



# The Safety Corner

## From the Marine Corps Center for Lessons Learned August 23, 2007



### Bicycle Safety Critical Days of Summer Part 5

This issue of the Safety Corner highlights some of the dangers associated with riding bicycles in Iraq, as well as here in CONUS. This issue also covers some common situations that bicyclists may encounter while on the road.

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**From the Director:** A Safety Survey conducted by Col McDade, Director of Safety and Standardization 3d MAW (Fwd), reported that bicycle collisions (with pedestrians or vehicles) is the number one concern of people aboard Al Asad Airfield, Iraq.

Bicycles are a convenient and popular mode of transportation for people all over the world. We all have our reasons for riding, whether for fitness, work, recreation, or the environment (by taking internal combustion engines off the road). The use of bicycles in cities or on military bases is a great alternative to walking or being stuck in traffic, plus it reduces the costs associated with automobiles. The use of bicycles in Iraq continues to increase as more roads are being paved.

Bicycle safety includes two main factors. The first is to know how to ride in a given situation. Following the rules of the road and understanding how to navigate some of the hazardous situations identified in this issue will help minimize your chances of a mishap. The second part of safe riding is the ability to see and be seen. Reflective gear, lights, and markers allow other drivers and pedestrians to see you and take appropriate actions so you both can travel safely.

You may think you know how to ride, but that does not mean you do not need reflective equipment. Conversely, wearing reflective equipment does not mean you do not need to know how to ride safely. Either situation can result in serious consequences. Knowing how to ride safely and wearing reflective equipment provides the best combination of safety factors.

I look forward to your comments, observations, and concerns.

Semper Fidelis,  
Col Monte Dunard, Director MCCLL  
Email : [monte.dunard@usmc.mil](mailto:monte.dunard@usmc.mil).

### Background

*From Miles Bowman, a Tactical Safety Specialist with 3D MAW FWD*



“Our biggest issue with off duty safety now is Bicycles. I spoke with the Exchange Officer and he said they sell an average of 25-30 bikes a day. I would estimate there are over 2000-3000 bicycles currently being ridden on base and another 1000 or more rusting away all over base. Most of the mishaps are from running into ditches or potholes, especially at night. We have been lucky not to have a vehicle involved collision yet, but we have close calls every day. Safety belts are definitely a Marine’s friend over here. I just returned from a trip to Fallujah where there is very little light at night due to the threat level, and it was impossible to see anyone without the belt on. I have provided some information for training that has some riding tips and Base instructions. We have recommended that Unit Commanders require the use of these belts for their people at all times when out doors at night. It’s not required by Base Order here, but is greatly encouraged, and many units have established their own requirements.”

8 April 2007 Al Asad Air Base, Iraq: SNCO was riding a bicycle on Al Asad and was ejected from his bike while standing to change gears. Gears locked up throwing the Marine from bike. SNM put his arms in front of himself to absorb the fall which caused him to break his arms in multiple places resulting in a MEDEVAC to Qatar the following day. SNM unable to return to Al Asad and returned to Okinawa.



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### Visibility

Knowing how to ride safely in any given situation is only part of the solution to minimizing your chances of having an accident. Being able to see and be seen is critical to your safety. These used together provide maximum safety.

Ride as if you were invisible. It's often helpful to ride in such a way that motorists won't hit you even if they don't see you. You're not trying to BE invisible, you're trying to make it irrelevant whether cars see you or not. If you ride in such a way that a car has to see you to take action to avoid hitting you (e.g., by their slowing down or changing lanes), then that means they will definitely hit you if they don't see you. But if you stay out of their way, then you won't get hit even if they didn't notice you were there.

Al Asad Airbase has made it a requirement to have a reflective belt placed on bicycles. This is in addition to a reflective belt/vest that must be worn by the rider. Current Guidance for bicycle visibility is:

- Reflective belts should be worn whenever visibility is low, especially near vehicle traffic.
- Bicyclists are required to have belts attached both to the bike and themselves to ensure visibility.
- Headlights are required in darkness and should be attached to the bicycle and not hand held.



The excerpt from the Al Asad Base order (below) requires that a reflective belt be attached to the bike around the seat post and the neck of the handlebars (see example in the picture on the right)

Remember, you're not trying to BE invisible, you're just riding with the assumption that cars can't see you. **Of course, you certainly want them to see you, and you should help them with that.** That's why you'll wave to motorists whom you think might be about to pull out in front of you, and why you want to be lit up like a Christmas tree at night (front and rear lights).

An excerpt from the Al Asad Air Base Order 5001.1b

#### Bicycle Safety

a. Cyclists will wear a helmet with fastened chin strap at all times. Acceptable helmets include government issued Kevlar helmets and commercially manufactured bicycle safety helmets. Commercially manufactured bicycle safety helmets are strongly encouraged over Kevlar for superior protection during an accident. Cranials are authorized for flightline areas only when service members are performing aircraft maintenance. They are not authorized for areas outside of the service member's unit flightline area or for transit between non-squadron areas.

b. Cyclists will wear reflective belt, vest or other reflective gear that is visible from the rear at all times, and bicycles will have a reflective belt wrapped around the seat post to the handlebar neck. At night, cyclists are required to use a headlamp or flashlight with a clear lens. Other reflectors and tail lights are highly encouraged.

c. Cyclists will ride in the same direction as traffic and will obey all traffic rules and regulations.

### Risk Management

It's a good idea to signal a left turn, but it's a better idea to make your left turn at a time or place where there aren't cars behind you that could hit you while you're stopped and waiting to make that turn. You can hang out in the middle of the street, stopped, with your left arm out, waiting to make your turn, but you're counting on cars behind you to see you and stop. If they don't see you, you're in trouble.



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### Helmets

The requirement for bicycle helmets is nothing new for personnel aboard any military base. Helmets are an important factor in protecting against head injuries during an accident.

#### Selecting a bicycle helmet

Make sure the helmet is safe. Look for a seal of approval from the Consumer Product Safety Commission (CPSC), American National Standards Institute (ANSI) or Snell Foundation.

Make sure it fits snugly. You shouldn't be able to move the bicycle helmet more than one inch in any direction — front to back or side to side. The sizing pads included with every helmet can help make the fit more secure. If you have long hair, a helmet with a ponytail port may offer the best fit.

Think about visibility. If the helmet straps block your vision — even a little bit — choose another helmet. Likewise, make sure motorists and other cyclists can see you. Choose a white or brightly colored helmet.



#### Wearing a Bicycle Helmet

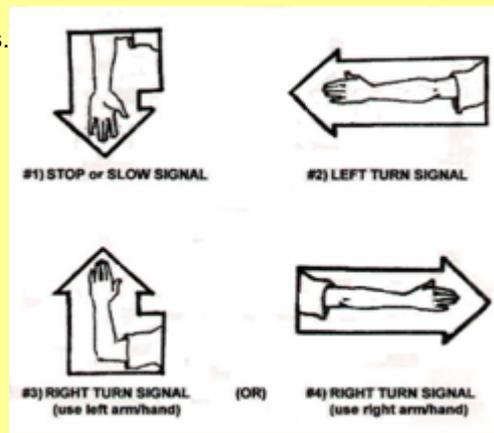
Wear the helmet flat on the top of your head. The helmet should cover the top of your forehead without tilting forward or backward. Fasten the chin strap just below your chin. If the bicycle helmet doesn't feel snug, use the foam sizing pads that came with the helmet to get a better fit. The helmet should not rock from side to side or front to back.

#### Basic traffic rules aboard Al Asad

Although these are required for bicyclists aboard Al Asad, they are good practices for any base.

The best prevention of mishaps is to reduce speeds and increase following distances.

- When driving on roadways, cyclists are required to follow all posted traffic rules.
- Be respectful of pedestrians and give them the right of way at all times.
- Walk bikes through checkpoints and congested areas.
- Cross roadways only at intersections or crosswalks.
- Always ride in the same direction as traffic.
- Use hand signals when turning or stopping.
- No head phones are to be worn at any time.
- Carry weapons so they don't impede bicycle operations.
- Watch out for holes, ditches, or debris.
- Always ride safely and courteously



### Recent Safety Corner Comments

The below comments were recently received in response to the Safety Corner dated 8 November 2006 on Private Motor Vehicles. Our thanks to Captain Todd Sanders, MSTP Exercise Design Officer, Operations Research Officer, LOGCOM

"Amazing! I was just talking with my boss about how when I was a young platoon commander, our CO would say "be sure your boys get a safety brief and then feel free to secure". That was all that was needed. I would go to the platoon, make sure they had contact numbers, see what they were doing, and then (oh no, here it comes) turn it over to my fighter-leaders, the NCOs, to be sure their guys were ready for the weekend. Somehow, this has been bastardized to some senior SNCO or Officer giving a brief that no one listens to. I hope MCCLL passes this on to more people! Thanks!"

We look forward to your comments and observations at the Marine Corps Center for Lessons Learned. Let us know what you think. Send us feedback [HERE](#), or call us at (703) 432-1279.



# The Safety Corner

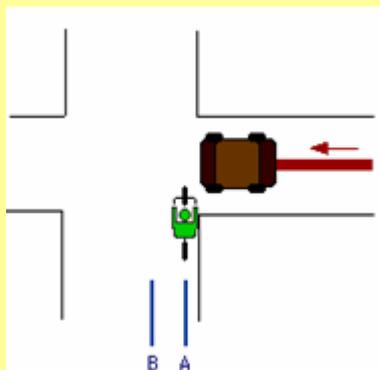
## From the Marine Corps Center for Lessons Learned August 23, 2007



### How to Not Get Hit by Cars

Below is a three-page guide compiled from various sources on common scenarios encountered while riding a bicycle. The information contained in these pages will help you understand many hazards on the roadway caused by other cars, intersections, and the riders themselves. Remember each situation you encounter will be unique with its own hazards. Think about hazardous situations and do all you can to mitigate hazards and stay safe.

#### The Right Cross

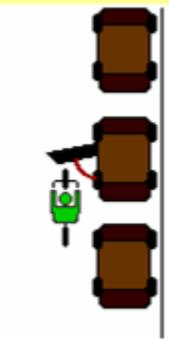


This is one of the most common ways to get hit (or almost get hit). A car is pulling out of a side street, parking lot, or driveway on the right. Notice that there are actually two possible kinds of collisions here: Either you're in front of the car and the car hits you, or the car pulls out in front of you and you slam into it.

#### How to avoid this collision:

- 1. Get a headlight.** If you're riding at night, you should absolutely use a front headlight. It's required by law and regulations. Even for daytime riding, a bright white light that has a flashing mode can make you more visible to motorists who might otherwise Right Cross you.
- 2. Slow down.** If you can't make eye contact with the driver (especially at night), slow down so much that you're able to completely stop if you have to.

**3. Ride further left.** When the motorist is looking down the road for traffic, he may not be looking in the bike lane or the area closest to the curb; he's looking in the MIDDLE of the lane, for other cars. The farther left you can travel, the more likely the driver will see you.



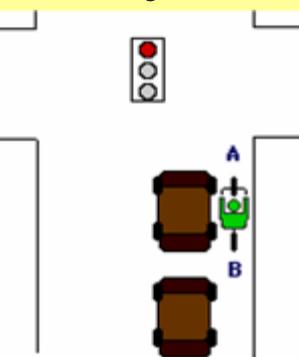
#### The Door Prize

A driver opens his door right in front of you. You run right into it if you can't stop in time. If you're lucky, the motorist will exit the car before you hit the door, to help cushion your impact.

#### How to avoid this collision:

**Ride to the left.** Ride far enough to the left that you won't run into any door that's opened unexpectedly. You may be wary about riding so far into the lane that cars can't pass you easily, but you're MUCH more likely to get doored by a parked car if you ride too close to it than you are to get hit from behind by a car which can clearly see you.

#### The Red Light



You stop to the right of a car that's already waiting at a red light or stop sign. They can't see you. When the light turns green, you move forward, and then they turn right, right into you. Even small cars can do you in in this way, but this scenario is especially dangerous when it's a bus or a semi that you're stopping next to.

#### How to avoid this collision:

**Don't stop in the blind spot.** Simply stop BEHIND a car, instead of to the right of it, as per the diagram on the right. This makes you very visible to traffic on all sides. It's nearly impossible for the car behind you to avoid seeing you when you're right in front of it.



Another option is to stop at either point A in the diagram on the left (where the first driver can see you), or at point B, behind the first car so it can't turn into you, and far enough ahead of the second car so that the second driver can see you clearly. It does no good to avoid stopping to the right of the first car if you're going to make the mistake of stopping to the right of the second car. EITHER car can do you in.



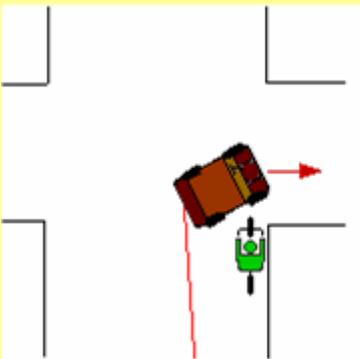
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August 23, 2007



## How to Not Get Hit by Cars (Cont'd)

### The Right Hook



A car passes you and then tries to make a right turn directly in front of you, or right into you. They think you're not going very fast just because you're on a bicycle, so it never occurs to them that they can't pass you in time. This kind of collision is very hard to avoid because you typically don't see it until the last second, and because there's nowhere for you to go when it happens.

#### How to avoid this collision:

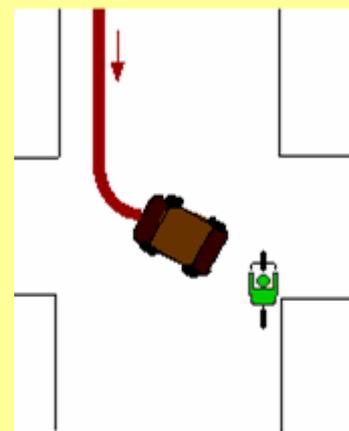
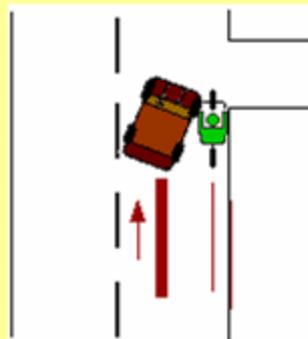
1. **Don't ride on the sidewalk.** When you come off the sidewalk to cross the street you're invisible to motorists.
2. **Ride to the left.** Taking up the whole lane makes it harder for drivers to pass you and to cut you off or turn into you.
3. **Glance in your mirror (or over your shoulder) before approaching an intersection.** (If you don't have a handlebar or helmet mirror, it might be a good idea to get one.) Be sure to look in your mirror *well before* you get to the intersection.

### The Right Hook (part 2)

You're passing a slow-moving car (or even another bike) on the right, when it unexpectedly makes a right turn right into you, trying to get to a parking lot, driveway or side street.

#### How to avoid this collision:

1. **Don't pass on the right.** This collision is very easy to avoid. Just don't pass any vehicle on the right. If a car ahead of you is going only 10 mph, then you slow down, too, behind it. It will eventually start moving faster. If it doesn't, pass *on the left* when it's safe to do so. When passing cyclists on the left, announce "on your left" before you start passing. If they're riding too far to the left for you to pass safely on the left, then announce "on your right" before passing on the right. If several cars are stopped at a light, then you can try passing on the right *cautiously*. Remember that someone can fling open the passenger door unexpectedly as they exit the car. If you are tailing a slow-moving vehicle, give yourself enough room to brake if it turns.
2. **Look behind you before turning right.** Here's your opportunity to avoid hitting cyclists who violate tip #1 above and try to pass you on the right. Look behind you before making a right-hand turn to make sure a bike isn't trying to pass you. (Also remember that they could be coming up from behind you on the sidewalk while you're on the street.) Even if it's the other cyclist's fault for trying to pass you on the right when you make a right turn and have them slam into you, it won't hurt any less.



### The Left Cross

A car coming towards you makes a left turn right in front of you, or right into you.

#### How to avoid this collision:

1. **Don't ride on the sidewalk.** When you come off the sidewalk to cross the street, you're invisible to turning motorists.
2. **Get a headlight.**
3. **Again, avoid passing on the right.** Don't overtake slow-moving vehicles on the right. Doing so makes you invisible to left-turning motorists at intersections. Passing on the right means that the vehicle you're passing could also make a right turn right into you.
4. **Slow down.** If you can't make eye contact with the driver (especially at night), slow down so much that you're able to completely stop if you have to. Sure, it's inconvenient, but it beats getting hit.



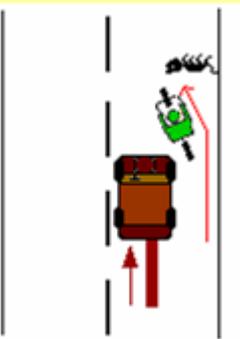
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### How to Not Get Hit by Cars (Cont'd)

#### The Rear End



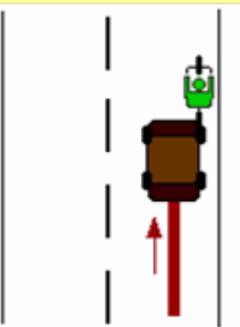
You innocently move a little to the left to go around a parked car or some other obstruction in the road, and you get nailed by a car coming up from behind.

#### How to avoid this collision:

1. **Never, ever move left without looking behind you first.** Some motorists like to pass cyclists within mere inches, so moving even a tiny bit to the left unexpectedly could put you in the path of a car. Practice holding a straight line while looking over your shoulder until you can do it perfectly. Most new cyclists tend to move left when they look behind them, which of course can be disastrous.
2. **Don't swerve in and out of the parking lane if it contains any parked cars.** You might be tempted to ride in the parking lane where there are no parked cars, dipping back into the traffic lane when you encounter a parked car. This puts you at risk for getting nailed from behind. Instead, ride a steady, straight line in the traffic lane.

3. **Use a mirror.** There are models that fit on your handlebars, helmet, or glasses, as you prefer. You should always physically look back over your shoulder before moving left, but having a mirror still helps you monitor traffic without constantly having to look behind you.

#### The Rear End (part 2)



A car runs into you from behind. This is what many cyclists fear the most, but it's not the most common kind of accident (except maybe at night). However, it's one of the hardest collisions to avoid, since you're not usually looking behind you. The best way to avoid this one is to ride on very wide roads or in bike lanes, or on roads where the traffic moves slowly.

#### How to avoid this collision:

1. **Get a rear light.** If you're riding at night, you absolutely should use a flashing red rear light.
2. **Wear a reflective belt or vest.** Reflective gear makes you a lot more visible even in the day time, not just at night. Also, when you hear a motorist approaching, straightening up into a vertical position will make your reflective gear more noticeable.

3. **Choose wide streets.** Ride on streets whose outside lane is wide enough to easily fit a car and a bike side by side.
4. **Choose slow streets.** The slower a car is going, the more time the driver has to see you.
5. **Get a mirror.** Get a mirror and use it.
6. **Don't hug the curb.** This is counter-intuitive, but give yourself a little space between yourself and the curb. That gives you some room to move into in case you see a large vehicle in your mirror approaching without moving over far enough to avoid you.

#### The Wrong Way

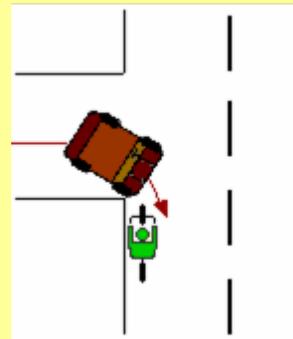
You're riding the wrong way (against traffic, on the left-hand side of the street). A car makes a right turn from a side street, driveway, or parking lot, right into you. They didn't see you because they were looking for traffic only on their left, not on their right.

Even worse, you could be hit by a car on the same road coming at you from straight ahead of you. They had less time to see you and take evasive action because they're approaching you faster than normal.

#### How to avoid this collision:

**Don't ride against traffic.** Ride *with* traffic. Riding against traffic may seem like a good idea because you can see the cars that are passing you, but it's not.

Cars which pull out of driveways, parking lots, and cross streets aren't expecting traffic to be coming at them from the wrong way. They won't see you, and they'll plow right into you.





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### Just the Facts

Source: Consumer Product Safety Commission



#### Pedal cyclist deaths 1994 to 2005

|      |     |
|------|-----|
| 1994 | 802 |
| 1995 | 833 |
| 1996 | 765 |
| 1997 | 814 |
| 1998 | 760 |
| 1999 | 754 |
| 2000 | 693 |
| 2001 | 732 |
| 2002 | 665 |
| 2003 | 629 |
| 2004 | 727 |
| 2005 | 784 |

There are 85 million bicycle riders in the US.  
 784 bicyclists died on US roads in 2005.  
 92% of them died in crashes with motor vehicles (720).  
 About 540,000 bicyclists visit emergency rooms with injuries every year.  
 67,000 have head injuries  
 27,000 have injuries serious enough to be hospitalized.

Released August, 2006.  
 Total bicyclist deaths in 2005: 784 (Up 26% from 2003)  
 Male bicyclist deaths in 2005: 684 (87%)  
 Night time bicyclist deaths in 2005: 380 (48%)  
 Bicyclists killed by motor vehicles: 720 (92%)  
 Bicyclists injured by motor vehicles: 45,000 (up 9.8%)  
 Bicyclists killed in alcohol-related crashes: 281 (up 10%)  
 Bicyclists injured in alcohol-related crashes: 3,000

### Wearing a bike helmet can reduce the risk of head injury by 85 percent.

Today there are an estimated 85 million riders.  
 43 percent of whom never wear helmets.  
 7 percent of whom wear helmets less than half the time.  
**Of bikers who now report wearing a helmet**  
 98 percent said they wore a helmet for safety reasons.  
 70 percent said they wore a helmet because a parent or spouse insisted on it.  
 44 percent said they did so because a law required it.  
 69 percent of children under 16 wear a helmet on a regular basis while riding a bike, according to parents.  
 38 percent of adult bike riders regularly wear their helmets.



Don't be a Rockman, wear the proper PPE any questions.



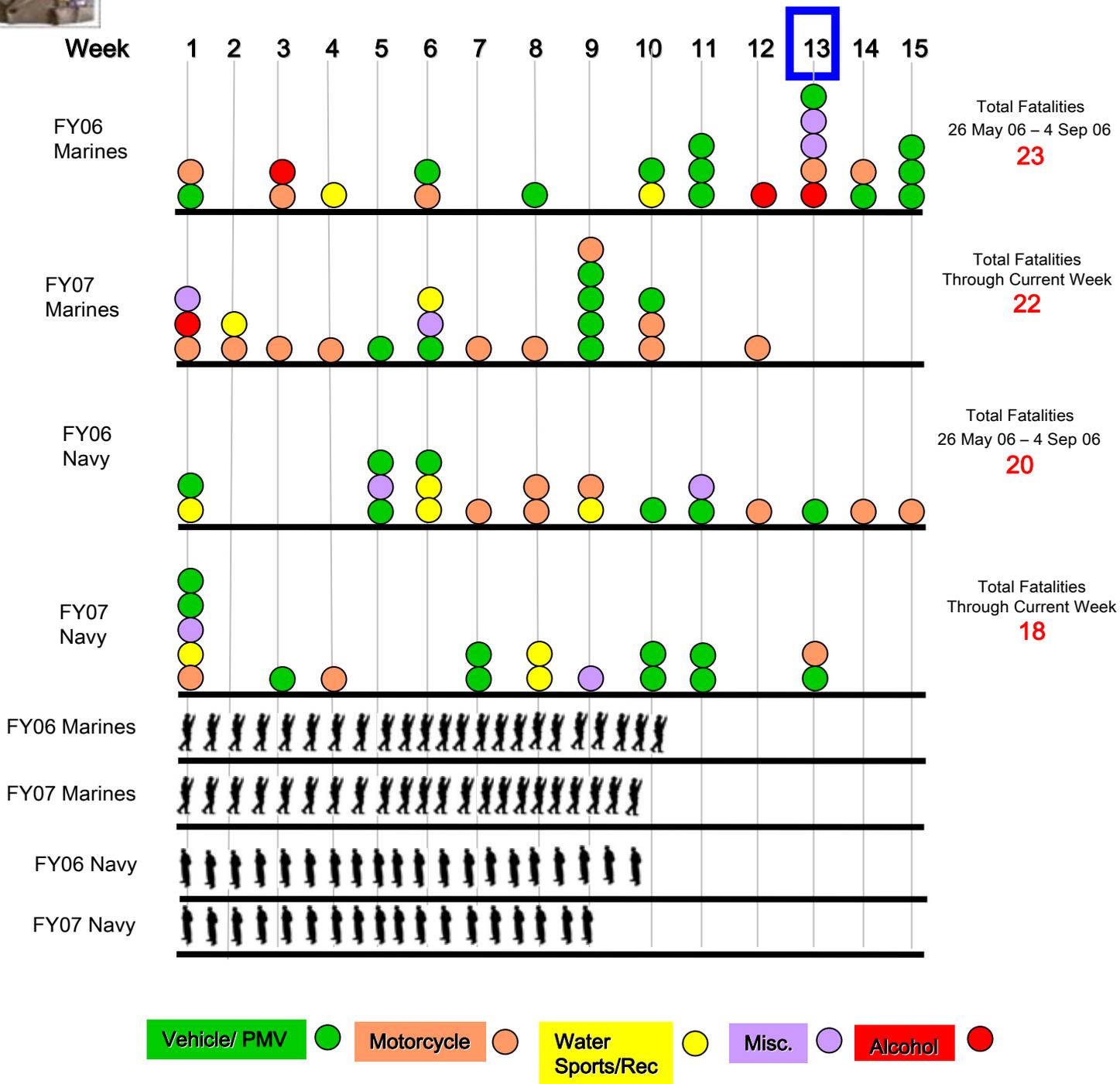
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101 Critical Days of Summer FY06/07 comparison

### 101 Critical Days of Summer Fatality Summary as of 23 Aug 07



Total Fatalities 26 May 06 – 4 Sep 06  
**23**

Total Fatalities Through Current Week  
**22**

Total Fatalities 26 May 06 – 4 Sep 06  
**20**

Total Fatalities Through Current Week  
**18**

Vehicle/ PMV ● 
 Motorcycle ● 
 Water Sports/Rec ● 
 Misc. ● 
 Alcohol ●

Note: Ground fatalities were removed for FY06/FY07 comparison