



2016 Pre-Season Motorcycle Brief



673d Air Base Wing – Home of America's Arctic Warriors



Agenda



- **Pre-ride / pre-season inspections (Bike Maintenance = Bike Safety)**
- **Impact Crash Forces**
- **PPE (Requirements)**
- **Motorcycle Safety and Ride Preparation**
- **Rider behavior**
- **References**
- **Riding Season**
- **Training requirements**
- **Enrollment Procedures**
- **Motorcycle Accident Facts**
- **Local Hazards**
- **Managing Risk**
- **Emergency gear**
- **Survival skills**



2016 Pre-Season Motorcycle Brief



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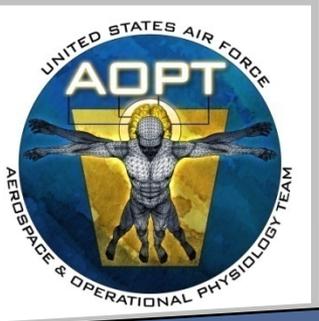
Aerospace & Operational Physiology Team



*Improving warfighter
performance and safety
through threat education
and prevention.*

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Aerospace & Operational Physiology



➤ *Hypobaric (Altitude) Chamber Training*

➤ *High Altitude Airdrop Mission Support*



➤ *Centrifuge Acceleration Training*



➤ *High Altitude Reconnaissance Mission Support*





"The Fastest man on Earth"



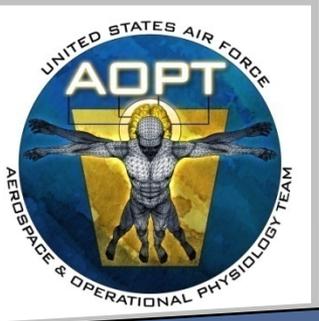
John Stapp riding the "Sonic Wind" during a 421-mph ride in March 1954

Photo credit: Courtesy of the USAF



A matter of acceleration

Less to do with speed than with acceleration-the change of speed over time!



G Forces

Depends on which way your body is oriented when it accelerates

- front-to-back
- side-to-side
- head-to-toe

Or, in each case, vice versa—for example, toe-to-head



Human Limits

- 14g's of lateral acceleration can tear organs loose
- Btwn 4-8 longitudinal g's will knock you out
- 75 g's ~ 65 g's ~ 50 g's (fatal impact)
- 15% of all deaths following motor vehicle collisions are due to injury to the thoracic aorta

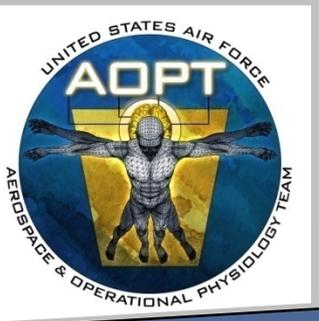


Tolerable differences

Differs by individual however depends on the factors

- The direction in which the G forces are felt
- The amount of G's involved
- How long those G's last





TOO MUCH TOO LONG

G Force during Princess Diana's accident

- Chest 70 g's
- Head 100 g's

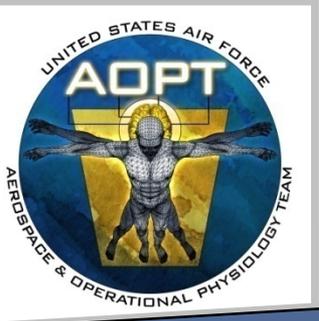
Organs & connective tissue

100 g's – racing car

Motorcycle not car

Low side versus **high** side accident





G PHYSICS

If the weight of the driver is **160lbs**, and the motorcycle is traveling with a speed of **30mi/hr** then a crash which stopped the driver in a distance **0.2ft**

Deceleration = **150g's**

Force = **12 tons!!**

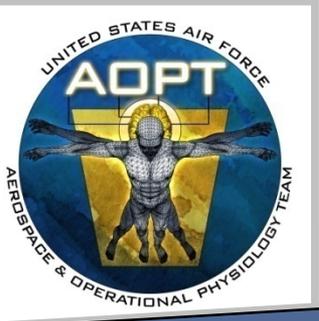




If the weight of the driver is **180lbs**, and the motorcycle is traveling with a speed of **65mi/hr** then a crash which stopped the driver in a distance **1ft /50ft**

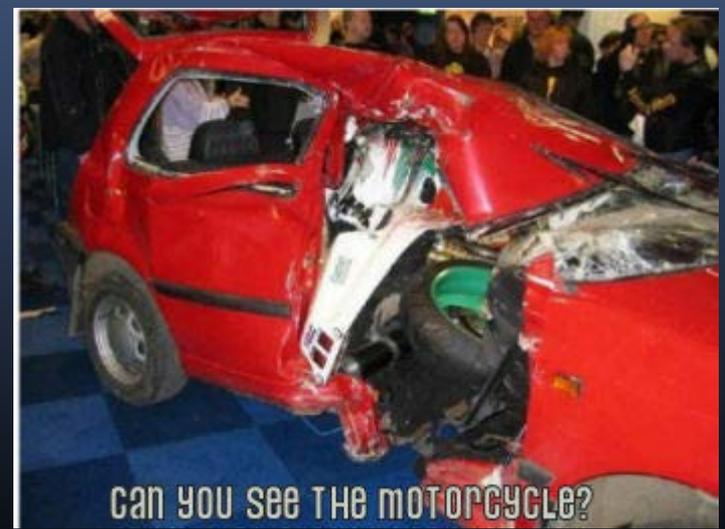
Deceleration = **143g's / 2.85g's**

Force = **12.72 tons!!**



If the weight of the driver is **200lbs**, and the motorcycle is traveling with a speed of **65mi/hr** then a crash which stopped the driver in a distance **1ft**

Force = **16.39 tons!!**

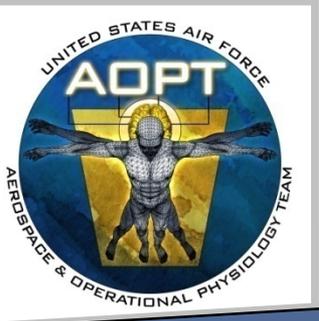




If the weight of the driver is **180lbs**, and the motorcycle is traveling with a speed of **70mi/hr** then a crash which stopped the driver in a distance **1ft /50ft**

Deceleration = **166g's / 3.32g's**

Force = **14.75 tons!!**



Questions?

The typical motorcycle accident allows the motorcyclist just less than 2 seconds to complete all collision avoidance action.





2016 Pre-Season Motorcycle Brief



Personal Protective Equipment (PPE)

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PPE Requirements



*What Personal Protective Equipment (PPE) must I wear when riding (includes passengers) – **bare minimum?***

- **References:** DoD 6055.04, AFI 91-207, & AR 385-10
- **Head protection:** DOT-approved helmet, properly fastened
- **Eye protection:** Goggles, wraparound glasses or full-face shield (Meets or exceeds ANSI Z87.1 standard for impact resistance) attached to helmet – windshield alone is insufficient
- **Protective clothing:** Long-sleeve shirt or jacket, long pants; full-fingered gloves or mittens (leather/abrasion-resistant)
- **Foot protection:** Sturdy, over-the-ankle boots or shoes
- **Visible garments:** Riders encouraged to select PPE that incorporates fluorescent colors and retro-reflective material



Helmet Compliance



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Helmet Construction



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Helmet Construction



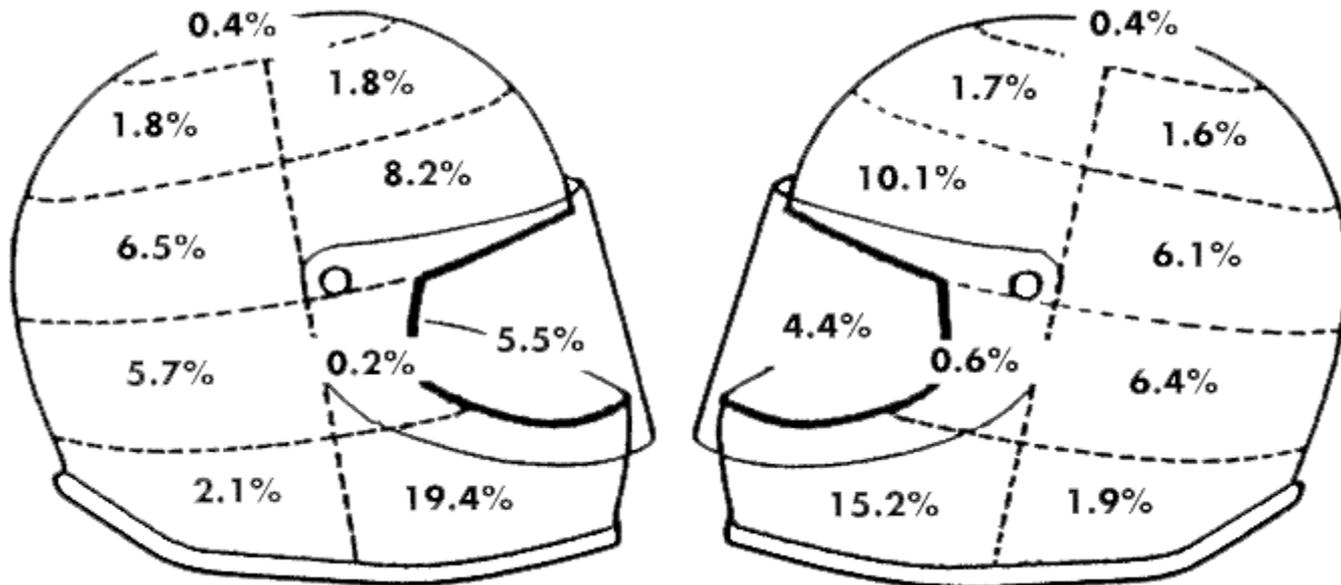
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Crash Statistics



- As shown in this photo below over 50% of the impacts occur below the eyebrows.





Helmet types



Modular



Weak chin bar area

Open face



Least protection 2/3 exposed

Full Face



Most protection

Motocross/Snowmobile



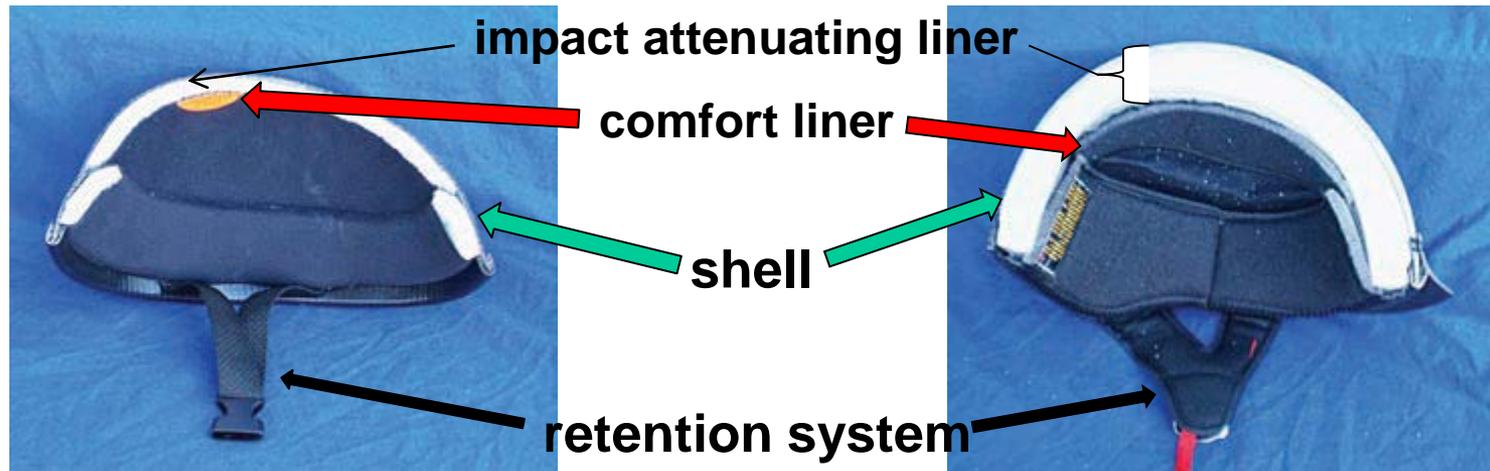
Best for off road use



Cross Section of Novelty vs. Compliant



- Cross sections of a representative novelty helmet on the left and a representative certified motorcycle helmet on the right.



Novelty Helmet

Certified Motorcycle Helmet



Cross Section of Novelty vs. Compliant



- Shell construction
- Impact attenuating liner
- Comfort liner
- Retention strap (Compliant helmet has a much stronger chin strap and fastener)



Example to identify a DOT certified helmet



- Name of the manufacturer
- Model of the helmet
- Size of the helmet
- Look on the inside of the helmet and there should be information about the manufacturer's Name, Date of Manufacturing, Model of Helmet, Helmet Size (Indicators of a compliant DOT helmet)



Approved Clothing





Motorcycle Safety and Ride Preparation

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Why are we here?



- **T-clocs**
- **Group Riding**
- **Riding Alone**
- **Upcoming Events**



T-CLOCS



- **Perform Regularly**
 - **Tires**
 - **Controls**
 - **Levers, Cables, Hoses**
 - **Lights**
 - **Oil**
 - **Chassis**
 - **Frame, Suspension, Chain/Belt**
 - **Stands**
 - **Center, Side**



Group Riding & Riding Alone



- **Be Prepared**
 - Full tank, cell phones, first aid, tools, cash
- **Know Your Destination(s)**
 - Where are you going?
 - Is there a meeting place in case your separated?
 - Does everyone know how to reach the destination?
- **Know who is with you**
- **Be aware of your surroundings**
- **Make yourself visible**
- **Don't allow enough space between you and others so a car or truck can squeeze into the group, this will cause separation.**
- **Travel at the slowest persons pace**



MSF's Guide to Group Riding: Hand Signals

<p>Stop - arm extended straight down, palm facing back</p> 	<p>Single File - arm and index finger extended straight up</p> 	<p>Turn Signal On - open and close hand with fingers and thumb extended</p> 
<p>Slow Down - arm extended straight out, palm facing down</p> 	<p>Double File - arm with index and middle finger extended straight up</p> 	<p>Fuel - arm out to side pointing to tank with finger extended</p> 
<p>Speed Up - arm extended straight out, palm facing up</p> 	<p>Hazard in Roadway - on the right, point with right foot; on the left, point with left hand</p> 	<p>Refreshment Stop - fingers closed, thumb to mouth</p> 
<p>You Lead/Come - arm extended upward 45 degrees, palm forward pointing with index finger, swing in arc from back to front</p> 	<p>Highbeam - tap on top of helmet with open palm down</p> 	<p>Comfort Stop - forearm extended, fist clenched with short up and down motion</p> 
<p>Follow Me - arm extended straight up from shoulder, palm forward</p> 	<p>Pull Off - arm positioned as for right turn, forearm swung toward shoulder</p> 	



Upcoming Events



- **Green Knights Mentorship Night**
 - Every Third Friday of the month at 1900
 - Meant to help Riders learn the do's and don'ts of group riding
- **Annual Motorcycle Safety Ride**
 - May 26, 2016 registration at 0800
 - Ft. Richardson MSF Pad
- **Alaska Vets MC Memorial Run**
 - Memorial Weekend
 - Trapper Creek/ Buyers Lake
- **Green Knights MMC Salmon Run Ride**
 - August 19, 2016
 - Kenai
- **Various Poker Runs**
 - Every weekend throughout the summer

JBER Annual Motorcycle Safety Ride

When: May 26, 2016

Where: Fort Richardson MSF Pad

It will be a fun day of education, mentorship,
And of course riding!



Registration begins at 0800

Bring with you

- License, Registration, Insurance, and MSF Card to Participate.
- A Full Tank of Gas
- \$5 for lunch in Palmer

Attention!

If you have more than 10 years riding
Experience and wish to help mentor younger
riders
Please show up at 0730 for a safety briefing



2016 Pre-Season Motorcycle Brief



Motorcycle Safety

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Rider Behavior



**Are
You
Responsible**

**"Riding Properly and Safely is a Statement of Your
Commitment to Your Family and Friends!"**



Top 3 Mishap Causes

Judgement Factors



- **Single vehicle accidents**
 - **Fixated on objects, Loss of Situational Awareness, Wildlife Avoidance, Vehicle Avoidance; Striking Fixed Objects**
- **Speed**
 - **Misjudging corners and overriding skills; going to fast to negotiate the turn.**
 - **Traveling in excess of posted speed limits.**
- **Braking**
 - **Improper use of front and rear brakes or failure to use both.**
- **Alcohol (Slowly becoming an issue)**



Change the Trend



- **Ride responsibility**
 - **Consider others on the road. Show the same respect and courtesy you desire for yourself.**
- **Avoid Speeding**
 - **Comply with posted speed limits. They are there to protect you.**
- **Proper Scanning to Prevent Fixation**
- **Judgment**
 - **Never ride while intoxicated.** (Affects balance, coordination and reaction time)



Riding Skills



- Training doesn't end following the course.
 - Apply what you learn
 - Short riding season – maybe a little rusty
 - Start slow; find an abandon lot or area and practice skills.
 - Short rides prior to riding in congested areas.





References



- **DoDI 6055.4 – DoD Traffic Safety Program**
- **AFI 91-207 – USAF Traffic Safety Program**
- **AR 385-10 – The Army Safety Program**



Riding Season



So...when can I ride?

Short answer:

Call 552-INFO (4636)



The Deal on Riding Season:

- 673 MSG Commander determines riding season
- Riding is authorized **ONLY** during designated Riding Season, **AND**
- Road Condition must be "GREEN"
- Installation leadership may adjust based on road conditions and/or weather



Training Requirements



Who MUST receive Motorcycle Safety training?

- Uniformed Service members who ride on-/off-base
- Civilians who ride a Government-owned motorcycle

Who MAY receive Motorcycle Safety training (at Government expense)?

- Uniformed Service members
- DoD Civilians with motorcycle riding identified in Position Description





Training Requirements



Which training course must I take?

INITIAL Training: Basic Rider Course (BRC) – Motorcycle provided

INTERMEDIATE Training (Post-BRC choices) – Rider provides motorcycle

- Basic Rider Course-2 (BRC-2)
- Military Sport-bike Rider Course / Advanced Rider Course

How often must I be “retrained?”

INTERMEDIATE Training:

- Air Force: Within 60 days after BRC, but no later than 1 year
- Air Force: Refresher no later than 5 years
- Army: Within 1 yr after BRC and every 5 years thereafter

Note: Properly licensed civilian riders or contractors are not required to receive training at Government expense, nor are they required to show proof of such training to operate a motorcycle on a DoD installation



Enrollment Procedures



- Advanced Riders Course (ARC)
 - **TBD**



Enrollment Procedures



■ BRC / BRC-2

- The contract has been completed but how we intend to release the seats is still under review.
- The policy we submitted to the Installation Commander will impact how training is offered.

- Refer to the “2016 Motorcycle Safety Training Handout (FAQ Sheet)”
 - Once the policy letter has been decided we will be able to:
 - Complete the letter of instruction (FAQ) for motorcycle training.
 - Update the authorization form.
 - Disseminate the policy letter.

 - It will be posted on the USARAK website under the “Safety” tab. Scroll down to “Motorcycle Safety”.
 - Speak with your MSR/UMM for information concerning training.



Enrollment Procedures



- **Air Force riders must establish a MUSTT Basic Account or you will not be issued a voucher for training.**
- **Army UMMs must ensure riders have been identified and required training is being documented and in compliance before vouchers will be issued. (Commander signing the “Authorization Form” assumes this responsibility).**



Enrollment Procedures



- **Alaska Leather Requirements:**
 - Copy of DL Photo ID (Not Military ID)
 - Name on the Voucher must match the ID.
- **Cancellations: Log on to**
<http://www.learntoridealaska.com/cancel>.
Must cancel and reschedule 48 hours prior to start of class.
- **Reschedules (Not cancellations) – student can call in to reschedule – reschedules will be done when on the phone, or they will be asked to call back later when time allows (907-562-2324).**



Enrollment Procedures



- **Failure to cancel 48 hours prior to start of class – Members who fail to reschedule or cancel with the Contractor at least two business days prior to the training course will be responsible for the cost of their training.**
- **The exception to this rule applies when the member's failure to reschedule or cancel is beyond the member's control (natural disaster, vehicle accident, medical emergencies, deployments, TDY, etc.).**
- **To qualify for the exception, the member's commander must provide a memorandum explaining the reason for the member not fulfilling their training responsibility.**



Motorcycle Accident Facts (US Wide)



- 69% of riders who wear helmets are less likely to sustain a head injury.
- Helmets estimated to be 37% effective in preventing a fatal brain injury. 41% passengers
- Motorcycle fatalities involve 14% of all traffic fatalities.
- Per vehicle mile traveled, motorcyclists were more than **26 times more likely to die** in a traffic crash than occupants of passenger cars. “Little Protection”

Source: NHTSA's National Center for Statistics and Analysis



Motorcycle Accident Facts (US Wide)



- 21-24 age group highest percentage of drivers involved in fatal crashes with BAC .08 and higher. (30%)
- The percentage of operator's with a BAC .08 and higher involved in fatal crashes was highest for motorcycle riders. (29%)
- The percentage of operator's involved in fatal crashes as a result of speed. (28%)
- **Biggest problem for sport bike riders:**
 - Speed
 - Driver error



Motorcycle Accident Facts (US Wide)



-
- 4,586 fatalities (-2.3%) 2nd yr. decrease
 - 92,000 injured (4.5%)(4000)

 - How can we stop the trend: “Rider Choice Affects Outcome”
 - Increase helmet use
 - Eliminate alcohol impairment
 - Eliminate speeding
 - Apply training
 - Properly licensed
 - Share the road: Respect others to respect you.



PACAF



■ PACAF

- 1 fatality (17 Total Injuries)

■ JBER-E:

- 0 fatalities

■ FY 14

- 11 accidents (5 occurred infancy stage of the riding season) End of May

■ FY 15

- 11 accidents (5 occurred infancy stage of the riding season) End of May



USARPAC



- **USARPAC**
 - **3 fatalities (23 Total Injuries)**
- **JBER-R:**
 - **1 fatality**



Alaska Recorded Fatalities



- Total Fatalities: 10 (20% Increase)
- No Helmet Fatality: 3 (25% Decrease)
- Alcohol Related Fatality: 4 (25% Increase)
- BAC $\geq .08$: 3 (66% increase)
- Speed: 5 (60% increase)



Alaska Fatal Motor Cycle Collision Data 2011-2015					
Statewide					
	Fatalities	No Helmet Fatality	Alc. Related Crash (MC Opp)	BAC= .08≤(Operator)	Speed
2011	10	6	3	2	2
2012	9	4	2	2	3
2013	9	2	1	1	4
2014	8	4	3	1	2
2015	10	3	4	3	5
Total	46	19	13	9	16
% of Total	100%	41%	28%	20%	35%
Municipality of Anchorage					
2011	2	1	1	1	1
2012	1	0	1	1	1
2013	3	0	1	1	1
2014	3	1	2	1	1
2015	6	3	3	2	1
Total	15	5	8	6	5
% of Total	100%	33%	53%	40%	33%
% of Statewide Total	33%	26%	62%	67%	31%

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Local Hazards



- **Narrow rights-of-way**
- **Animals in roadway**
- **Gravel**





Local Hazards



- Narrow rights-of-way
- Animals in roadway
- Gravel
- **Stud ruts**





Local Hazards



- Narrow rights-of-way
- Animals in roadway
- Gravel
- Stud ruts
- **Tar “snakes”**





Local Hazards



- Narrow rights-of-way
- Animals in roadway
- Gravel
- Stud ruts
- Tar “snakes”
- **Pavement removal grooves / sharp edges**
- **White “stick down” lines**
(slippery when wet)
- **Distracted drivers**
- **Tourists (impulsive)**
- **Road rage**





Managing Risk



A few thoughts:

- **Get the training**
- **Wear the PPE**
- **Ride rested & unimpaired**
- **Leave a trip plan**
- **Be responsible**
- **Be courteous & aware**
- **Leave 2-second or greater separation**
- **Avoid blind spots**
- **Signal well before turning**
- **Always “head check”**
- **Carry emergency gear**





Managing Risk



So...what's wrong with this picture?



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Managing Risk



How lucky do you feel?



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Managing Risk



-
- **Conduct thorough inspection of your bike.**
 - **T-CLOCS (Routine Maint with a qualified technician prior to riding season)**
 - **Check condition and ensure you have the correct PPE.**
 - **Know and ride within your endurance limits.**
 - **Have a trip plan and share it.**
 - **Carry rain/cold weather gear.**
 - **Check weather and road conditions.**
 - **Make sure there is fuel available along your route.**
-



Emergency Gear



- **Phone with charger/battery**
- **Tie-down straps**
- **Tire patch kit**
- **Tools for tightening loose fittings**
- **Drinking water**
- **High-energy snacks**
- **Cold weather gear/ survival blanket**
- **First-aid kit**
- **Wet weather gear**
- **Flash light**
- **Cash**
- **Extra change of clothes**



Survival Skills



- **Check weather and road conditions:**
weatherunderground.com
511.alaska.gov
- **Assume you're "invisible" on the road**



Questions?



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