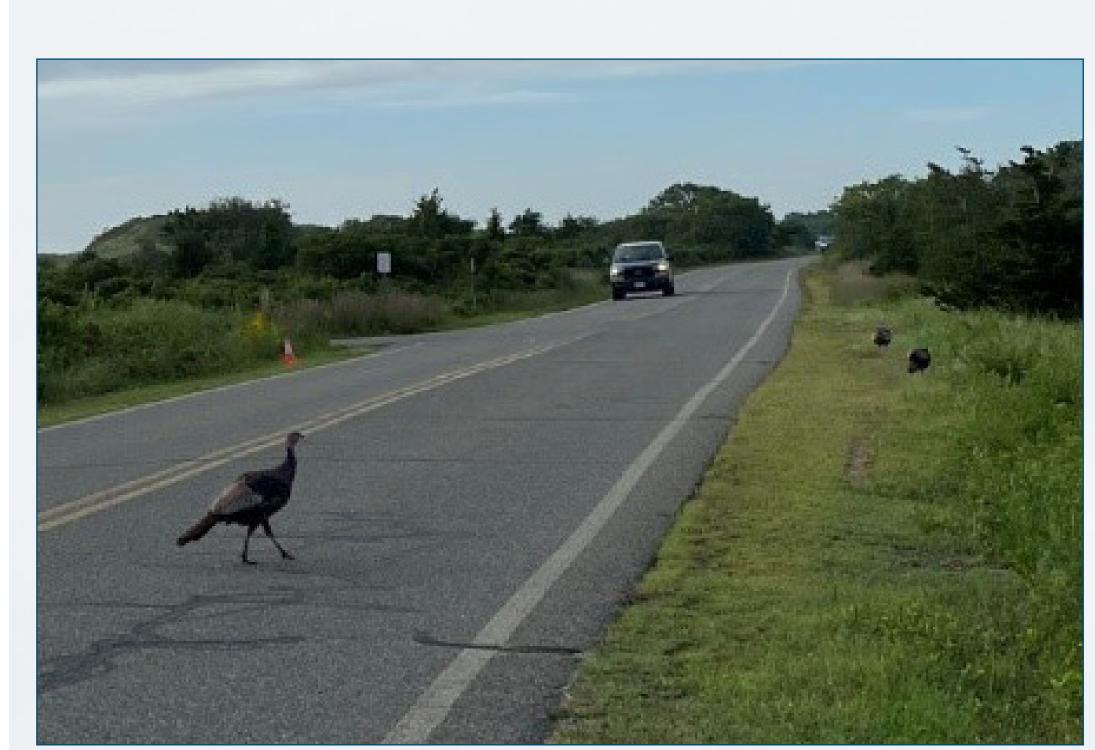
# Brake for Bikes... and Birds?

Enacting shared-streets principles at Parker River National Wildlife Refuge

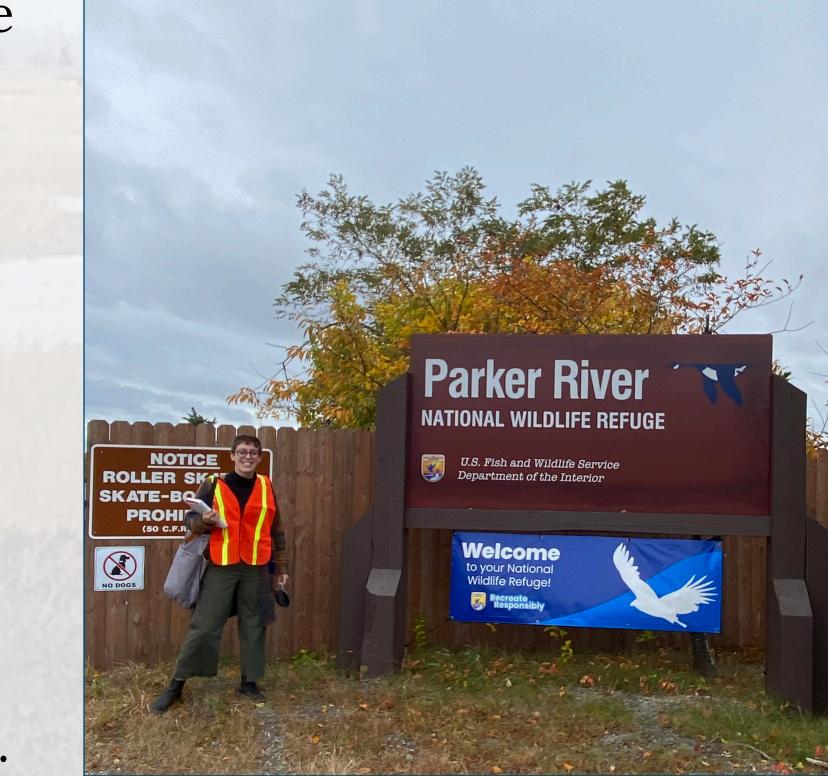
# Overview



Increased visitation to public lands provides a unique chance to engage new audiences. Yet, it also strains outdated infrastructure, and may create incidences of conflict between user groups and threaten ecological integrity. This case study addresses structural and behavioral interventions to improve visitor access and safety on public lands. It presents findings of a joint effort between the Volpe National Transportation Systems Center and Parker River National Wildlife Refuge.

## Study Site

Data were collected at Parker River National Wildlife Refuge in 2021. The refuge lies on the northeast shore of Massachusetts, largely comprised of a barrier island and salt marsh that provide critical habitat for migrating birds. The refuge experiences high visitation due to rich wildlife-dependent opportunities and sandy beaches. This study was initiated to address increasing anecdotal concerns about road safety. A single road serves the whole refuge, and is shared by all users. As the road is difficult to alter due to sensitive habitat on either side, this study explores physical and social means to improve road safety and address public concerns.



#### About the Transportation Fellows Program

The Public Lands Transportation Fellowship program provides public lands with transportation professionals for 18 to 24 months who assist in transportation planning and mplementation to help public lands reduce traffic, congestion, and pollution while improving visitor experience. These programs are designed to place individuals with substantial knowledge and expertise in transportation planning and related areas. See footer for sponsors.



Public Lands Transportation Fellow
Parker River National Wildlife Refuge
ella\_weber@fws.gov

# Data Collection & Analysis

Data Counts

56

Sat-Sun: 11am - 2pm

Peak visitation (n=22,456)

Site Evaluation

Narrow Shoulder & Limited Visibility

Limited shoulder hinders ability to safely share

Uneven pavement edge limits off-road options

the road or provide opportunities to yield

for bikers/peds with mobility constraints

Narrow shoulder is easily impacted by

overgown vegetation, hindering views

Sharp curves and overgrown vegetation

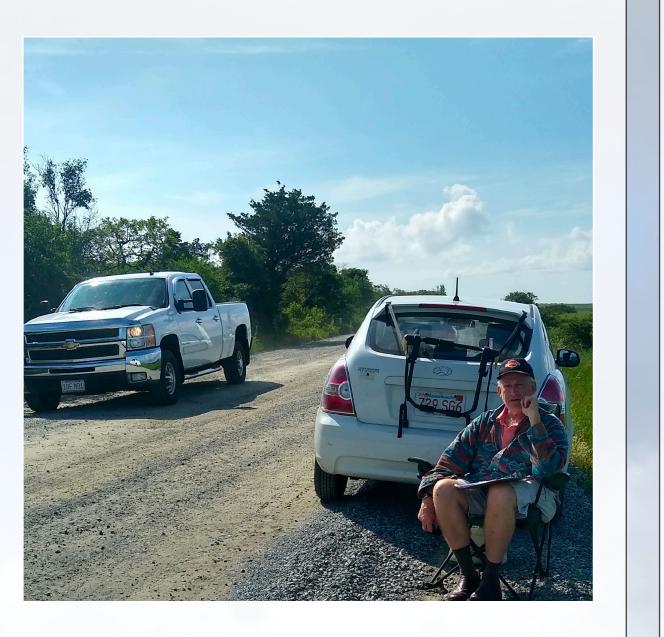
endangers human and wildlife crossings

creates hazardous passing conditions, and

Max speed Cars > 30mph

## Field Observations

- Single-day, typical conditions
- 4 observations areas
- 2, 3-hour long shifts • (7-10am; 3-6pm)



Observation Examples

Speeding & Limited Parking

Sparse traffic calming and long straight

Inconsistent traffic control devices and

directional signage create confusion

Scarcity mentality exacerbates speed

and increases live parking on shoulder

aways increase driver speed

"Car #1 was very slowly

birding in the middle/

side of southbound

lane. Car #2 passed

them over the double

line, with Car #3 in

oncoming lane."

# Speed Radars & **Traffic Counters**

- Historical data
- Inbound & outbound counters
- Inbound &



# Discussion & Public Comments

- Refuge staff &
- Public user groups
- Social media &

"I wish there were a way

to know what lots have

"Narrow areas hard to

bike with 2-way traffic."

traveling in traffic

a lot less driving."

spaces. It would lead to

Interview Examples

Car-Centric Road Design

Lack of bike/ped only space limits

choices for those uncomfortable

take precedence on the road

Design creates false sense that cars

Live parking on shoulder worsens issue



## Traffic Calming & Speed Reduction **Short Term** Long Term

Additional speedbumps at areas observed with high speed or visitor volume.



on-road parking to designated areas. Research supports lane narrowing. Providing designated pulldangerous passing.

Implications & Next Steps

Study results confirm Parker River NWR requires both built and social

solutions to address concerns along the refuge road. Communicating

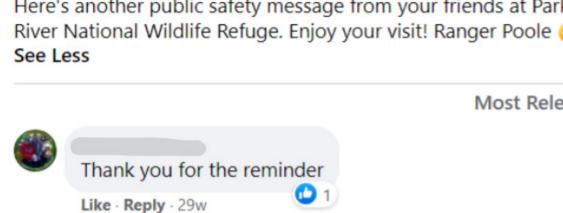
ongoing efforts will improve the efficacy of built solutions, increase

familiarity, and address public perceptions of issues on the refuge.

Selected examples for addressing key issues are listed below.

Social Use social media platforms

to share information about speed and safety. Parker River National Wildlife Refuge Follov



# **Enhancing Shared Streets**

### **Short Term**

Use posts or cones to protect areas observed with high ped/bike vulnerability.



# Long Term

Restrict parking beyond Lot 1 near gatehouse during peak season. Provide e-tram service and bike share. Prioritize walking, biking, and

# Social

Host periodic "car free" and tram-only days to highlight multimodal safety and use.



# Improving Congestion & Parking

#### **Short Term**

Partner with local outfitters to provide boat and bike tours with off-site parking.



## Long Term

wheelchair use on road.

Incentivize bike/ped access by improving safe connections to local and regional mulit-use trails, removing bike/ped fees, and enhancing local transit

# Social

Deploy traffic-monitoring tech and public apps to provide real-time updates.



# Key Takeaways

- •Issues are seasonal and site-specific i.e. more stopping in roadway during migration seasons, more speeding during beach season
- •Physical road conditions and user behavior don't deter visitors, but do keep some from walking or biking despite a stated interest
- •Lack of information i.e. asset locations, parking availability, how to report an incident creates confusion and frustration
- •Overall positive sentiment toward the refuge and belief that most people want to follow the rules













•Disconnect between users who view the road for recreation (i.e. viewing wildlife) vs. a utility or means to an end (i.e. beach access)

•Primary issues include unsafe passing (too close, too fast, low visibility, into oncoming traffic), speeding, stopping in roadway, and obstructing the shoulder

•Perceived speed higher than actual speed - exacerbated in areas with a narrow shoulder where the distance between vehicles/peds/bikes is reduced