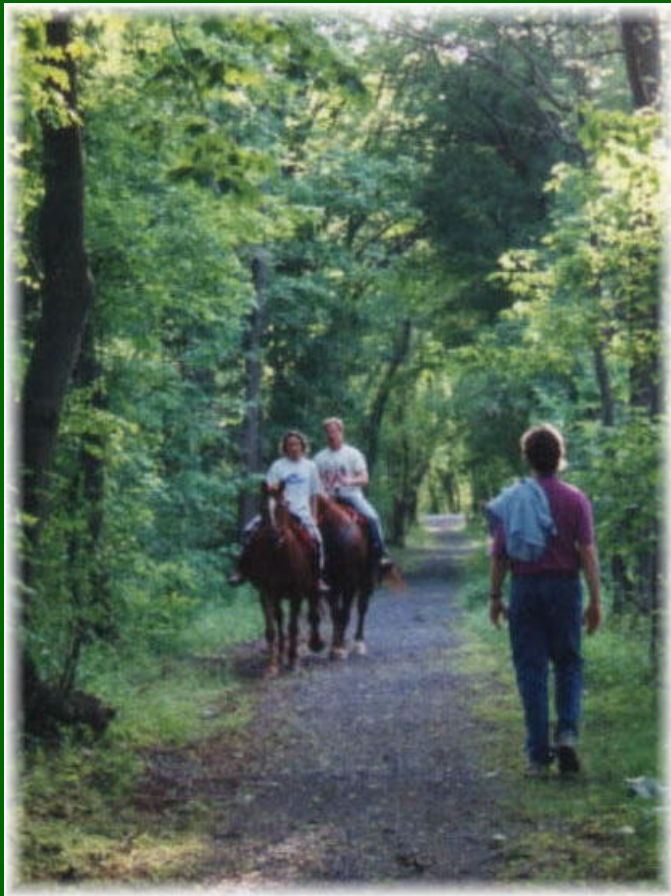


# Designing Shared-Use Trails to Include Equestrians



Anne M. O'Dell

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<http://www.aiusa.com/anneodel/Advocacy.htm>

# Horses 101



- The average light horse used for recreational riding or driving weighs about 800 - 1400 lbs.
- Some people are afraid of horses because they are so big!

# Horses are Herd Animals

- Horses feel more secure in groups, because there is safety in numbers.
- They have a nearly 360-degree field of vision.



# The Fight-or-Flight Reflex



- Horses are prey animals.
- Their natural instinct is to run when frightened.
- As a last resort they will turn and fight.

# From a horse's point of view...

- Fishing rods look suspiciously like buggy whips.
- The ticking of bicycle gears sounds like the electric fence charger at home. It hurts when you touch an electric fence. Therefore, (in equine logic) bicycles must hurt.
- Boisterous dogs look like wolves.
- Persons carrying canoes overhead are definitely horse-eating monsters!



# But we're not so scared of...



- Motorized trail users
- (ATVs, dirt bikes, cars, trucks, snowmobiles)
- Loud Music (often used in the show ring)
- Wildlife (we hang out with them in the pasture every day).

# Why include equestrians?



- Economic Impact of the Horse Industry: **\$112.1 Billion**
- **6.9 Million** Horses in the U.S.
- **2,970,000** are used for recreation

Source: The American Horse Council

# Kids!



Anne M. O'Dell



# Designing to Avoid Conflict



- Seasonal Sharing – winter & summer use
- Sharing from the start – include design amenities for equestrians
- Sharing as an afterthought – retrofitting your trail


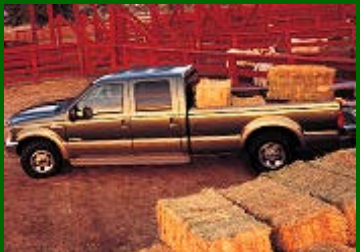
# Designing Parking Areas

Q: How big is a horse trailer?  
(hint: they've grown in recent years)



A: This rig is *41 feet* – and it's “average” these days!

# How Big?

	Tow Vehicle	Long	Wide
	Ford Explorer	16 feet	6 feet
	Ford F350 Reg. Cab, 6' bed	19 feet	7 feet
	Ford F350 Crew Cab, 8' bed	22 feet	8 feet

Source: [www.ford.com](http://www.ford.com)

# How Big?

	Old style 2-horse bumper pull	10' 10"	96"
	3- horse Slant	17' 6"	96"
	4-H Goose w/LQ	36' 2"	102"
Coach and four custom 	Legal limit is 53'	Legal limit is 102" (8' 6")	
Maximum legal <i>height</i> for all trailers is 13' 6"			





Be prepared for any of these to show up!

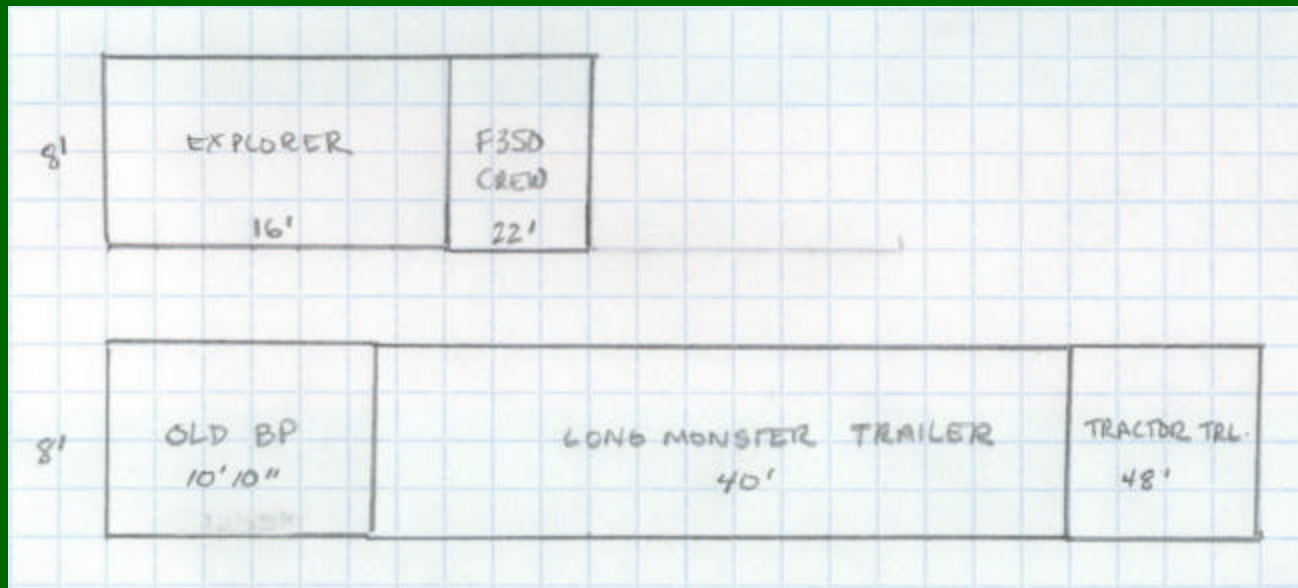


# Loading and unloading

10 ft  
Each  
Side  
And  
10 ft  
Behind!



# Recommendation



$22 + 48 = 70$  ft long;  $8 + 10 + 10 = 28$  ft wide

For a margin of safety:

**(80 ft long, 30 ft wide)  $\times$  (number of vehicles expected)!**



# A good parking area is ...



- Separated from other trail user parking
- Spacious, with level, pull-through design
- Parking pattern is clearly indicated
- Hardened surface (gravel), pavement
- Centrally located to disperse use



# Good!



# Bad!



No room to unload or tie.. Bad traffic pattern!



# Designing Trailheads



Key questions: How many users? Day use or overnight?



# Trailhead Amenities

- Potable water
- Restrooms nearby
- Concrete bunker for manure disposal
- *Several* clearly marked trails out of parking area
- Picnic tables, shade
- Signs and maps



Source: CTHA Survey 2003



# Trailhead Amenities



- Handicap Accessible Mounting Platforms
- Ordinary mounting blocks (stones, stumps) – especially at places riders are *required* to dismount – such as narrow bridges

# Trailhead Signage



- Rules and regulations
- Large map of the horse trails – “you are here”

# How about *finding* the trailhead?



- A good clear sign
- The **number** was added after the fact - for 911 responders.

# Trailhead Signage

- *Other Trail Users*
- *Rules for Use*
- *Where* are the restrooms, water?
- Unusual trail conditions: storm damage, hazards, trail closings, etc.
- Solicitations for volunteer trail workers!
- Trail User/Visitor log





# On-Trail Signage

- Clearly mark trails that are open *and closed* to equestrians!
- Mile markers
- Trail colors, names and numbers
- Trail courtesy reminders
- *Other trail users*



# On-Trail Signage





# Fair warning!



# On-Trail Amenities

- Provide for horse water on trail (create a hardened, gentle slope down to a trailside stream or pond).
- Create loop trails vs. linear trails
- Provide *destinations*





# Destinations

Human history:

Historic Railroad Museum

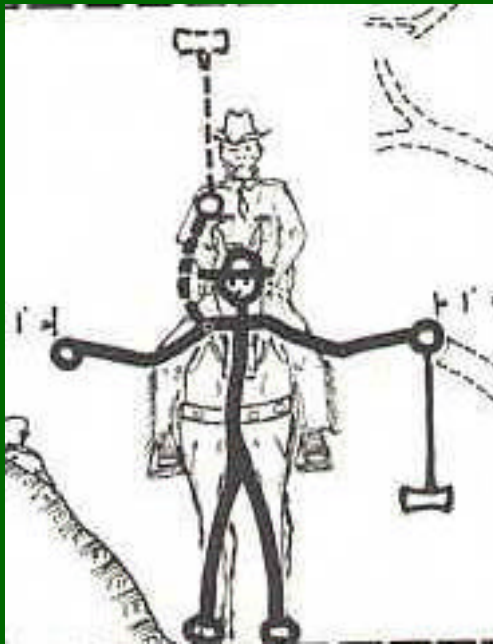


Natural features:

Breathtaking view



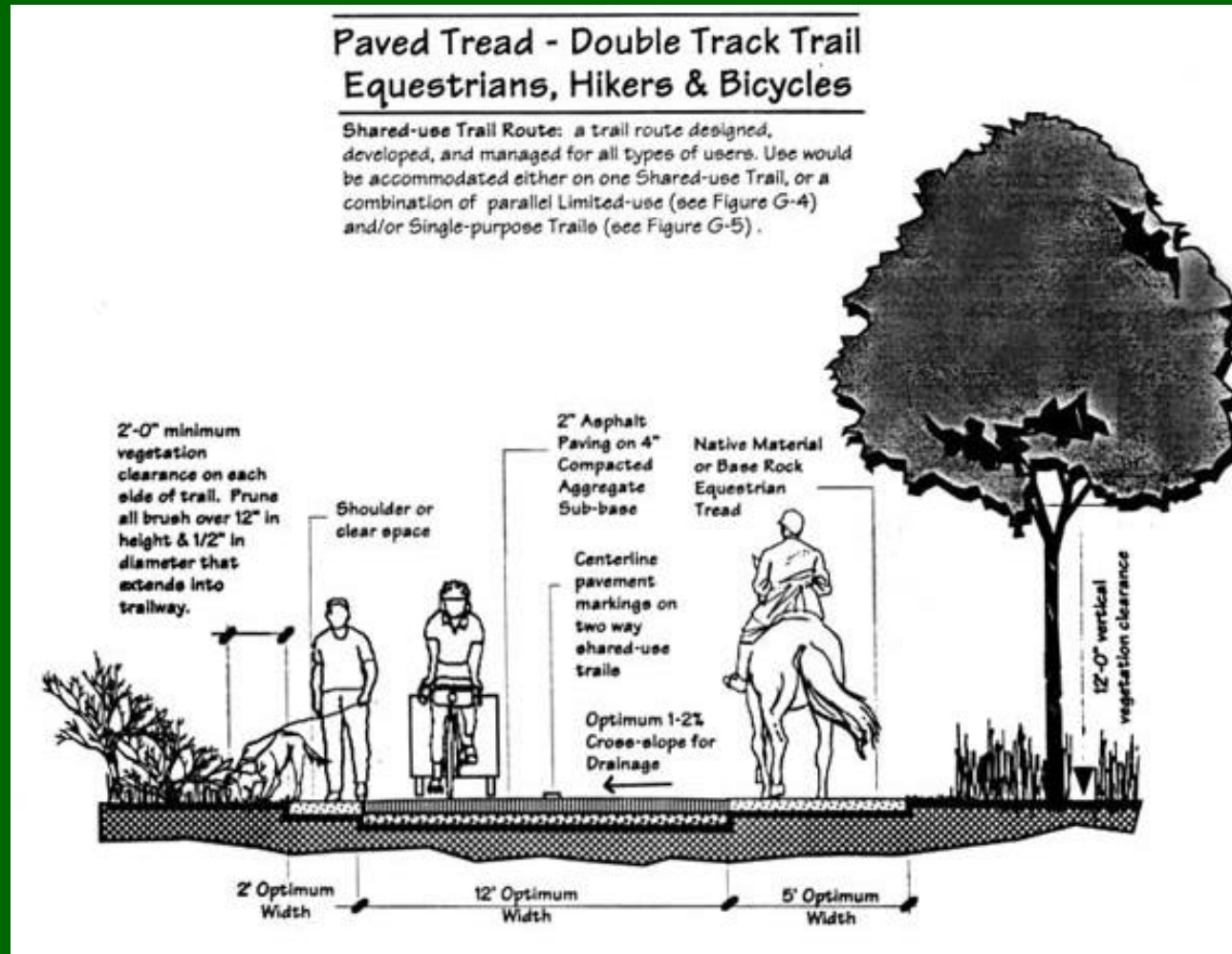
# Trail Design Guidelines



- Vertical Clearance:  
10 – 12 feet
- Corridor Clearance:  
5 – 6 feet (one lane)
- Tread Width:  
18 – 30 inches (one lane)

Drawing courtesy Equestrian Trails, Inc.

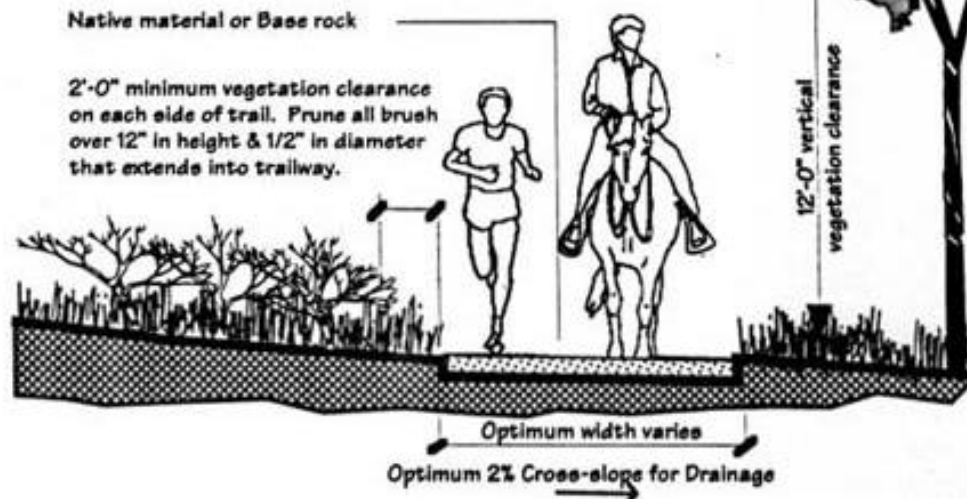
# Ideal Shared-use Corridor



# Natural Tread Shared-Use

## Shared-use Trails Natural Tread -Double Track Trail Equestrians, Hikers & Bicycles

*Shared-use Trail Route: a trail route designed, developed, and managed for all types of users. Use would be accommodated either on one Shared-use Trail, or a combination of parallel Limited-use (see Figure G-4) and/or Single-purpose Trails (see Figure G-5).*



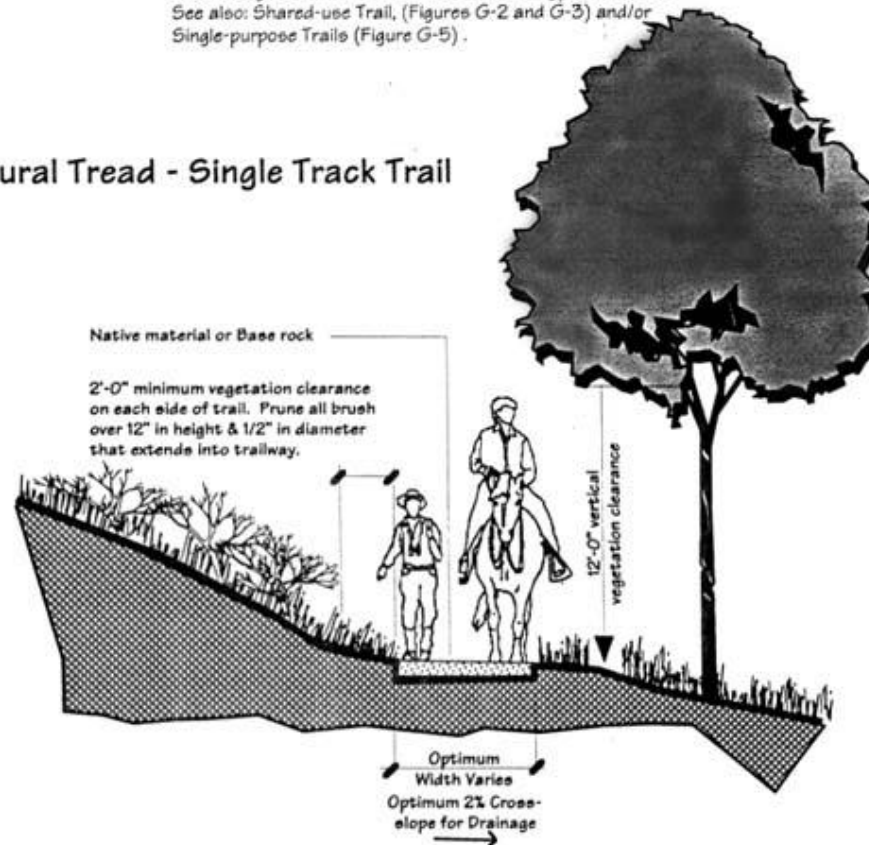


# Limited-use Trails

## Limited-use Trails

**Limited-use Trail Route:** a trail route designed, developed, and managed for more than one, but not all types of users. See also: Shared-use Trail, (Figures G-2 and G-3) and/or Single-purpose Trails (Figure G-5).

### Natural Tread - Single Track Trail

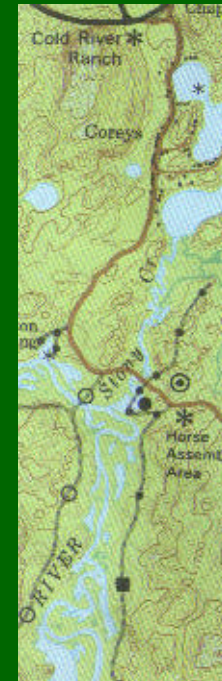


# Clearance and width..



# Trail Design Guidelines

- Grade (Slope): 0-10%
  - Max – 10% sustained
  - 20% shorter than 50 yd.
  - Outslope 4% max
- Trail length: minimum 5 miles (1 to 1.5 hours)
- Sight distance: 50-100 feet (two way traffic)



# Road Crossings



- Mark paved road crossings with the name of the road for navigational purposes.
- Ask DOT to post trail crossing signs and paint crosswalk on the road.
- Cross roads where line of sight for drivers and trail users is optimum for safety.



# Barriers & Bollards

- Use materials that won't catch stirrups
- 5' opening
- If using a locked 'vehicle' gate, leave an opening to one side



# Buried Irrigation & Power lines

- *Backfill* trenches and *compact* the soil
- Try not to locate equestrian tread over these
- Warn with signs (“Buried cable”)

# Surface

- Natural trail surface is preferred if soils are appropriate. **Avoid sharp gravel.**
  - Remove loose rocks (melon sized and up).
  - Cut vegetation flush or below ground level.
  - Remove dead or leaning trees.
  - Remove protruding roots.

# Surface – *wet areas*



←Bad!

Good!→



Use geotextiles or raised rock-mineral soil turnpikes to stabilize wet areas.



# Water Crossings



- Reinforced crossing easiest
- Culvert should be as wide as trail tread
- Bridge when you *must*

# “Most creative water crossing” award:



# Bridges



- *Build bridges to support emergency & maintenance vehicles for no worries*



# Bridges



- *Flat*, solid decking that doesn't bounce!
- Minimum width 48" for small, low bridges; preferably same width as trail tread
- Create a safe, inviting approach



# Bridges



- Railings should be **strong** and high
- Higher the bridge, higher the rail!
- Consider surface and surrounding conditions.

# Bridge no-no's



Unprotected approaches!



Boogiemen under bridge!



Slope of any degree!

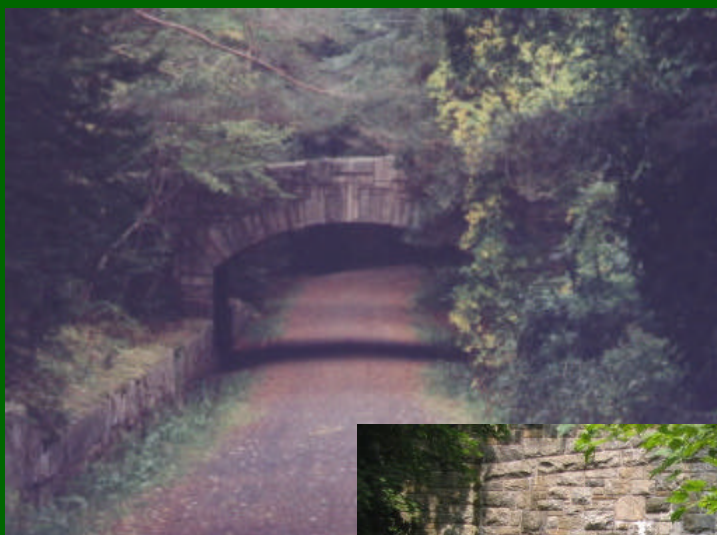
# Tunnels



- Length
- Lighting
- Height
- Width
- Tread
- Sound-dampening



# Feature or Challenge?





# Camping Areas



- Water a must!
- Separate horse camp from others
- Centrally located
- Priced appropriately

# Camping Areas



Picket lines,  
corrals  
or stalls

# Finding Equestrians

- Your State Horse Council
- Local and regional Equestrian Clubs
- Local, regional and national equestrian publications
- Existing trailheads
- Tack shops
- Equine professionals (vet, farrier)

# Equestrians can help you...

- As a safety patrol on trail
- Quickly capture GPS data
- Maintenance trimming of overstory
- Identify & correct trail problems
- Trail projects
- Transport trail construction materials to site



# In summary...

- *Simple* design elements create safe shared-use trails.
- For best results, plan for equestrian use in advance.
- Involve equestrian users
- Signage, signage, signage!



I'd like to thank the Academy..





Makin' the world a better place.. One trail at a time.