

# **Bike Riding for Techies and All Others (A "Learn-in-30")**

**Lorrin R. Garson**

**OPCUG and  
PATACS**

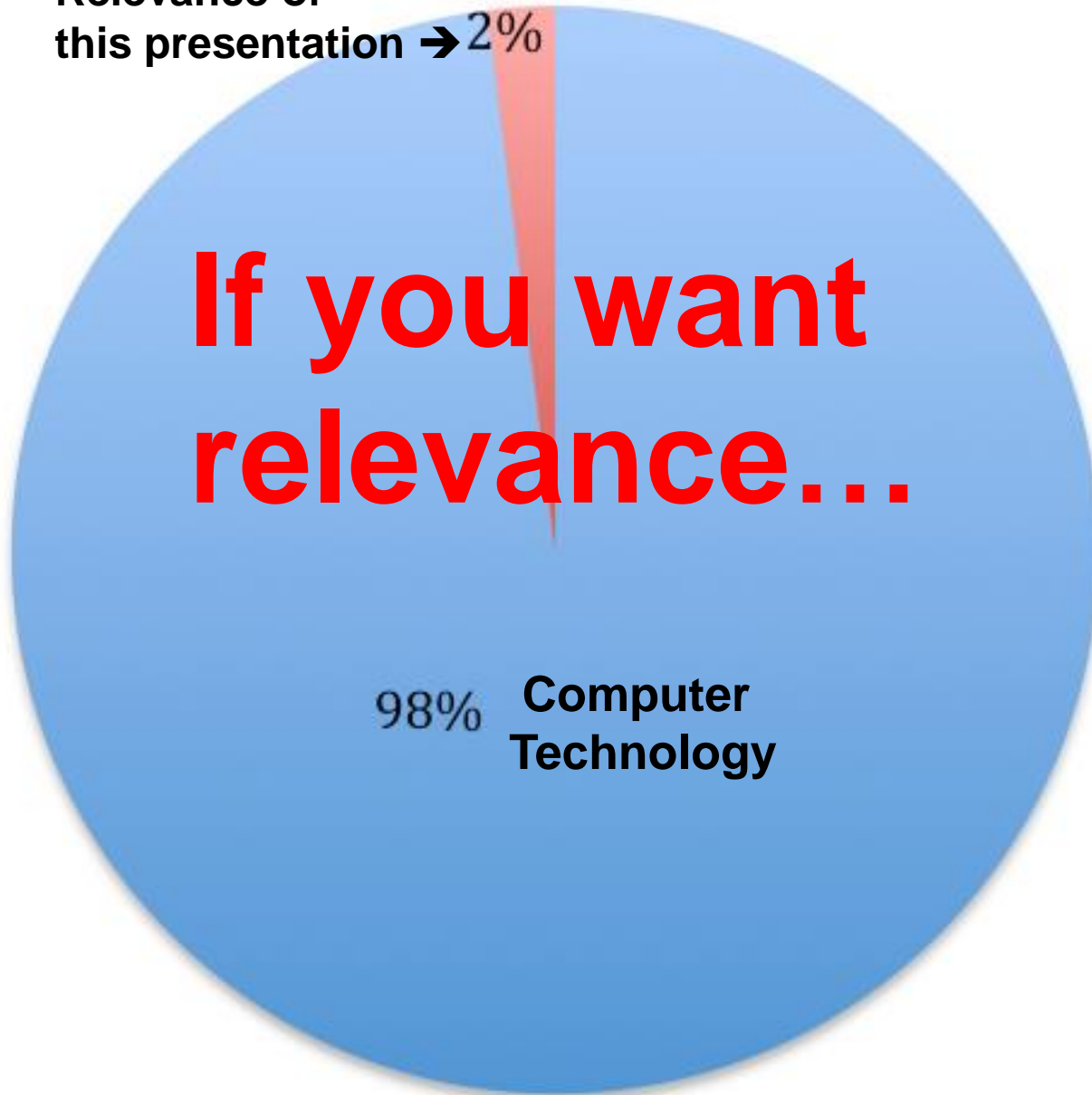
**September 16,  
2017**



Relevance of  
this presentation → 2%

**If you want  
relevance...**

98% **Computer  
Technology**



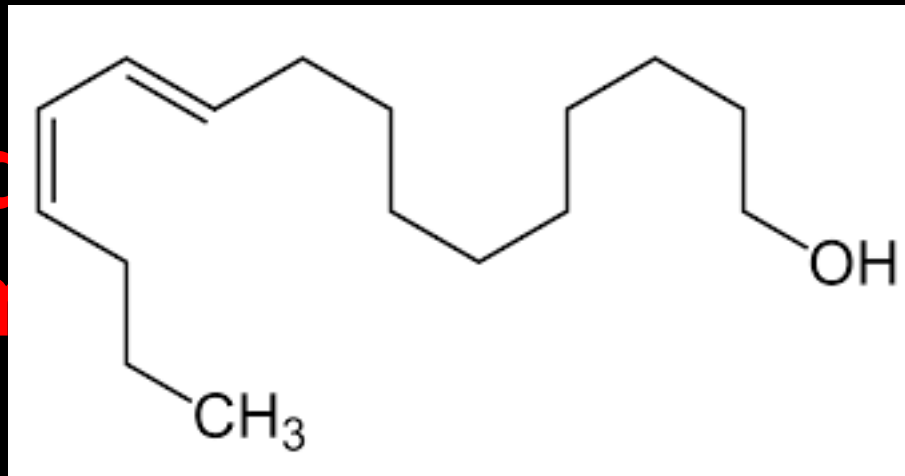
A close-up photograph of a golden retriever dog lying down with its head resting on a dark surface. The dog's eyes are looking towards the camera with a slightly sad or pleading expression. A yellow speech bubble originates from the dog's nose area and points to the left, containing text. The background is solid black.

**Please volunteer to  
give a  
presentation for  
OPCUG—PATACS!**

**If you don't...**

# My next presentation...

Sexual attraction in the silk moth: Structure of the pheromone-binding protein-Bombykol-komplexes



And  
in n

nted  
n!

**So volunteer  
and contact...**





# Presentation Objective

- Provide information to successfully and safely ride a bicycle
- For the purpose of...
  - **enjoyment**
  - exercise
  - transportation

# The Speaker's Cycling Experience

- Age 12—a Schwinn single speed
- Age 13-64 rode irregularly—off and on
- Age 65-78 rode 27,149 miles as of today





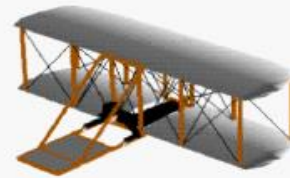
# Van Cleve Bicycle (1900)



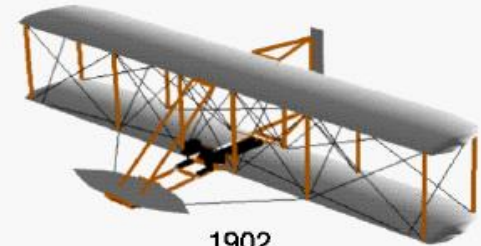
Van Cleve  
Bicycles = 1900.



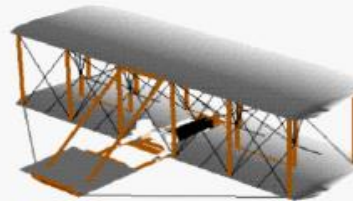
WRIGHT CYCLE CO., MAKERS.  
1127 WEST THIRD STREET.  
DAYTON O.



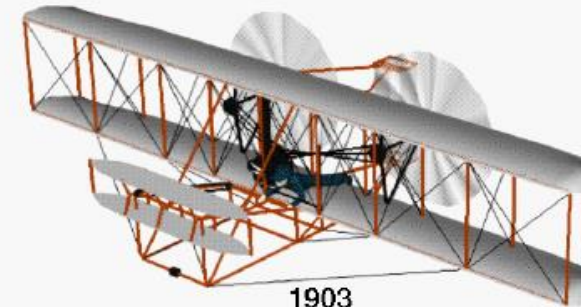
1900



1902





1901



1903

# Two Cycling Records\*


- 2015: Christoph Strasser rode **557** miles in 24 hours  ← Active hypertext link
- 1995: Fred Rompelberg\* set world record **167.0** mph at age 50 (see 5 min video )

\*For more cycling records see 



# Robert Marchand

Rode 14 miles in 1 hour; Jan 4, 2017

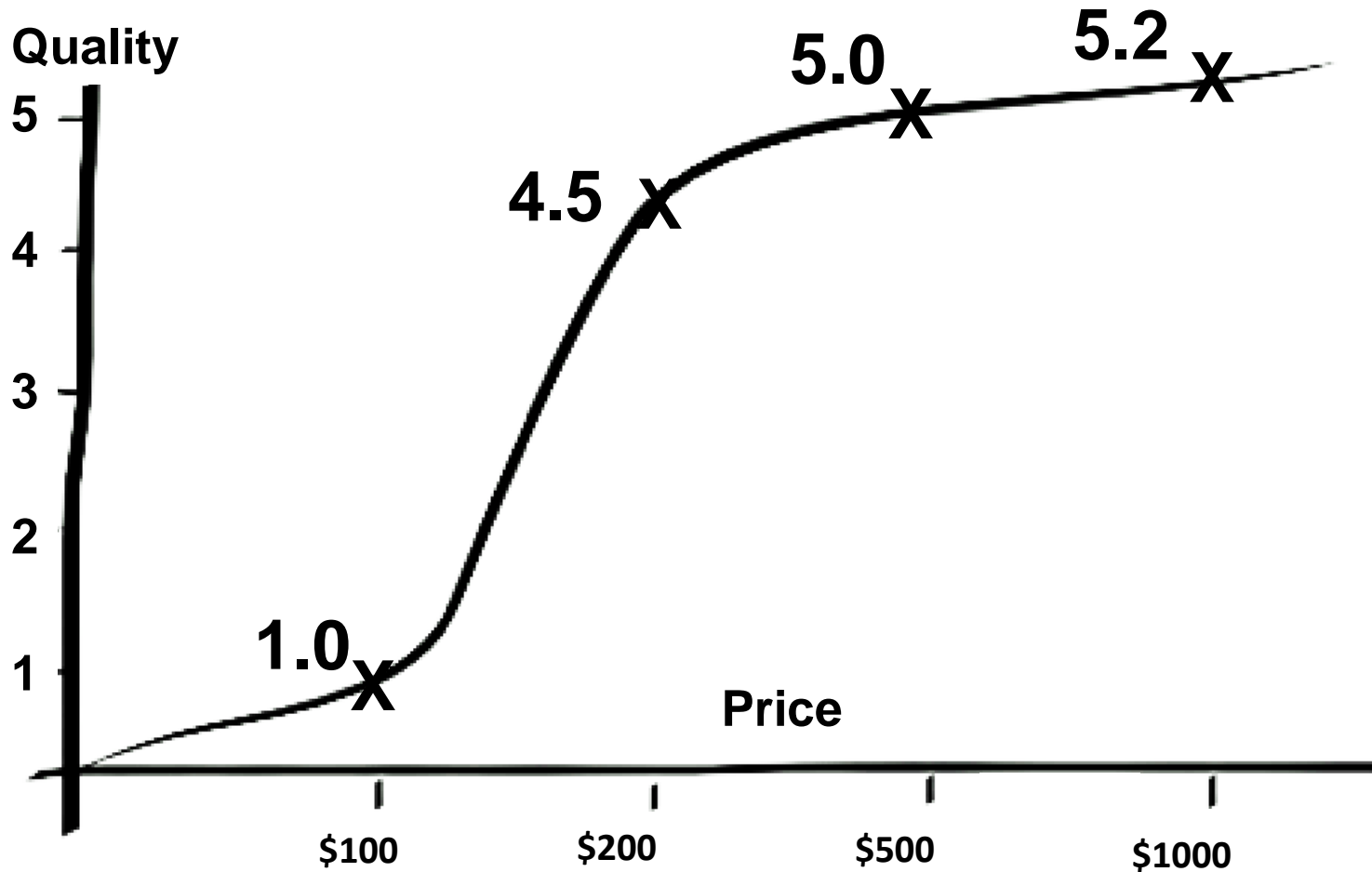
Age: 105   
URL





**How Much?**

# Relationship Between Price and Quality (competitive consumer goods)



# Cars: Price & Quality



Mazda MX-5 Miata  
\$30,000

Power: 155 bhp  
0 → 60: 5.8 sec  
Max speed: 130 mph



Bugatti Chiron  
\$3.0 million

Power: 1,479 bhp  
0 → 60: 2.4 sec  
Max speed: 261 mph

# Ladies Watches: Price & Quality



Timex  
\$36.49

-2 sec/year\*

\*My Timex watch



Rolex  
\$105,350

$\pm 2$  sec/day



# Bicycles: Price & Quality



Roadmaster Granite Peak  
\$80  
Steel  
39 lbs.  
18 speeds (gears)



Trek Madone 9.9  
\$12,000  
Carbon fiber  
15.5 lbs.  
11 speeds (gears)

# Where to Buy a Bicycle?



- Mass merchants (Costco, JCPenny, Sears, Target, Walmart, etc.)
- Chain sporting goods stores (Dick's Sporting Goods, Modell's Sporting Goods)
- Outdoor specialty retailers (L.L. Bean, REI)
- Specialty bike retailers...



# Specialty Bike Retailers

- The Bike Lane 
- Bikes @ Vienna 
- Conte's Bike Shop 
- Freshbikes Cycling 
- Hybrid Pedals 
- Performance 
- Spokes 
- Green Lizard Cycling 



# Used Bicycles

- Specialty bike stores often have used bikes for sale
- A used bike can minimize your investment until:
  - to decide if cycling is for you
  - can be traded-in (or sold on consignment)



# Suitable Types of Bicycles



- City Commuter/Urban
- Hybrid
- Cruiser
- Touring
- Folding Bicycle
- Tandem
- Adult Tricycle
- Recumbent
- Trike
- Electric Assist Bicycle (aka pedelec, e-bike)

# Cruiser



- **Comfort = 5**
- Upright position
- 1 to 3 speeds
- Big balloon tires
- For casual riding
- Coaster brakes
- Energy consuming
- **\$80 → \$315 → \$960**

Comfort: 1= uncomfortable → 5 = very comfortable



# Tandem



- **Comfort = 3 to 4**
- Good for riders with unequal abilities
- Greater visibility to be seen
- Difficult to transport
- Less maneuverable
- **\$280 → \$2,500 → \$6,900**



Comfort: 1= uncomfortable → 5 = very comfortable



# Folding Bicycle



- **Comfort = ?**
- Easy transport
- **\$600 → \$1,400 → \$2,400**
- Harder to steal
- Not for long distance



Comfort: 1= uncomfortable → 5 = very comfortable

# City Commuter/Urban



- **Comfort = 4**
- Pavement
- Upright position
- Head & tail lights
- Fenders
- Chain guard
- Rack
- 12-30 speeds
- **\$130 → \$500 → \$1,900**

Comfort: 1= uncomfortable → 5 = very comfortable



# Recumbent



- **Comfort = 5**
- **\$1,300 → \$3,600 → \$8,500**
- Limited production/hand made
- Steering can be “twitchy”
- Takes getting used to...

Comfort: 1= uncomfortable → 5 = very comfortable



# Trike

**That's for little kids...  
...not old kids!**



# Trike




- **Comfort = 5**
- **\$1,000 → \$4,000 → \$12,000**
- Limited production/hand made
- Difficult to be seen
- High quality components
- No balancing needed

Comfort: 1= uncomfortable → 5 = very comfortable



# Electric Assist Bicycle



- **Comfort = 3-5**
- Hub or central crank motor
- **\$550 → \$2,900 → \$17,000**
- Assist: 15, **20**, 28 mph
- See  for applicable laws
- Greater maintenance
- Range 15 to 100+ mi
- Less tiring

Comfort: 1= uncomfortable → 5 = very comfortable





Battery →

← Motor →

← Motor Controller

# Unsuitable Types of Bikes

Road

Road Racing

Cyclocross

Mountain

BMX





# Penny Farthing

Price ~\$3,000

See  URL





Hey!  
Four wheels...  
must be stable

# Mountain



- Comfort = 2-4
- All terrain/off road
- Suspension
  - Full suspension
  - Hardtail
- Rugged
- Somewhat heavy
- Expensive



Comfort: 1= uncomfortable → 5 = very comfortable

# Ancillary Bicycle Equipment

- **Helmet**
- Water bottle(s) and cage(s)
- Front and rear lights
- Mirror(s)
- Cycling glasses/sunglasses
- Bicycle lock
- First aid kit
- Light weight tire pump



# Ancillary Bicycle Equipment

(cont.)


- Tire patch kit or spare inner tube(s)
- Bike bag or pannier
- Standing tire pump with pressure gauge (at home)
- Special chain lubricant
- Reflective tape
- **Bicycle computer**



# Helmet



**CPSC  
Compliant** 

**\$12 → \$69 → \$400**  
**Replace in 3-5 years** 



# Cycling Clothing



**T-Shirt**

**Alert Shirt Company**  [URL](#)



# Cycling Clothing (cont.)



**Shorts**





# Shoes for Cycling



Flat/Platform Pedal



Cage Pedal



Clipless Pedal



# Cycling Clothing (cont.)



**Water/wind Proof Jacket**



# Cycling Clothing (cont.)



**Gloves & Mittens**



# Bicycle Computers



**\$14 → \$180 → \$733**


**Apps for smartphones**  
Cyclemeter app for iPhone

**The <2% relevant part!**

# Items | Log

- **Distance traveled**
- **Current speed**
- Average speed
- Maximum speed
- Kcal expended
- Riding time
- Current heart rate
- **Average heart rate\***
- Maximum heart rate

**\*Maximum sustained heart rate =  $0.85(220 - \text{age})$**

**Age 78 = 121 bpm**   



# Bicycle Safety





# Is Cycling Safe?

## Answer? Yes and No

### 2014 Fatalities and Injuries in the U.S.

Transportation Mode	Deaths	Injuries
Bicyclists	726	50,000
Pedestrians	4,884	65,000
Motor Vehicle	29,989	1,648,000

“No more than 17% of fatally injured cyclists were wearing helmets” 

See also    

# Bicycle Safety

- U.S. drivers are averse towards cyclists—if not downright hostile
- **Always** wear a helmet
- **Drivers are not watching for bicycles!**
- On roads—day and night
  - Turn on front and tail lights, preferably flashing
  - Wear light colored, high-visibility clothing
  - Affix light-reflective tape to bike, helmet & clothing



# Bicycle Safety (cont.)

- On roads—day and night
  - Do not wear ear phones/plugs
  - Do not run red lights—obey traffic laws
  - Use hand signals
  - Frequently check rear mirror(s)
  - Be careful at intersections—watch for turning cars

# Bicycle Safety (cont.)

- On roads—day and night
  - Look on your right for parked-car's doors opening
  - Make eye contact with vehicle drivers
  - Ride with traffic, not against it (Va law  )
  - Avoid riding on sidewalks
  - For more information see   

**Don't respond  
to insults**

**Get off  
the road  
you...**

**Censored**



# Drivers View of Bicycles at Night



# Potential Organ Donor



Massive  
Idiot

# Melanoma Mike

Wot's SPF?



# Too Much Stuff... Really?













# Bicycle Maintenance

- **Should know how to change a flat tire**
- Maintain proper tire pressure
- Apply chain lubrication
- Wash/clean bicycle
- Adjust brakes
- Adjust derailleurs
- Tighten loose items



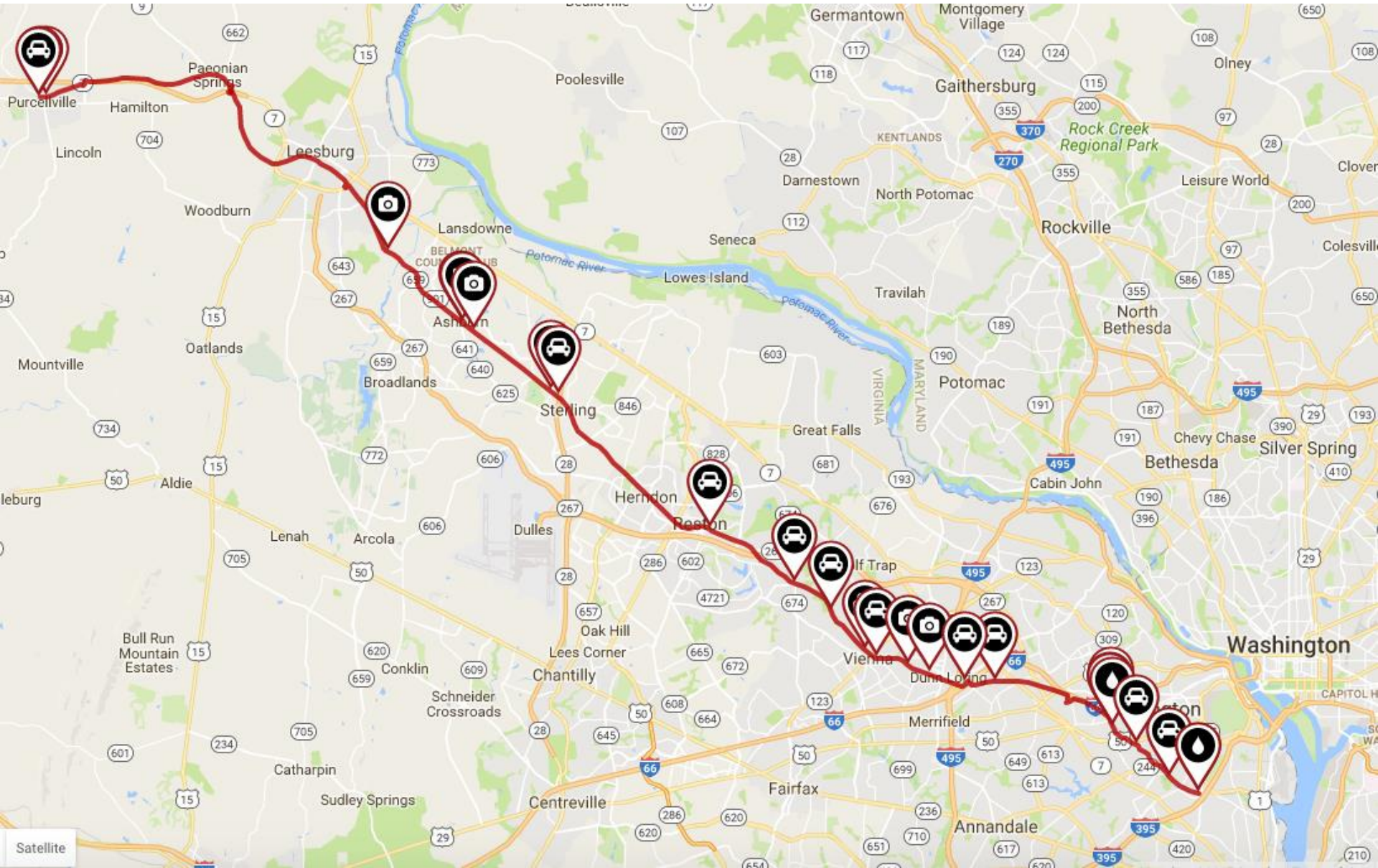


# Where to Ride

- Streets and roads
- **W&OD trail: Shirlington to Purcellville, Va (paved 45 miles long)**   
- Bike trails in Fairfax County (500 miles) 
- Mountain bike trails in No. Virginia 
- Bike trails in Virginia  
- Fairfax cycling trails (MapMyRide) 
- VDOT walking and bicycling in Virginia 
- Washington DC bike routes 



# Washington and Old Dominion Railroad Regional Park (W&OD)



**W&OD**

**Ashburn  
Virginia**

**Don's Johns here →**

**← Covered  
benches there**

**← Compressed air**



# Before Sustained Cycling



**Check with your doctor**





# A Cycling Program (getting started)

<b>When</b>	<b>How Far</b>	<b>How Often</b>	<b>Comments</b>
Week 1	1-3 miles	2-3 times/week	Easy does it
Week 2	3-8 miles	2-3 times/week	Ride somewhat faster
Week 3 or 4	10-15 miles	2-3 times/week	Steady cadence
Week 5 or 6	15-20 miles	2-3 times/week	Feel “in the groove”
Week 7 or 8	25+ miles	1-2 times/week	How far and fast
Every week	20+ miles	2-4 times/week	Established routine

**Keep riding regularly!**

# When Cycling Is Less Than Perfect Bliss\*



**\*When the dog bites, when the bee stings,  
when I'm feeling sad..."**



# “Hitting the Brick Wall”

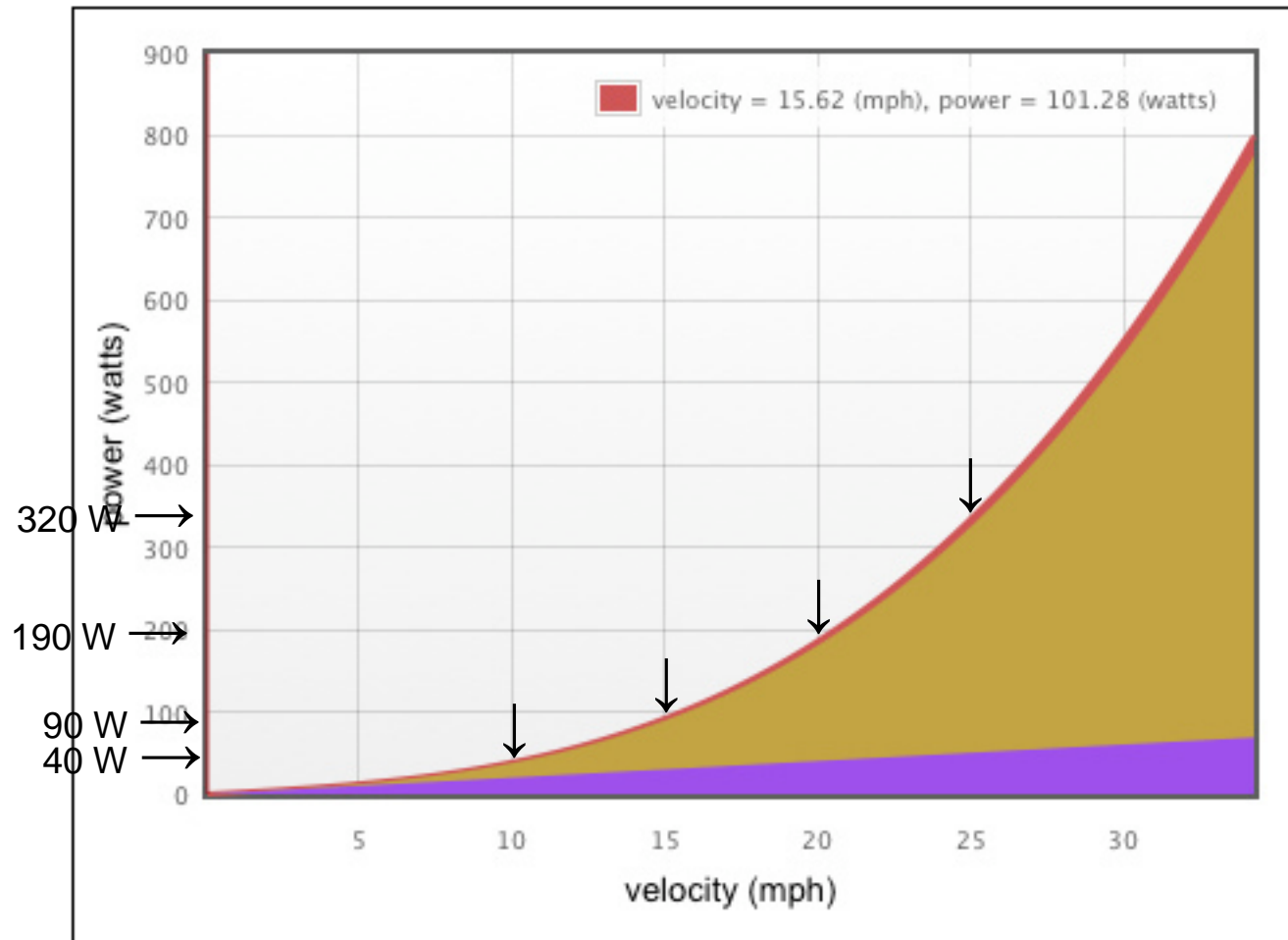


# Hills Near Leesburg, Virginia





# Impact of Wind Speed



**Wind resistance (yellow) and other losses (purple)**

**An average adult cyclist produces 75-150 watts**

**100 watts = 0.134 bhp**



# Riding in the snow—UGH!



**Sooner or later you're in the rain...**



# Heat and humidity



**In traffic—Watch out!!!**



Nevertheless, it's lots of fun!



# Items To Take With You

(in decreasing importance)

- **Water**
- Appropriate clothing\*
- Sun screen lotion
- Light weight tire pump
- Spare inner tube(s) and/or patch kit
- Basic tool kit



**\*Annual World Naked Bike Ride in Portland, Oregon  
June 9, 2018**  [URL](#)

# Items To Take With You (cont.)

(in decreasing importance)

- Money in plastic bag
- First aid kit in plastic bag
- Latex gloves
- Hand sanitizer
- Plastic bags and rubber bands





What's missing?  
Helmets!



**Have A Great Time!**



# That's all folks



# Thank You!



Denken Sie daran,  
meine nächste Präsentation  
wird in schrecklichen  
Deutschen sein!