

DPD Basic Bicycle Course



Course Objectives

COURSE GOAL:

The course will provide the trainee with the minimum topics of bicycle patrol. The trainee will develop the necessary cycling skills and bicycle employment knowledge to effectively utilize an important law enforcement asset. The course consists of a hands-on/practical bicycle patrol skills for in-service officers. The course will require approximately five days (40 hours) of classroom and skills training.

COURSE OBJECTIVES:

At the completion of the course, the trainee will be able to successfully and efficiently perform the duties of a bicycle patrol officer. The trainee will also be able to advise and educate fellow officers and supervisor of capabilities and utilization of a bicycle patrol officer. The trainee will be able to perform the minimum patrol and safety skills required for bicycle patrol.

EVALUATIONS:

Application: Minimum standards of performance shall be tested by an instructor observing the trainee during their performance of each technique and exercise. If the trainee does not meet minimum standards, as established by the presenter, remediation will be provided until the standard is met.

Written: One written Pass/Fail evaluation at the end of the course.

Day 1

Introduction to Bicycles



Mountain Bike (Yes!)
vs
Road Bike (No!)



MTB

Mountain bikes are designed for riding under more rugged conditions, and typically:
have a stouter, more upright frame offer higher clearance to get over rocks, logs and through ruts, etc. can take a lot of stress and abuse and still allow the rider to comfortably negotiate rugged terrain and go over or through obstacles that he or she may encounter on the trail.

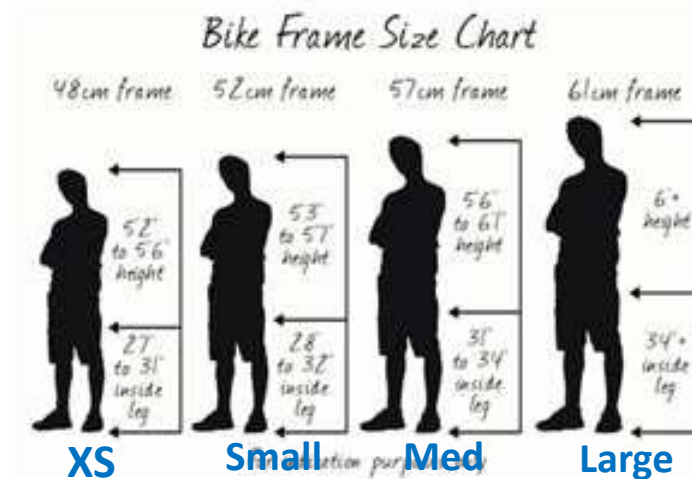
Road

When thinking about the type of bike riding you're most likely to do, if you're going to be riding exclusively on pavement and want to go pretty fast and/or ride long distances, a road bike is probably what you want.

Introduction to Bicycles



Proper Sizing – General specs:



Wrong Size Frame!



Saddle Height:

There should be only a slight bend to the knee when your foot is on the pedal in the bottom position. This will maximize power and minimize fatigue.

Braking

- Front and rear brake
- Braking Techniques
- Front Brake position
- Rear Brake position
- Braking considerations

Introduction to Bicycles

To much front brake...

Right hand controls all rear bits – Brake and Gears



Left hand controls all front bits – Brake and Gears

Notes:

Front brake counts for about 2/3 of your braking power.

Lever pull should feel about 50/50.

Never use front brake exclusively.

Drivetrain, chain, and shifting

1. Front shifting the chainrings
2. Rear shifting the cassette
3. Cross gearing
4. Common shifting issues
5. Shifting under power

Why do we have gears?

- To climb hills comfortably that might force you to stand up and "pump" or even get off and push.
- To go faster downhill or with the wind at your back.
- To maintain a constant pedaling cadence.

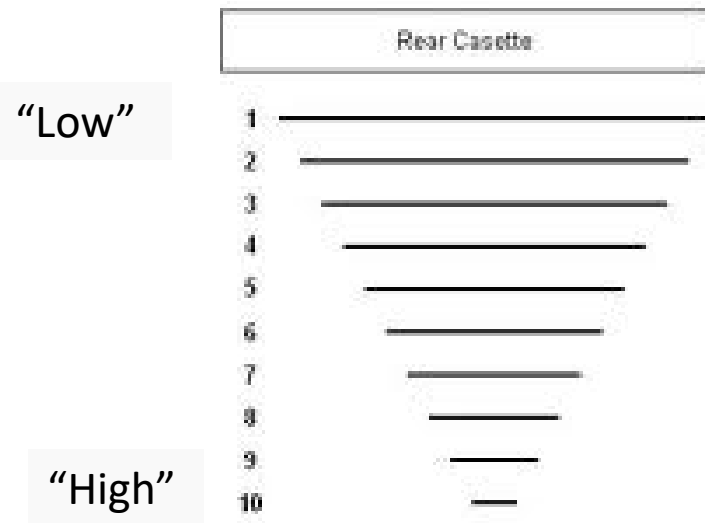


Gear Basics – Chain Rings



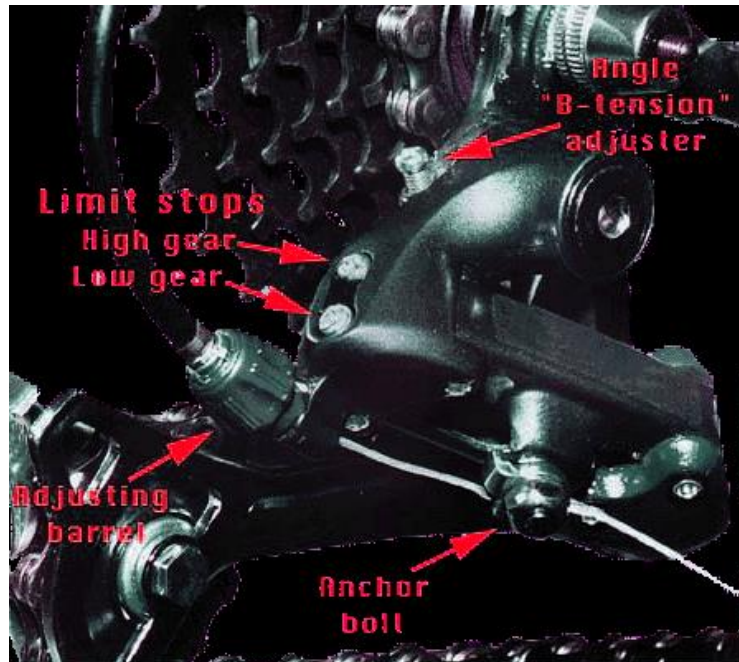
-Left hand controls all front parts

Gear Basics – Cassette



-Right hand controls all rear parts

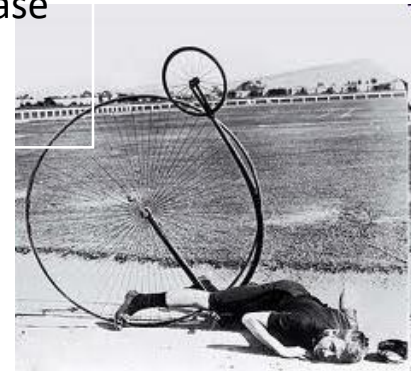
Down and Dirty on Derailleurs

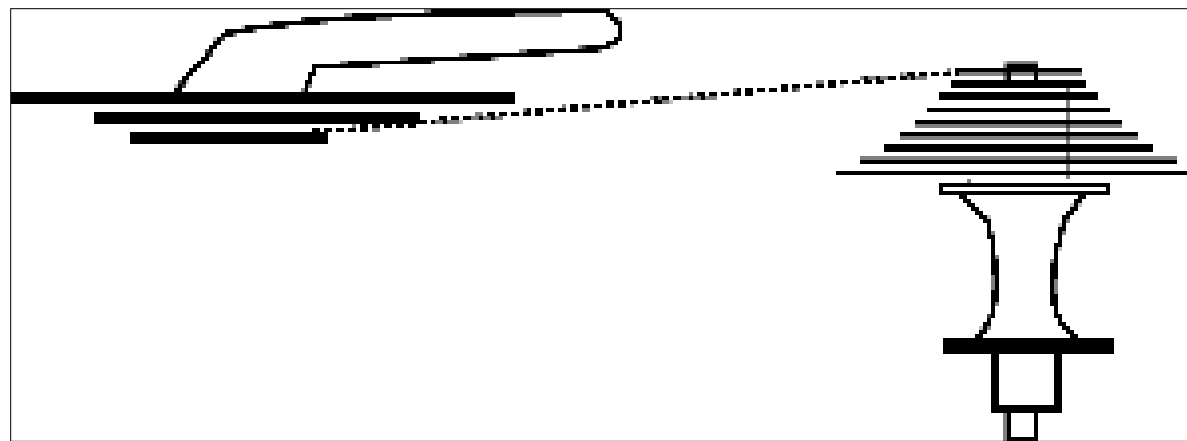


Always Pedal Forward

Shifting under power

- You can only shift while you are pedaling forward.
- The front derailleur shifts using the upper part of the chain, the part that transmits power to the rear wheel. As a result, the front shifting will not work so well while you are pedaling very hard, or slowly, or both.
- The rear derailleur can usually shift under full load, but it is better for the chain to ease up a bit during the shift.





A “crossed chain” is when the chain is on the opposite ends of the chain ring and cassette. This causes a lot of extra wear and tear on the drive train, can cause the chain to break, and is really hard to pedal because of the added friction. Try to avoid this unless it’s an emergency.

Cadence = Happy Gear!



- Every cyclist has an ideal " " (pedaling speed), and an ideal amount of resistance from the pedals.

- When you are pedaling at your ideal cadence, you are putting out the greatest amount of power that you are able to sustain efficiently.

- You select your cadence by shifting gears. The gear needed to allow your "ideal" cadence will depend on the slope of the road, the wind conditions, and your own condition at any given time.

Pushing vs Spinning

"Pushing" a [high](#) gear at a slow cadence is like power lifting. It is good for building up muscle mass and bulking up your legs, but it does little for your heart or lungs, and you can hurt yourself if you overdo it.

"Spinning" a [lower](#) gear at a rapid cadence is more like swimming. The rapid motion, with many repetitions makes the legs supple and flexible, it is highly aerobic, and the light pressure that goes with this style reduces wear and tear on the joints. With practice "spinning" becomes easier and more comfortable.

Shifting Basics in Review and Words of Advice

(Learned through much trial and error)

- Shift while pedaling, but not under power!
- Right hand controls all rear bits...
- Left hand controls all front bits...
- Don't OVERSHIFT! You will probably only use 4-5 gears





Gear Selection

Terrain Dependent

Here are some low gearing examples:

Uphill, technical terrain, obstacles, crowds, confined spaces...

Here are some high gearing examples:

Downhill, level terrain, soft ground (initially), pursuits, shagging calls...



Gear Selection Tips

- Know your strengths and use the highest gear you are comfortable with.
- When approaching a situation, shift early or don't shift at all. Stay with what you've got...
- Don't over shift (emphasized), it's usually not necessary. Concentrate more on your pedaling and attacking the terrain.
- Find your happy gears, don't worry about what gear everyone else is in.

Wheels, tires, tubes, and spokes

1. Tire size and tread
2. Out of true wheel

E. Lighting

1. Handlebar
2. Helmet

Introduction to Bicycles

Nomenclature



Introduction to Bicycles

Definitions and explanations:

Wheels – The whole contraption

Tires – The rubber part

Rim – The part that the tire goes on

Tubes – The part inside the tire that holds the air

Spokes – The skinny things that connect it all together

Hub – The little part in the nucleus

Skewer – Part that clamps the wheel to the bike

Tire size – Diameter vs Width

Tread – Knobby vs Slick

Out of true wheel – Wobbling or crooked



Enforcement gear – duty belt – equipment placement

Introduction to Bicycles

Enforcement gear

Duty belt – Ability to place items at the back of belt

Remember – Although gear can be placed on the back of the belt, studies still show that you can still sustain an injury if you fall on that gear

Equipment – Standard duty equipment

Exceptions: Small flashlight

Helmet

Gloves

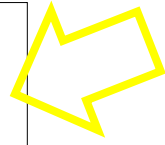
Glasses

Bag – paperwork/pens/water/snack/tools/
extra handcuffs/flares/jacket/batteries/trial and
error

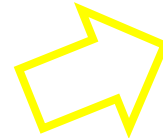
Shoes – Clipless vs Clips – What are they?



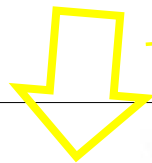
Pedals and Shoes



Flat Pedal



Clipless Pedal



Toe Clip



Clipless Shoe w/cleat

Bicycle Clothing

Good stuff to have...

Pants/Shorts

Padded Shorts

Synthetic Socks

Light Jacket



Bicycle Maintenance

- A. ABC Quick Check before you ride
- B. Changing a flat tire – Practical application
- C. Putting the chain back on
- D. Notify Bicycle Unit mechanic for internal repairs
- E. Local bicycle shops

Bike Maintenance

ABC Quick Check before you ride

- Air
- Brakes
- Chain/Cranks
- Quick Release
- Check Ride

Changing a flat tire – Practicable Application

Putting the chain back on – Practicable Application

Notify bicycle unit mechanic for internal repairs

Local bike shops



Day 2

Bicycle Safety Orientation

- A. Body position
 - 1. Downhill position
 - 2. Uphill position
 - 3. Body and leg position and extension
- B. Balance
 - 1. Leaning into turns
 - 2. Rear and forward weight distribution
- C. Front/Rear braking
- D. Stretching / Nutrition
- E. Helmet
- F. Gloves
- G. Glasses

Bicycle Safety Orientation

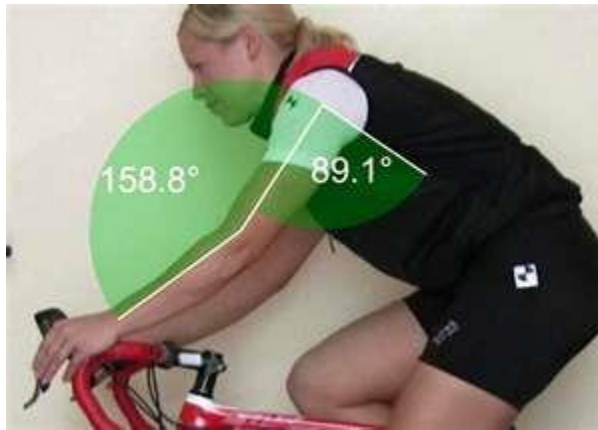
Body Position

Downhill – Steeper it is, weight further back on the bike

Uphill – Sitting, weight slightly forward

Body and leg extension – Slight knee bend

Top tube clearance – About 2" above while standing



Bicycle Safety Orientation

Balance – forward/back and left/right

Leaning into turns – slow vs fast

Front/rear braking – faster you go, the less front brake is applied



Bicycle Safety Orientation

Stretching / nutrition / hydration

Everybody has their own ideas, but the basics remain – Hydrate and eat, even if you aren't hungry or thirsty. Preload these things.



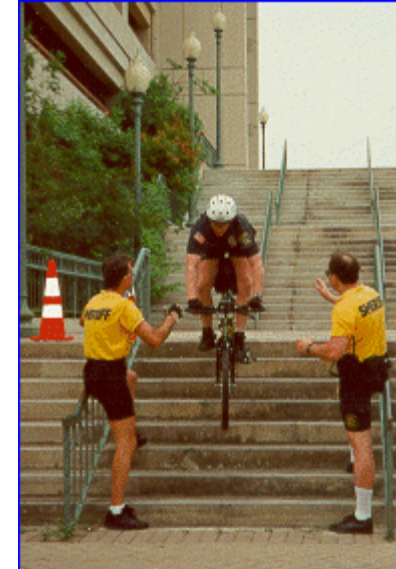
Day 3

Bicycle Patrol Skills

- A. Curbs/Stairs/Parking blocks
- B. Slow speed turns
 - 1. Balance
 - 2. Use of handlebars
 - 3. Pedal position and use
- C. Track stands
- D. Slippery/Wet surfaces
 - 1. Sand
 - 2. Wet grass
- E. Skidding and powerslide
 - 1. Front and rear brake
 - 2. Intent and use
- F. Dynamic dismounting
 - 1. Left side dismount
 - 2. Rolling Mount and Dismount
 - 3. Free leg position
 - 4. Dismounting with weapons
- G. “Skate” movement technique
- H. Off axis head turn
 - 1. Maintain straight line
 - 2. Be aware of surroundings
- I. One handed riding

Curbs/stairs/parking blocs – balance, momentum, confidence

Power Pedal Position – Above the 3 and 9 position



Slow speed turns

Balance – Track stands

Use of handlebars – Larger, quicker inputs

Pedal position and use - Continuous pedaling vs ratcheting

Practice cones/pylon drills and confined spaces



Slippery / wet surfaces

Sand – Get some speed, power through it, and keep pedaling

Wet grass/Wet asphalt/Wet concrete/Painted lines

- No quick movements, stay your course
- Stay upright, don't lean too much



Skidding and powerslides

Brakes – Don't touch the front

Balance – Shift weight around to the right and lower center of balance

Intent and use – Distraction or takedown

Emergency braking – Stopping quickly without skidding

Remember, braking traction is losing control



Dynamic dismounting

Left side dismount – Keeps chain rings out of the way

Rolling mount and dismount – High threat situations

Free leg position – rolling=right foot forward

Dismounting with weapons – weapon in holster until stopped in most cases

“Skate” movement technique – dismounted but under power

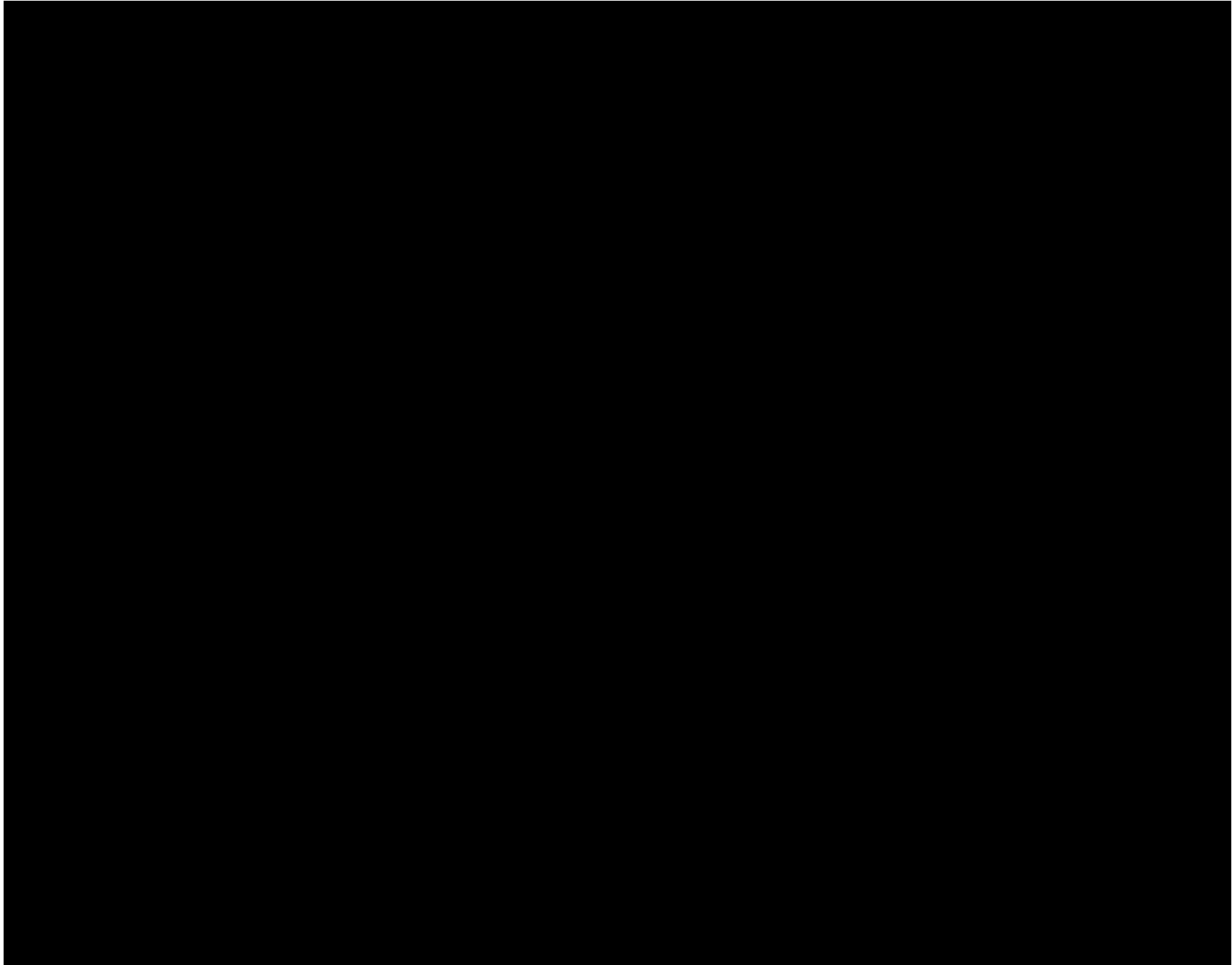


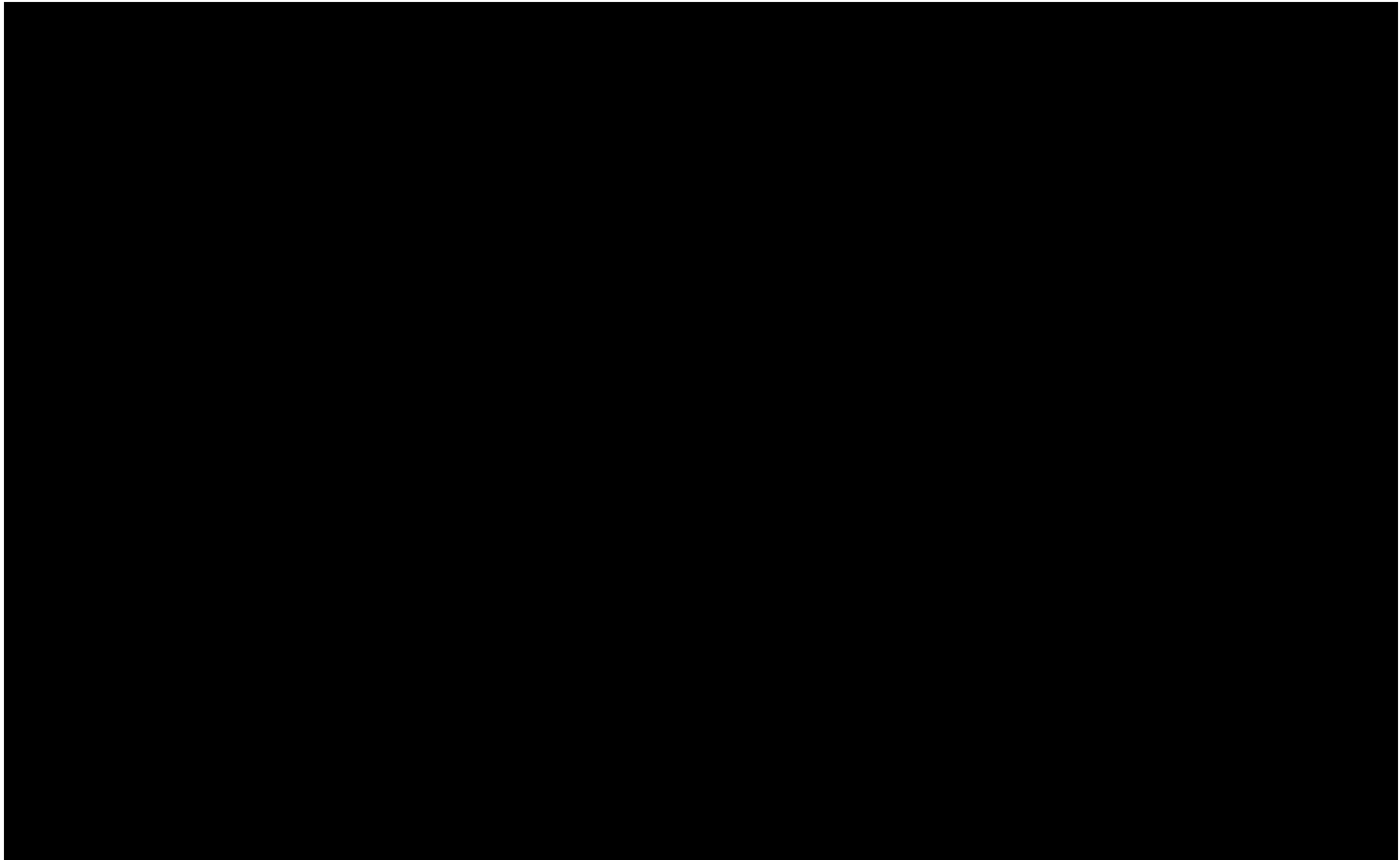
Off axis head turn – Maintain straight line. Tendency is to turn in direction of eyes.

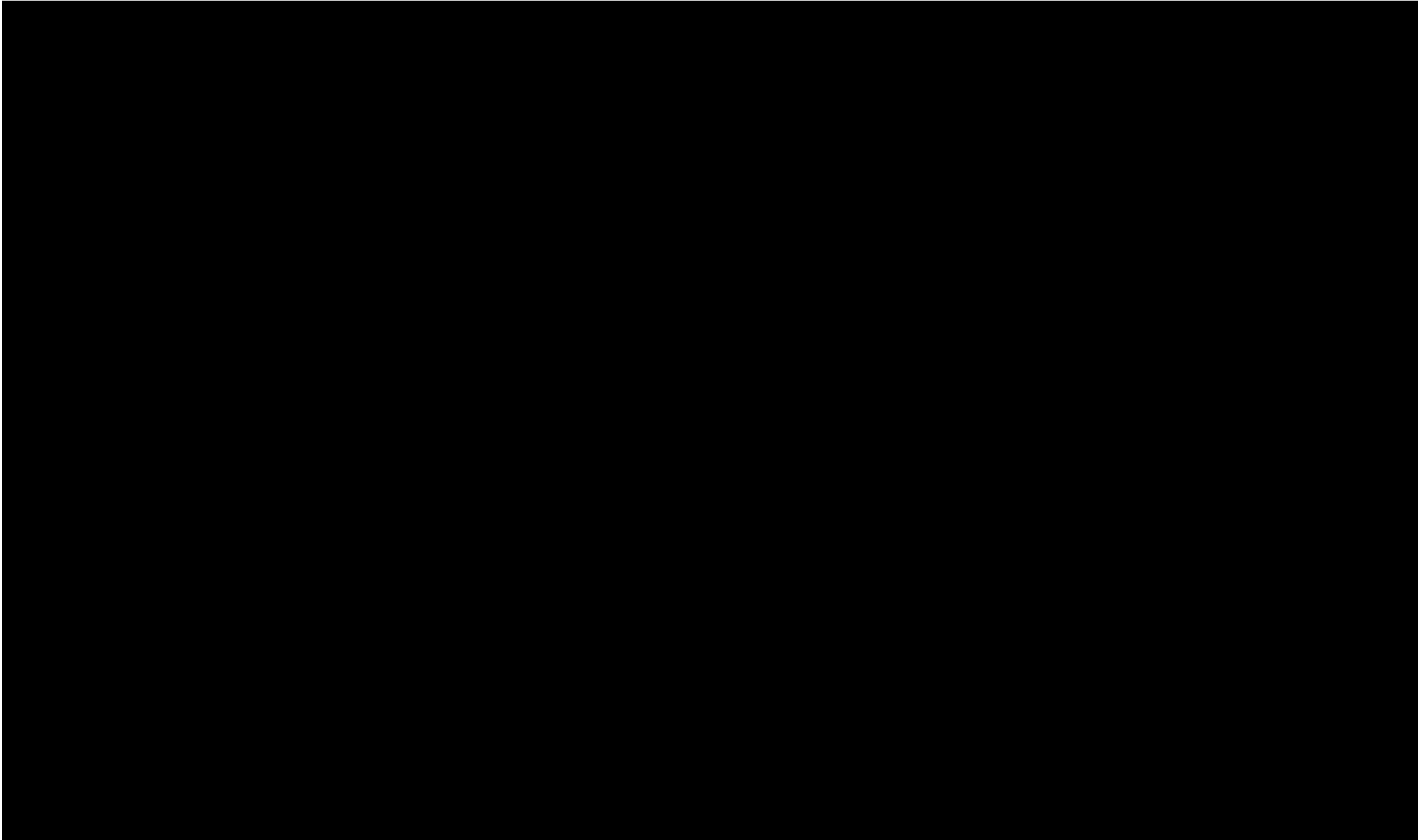
Be aware of surroundings – Objects in front of you

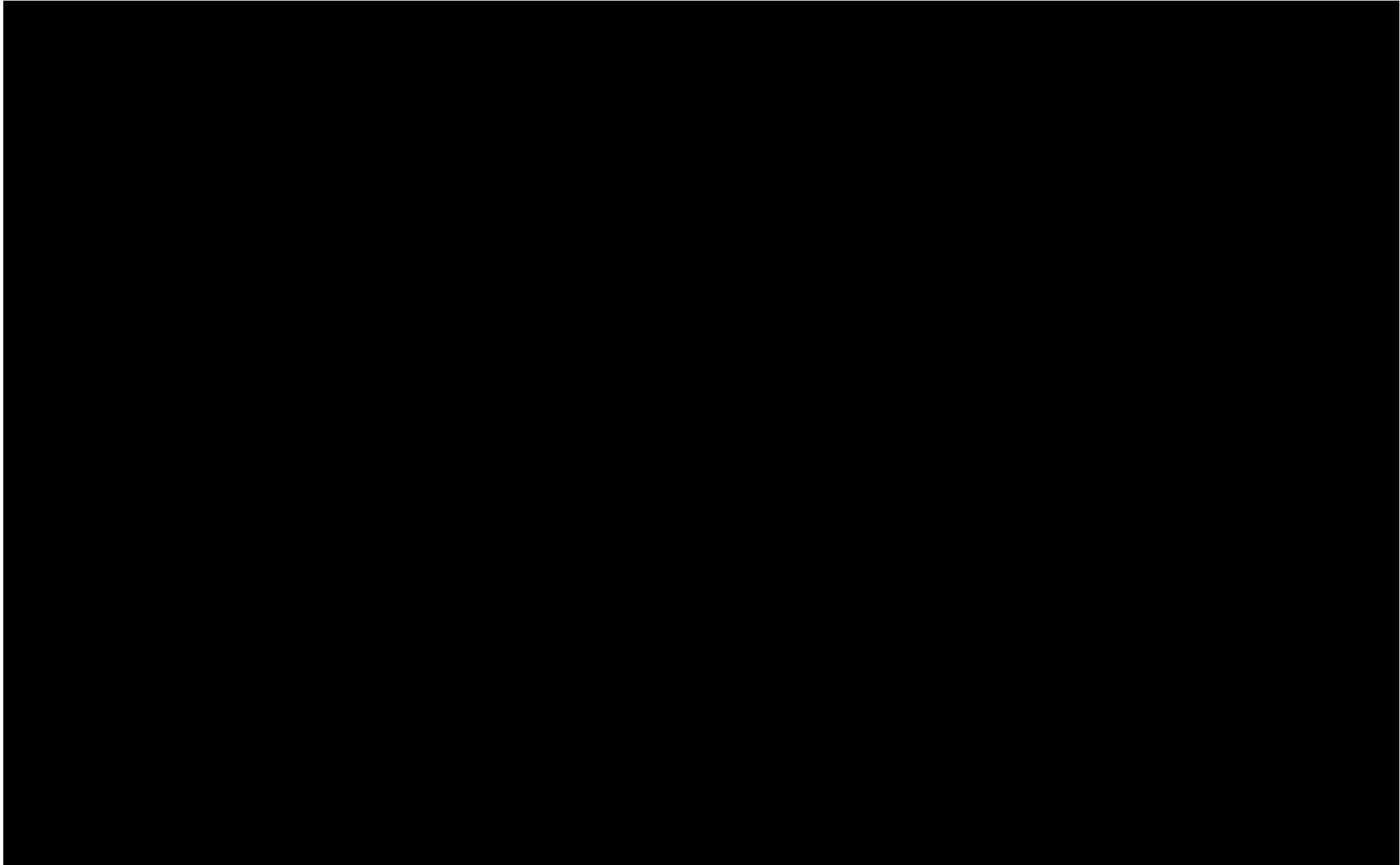
One handed riding – Brake awareness; stability

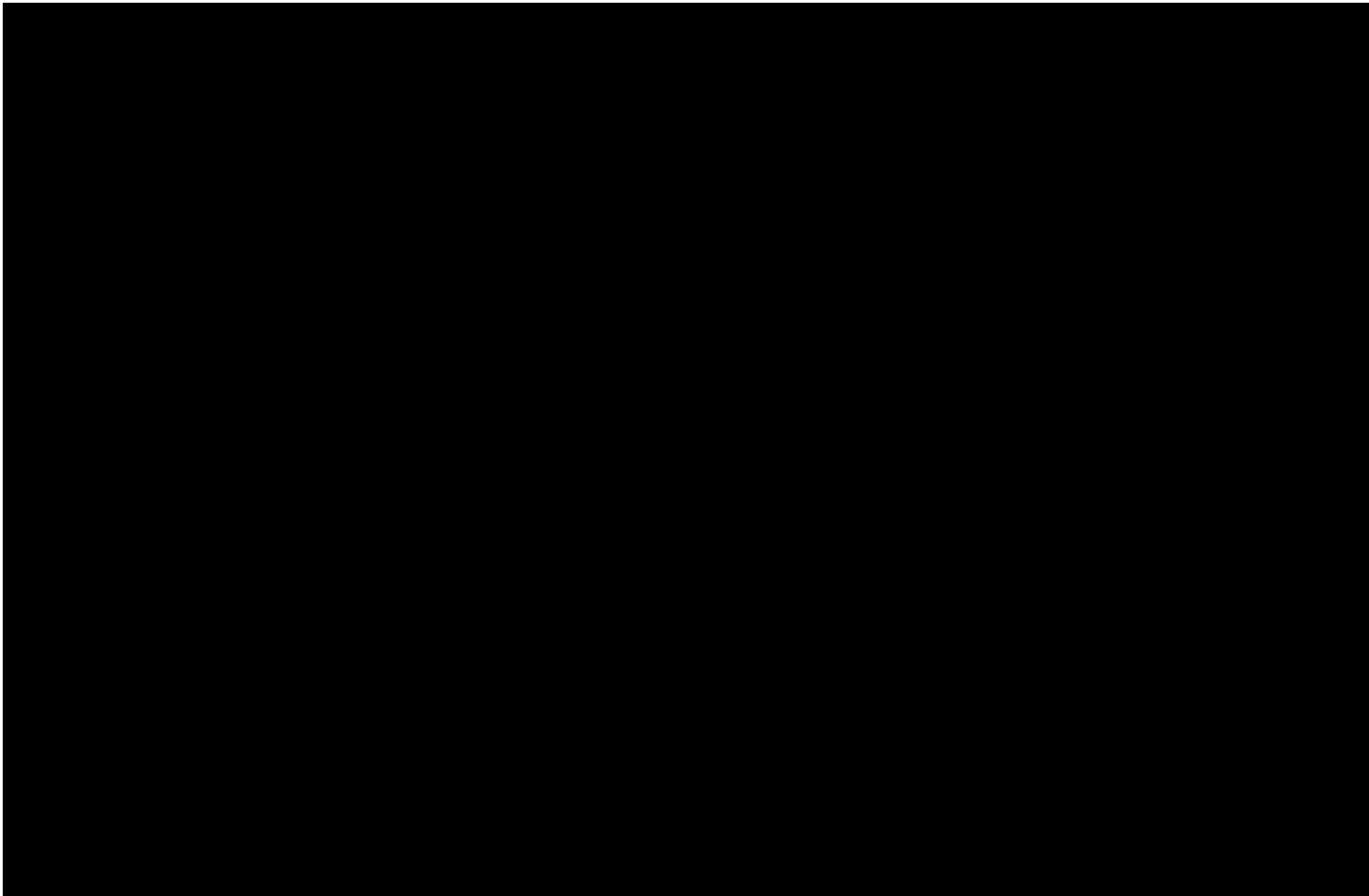


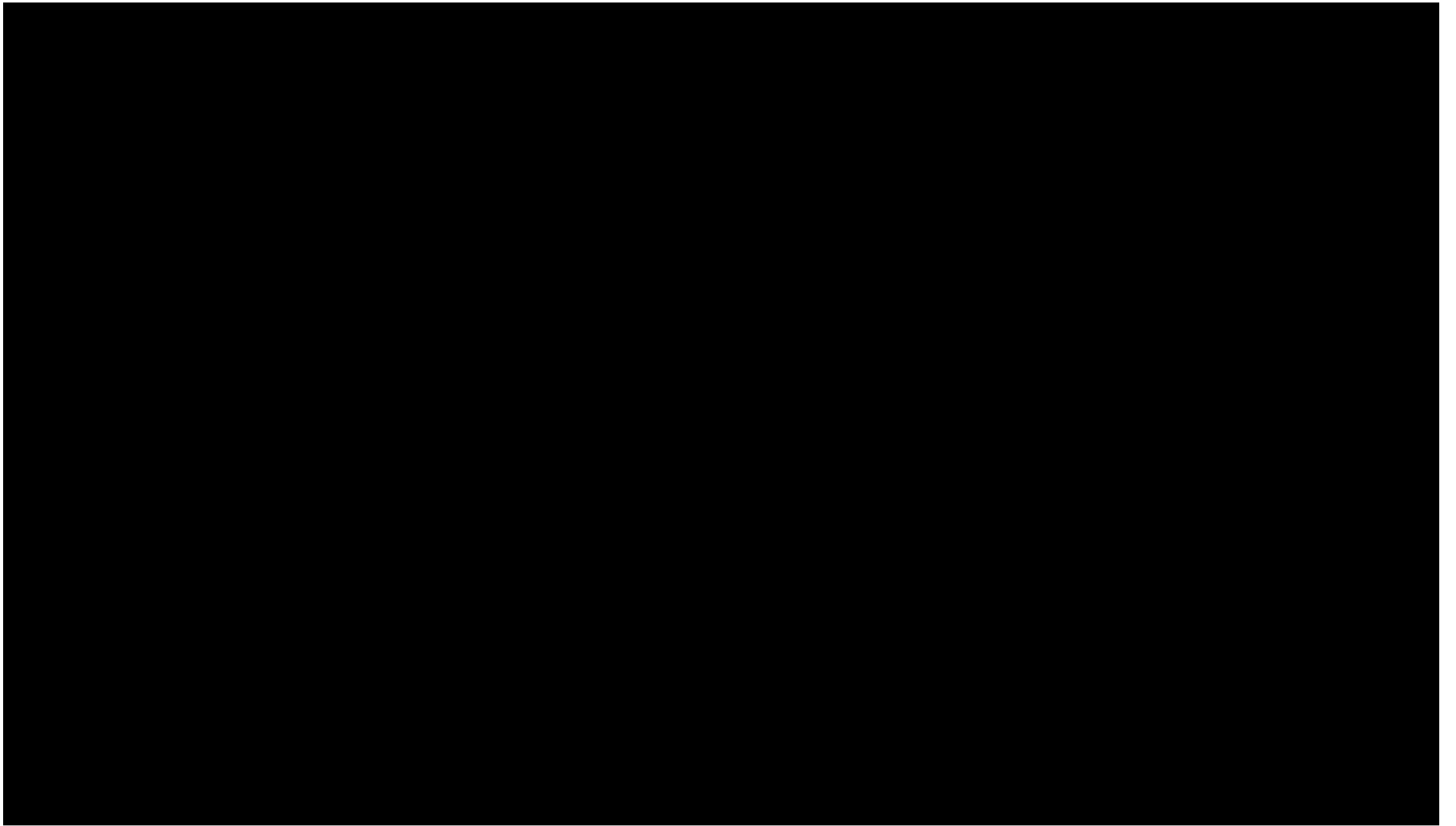












Day 4- out of town

Day 5

Bicycle Specific Enforcement

- A. Definition of a bicycle per the CVC – is it an emergency vehicle?
- B. Common City Codes – refer to handout
- C. Common Bicycle Vehicle Codes – refer To handout
- D. Common transient issues
- E. Bike paths and greenbelts
 - 1. Location
 - 2. Usage
 - 3. Putting out location
- F. Bicycle Safety Resources
 - 1. Online
 - 2. Local clubs
 - 3. National organizations

Bicycle Specific Enforcement



21200 (b) (1) A peace officer, as defined in Chapter 4.5 (commencing with Section 830) of Title 3 of Part 2 of the Penal **Code**, operating a bicycle during the course of his or her duties is exempt from the requirements of subdivision (a), except as those requirements relate to driving under the influence of alcoholic beverages or drugs, if the bicycle is being operated under any of the following circumstances: (A) In response to an emergency call. (B) While engaged in rescue operations. (C) In the immediate pursuit of an actual or suspected violator of the law. (2) This subdivision does not relieve a peace officer from the duty to operate a bicycle with due regard for the safety of all persons using the highway.

Bicycle Specific Enforcement

Definition of a patrol bicycle per the CVC – is it an emergency vehicle?

231. A **bicycle** is a device upon which any person may ride, propelled **exclusively by human power** through a belt, chain, or gears, and having one or more wheels. Persons riding bicycles are subject to the provisions of this **code** specified in Sections 21200 and 21200.5.

165. An authorized emergency **vehicle** is: ...**(b)** Any publicly owned **vehicle** operated by the following persons, agencies, or organizations: **(1)** Any federal, state, or local agency, department, or district employing peace officers as that term is defined in Chapter 4.5 (commencing with Section 830) of Part 2 of Title 3 of the Penal **Code**, for use by those officers in the performance of their duties.**(e)** Any **vehicle** owned or operated by any department or agency of the United States government when the **vehicle** is used in responding to emergency fire, ambulance, or lifesaving calls or is actively engaged in law enforcement work.

670. A "**vehicle**" is a device by which any person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.



Bicycle Specific Enforcement



Common VC's

	Code	Description
VC	21200.5	Riding while intoxicated
VC	21201 (a)	One Brake
VC	21201 (b)	Handlebars above shoulders
VC	21201 (c)	Wrong Size Bike for stopping (too big)
VC	21201 (d)(1)	Bike Light - Front/White
VC	21201 (d)(2)	Rear Red Reflector
VC	21202	Bike Speed w/traffic on right side
VC	21204 (a)	Riding on permanent seat
VC	21204 (b)	Passenger on permanent seat
VC	21205	Carrying Cargo with one hand
VC	21208 (a)	Riding in bike lane - unless w/traffic
VC	21209 (a)	Motor Veh in Bike lane
VC	21210	Blocking sidewalk w/ parked bike
VC	21211 (b)	Blocking bikeway w/vehicle or bike
VC	21212 (a)	Helmets under 18
VC	21453 d	Ped disregarding signals
VC	21456 b	Ped violating "Walk-wait"
VC	21650.1	Bicycles Riding the Wrong way on Road
VC	21717	Vehicle turning in bike lane
VC	21960 (a)	Bike on Freeway
VC	22111	Turning hand signals
VC	23123	Cell phone while driving
VC	27400	Two Headphones/Earplugs

Common MCC's

CC	5.04.030	Unlicensed Dogs
CC	5.04.040	Dogs at Large (Off Leash)
CC	6.02.060	Bikes and Skateboards on Sidewalk
CC	6.01.100	Obscene Language
CC	26.01.090	littering
CC	26.04.020	open container in public place
CC/PC	26.01.045/347.3 (a)PC	Public urination/defecation
CC	26.01.090	Littering
CC	26.01.040	Solicitation w/in 50' of ATM
CC	27.02.080	skateboarding at Central Park
CC	27.02.160	camping - parks
CC	27.03.010	glass containers
CC	27.03.090	camping - open space
CC	27.02.160	Camping - Parks
CC	34.02.010	Smoking

Bicycle Specific Enforcement

Bike paths and greenbelts

- Safety
- Location
- Cover/Access



Bicycle Specific Enforcement

Bicycle safety resources

- Online
- Local clubs
- National organizations
- Davis Bicycle Unit!



Miscellaneous

- A. Bicycle Rodeo
- B. Presentations
- C. Testing

Miscellaneous



Bike rodeo
Presentations
Equipment Checks
Helmet Checks
Vehicle Code Explanations

