, veh/h/ln				1826	1870	1767	1900	1870	0	0	1885	1885
Adj Flow Rate, veh/h				116	277	72	104	653	0	0	389	132
Peak Hour Factor				0.82	0.84	0.74	0.85	0.91	0.92	0.92	0.89	0.76
Percent Heavy Veh, %				5	2	9	0	2	0	0	1	1
Cap, veh/h				654	703	563	583	1798	0	0	1311	410
Arrive On Green				0.38	0.38	0.38	0.12	0.34	0.00	0.00	0.27	0.27
Sat Flow, veh/h				1739	1870	1497	1810	3647	0	0	5193	1542
Grp Volume(v), veh/h				116	277	72	104	653	0	0	383	138
Grp Sat Flow(s),veh/h/ln				1739	1870	1497	1810	1777	0	0	1621	1608
Q Serve(g_s), s				4.5	10.8	3.2	3.4	13.9	0.0	0.0	6.3	6.9
Cycle Q Clear(g_c), s				4.5	10.8	3.2	3.4	13.9	0.0	0.0	6.3	6.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.96
Lane Grp Cap(c), veh/h				654	703	563	583	1798	0	0	1294	428
V/C Ratio(X)				0.18	0.39	0.13	0.18	0.36	0.00	0.00	0.30	0.32
Avail Cap(c_a), veh/h				654	703	563	583	1798	0	0	1294	428
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.87	0.87	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.9	22.9	20.5	16.5	20.9	0.0	0.0	29.2	29.5
Incr Delay (d2), s/veh				0.6	1.7	0.5	0.6	0.5	0.0	0.0	0.6	2.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.9	5.0	3.3	1.5	6.2	0.0	0.0	2.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.5	24.5	20.9	17.1	21.4	0.0	0.0	29.8	31.4
LnGrp LOS				C	C	C	B	C	A	A	C	C
Approach Vol, veh/h					465			757			521	
Approach Delay, s/veh					23.2			20.8			30.3	
Approach LOS					C			C			C	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		56.0		44.0	24.0	32.0						
Change Period (Y+Rc), s		5.4		6.4	5.5	5.4						
Max Green Setting (Gmax), s		50.6		37.6	18.5	26.6						
Max Q Clear Time (g_c+I1), s		15.9		12.8	5.4	8.9						
Green Ext Time (p_c), s		4.9		2.2	0.2	3.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				24.3								
HCM 6th LOS				C								

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

Pedestrian Accommodations at RCB/Prince/Neville

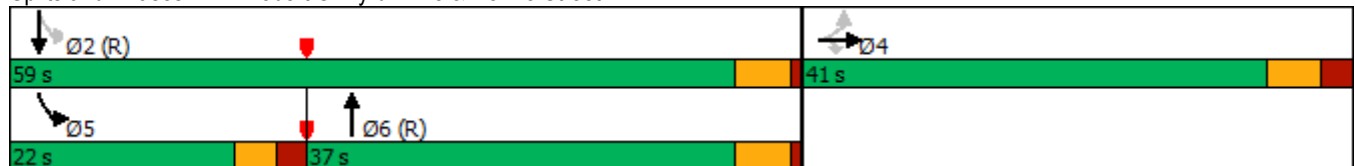
Concept B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0
Future Volume (vph)	163	327	74	0	0	0	0	514	148	123	330	0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	*0.68	0.95	1.00
Fr <sub>t</sub>			0.850					0.960				
Fl <sub>t</sub> Protected		0.984								0.950		
Satd. Flow (prot)	0	3505	1615	0	0	0	0	4838	0	2455	3438	0
Fl <sub>t</sub> Permitted		0.984								0.222		
Satd. Flow (perm)	0	3505	1615	0	0	0	0	4838	0	574	3438	0
Satd. Flow (RTOR)			82					98				
Adj. Flow (vph)	192	404	112	0	0	0	0	571	211	137	371	0
Lane Group Flow (vph)	0	596	112	0	0	0	0	782	0	137	371	0
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4		4							2		
Total Split (s)	41.0	41.0	41.0					37.0		22.0	59.0	
Total Lost Time (s)		6.6	6.6					5.1		5.4	5.1	
Act Effct Green (s)		34.4	34.4					31.9		53.6	53.9	
Actuated g/C Ratio		0.34	0.34					0.32		0.54	0.54	
v/c Ratio		0.49	0.18					0.49		0.22	0.20	
Control Delay		27.7	9.0					25.0		16.6	10.0	
Queue Delay		0.0	0.0					0.0		0.0	0.4	
Total Delay		27.7	9.0					25.0		16.6	10.4	
LOS		C	A					C		B	B	
Approach Delay		24.7						25.0			12.1	
Approach LOS		C						C			B	

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 21 (21%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.49  
 Intersection Signal Delay: 21.6  
 Intersection LOS: C  
 Intersection Capacity Utilization 56.8%  
 ICU Level of Service B  
 Analysis Period (min) 15  
 \* User Entered Value

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street



# HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville

## 2: Robert C. Byrd Drive & Neville Street

Concept B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗					↕↕↕		↖↖	↕↕	
Traffic Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Future Volume (veh/h)	163	327	74	0	0	0	0	514	148	123	330	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1841	1841	1900	1826	0
Adj Flow Rate, veh/h	192	404	112				0	571	211	137	371	0
Peak Hour Factor	0.85	0.81	0.66				0.92	0.90	0.70	0.90	0.89	0.92
Percent Heavy Veh, %	0	2	0				0	4	4	0	5	0
Cap, veh/h	380	856	554				0	1162	418	733	1870	0
Arrive On Green	0.34	0.34	0.34				0.00	0.32	0.32	0.33	1.00	0.00
Sat Flow, veh/h	1104	2487	1610				0	3808	1312	2461	3561	0
Grp Volume(v), veh/h	316	280	112				0	524	258	137	371	0
Grp Sat Flow(s),veh/h/ln	1815	1777	1610				0	1675	1605	1230	1735	0
Q Serve(g_s), s	13.8	12.3	4.9				0.0	12.6	13.1	2.5	0.0	0.0
Cycle Q Clear(g_c), s	13.8	12.3	4.9				0.0	12.6	13.1	2.5	0.0	0.0
Prop In Lane	0.61		1.00				0.00		0.82	1.00		0.00
Lane Grp Cap(c), veh/h	624	611	554				0	1069	512	733	1870	0
V/C Ratio(X)	0.51	0.46	0.20				0.00	0.49	0.50	0.19	0.20	0.00
Avail Cap(c_a), veh/h	624	611	554				0	1069	512	733	1870	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	26.0	25.5	23.1				0.0	27.5	27.6	11.3	0.0	0.0
Incr Delay (d2), s/veh	2.9	2.5	0.8				0.0	1.6	3.5	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	5.5	5.3				0.0	5.1	5.4	0.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	28.0	23.9				0.0	29.1	31.2	11.9	0.2	0.0
LnGrp LOS	C	C	C				A	C	C	B	A	A
Approach Vol, veh/h		708						782			508	
Approach Delay, s/veh		27.8						29.8			3.4	
Approach LOS		C						C			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		59.0		41.0	22.0	37.0						
Change Period (Y+Rc), s		5.1		6.6	5.4	5.1						
Max Green Setting (Gmax), s		53.9		34.4	16.6	31.9						
Max Q Clear Time (g_c+I1), s		2.0		15.8	4.5	15.1						
Green Ext Time (p_c), s		2.6		3.9	0.3	4.7						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			22.4									
HCM 6th LOS			C									

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	L	T	R	L	T	T	T	T	T	TR	
Maximum Queue (ft)	91	248	66	109	95	94	13	97	186	154	
Average Queue (ft)	31	90	22	42	46	45	1	27	73	28	
95th Queue (ft)	72	176	54	83	85	81	7	69	147	103	
Link Distance (ft)	455	455	455	205	205	205			721		
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)							300	300			250
Storage Blk Time (%)									0	0	
Queuing Penalty (veh)									0	0	

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	T	R	T	T	TR	L	L	T	T
Maximum Queue (ft)	312	216	66	119	261	218	59	78	111	94
Average Queue (ft)	182	89	21	42	158	112	17	34	45	36
95th Queue (ft)	274	204	48	91	243	208	46	65	85	83
Link Distance (ft)	340	340		411	411	411	205	205	205	205
Upstream Blk Time (%)	0									
Queuing Penalty (veh)	0									
Storage Bay Dist (ft)			75							
Storage Blk Time (%)			3							
Queuing Penalty (veh)			3							




















**Network Summary**

Network wide Queuing Penalty: 3
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HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville  
 1: Robert C. Byrd Drive & Prince Street Concept B

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Future Volume (veh/h)	0	0	0	152	313	169	116	726	0	0	670	199
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1885	1856	1900	1885	0	0	1900	1900
Adj Flow Rate, veh/h				173	364	199	132	772	0	0	736	224
Peak Hour Factor				0.88	0.86	0.85	0.88	0.94	0.92	0.92	0.91	0.89
Percent Heavy Veh, %				2	1	3	0	1	0	0	0	0
Cap, veh/h				688	728	607	458	1777	0	0	1394	409
Arrive On Green				0.39	0.39	0.39	0.33	0.99	0.00	0.00	0.28	0.28
Sat Flow, veh/h				1781	1885	1572	1810	3676	0	0	5317	1484
Grp Volume(v), veh/h				173	364	199	132	772	0	0	713	247
Grp Sat Flow(s),veh/h/ln				1781	1885	1572	1810	1791	0	0	1634	1633
Q Serve(g_s), s				6.6	14.7	8.9	3.7	0.3	0.0	0.0	12.3	12.9
Cycle Q Clear(g_c), s				6.6	14.7	8.9	3.7	0.3	0.0	0.0	12.3	12.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.91
Lane Grp Cap(c), veh/h				688	728	607	458	1777	0	0	1353	451
V/C Ratio(X)				0.25	0.50	0.33	0.29	0.43	0.00	0.00	0.53	0.55
Avail Cap(c_a), veh/h				688	728	607	458	1777	0	0	1353	451
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.85	0.85	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.9	23.4	21.6	13.5	0.2	0.0	0.0	30.7	30.9
Incr Delay (d2), s/veh				0.9	2.4	1.4	1.3	0.7	0.0	0.0	1.5	4.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.9	6.9	9.2	1.5	0.2	0.0	0.0	4.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.8	25.8	23.0	14.9	0.9	0.0	0.0	32.1	35.6
LnGrp LOS				C	C	C	B	A	A	A	C	D
Approach Vol, veh/h					736			904			960	
Approach Delay, s/veh					24.1			2.9			33.0	
Approach LOS					C			A			C	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		55.0		45.0	22.0	33.0						
Change Period (Y+Rc), s		5.4		6.4	5.5	5.4						
Max Green Setting (Gmax), s		49.6		38.6	16.5	27.6						
Max Q Clear Time (g_c+I1), s		2.3		16.7	5.7	14.9						
Green Ext Time (p_c), s		6.2		3.5	0.2	5.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				20.0								
HCM 6th LOS				C								

Lanes, Volumes, Timings  
2: Robert C. Byrd Drive & Neville Street

Pedestrian Accommodations at RCB/Prince/Neville

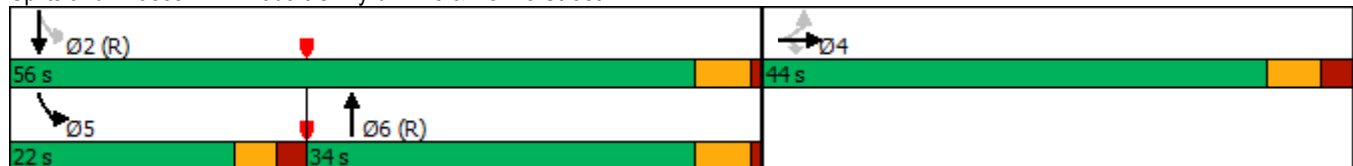
Concept B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0
Future Volume (vph)	284	377	130	0	0	0	0	555	99	169	651	0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	*0.64	0.95	1.00
Fr <sub>t</sub>			0.850					0.975				
Fl <sub>t</sub> Protected		0.979								0.950		
Satd. Flow (prot)	0	3495	1615	0	0	0	0	4934	0	2310	3539	0
Fl <sub>t</sub> Permitted		0.979								0.227		
Satd. Flow (perm)	0	3495	1615	0	0	0	0	4934	0	552	3539	0
Satd. Flow (RTOR)			108					43				
Adj. Flow (vph)	319	414	181	0	0	0	0	610	124	197	757	0
Lane Group Flow (vph)	0	733	181	0	0	0	0	734	0	197	757	0
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						6		5	2	
Permitted Phases	4		4							2		
Total Split (s)	44.0	44.0	44.0					34.0		22.0	56.0	
Total Lost Time (s)		6.6	6.6					5.1		5.4	5.1	
Act Effct Green (s)		37.4	37.4					28.9		50.6	50.9	
Actuated g/C Ratio		0.37	0.37					0.29		0.51	0.51	
v/c Ratio		0.56	0.27					0.50		0.35	0.42	
Control Delay		26.8	10.3					29.2		21.6	9.9	
Queue Delay		0.0	0.0					0.0		0.0	0.3	
Total Delay		26.8	10.3					29.2		21.6	10.2	
LOS		C	B					C		C	B	
Approach Delay		23.6						29.2			12.6	
Approach LOS		C						C			B	

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 89 (89%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 21.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 59.6%  
 ICU Level of Service B  
 Analysis Period (min) 15  
 \* User Entered Value

Splits and Phases: 2: Robert C. Byrd Drive & Neville Street



# HCM 6th Signalized Intersection Summary Pedestrian Accommodations at RCB/Prince/Neville

## 2: Robert C. Byrd Drive & Neville Street

Concept B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗					↕↕↕		↖↖	↕↕	
Traffic Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Future Volume (veh/h)	284	377	130	0	0	0	0	555	99	169	651	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900				0	1856	1856	1900	1870	0
Adj Flow Rate, veh/h	319	414	181				0	610	124	197	757	0
Peak Hour Factor	0.89	0.91	0.72				0.92	0.91	0.80	0.86	0.86	0.92
Percent Heavy Veh, %	0	2	0				0	3	3	0	2	0
Cap, veh/h	555	781	602				0	1223	245	685	1809	0
Arrive On Green	0.37	0.37	0.37				0.00	0.29	0.29	0.33	1.00	0.00
Sat Flow, veh/h	1485	2088	1610				0	4401	847	2316	3647	0
Grp Volume(v), veh/h	386	347	181				0	485	249	197	757	0
Grp Sat Flow(s),veh/h/ln	1796	1777	1610				0	1689	1703	1158	1777	0
Q Serve(g_s), s	17.1	15.2	7.9				0.0	11.9	12.2	4.3	0.0	0.0
Cycle Q Clear(g_c), s	17.1	15.2	7.9				0.0	11.9	12.2	4.3	0.0	0.0
Prop In Lane	0.83		1.00				0.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	672	665	602				0	976	492	685	1809	0
V/C Ratio(X)	0.57	0.52	0.30				0.00	0.50	0.51	0.29	0.42	0.00
Avail Cap(c_a), veh/h	672	665	602				0	976	492	685	1809	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.86	0.86	0.00
Uniform Delay (d), s/veh	25.0	24.4	22.1				0.0	29.5	29.6	12.9	0.0	0.0
Incr Delay (d2), s/veh	3.5	2.9	1.3				0.0	1.8	3.7	0.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	6.8	8.4				0.0	4.9	5.4	1.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	27.3	23.4				0.0	31.3	33.3	13.8	0.6	0.0
LnGrp LOS	C	C	C				A	C	C	B	A	A
Approach Vol, veh/h		914						734			954	
Approach Delay, s/veh		27.0						32.0			3.3	
Approach LOS		C						C			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		56.0		44.0	22.0	34.0						
Change Period (Y+Rc), s		5.1		6.6	5.4	5.1						
Max Green Setting (Gmax), s		50.9		37.4	16.6	28.9						
Max Q Clear Time (g_c+I1), s		2.0		19.1	6.3	14.2						
Green Ext Time (p_c), s		6.0		5.1	0.4	4.1						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									

**Intersection: 1: Robert C. Byrd Drive & Prince Street**

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	T	TR
Maximum Queue (ft)	122	286	97	138	168	155	66	212	317	284
Average Queue (ft)	51	139	45	60	87	77	4	46	173	130
95th Queue (ft)	109	239	82	112	141	124	27	128	275	237
Link Distance (ft)	455	455	455	205	205	205			721	
Upstream Blk Time (%)					0	0				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)							300	300		250
Storage Blk Time (%)									2	0
Queuing Penalty (veh)									11	1

**Intersection: 2: Robert C. Byrd Drive & Neville Street**

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	T	R	T	T	TR	L	L	T	T
Maximum Queue (ft)	354	282	120	120	246	223	88	105	147	139
Average Queue (ft)	246	136	32	45	161	109	34	56	69	62
95th Queue (ft)	349	256	76	94	231	204	72	97	128	116
Link Distance (ft)	340	340		411	411	411	205	205	205	205
Upstream Blk Time (%)	1	0								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (ft)			75							
Storage Blk Time (%)		4	0							
Queuing Penalty (veh)		6	0							

**Network Summary**

Network wide Queuing Penalty: 18
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# Appendix: Cost Estimates

Prince - Neville Cost Estimate - Concept A					Notes
Item	Quantity	Unit	Unit Cost	Total Cost	
Curb Ramp	968	SF	\$14.00	\$13,552	Curb ramp cost includes the cost of any curb / sidewalk / detectable warnings, landings, etc within the curb ramp limits
Detectable Warnings	89	SF	\$33.00	\$2,937	Mats for the center island crossings
Straight Curb, 18"	772	LF	\$21.00	\$16,212	
Concrete Median	140	SY	\$73.00	\$10,220	
Concrete Walk	2262	SF	\$6.50	\$14,703	
Crosswalk Line	564	LF	\$1.65	\$931	
Channelizing Line	792	LF	\$0.36	\$285.12	
Center Line	0.29	MILE	\$530.00	\$155.84	
<b>SUBTOTAL</b>				<b>\$58,996</b>	
Contingency (20%)				\$11,799	
<b>TOTAL</b>				<b>\$70,795</b>	

Prince - Neville Cost Estimate - Concept B					Notes
Item	Quantity	Unit	Unit Cost	Total Cost	
Curb Ramp	961	SF	\$14.00	\$13,454	Curb ramp cost includes the cost of any curb / sidewalk / detectable warnings, landings, etc within the curb ramp limits
Detectable Warnings	99	SF	\$33.00	\$3,267	Mats for the center island crossings
Straight Curb, 18"	639	LF	\$21.00	\$13,419	
Concrete Median	90	SY	\$73.00	\$6,570	
Concrete Walk	1796	SF	\$6.50	\$11,674	
Crosswalk Line	597	FT	\$1.65	\$985	
<b>SUBTOTAL</b>				<b>\$49,369</b>	
Contingency (32%)				\$9,874	
<b>TOTAL</b>				<b>\$59,243</b>	