

# Proposed 15MPH Speed Limit Ordinance for UTVs/ATVs only on Morgan Road

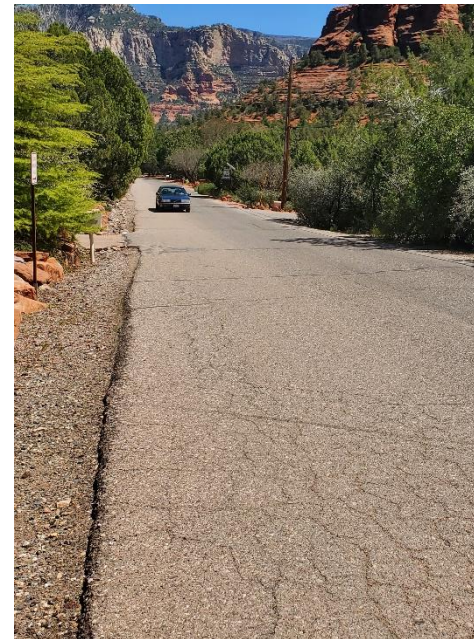
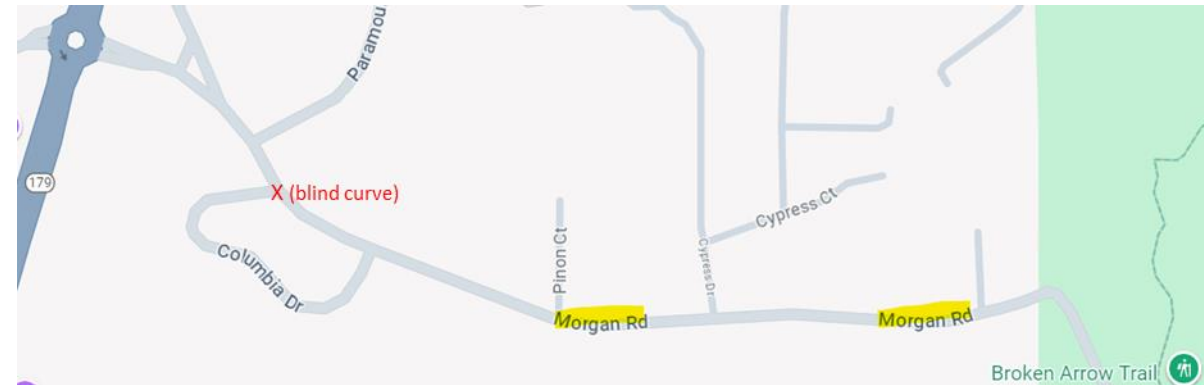
Improving Noise & Safety on Morgan Road (Broken  
Arrow), Sedona, AZ

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PRESENTED TO THE CITY OF SEDONA

# Morgan Road, Sedona

- Morgan Road is a ½ mile long city road that passes through the center of the Broken Arrow & Broken Arrow Vista subdivisions.
- It connects SR 179 to the Broken Arrow Trailhead.
- Morgan Road has no road stripings or sidewalks, and a blind curve.
- Morgan Road is the only way in/out from Broken Arrow, meaning each vehicle that passes by a home must exit the same way (twice).
- The maximum stated speed limit is 25MPH, and it takes 1 minute, 12 seconds to drive from one end of Morgan to the other at that speed. It takes 2 minutes (less than 1 additional minute) travelling at 15MPH.



# Broken Arrow, Sedona

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- The Broken Arrow Trailhead is one of the most popular destinations in Sedona for hiking, biking, and off-road vehicles (OHVs).
- Broken Arrow is a densely populated residential area in the heart of Sedona (60 homes).
- Outfitter Guide Pink Jeep has been granted a permit from the Forest Service for 5 jeeps/hour into Broken Arrow. There are no volume limits for any other vehicle type.

# UTV Safety

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- The City of Sedona has concluded that UTVs are generally unsafe on public roads, in particular when the roads are wet.
- Many UTV drivers are driving on Morgan Road for the first time.
- UTVs are travelling on a small public road with a blind curve, at times with pedestrians, dog walkers, hikers & bikers.
- Rental companies increase UTV volume to Morgan Road when Bear Mtn. is closed due to rain.

# Noise (Video: 25MPH Single Seater UTV)



# Proposal for a 15MPH Speed Limit














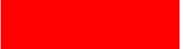








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- A 15MPH speed limit for UTVs/ATVs only will target the loudest and most unsafe vehicles and improve safety and reduce noise on Morgan Road.
- Moab & Grand County Utah have established a 15MPH speed limit, and a 10MPH speed limit below the maximum speed limit on County B roads, respectively, for these vehicle types.
- UTV traffic patterns should not interfere meaningfully with the regular 25MPH speed limit for all other vehicle types.

# 15MPH Speed Limit (Disruption to Traffic Flows)

- During a manual vehicle count on 10/21/23, UTV volume was tracked by hour from 7AM – 6PM.
- Generally, there were 0-2 UTVs travelling during any given hour in the same direction.
- As it takes 2 minutes to drive Morgan at 15MPH, a passenger car would need to enter the road at the exact hour & minute, and be travelling in the same direction, to be behind a slower moving UTV, a 3.33% probability (2 min/60 min) per UTV in any given hour.
- Regular 25MPH traffic should not generally be inconvenienced by slower moving UTVs. But even if it is, it would be for less than 1 minute.

## Broken Arrow Motorized Trail (UTV/ATV/MOTORCYCLE)

Saturday, October 21, 2023	Entering	Likelihood	Exiting	Likelihood
7-8am	0		0	
8am-9am	1		0	
9am-10am	2		1	
10am-11am	3		2	
11am-12pm	0		1	
12pm-1pm	1		2	
1pm-2pm	10		1	
2pm-3pm	1		5	
3pm-4pm	1		6	
4pm-5pm	1		1	
5pm-6pm	0		0	
TOTAL	20		19	

(1) "Likelihood" means the chance that a passenger vehicle is behind a UTV/ATV.

Green=	Not Likely (0-1)
Yellow=	Possible (2-4)
Red=	Likely (>4)

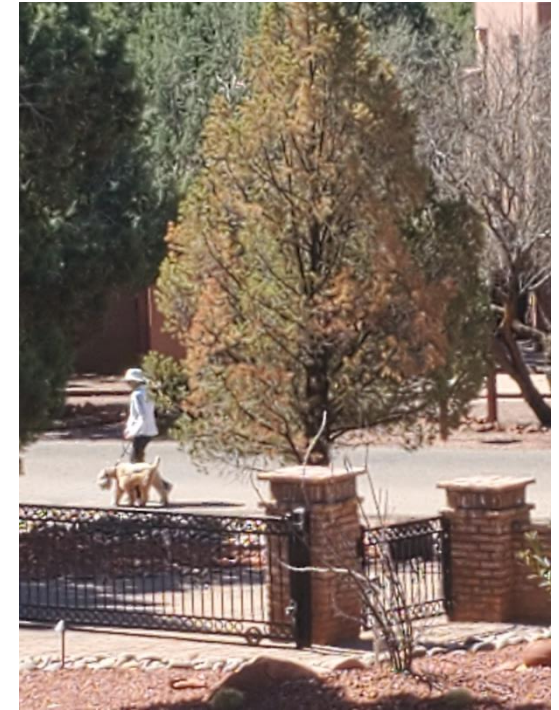
## Conclusion 15MPH Speed Limit for UTVs/ATVs only

- According to the NHTSA, “Higher vehicle speeds produce more frequent and more serious pedestrian crashes and casualties...”
- Limiting the reduced speed limit to UTVs/ATVs only reduces noise associated with the loudest vehicle type, and improves UTV safety on Morgan Road (public road).
- There is a low probability that regular traffic will be behind slower moving UTV vehicles given the short length of Morgan and the UTV traffic pattern. Even if regular traffic is inconvenienced, it would be for less than 1 minute.

# Types of Use on Morgan Road

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- Pedestrians, dog walkers, hikers & bikers use Morgan Road. Some are residents or visitors walking from the shuttle stop at the Church of the Red Rocks.



# Types of Use on Morgan Road

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- Passenger vehicles, Pink Jeep, Other Jeeps/SUVs/Trucks, and UTVs/ATVs use Morgan Road to access the Broken Arrow Trailhead and the Broken Arrow Motorized Trail.



# Manual Vehicle Counts

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- On Saturday, October 21, 2023, the Greater Sedona Recreation Collaborative (GSRC) conducted a manual count from 7AM-6PM of all vehicles entering & exiting the Broken Arrow Trailhead & Broken Arrow Motorized Trail.
- The purpose of the manual count was to help validate TRAFx vehicle counters installed by the Forest Service.

# Manual Vehicle Counts (Results)

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- 200 vehicles entered the Broken Arrow Trailhead, representing 400 vehicles passing by homes.
- 50 vehicles were Pink Jeep (5/hr.) (100 passes).
- 20 (10%) of the vehicles were UTV/ATV/Motorcycle (40 passes).

10/21/23, 7am-6pm			
Broken Arrow Trailhead	<u>ENTER</u>	<u>EXIT</u>	<u>Total</u>
Pink Jeep	49	49	98
Other Jeep/SUV/Truck	79	75	154
UTV/ATV/Motorcycle	20	19	39
Other (Passenger, Van, etc.)	56	52	108
<b>TOTAL</b>	204	195	399

# Noise

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- According to a 1974 Study by the EPA, outdoor noise greater than 55 dB (decibels) can interfere with spoken conversation, concentration and recreation.
- Decibels are logarithmic, not linear. In general, an increase of 10 dB roughly corresponds to a perceived volume doubling in intensity. This means that a small reduction in the decibel level can have a meaningful impact on noise.
- On Wed. 9/6/23 from 8am – 12pm the GSRC conducted vehicle noise testing in Broken Arrow.

# Noise (Results)

- UTVs (especially single seater UTVs) were the loudest vehicle type, averaging 67-72 dB at 25MPH.
- A group of 3 UTVs travelling together increases noise by an additional 5 dB.
- By reducing speed 10MPH UTV noise was reduced by 3-6 dB, comparable to public studies.
- The noise reduction is similar to installing a noise dampening muffler on a UTV.

**Broken Arrow: Vehicles Approaching at 25 MPH**

Vehicle Type	150 ft	100 ft	50 ft	0 ft	Average
Passenger	54	59	62	75	63
SUV/Truck	55	57	63	78	63
Private Jeep	55	60	63	74	63
UTV #1 (single)	63	67	71	86	72
UTV #2 (turbo)	60	63	69	83	69
UTV - muffler	59	62	66	81	67
Pink Jeep	53	55	61	75	61

**Noise Reduction (dB)  
Broken Arrow 15mph vs. 25mph**

