

Appendix D.

Collision Typing Tables

Pedestrian Collision Types and Violation Codes

Collision Type (% of All Pedestrian Collisions)	% of Collision Type	Notes
Signalized Locations		
Through Vehicle at Signalized Location – (9.9%)		
Don't walk or "Wait" or "Upraised hand," pedestrian crossing against (VC 21456.B)	27%	Pedestrian crossed against the signal.
Pedestrian facing circular red or red arrow, shall not enter roadway (VC 21453.D)	14%	Pedestrian crossed against red light at signal with no pedestrian signal head.
Crosswalks, failure to yield to pedestrians within (VC 21950.A)	21%	Driver stopped at red light and then hit pedestrian that either still had walk signal or light turned green but pedestrian had not finished its crossing; 9 of these were hit and runs.
Red or Stop, vehicles stop at limit line or x-walk (VC 21453.A)	20%	Vehicle ran a red light.
Others	18%	No VC listed for 12% of this crash type.
(Right) Turning Vehicle (signalized intersection) (9.9%)		
Crosswalks, failure to yield to pedestrians within (VC 21950.A)	61%	Driver failed to yield to pedestrians in the crosswalk.
Don't walk or "Wait" or "Upraised hand," pedestrian crossing against (VC 21456.B)	8%	Pedestrian crossed against the signal.
Crosswalk, pedestrian running in front of vehicle.	6%	Pedestrian ran into the crosswalk while vehicle turning.
Others	25%	No VC listed for 23% of this crash type.
(Left) Turning Vehicle (signalized intersection) (9.0%)		
Crosswalks, failure to yield to pedestrians within (VC 21950.A)	79%	Driver failed to yield to pedestrians in the crosswalk.
Circular green signal, shall proceed but shall yield to vehicles and pedestrians lawfully within intersection (VC 21451.A).	6%	Driver had green light but hit pedestrian legally completing crossing.
Others	15%	No VC listed for 8% of this crash type.
Through Vehicle at Signalized Location (not in x-walk) (2.8%)		
Pedestrian yield, upon roadway outside crosswalk (VC 21954.A)	62%	Pedestrian crossing near (within 50') of a signalized intersection.
Others	38%	Other VCs are similar to above, including jaywalking and running in front of vehicle. No VC listed for 5% of this crash type.

Collision Type (% of All Pedestrian Collisions)	% of Collision Type	Notes
Unsignalized Locations		
Through Vehicle at Unsignalized Location (unsignalized intersection) (7.8%)		
Crosswalks, failure to yield to pedestrians within (VC 21950.A)	70%	Driver failed to yield to pedestrians in the crosswalk.
Crosswalk, pedestrian running in front of vehicle.	10%	Pedestrian ran into the crosswalk while vehicle proceeding straight.
Others	19%	No VC listed for 9% of this crash type.
Through Vehicle at Unsignalized Location (not in x-walk) (6.6%)		
Pedestrian yield, upon roadway outside crosswalk (VC 21954.A)	75%	Pedestrian crossing near (within 50') of an unsignalized intersection.
Others	25%	No VC listed for 8% of this crash type.
(Right) Turning Vehicle (unsignalized intersection) (2.9%)		
Crosswalks, failure to yield to pedestrians within (VC 21950.A)	71%	Driver failed to yield to pedestrians in the crosswalk.
Others	29%	No VC listed for 15% of this crash type.
(Left) Turning Vehicle (unsignalized intersection) (2.7%)		
Crosswalks, failure to yield to pedestrians within (VC 21950.A)	92%	Driver failed to yield to pedestrians in the crosswalk.
Others	8%	No VC listed for 3% of this crash type.
Mid-Block Locations		
Through Vehicle at Unsignalized Location (mid-block) (21.5%)		
Pedestrian yield, upon roadway outside crosswalk (VC 21954.A)	85%	Pedestrian crossing mid-block; Pedestrian at fault for 235 of 252.
Others	15%	No VC listed for 2% of this crash type.
Others		
In Roadway (10.5%)		
Pedestrian yield, upon roadway outside crosswalk (VC 21954.A)	48%	45 at mid-block locations; pedestrian usually at fault. People in street for a variety of reasons (e.g. kids running into street or person beside a parked car).
Unsafe turn, an/or without signaling (VC 22107)	9%	Motorist generally at fault.
Others	43%	No VC listed for 18% of this crash type. Includes some pedestrians on sidewalk crossing driveways incorrectly coded in collision report.
Non Roadway (5.5%)		
Unsafe turn, an/or without signalling (VC 22107)	37%	Mix of driver actions; 12 involve left or right turning vehicles.

Collision Type (% of All Pedestrian Collisions)	% of Collision Type	Notes
Sidewalk, failure to yield to pedestrian on. (VC 21952)	21%	Vehicle failed to yield to pedestrian on sidewalk when pulling in or out of a driveway.
Others	42%	No VC listed for 18% of this crash type.

* Note that collisions that did not list a violation code were excluded from the % calculations in the second column of this table.

Bicycle Collision Types and Violation Codes

Collision Type (% of All Bicycle Collisions)	% of Collision Type	Notes
Turning		
Motorist turned or merged right into path of bicyclist (25.5%)		
Bicycle on roadway or shoulder required to be operated in same direction as motor vehicles (VC 21650.1)	52%	Wrong way riding; at a variety of locations and can include sidewalk riding (e.g., bicycle rides off sidewalk into crosswalk).
Unsafe turn, and/or without signaling (VC 22107)	10%	Unsafe motorist turn into a driveway or at an intersection.
Public or private property, yield to approaching traffic so close as to constitute an immediate hazard (VC 21804.A)	6%	Driver turning into driveway hits bicyclist on sidewalk; or driver making turn at intersection hits bicyclist coming off sidewalk.
Bicyclist, failure to use right edge of roadway (VC 21202.A).	6%	Bike at fault for not riding to the right.
Right half of roadway, failure to drive on (VC 21650)	6%	Motorist turned into path of bicycle that was riding over the center line in the left lane without good reason.
Others	19%	No VC listed for 10% of this crash type.
Motorist turned or merged left into path of bicyclist (6.2%)		
Left turns or U-turns yield until reasonably safe (VC21801.A)	38%	Driver failed to yield when making left turn. Drivers at fault; split between signalized (20) and unsignalized (15) intersections.
Bicycle on roadway or shoulder required to be operated in same direction as motor vehicles (VC 21650.1)	16%	Bicycle traveling wrong way hit by a left turning vehicle.
Red or Stop, vehicles stop at limit line or X-walk (VC21453.A).	11%	Bicycle failed to stop at signal and hit by a left turning vehicle.
Others	34%	No VC listed for 6% of this crash type.
Drove/Rode Out		
Motorist drove out - mid-block (15.8%)		
Bicycle on roadway or shoulder required to be operated in same direction as motor vehicles (VC 21650.1)	54%	Bicyclist riding wrong way on street or sidewalk and hit by driver pulling out of driveway.
Public or private property, yield to approaching traffic so close as to constitute an immediate hazard (VC 21804.A)	18%	Driver pulling out of a driveway and hitting a bicyclist on the sidewalk or road traveling in the right direction. ⁷
Unsafe speed for prevailing conditions (use for all prima facie limits) (VC 22350).	6%	Unsafe speed; 50/50 split of faults
Unsafe turn, and/or without signaling (VC 22107)	5%	Unsafe turning; mix of faults

⁷ Note that a third of this VC list bike at fault and actually involve a bicycle pulling out of a driveway, captured in this crash type due to MPC being listed as Traveling Straight rather than Entering Traffic.

Collision Type (% of All Bicycle Collisions)	% of Collision Type	Notes
Bicyclist, failure to use right edge of roadway (VC 21202.A).	4%	Bike at fault for not riding to the right
Right half of roadway, failure to drive on (VC 21650).	4%	Motorist drove out into the path of bicycle that was riding over the center line in the left lane without good reason.
Others	8%	No VC listed for 7% of this crash type.
Bicyclist rode out - mid-block (4.8%)		
Public or private property, yield to approaching traffic so close as to constitute an immediate hazard. (VC 21804.A)	72%	Bicycle pulled out of a driveway or sidewalk into the road and was struck by a vehicle that did not have time to avoid the collision.
Unsafe turn, and/or without signaling (VC 22107)	8%	Bicycle turned off sidewalk into or across traffic; note this and above code sometimes describe the same type of collision.
Others	20%	No VC listed for 5% of this crash type.
Bicyclist rode out – non-signalized intersection (3.9%)		
Public or private property, yield to approaching traffic so close as to constitute an immediate hazard. (VC 21804.A)	44%	Bicycle rode off sidewalk at or near unsignalized intersection in a way that the driver did not have time to avoid the collision.
Bicycle on roadway or shoulder required to be operated in same direction as motor vehicles (VC 21650.1)	15%	Bicycle rode off sidewalk into unsignalized intersection going the wrong way.
Entering through highway, yield until reasonably safe (VC 21802.A).	11%	Bicycle entering traffic from driveway at or near unsignalized intersection.
Others	30%	No VC listed for 10% of this crash type.
Bicyclist rode out - signalized intersection (3.3%)		
Public or private property, yield to approaching traffic so close as to constitute an immediate hazard. (VC 21804.A)	34%	Bicycle rode off sidewalk at or near a signalized intersection in a way that the driver didn't have time to avoid the collision
Bicycle on roadway or shoulder required to be operated in same direction as motor vehicles (VC 21650.1)	21%	Bicycle rode off sidewalk into signalized intersection going the wrong way.
Red or Stop, vehicles stop at limit line or X-walk (VC21453.A).	19%	Bicycle rode off sidewalk and into signalized intersection against the signal (7 of 9; 2 involved drivers not obeying the red light)
Others	26%	No VC listed for 8% of this crash type.
Failure to Yield		
Bicyclist failed to yield – non-signalized intersection (7.2%)		
Bicycle on roadway or shoulder required to be operated in same direction as motor vehicles. (VC 21650.1)	33%	Wrong way riding
Stop sign, failure to stop at limit line,	20%	Bicycle failed to stop at a stop sign

Collision Type (% of All Bicycle Collisions)	% of Collision Type	Notes
crosswalk, or entrance to intersection (VC 22450.A).		
Public or private property, yield to approaching traffic so close as to constitute an immediate hazard. (VC 21804.A)	17%	Bicycle entered street from sidewalk at or near unsignalized intersection and was hit by vehicle.
Entering through highway, yield until reasonably safe (VC 21802.A).	12%	Bicycle entered from driveway or alley near intersection, failed to yield to vehicle at another leg of unsignalized intersection.
Others	19%	No VC listed for 9% of this crash type.
Bicyclist failed to yield – signalized intersection (5.5%)		
Red or Stop, vehicles stop at limit line or X-walk (VC21453.A).	70%	Bicycle failed to stop at signal and hit by a car traveling in the perpendicular direction.
Bicycle on roadway or shoulder required to be operated in same direction as motor vehicles (VC 21650.1)	13%	Bicycle traveling the wrong way failed to stop at the signal and was hit by a car traveling in the perpendicular direction.
Others	18%	No VC listed for 8% of this crash type.
Motorist failed to yield – signalized intersection (3.0%)		
Circular green signal, shall proceed but shall yield to vehicles and pedestrians lawfully within intersection (VC 21451.A)	35%	Driver had a green light but hit a bicycle at a signalized intersection that was legally completing its crossing.
Others	65%	No VC listed for 43% of this crash type.
Motorist failed to yield – non-signalized intersection (2.7%)		
Entering through highway, yield until reasonably safe (VC 21802.A).	32%	Driver did not stop at a 2-way stop
Stop sign, failure to stop at limit line, crosswalk, or entrance to intersection.	18%	Driver did not stop at a stop sign
Failure to yield, by vehicle not a hazard. (VC21802.B - 4 , VC21804.B - 1)	13%	Bicyclists stopped, then hit after they went into the intersection
Others	37%	No VC listed for 10% of this crash type.

* Note that collisions that did not list a violation code were excluded from the % calculations in the second column of this table.