

ANALYSIS OF REGIONAL ROADWAY SAFETY OUTCOMES

Crash Analysis – Deeper Dives

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April 3, 2020



Overview of Priority Area Analysis

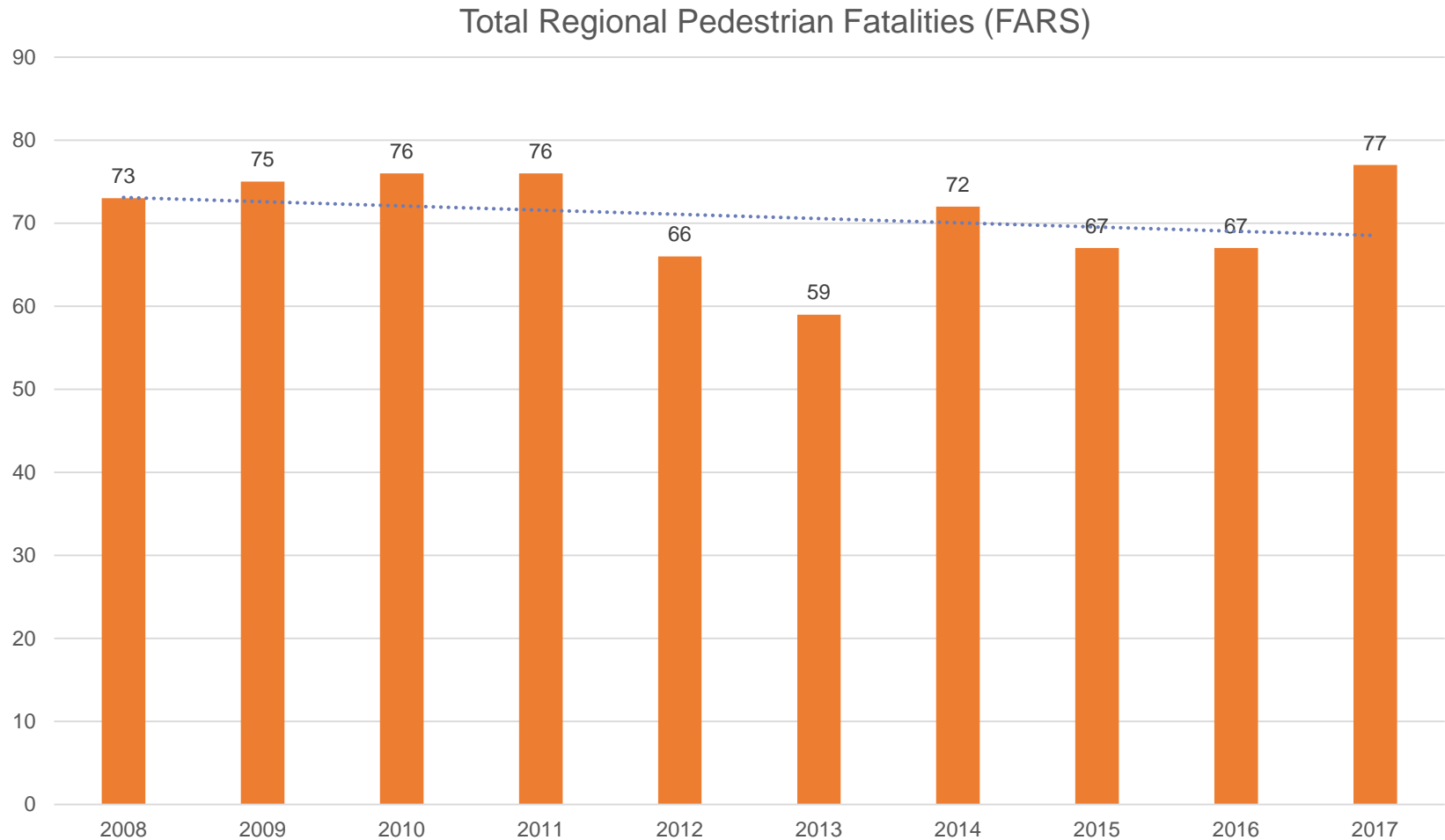
- Pedestrian Involvement
- Intersection Crashes
- Principal Arterials



PEDESTRIANS



Pedestrian Fatalities

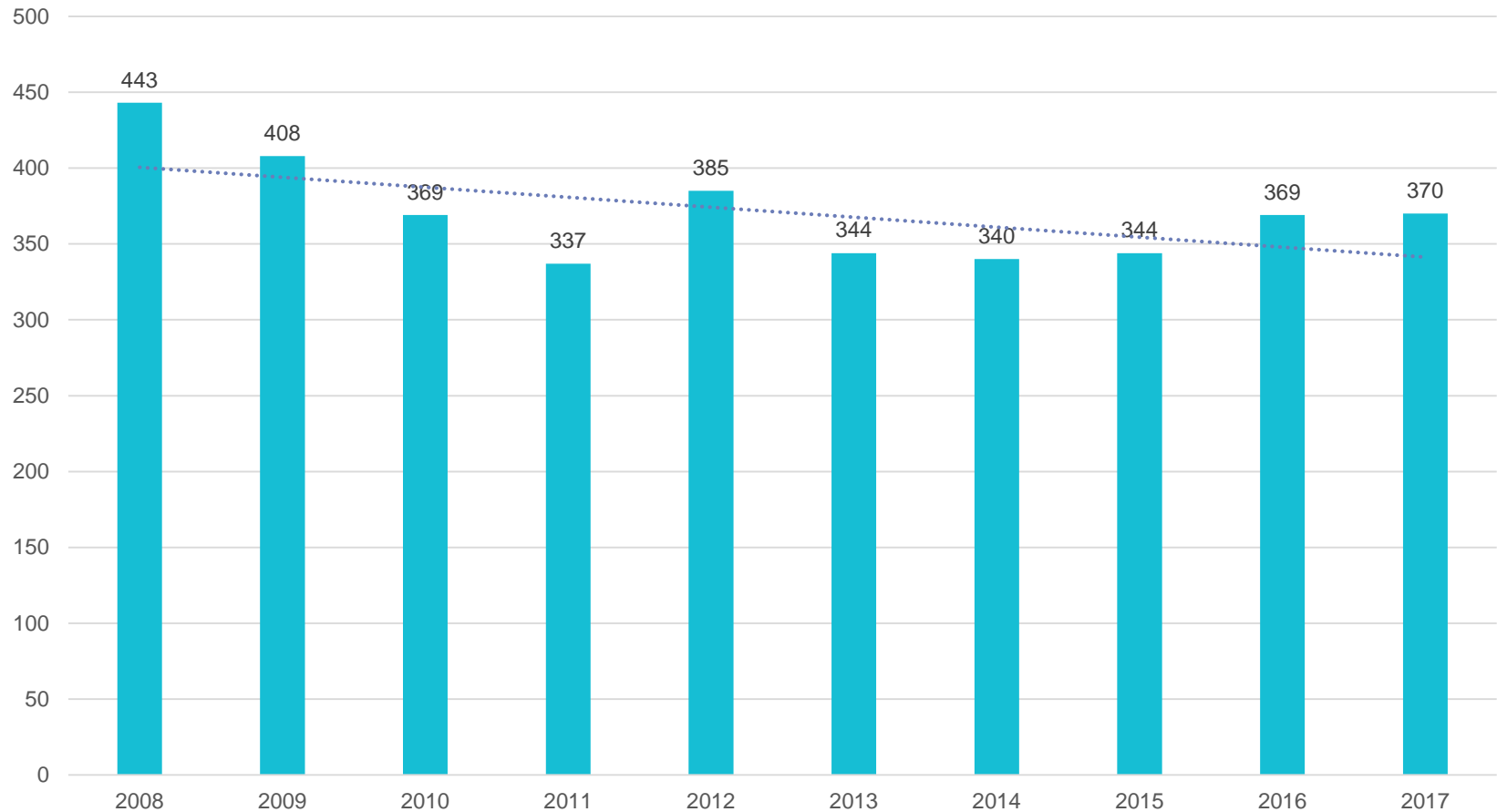


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Pedestrian Serious Injuries

Total Regional Pedestrian Serious Injuries (State Data)



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Pedestrian Crash Severity By Jurisdiction

Pedestrian Crash Severity by Jurisdiction			
Jurisdiction	Fatalities	Serious Injuries	Total Crashes
District of Columbia	50	399	5,431
Charles County, MD	16	49	208
Frederick County, MD	7	36	284
Montgomery County, MD	56	318	2,297
Prince George's County, MD	108	269	2,156
Arlington County, VA	6	74	693
Fairfax County, VA	55	331	1,024
Fauquier County, VA (urbanized area)	1	7	24
Loudoun County, VA	14	57	235
Prince William County, VA	20	96	299
Alexandria, VA	7	58	338
Fairfax City, VA	1	21	54
Falls Church, VA	0	13	30
Manassas, VA	1	39	74
Manassas Park, VA	0	0	7
District of Columbia	50	399	5,431
Suburban Maryland	187	672	4,945
Northern Virginia	105	696	2,778
Urban Core	63	531	6,462
Inner Suburbs	220	952	5,561
Outer Suburbs	59	284	1,131
National Capital Region Total	342	1,767	13,154

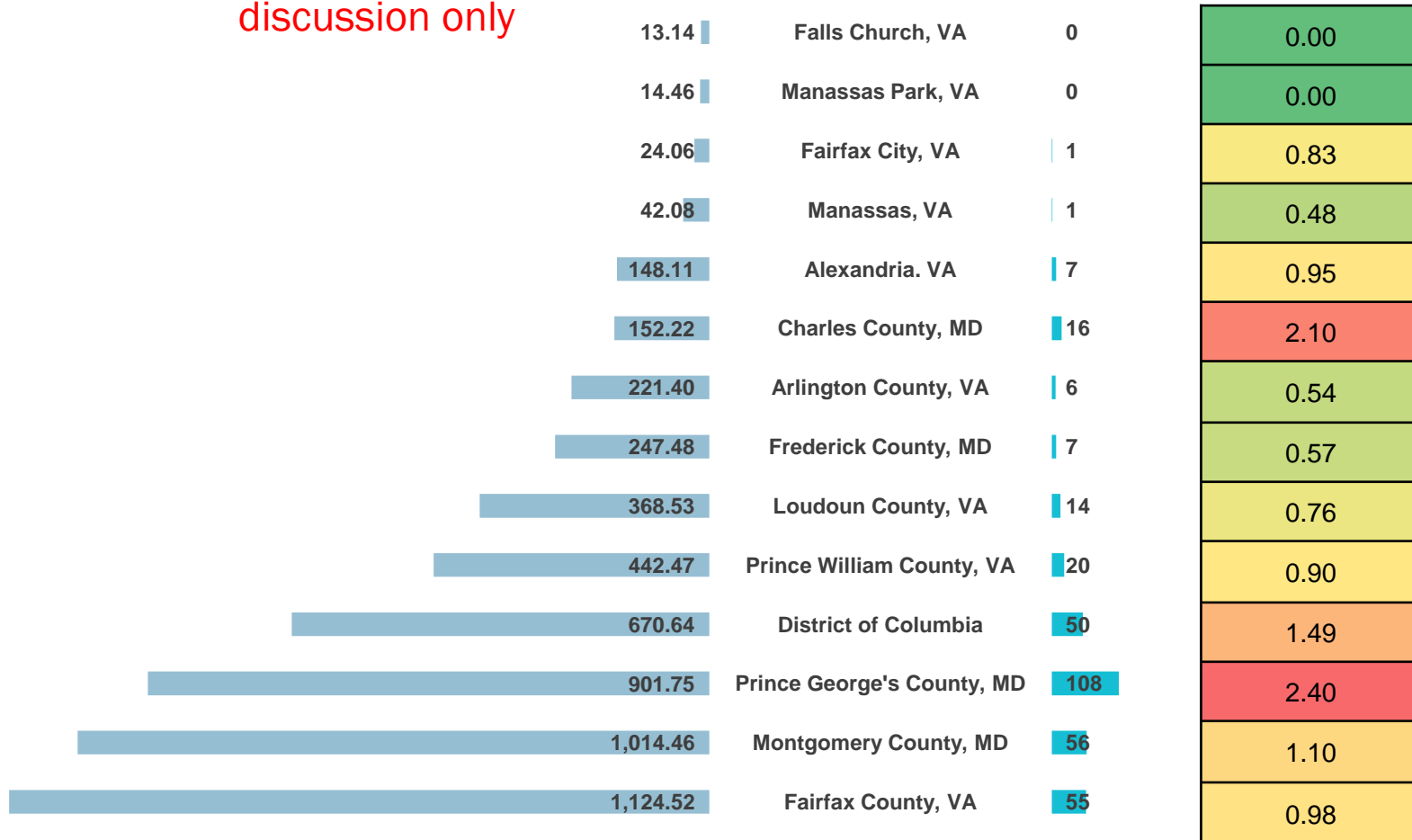
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Pedestrian Fatality Rate by Population

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Fatalities per 100,000 people



■ Average Population 2013-2017 (1,000's)

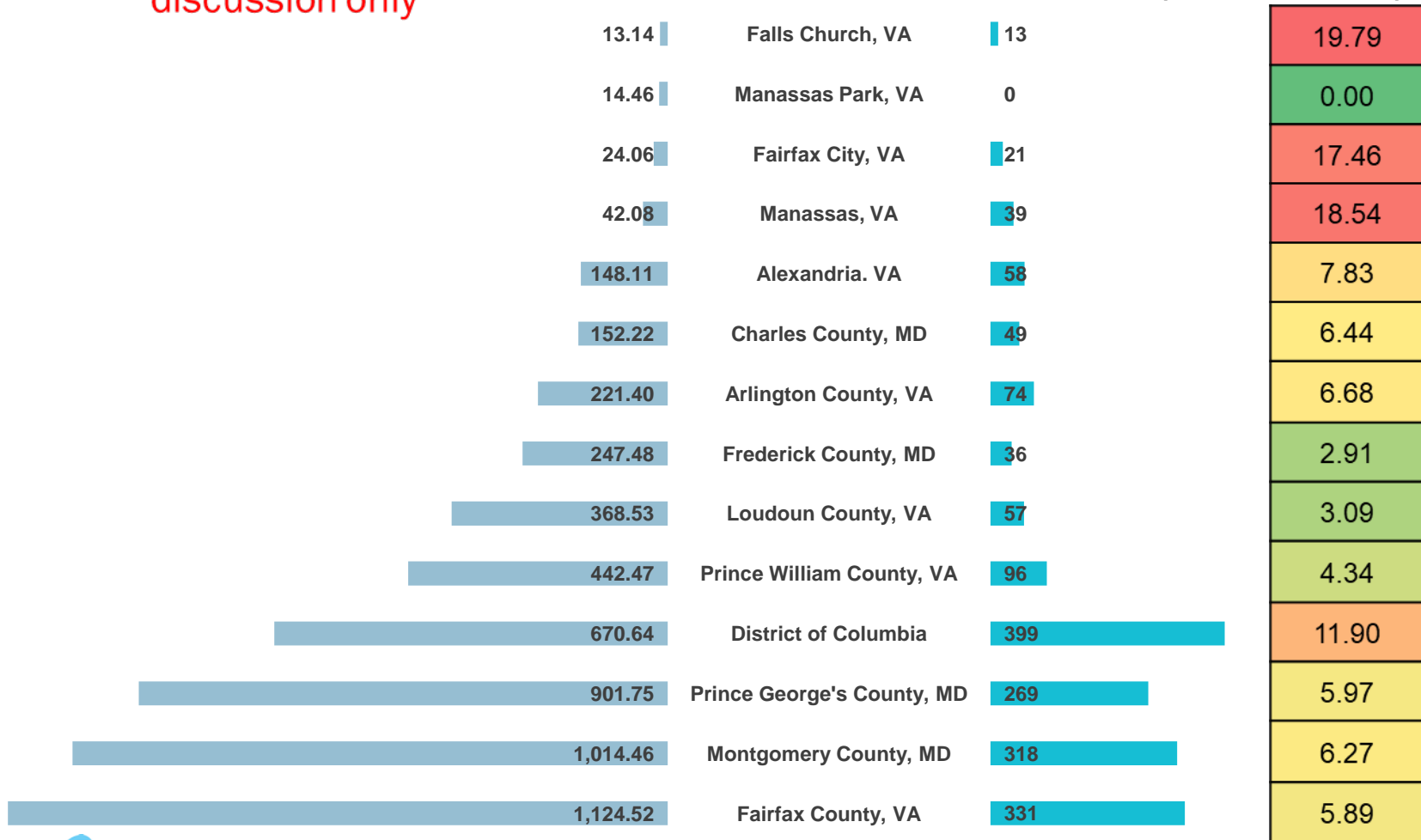
■ Pedestrian Fatalities



Pedestrian Serious Injury Rate by Population

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Serious Injuries per 100,000 people



Pedestrian Crash Severity by Time of Day

Pedestrian Injury Severity by Time of Day			
Time of Day	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Midnight - 0:59 a.m.	11	37	206
1:00 a.m. - 1:59 a.m.	13	35	161
2:00 a.m. - 2:59 a.m.	13	35	163
3:00 a.m. - 3:59 a.m.	7	31	131
4:00 a.m. - 4:59 a.m.	10	4	67
5:00 a.m. - 5:59 a.m.	15	29	187
6:00 a.m. - 6:59 a.m.	24	65	390
7:00 a.m. - 7:59 a.m.	12	85	623
8:00 a.m. - 8:59 a.m.	3	88	673
9:00 a.m. - 9:59 a.m.	7	57	543
10:00 a.m. - 10:59 a.m.	11	59	498
11:00 a.m. - 11:59 a.m.	8	64	547
12:00 p.m. - 12:59 p.m.	6	64	531
1:00 p.m. - 1:59 p.m.	5	68	588
2:00 p.m. - 2:59 p.m.	9	84	726
3:00 p.m. - 3:59 p.m.	11	107	872
4:00 p.m. - 4:59 p.m.	12	104	862
5:00 p.m. - 5:59 p.m.	12	151	1,103
6:00 p.m. - 6:59 p.m.	25	166	1,151
7:00 p.m. - 7:59 p.m.	26	137	911
8:00 p.m. - 8:59 p.m.	34	103	757
9:00 p.m. - 9:59 p.m.	33	99	632
10:00 p.m. - 10:59 p.m.	28	92	518
11:00 p.m. - 11:59 p.m.	18	65	311

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Pedestrian Crash Severity by Day of Week

Pedestrian Injury Severity by Day of the Week			
Day of Week	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Sunday	39	215	1,272
Monday	41	277	1,838
Tuesday	50	280	2,076
Wednesday	51	278	2,091
Thursday	66	249	2,006
Friday	48	296	2,183
Saturday	58	235	1,688

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Pedestrian Crash Severity by Month

Pedestrian Injury Severity by Month			
Month	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
January	28	151	1,162
February	28	136	929
March	27	145	984
April	23	149	1,027
May	31	155	1,101
June	23	150	1,087
July	22	109	892
August	29	160	967
September	24	156	1,117
October	40	180	1,389
November	38	163	1,242
December	40	176	1,257

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Pedestrian Crash Severity by Location

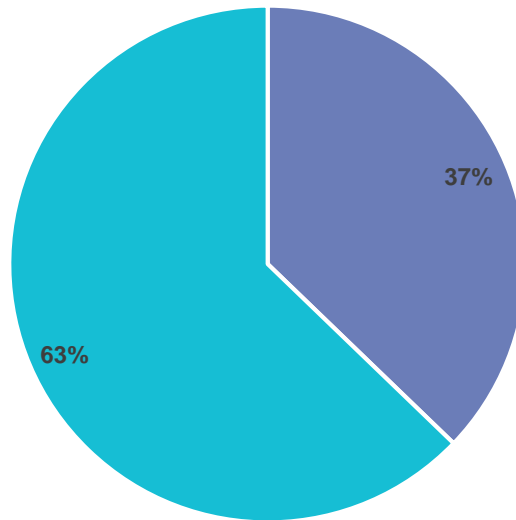
Injury Severity by Pedestrian Location			
Pedestrian Location	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Unknown	65	414	4,270
Unmarked Crosswalk	6	54	386
Marked Crosswalk	61	536	3,927
Sidewalk	7	33	252
In Roadway/Unmarked Midblock/Not at Intersection	197	675	3,770
Median/Island	2	4	28
Outside Roadway	15	114	521

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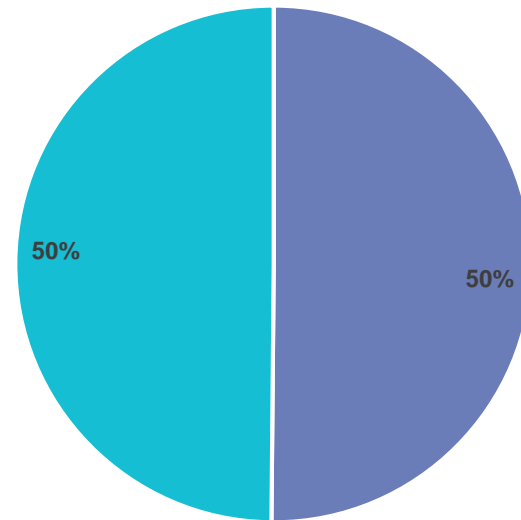
Pedestrian Crash Severity at or Near Intersections

Pedestrian Fatalities



■ Intersection ■ Non-Intersection

Pedestrian Serious Injuries



■ Intersection ■ Non-Intersection

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Crash Severity by Pedestrian Gender and Age

Injury Severity by Pedestrian Age (Females)			
Pedestrian Age	TPB Region		
	Fatalities	Serious Injuries	Total Pedestrians in Crashes
Younger than 5	3	12	155
5-9	0	20	172
10-14	2	30	282
15-19	7	62	519
20-24	8	83	743
25-29	6	75	775
30-34	10	50	645
35-39	8	37	466
40-44	2	36	374
45-49	8	53	396
50-54	11	50	417
55-59	9	50	390
60-64	11	43	344
65-69	6	37	247
70-74	7	22	147
75-79	8	20	121
80-84	6	9	60
Older than 84	7	7	48

Injury Severity by Pedestrian Age (Males)			
Pedestrian Age	TPB Region		
	Fatalities	Serious Injuries	Total Pedestrians in Crashes
Younger than 5	6	15	190
5-9	2	31	312
10-14	0	40	380
15-19	8	84	555
20-24	20	121	744
25-29	16	127	801
30-34	20	95	691
35-39	21	82	582
40-44	18	57	451
45-49	16	78	504
50-54	22	79	508
55-59	24	64	451
60-64	24	59	416
65-69	7	43	242
70-74	13	25	164
75-79	8	18	94
80-84	4	5	58
Older than 84	3	17	90

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Driver Age in Pedestrian Crashes

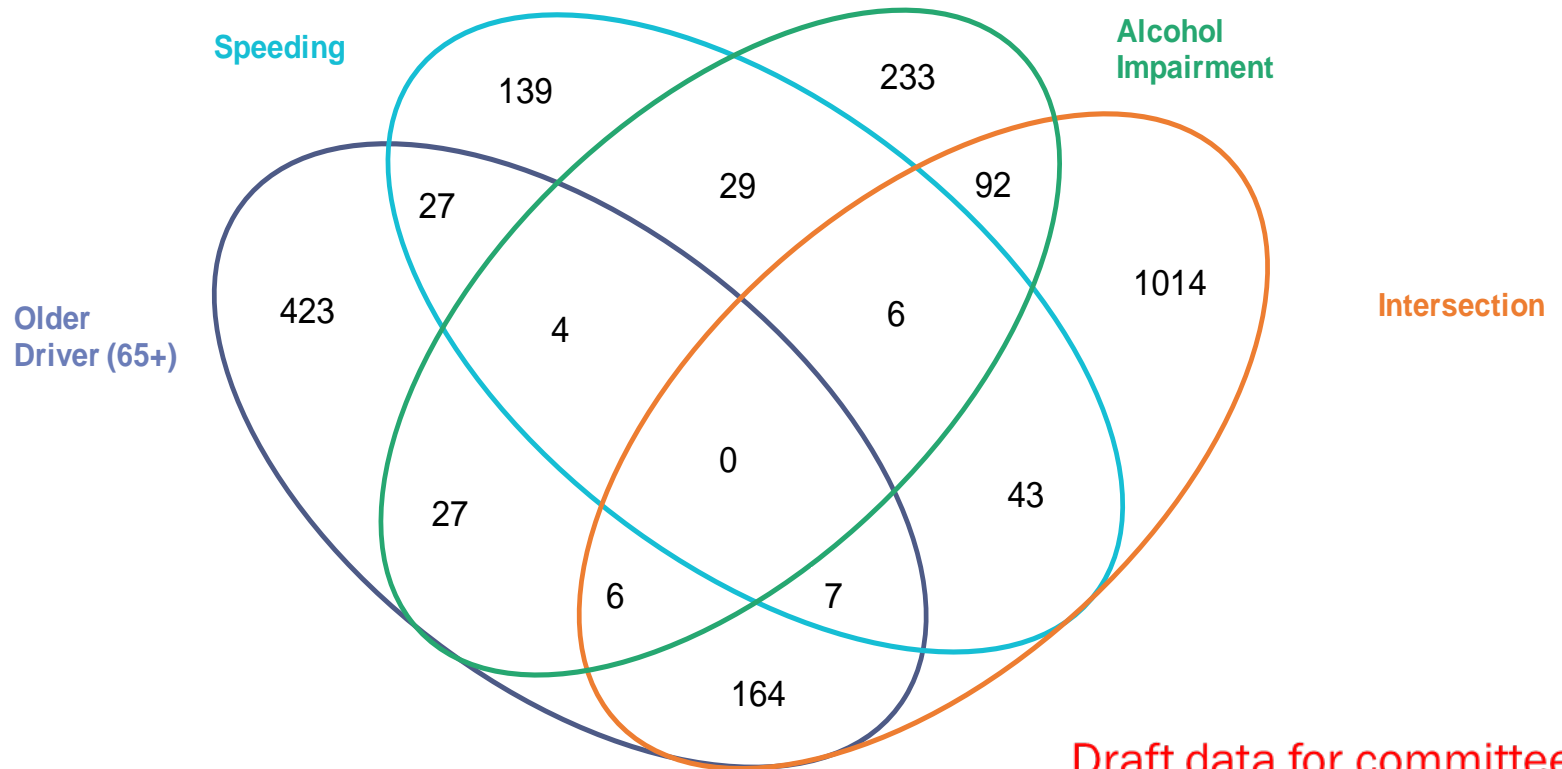
Driver Age in Pedestrian Crashes			
Driver Age	National Capital Region		
	Fatal Pedestrian Crashes	Serious Injury Pedestrian Crashes	Total Drivers in Pedestrian Crashes
Younger than 5	0	0	0
5-9	0	0	0
10-14	0	0	0
15-19	12	52	280
20-24	32	159	960
25-29	34	174	1,213
30-34	37	180	1,190
35-39	32	164	1,012
40-44	36	144	947
45-49	30	173	998
50-54	36	142	1,033
55-59	34	133	952
60-64	20	101	759
65-69	16	97	588
70-74	5	49	395
75-79	8	44	259
80-84	6	20	165
Older than 84	42	158	1,079

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Pedestrian Crash Contributing Factors

Fatalities and Serious Injuries
2013-2017



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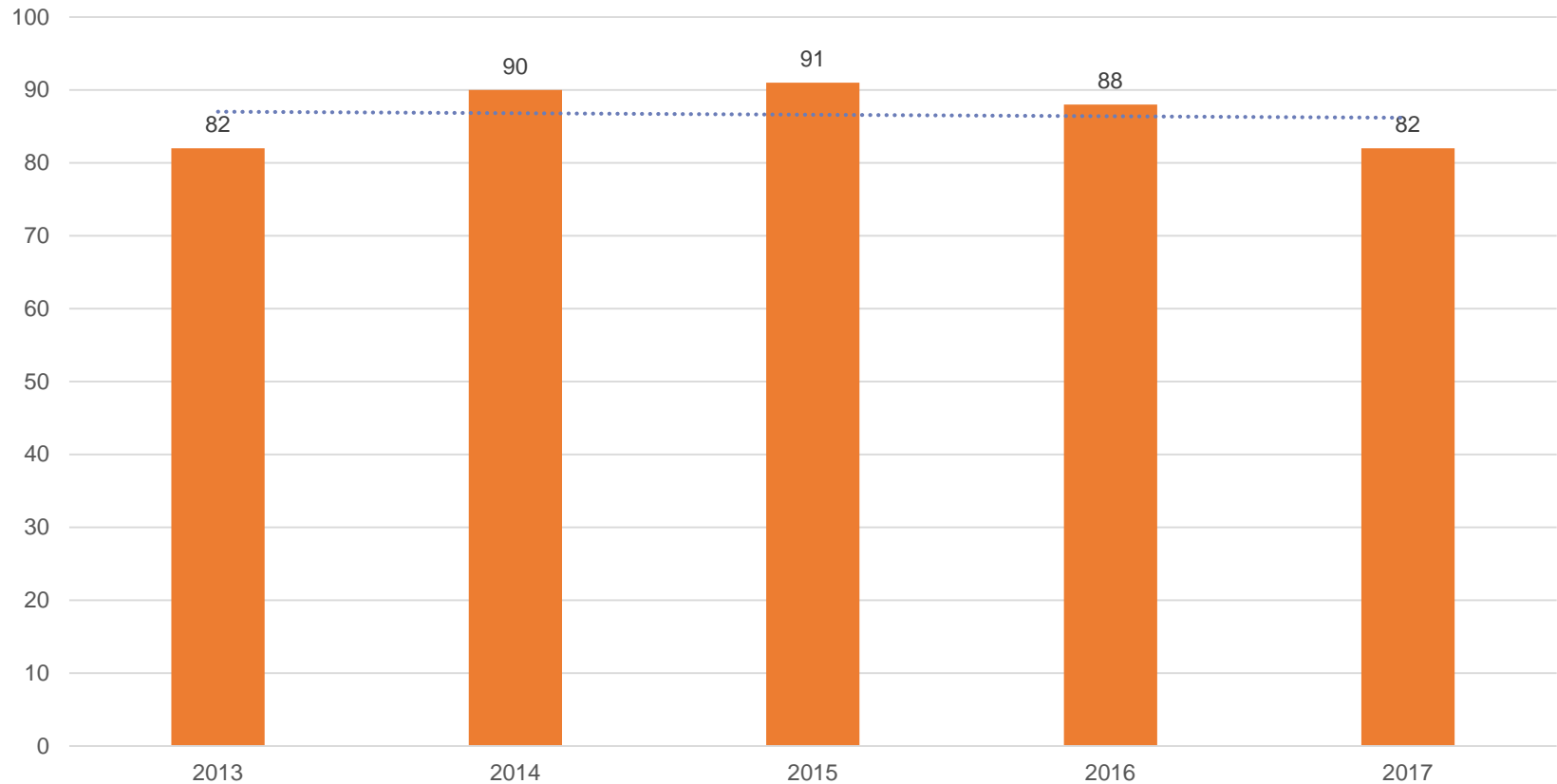


INTERSECTIONS



Intersection Fatalities

Total Regional Fatalities at or Near Intersections (State Data)

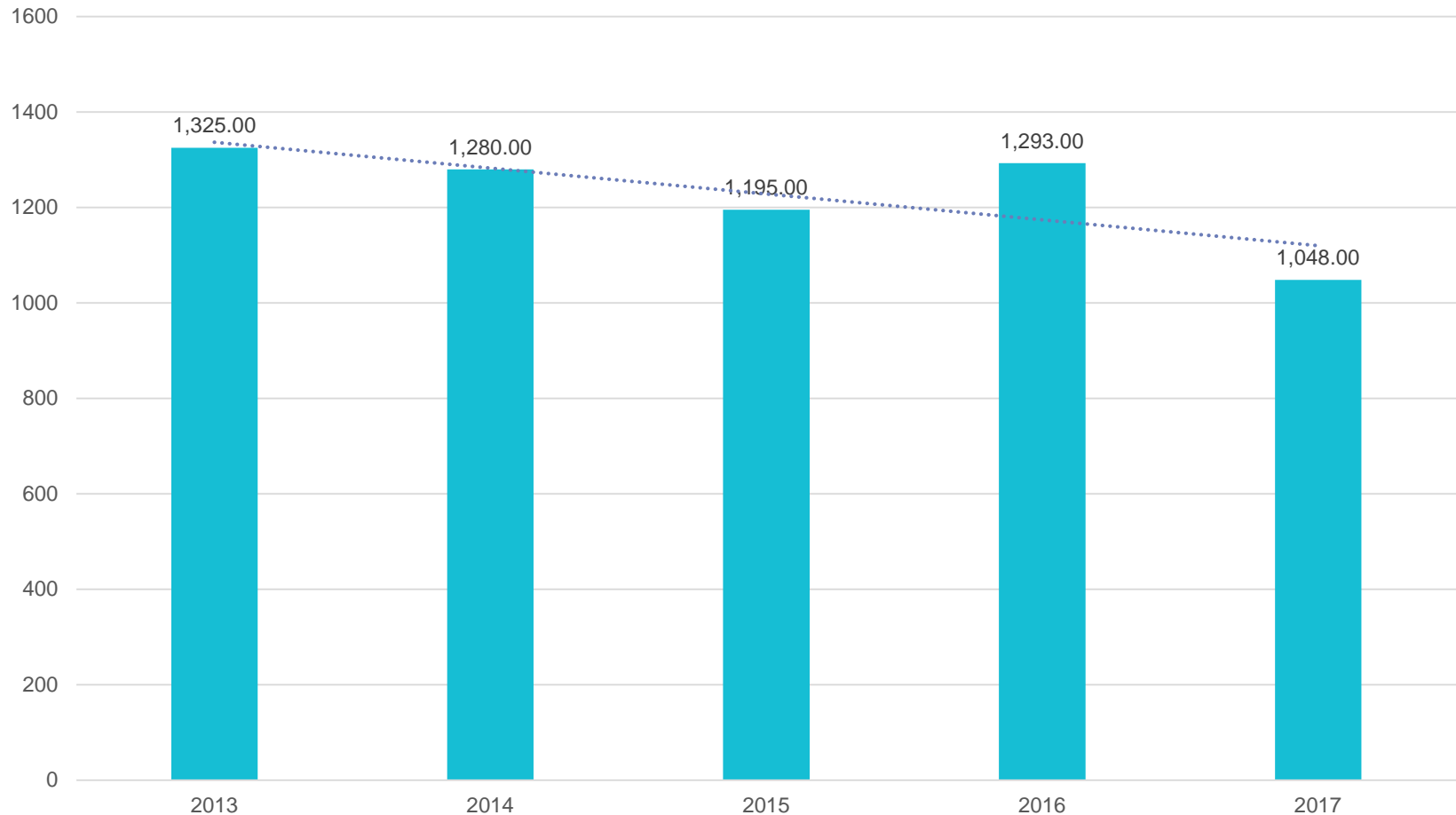


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Intersection Serious Injuries

Total Regional Serious Injuries at or Near Intersections (State Data)



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Intersection Crash Severity by Jurisdiction

Intersection Crash Severity by Jurisdiction			
Jurisdiction	Fatalities	Serious Injuries	Total Crashes
District of Columbia	56	929	57,450
Charles County, MD	24	379	4,323
Frederick County, MD	16	139	4,244
Montgomery County, MD	79	954	23,860
Prince George's County, MD	118	733	22,101
Arlington County, VA	9	152	6,290
Fairfax County, VA	58	1,479	27,461
Fauquier County, VA (urbanized area)	1	37	690
Loudoun County, VA	19	439	10,983
Prince William County, VA	44	463	12,905
Alexandria, VA	4	119	4,004
Fairfax City, VA	4	60	1,339
Falls Church, VA	0	44	339
Manassas, VA	1	210	1,900
Manassas Park, VA	0	4	215
District of Columbia	56	929	57,450
Suburban Maryland	237	2,205	54,528
Northern Virginia	140	3,007	66,126
Urban Core	69	1,200	67,744
Inner Suburbs	259	3,270	75,100
Outer Suburbs	105	1,671	35,260
National Capital Region Total	433	6,141	178,104

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Intersection Crash Severity by Time of Day

Intersection Injury Severity by Time of Day			
Time of Day	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Midnight - 0:59 a.m.	12	154	3,365
1:00 a.m. - 1:59 a.m.	18	98	2,425
2:00 a.m. - 2:59 a.m.	15	131	2,329
3:00 a.m. - 3:59 a.m.	9	78	2,161
4:00 a.m. - 4:59 a.m.	5	45	1,455
5:00 a.m. - 5:59 a.m.	12	91	2,337
6:00 a.m. - 6:59 a.m.	10	216	4,708
7:00 a.m. - 7:59 a.m.	21	284	8,420
8:00 a.m. - 8:59 a.m.	12	329	10,665
9:00 a.m. - 9:59 a.m.	17	273	9,337
10:00 a.m. - 10:59 a.m.	16	255	7,987
11:00 a.m. - 11:59 a.m.	15	272	8,386
12:00 p.m. - 12:59 p.m.	16	299	9,528
1:00 p.m. - 1:59 p.m.	16	321	9,573
2:00 p.m. - 2:59 p.m.	22	319	10,381
3:00 p.m. - 3:59 p.m.	19	415	12,595
4:00 p.m. - 4:59 p.m.	12	409	13,072
5:00 p.m. - 5:59 p.m.	22	431	14,354
6:00 p.m. - 6:59 p.m.	37	427	12,640
7:00 p.m. - 7:59 p.m.	22	315	8,883
8:00 p.m. - 8:59 p.m.	27	311	6,960
9:00 p.m. - 9:59 p.m.	32	271	6,454
10:00 p.m. - 10:59 p.m.	22	219	5,543
11:00 p.m. - 11:59 p.m.	24	177	4,539

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Intersection Crash Severity by Day of Week

Intersection Injury Severity by Day of the Week			
Day of Week	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Sunday	63	773	18,669
Monday	52	870	24,522
Tuesday	52	875	27,218
Wednesday	60	899	27,167
Thursday	71	863	27,256
Friday	68	966	29,366
Saturday	67	895	23,907

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Intersection Crash Severity by Month

Intersection Injury Severity by Month			
Month	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
January	32	420	13,632
February	29	390	12,065
March	37	426	13,430
April	28	494	14,103
May	37	587	15,636
June	41	540	14,768
July	27	543	14,083
August	42	587	14,541
September	39	549	15,875
October	36	599	17,597
November	49	524	16,252
December	36	482	16,123

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Crash Severity by Intersection Control Type

Injury Severity by Intersection Control Type			
Intersection Control Type	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Flashing	13	89	4,222
Officer or Flagger	0	15	441
Other	27	308	11,653
Signal	225	3,311	100,074
Stop Sign	68	837	25,240
Turn Restricted	0	2	63
Yield	9	39	2,383

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Intersection Crash Severity by Functional Class

Intersection Injury Severity by Functional Class			
Functional Class	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Collector	53	1,045	28,744
Expressway	17	132	3,584
Freeways	10	165	5,586
Principal Arterial	185	2,226	68,598
Minor Arterial	147	2,475	68,505
Ramp	3	66	1,878

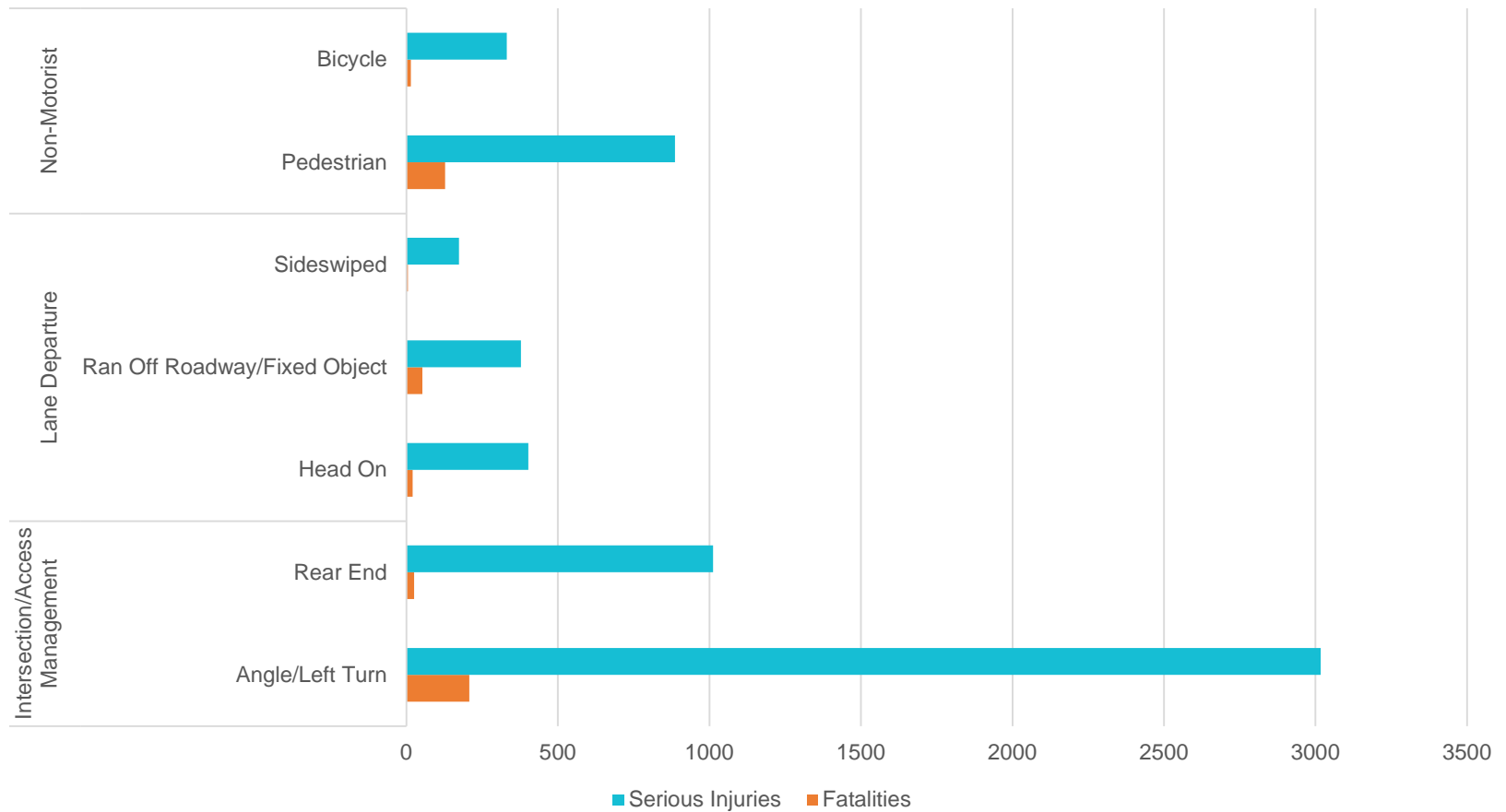
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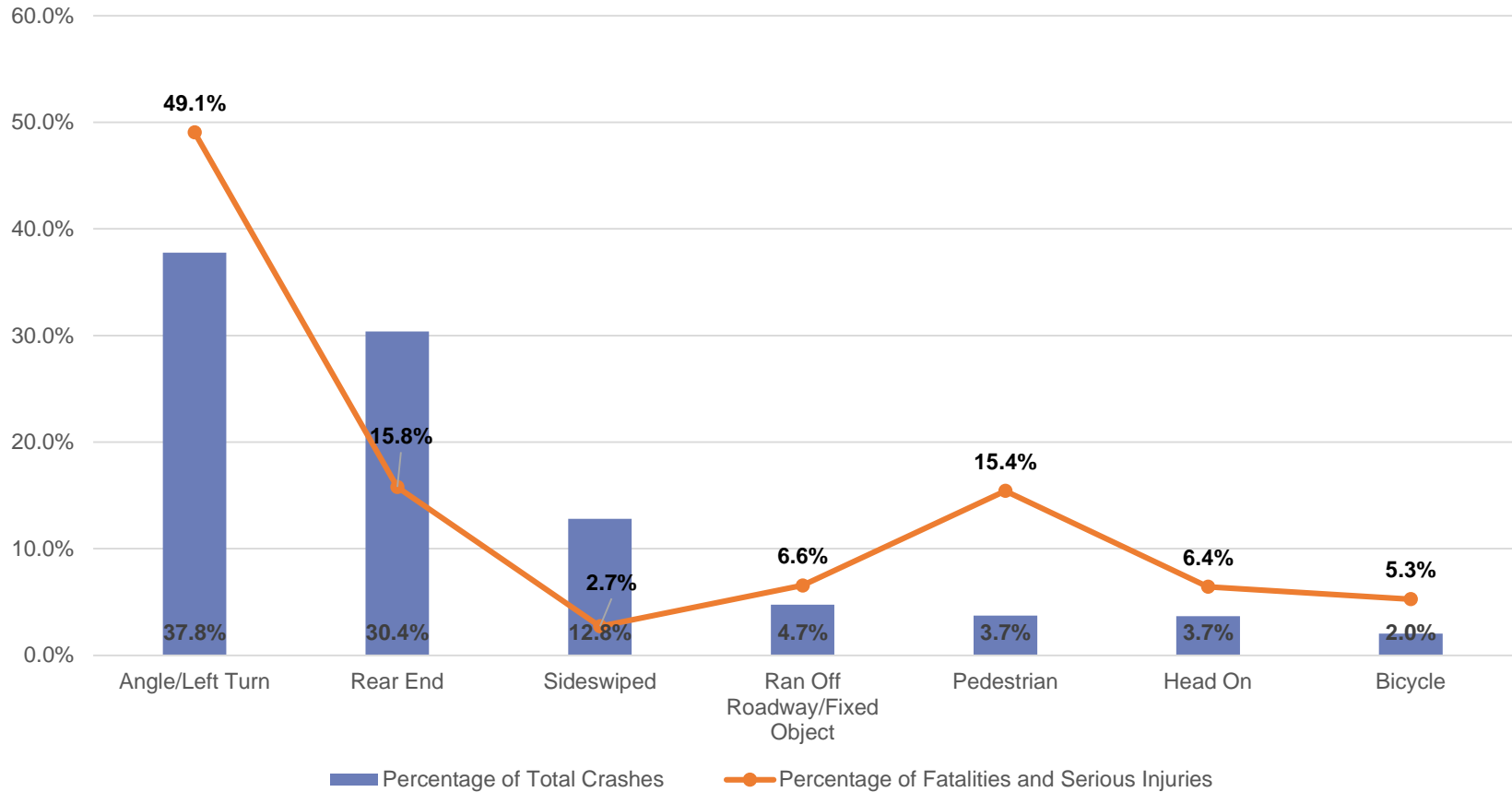
Intersection Collision Types

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Intersection Crash Injury Severity by Collision Type



Intersection Collision Types by Contribution

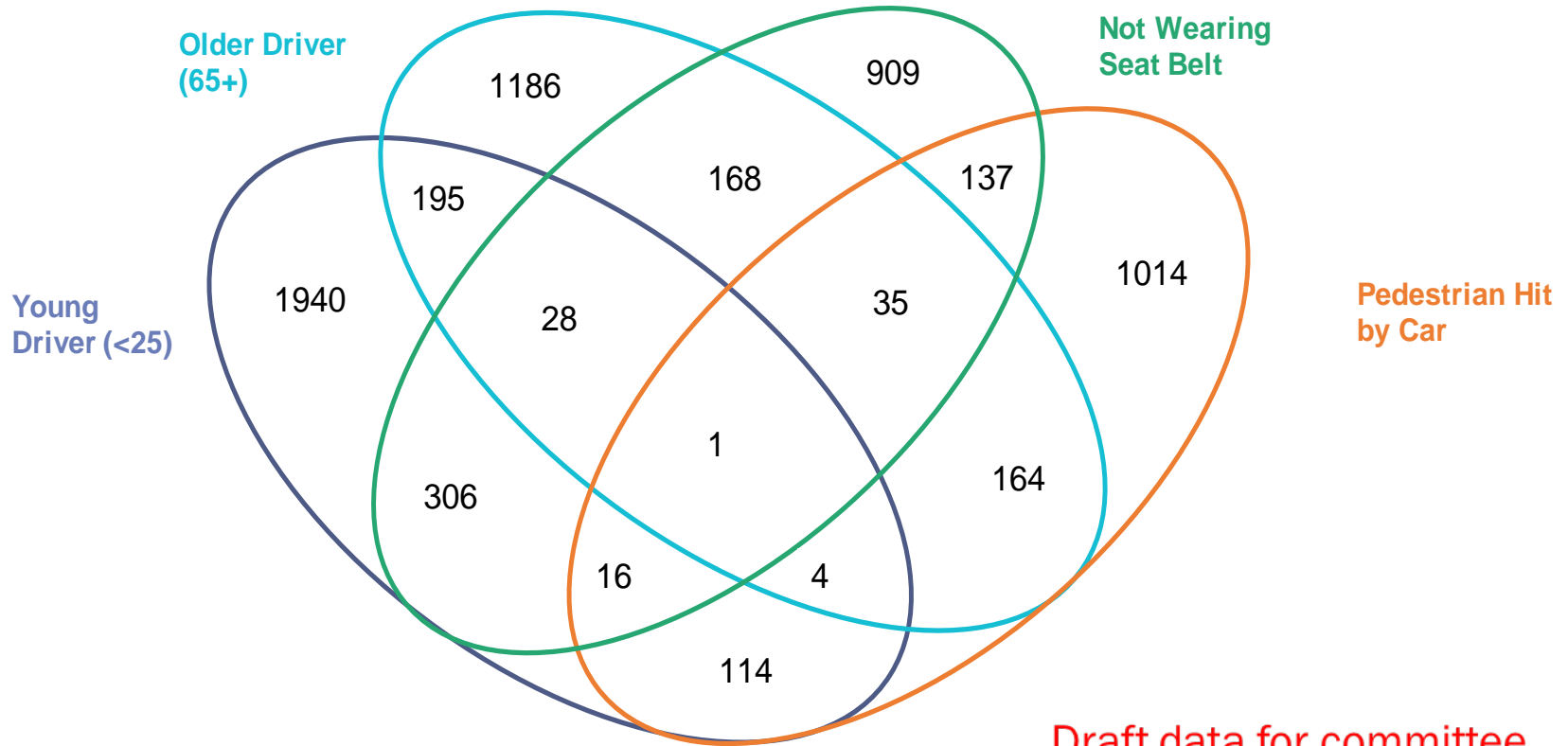


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Intersection Contributing Factors

Fatalities and Serious Injuries
2013-2017



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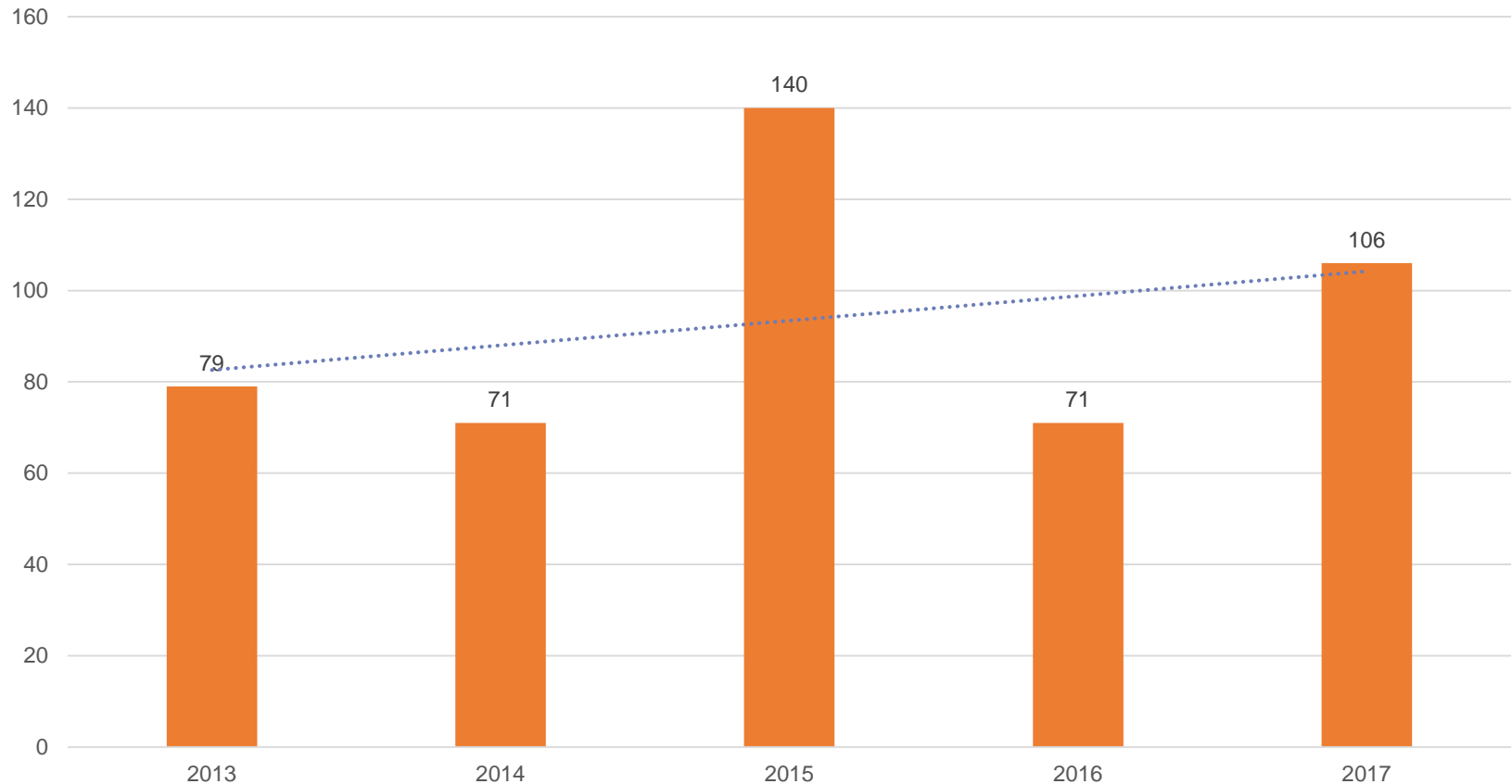


PRINCIPAL ARTERIALS



Principal Arterial Fatalities

Total Regional Fatalities along Principal Arterials (State Data)

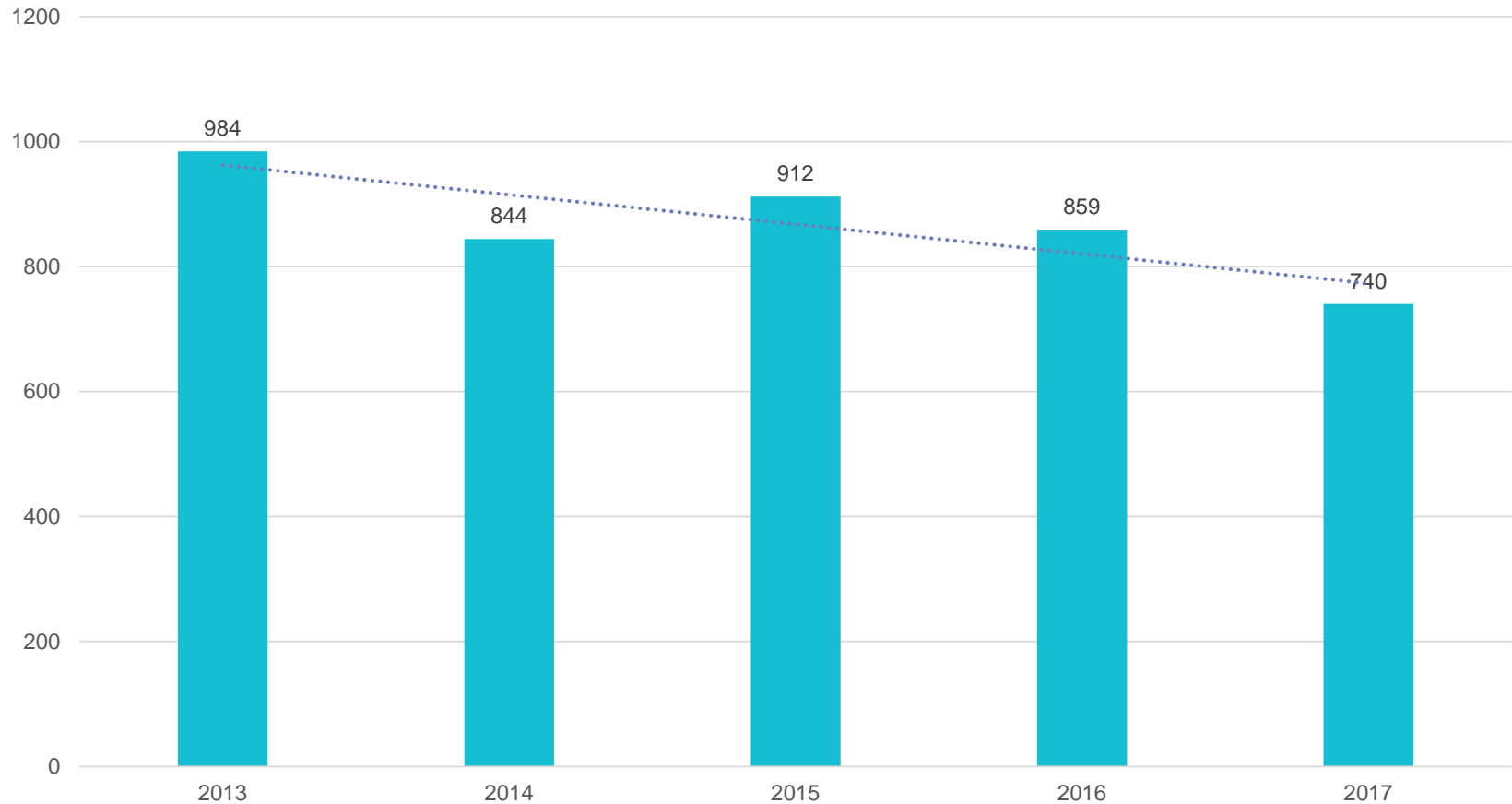


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Principal Arterial Serious Injuries

Total Regional Serious Injuries along Principal Arterials (State Data)



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Principal Arterial Crash Severity by Jurisdiction

Principal Arterial Crash Severity by Jurisdiction			
Jurisdiction	Fatalities	Serious Injuries	Total Crashes
District of Columbia	44	618	45,775
Charles County, MD	37	443	5,422
Frederick County, MD	26	89	3,665
Montgomery County, MD	98	851	25,836
Prince George's County, MD	165	727	23,564
Arlington County, VA	9	98	4,231
Fairfax County, VA	42	803	17,307
Fauquier County, VA (urbanized area)	2	55	1,160
Loudoun County, VA	12	142	4,585
Prince William County, VA	24	195	5,301
Alexandria, VA	2	69	2,624
Fairfax City, VA	5	82	2,357
Falls Church, VA	0	66	492
Manassas, VA	1	100	823
Manassas Park, VA	0	1	109
District of Columbia	44	618	45,775
Suburban Maryland	326	2,110	58,487
Northern Virginia	97	1,611	38,989
Urban Core	55	785	52,630
Inner Suburbs	310	2,529	69,556
Outer Suburbs	102	1,025	21,065
National Capital Region Total	467	4,339	143,251

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Principal Arterial Crash Severity by Time of Day

Principal Arterial Injury Severity by Time of Day			
Time of Day	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Midnight - 0:59 a.m.	20	115	2,935
1:00 a.m. - 1:59 a.m.	23	93	2,298
2:00 a.m. - 2:59 a.m.	22	94	2,336
3:00 a.m. - 3:59 a.m.	21	74	2,182
4:00 a.m. - 4:59 a.m.	19	42	1,471
5:00 a.m. - 5:59 a.m.	14	83	2,150
6:00 a.m. - 6:59 a.m.	19	154	3,949
7:00 a.m. - 7:59 a.m.	12	182	6,374
8:00 a.m. - 8:59 a.m.	8	221	7,984
9:00 a.m. - 9:59 a.m.	11	209	7,331
10:00 a.m. - 10:59 a.m.	15	187	6,607
11:00 a.m. - 11:59 a.m.	14	193	6,687
12:00 p.m. - 12:59 p.m.	13	222	7,697
1:00 p.m. - 1:59 p.m.	17	225	7,959
2:00 p.m. - 2:59 p.m.	13	227	8,617
3:00 p.m. - 3:59 p.m.	14	297	10,198
4:00 p.m. - 4:59 p.m.	22	274	10,385
5:00 p.m. - 5:59 p.m.	23	309	11,193
6:00 p.m. - 6:59 p.m.	30	281	9,855
7:00 p.m. - 7:59 p.m.	29	199	6,929
8:00 p.m. - 8:59 p.m.	28	167	5,267
9:00 p.m. - 9:59 p.m.	29	189	4,859
10:00 p.m. - 10:59 p.m.	22	153	4,379
11:00 p.m. - 11:59 p.m.	29	149	3,601

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Principal Arterial Crash Severity by Day of Week

Principal Arterial Injury Severity by Day of the Week			
Day of Week	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
Sunday	82	595	15,369
Monday	60	583	19,502
Tuesday	48	615	21,577
Wednesday	59	603	21,487
Thursday	66	623	21,882
Friday	69	671	23,826
Saturday	83	649	19,609

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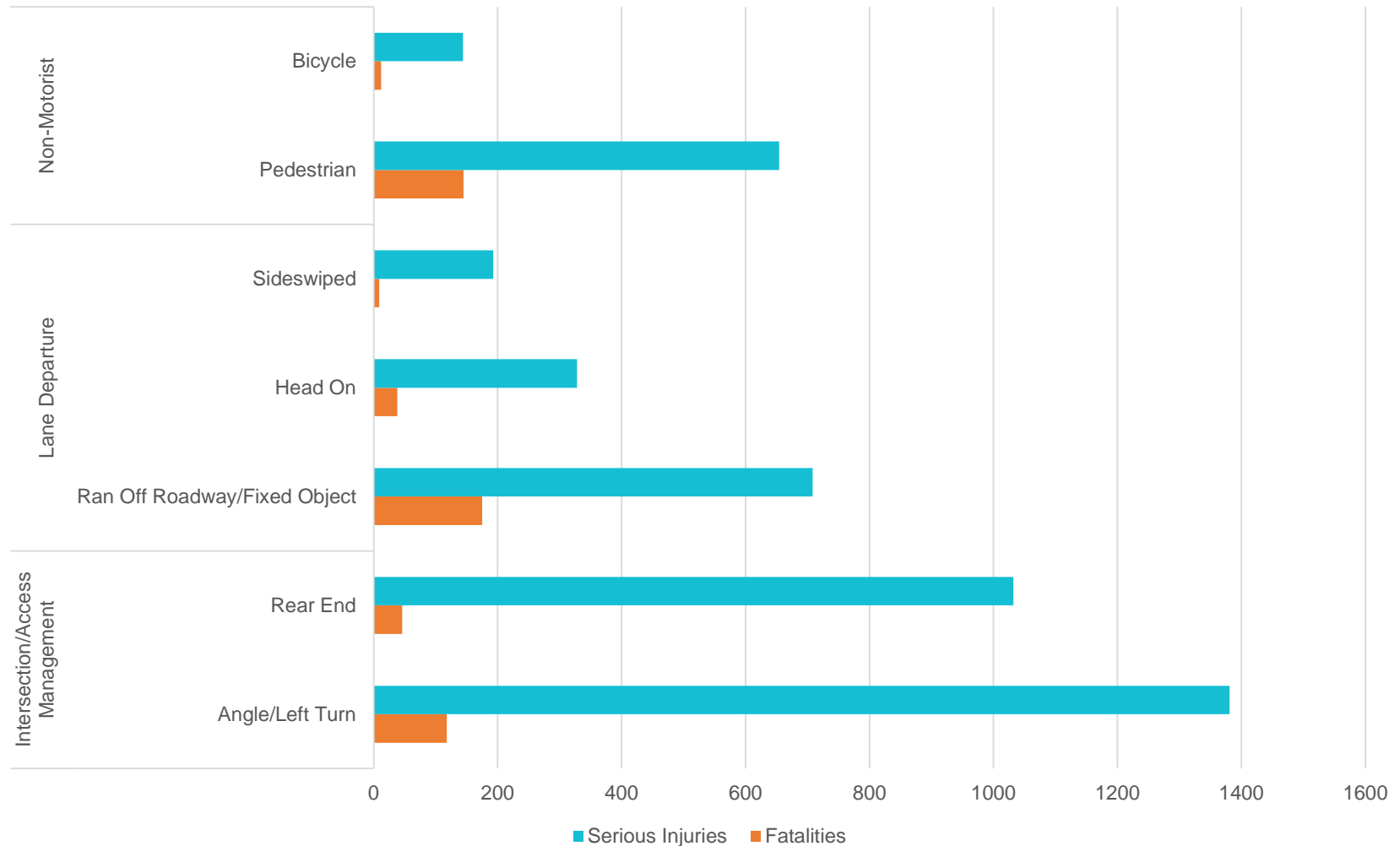
Principal Arterial Crash Severity by Month

Principal Arterial Injury Severity by Month			
Month	National Capital Region		
	Fatalities	Serious Injuries	Total Crashes
January	41	309	11,346
February	30	279	9,999
March	33	319	11,133
April	38	348	11,711
May	31	427	12,621
June	46	378	11,704
July	34	390	11,432
August	42	377	11,478
September	36	397	12,205
October	41	400	13,707
November	54	371	13,050
December	41	344	12,866

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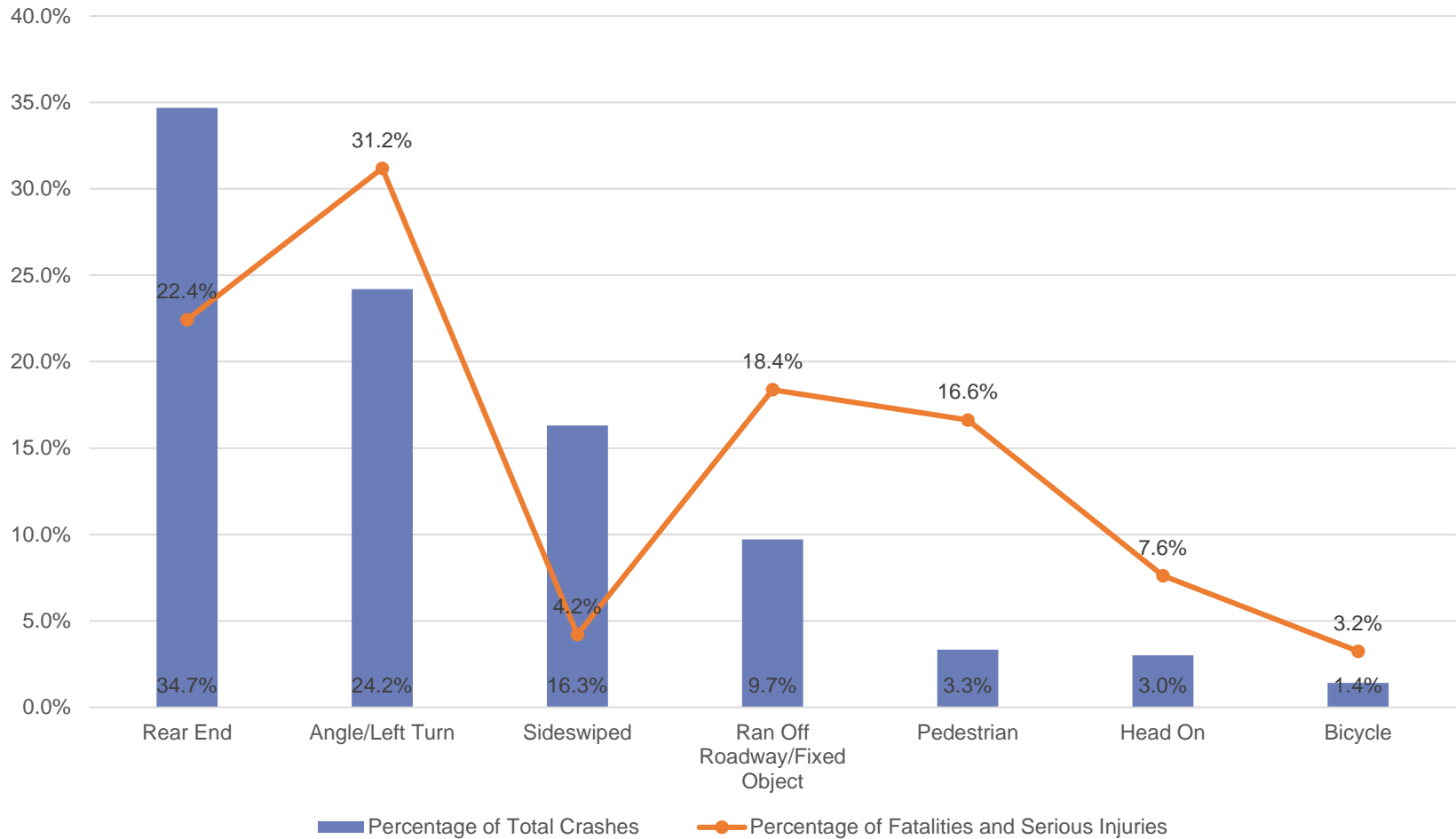
Principal Arterial Collision Types



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Principal Arterial Collision Types by Contribution

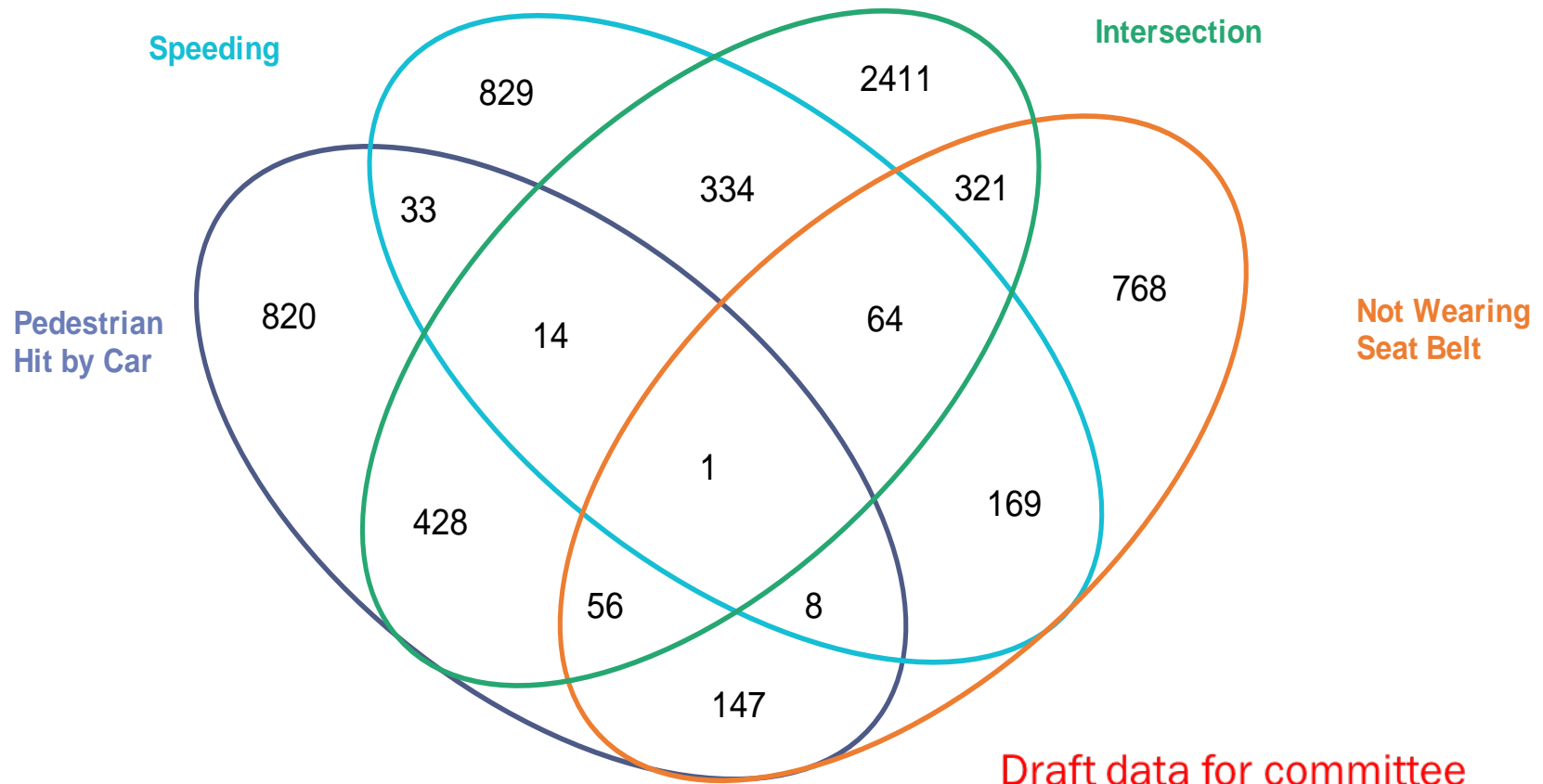


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Principal Arterial Contributing Factors

Fatalities and Serious Injuries
2013-2017



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