

# Observing Alternative Transportation Patterns, Conditions, and Interest at Unique National Wildlife Refuges

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**What is the Public Lands Transportation Fellows (PLTF) Program?**  
 The PLTF program provides fellowships to recent graduates in a transportation-related field. The fellows are provided with a unique opportunity for career development and public service working directly with staff of Federal Land Management Agencies (FLMAs) on key visitor transportation issues. The assigned projects help the land units develop transportation solutions that preserve valuable resources and enhance the visitor experience. *See footer for a list of sponsors.*

## Background

### National Visitor Survey (NVS) completed at 70 National Wildlife Refuges (refuges) in 2018 and 2019.

- Conducted by FWS in cooperation with American Conservation Experience and Ohio State University.
- Goal of NVS is to provide reliable baseline visitor data at refuges.
- 26 refuges surveyed had Urban status.
  - Urban refuge: within a 25-mile radius of a population of >250K.
- Visitors at an additional 120 refuges will be surveyed from 2022-23.
- Timeline was altered due to COVID-19.



### Fellow focused on SECTION 3. Transportation and access at this refuge.

- Section included four questions related to satisfaction, mode use, and future interest.
- Alternative transportation defined as any mode other than a private vehicle.
- Fellow and research partner developed six analysis questions:

- Q1: What percentage of visitors used a form of alternative transportation as their primary recreation purpose?  
 Q2: How many visitors are very or extremely satisfied/dissatisfied with trail hiking and bicycling opportunities?  
 Q3: Which transportation-related features were visitors least satisfied with?  
 Q4: What percentage of visitors traveled from the local area to the refuge by anything other than private vehicle?  
 Q5: What percentage of visitors traveled within the boundaries of the refuge by anything other than private vehicle?  
 Q6: What percentage of visitors were very or extremely likely to use future alternative transportation?

Poster is focused on Q4-6.

### Researchers analyzed data and created an analysis tool that will:

- Help FWS transportation staff answer questions about alternative transportation on individual refuges.
- Contribute to refuge-, programmatic-, and political-level infrastructure and visitor services initiatives.

## Conclusions

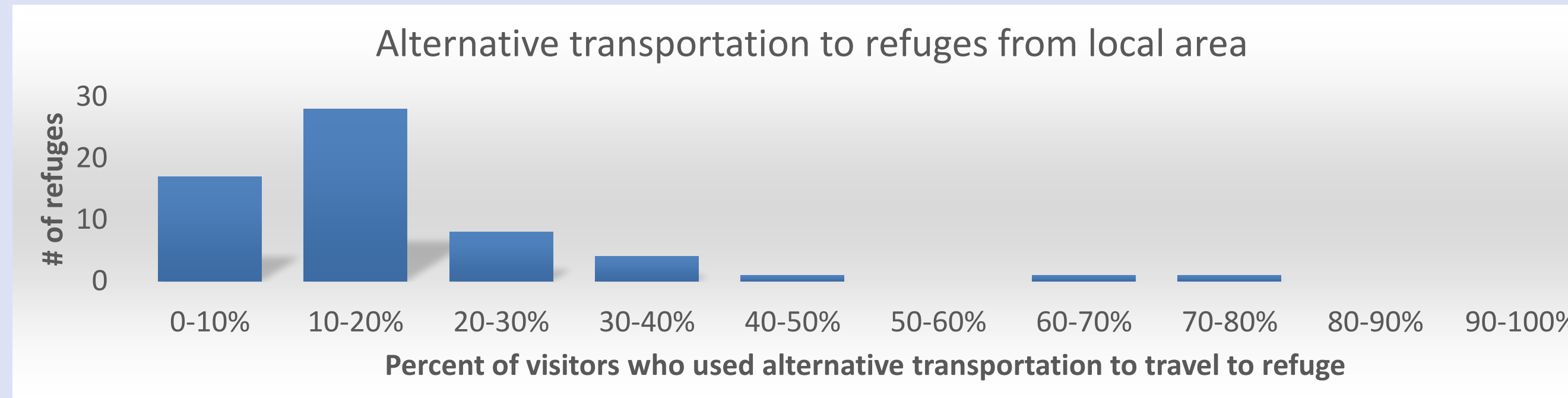
- Alternative transportation is more utilized *within* refuges than from the local area *to* the refuge.
- Urban refuge status does not necessarily correlate with higher alternative transportation use.
- Energy should be spent understanding where and how refuges can improve surrounding systems, especially those that have high potential for success.
- When FWS conducts future alternative transportation studies, they should consider the following factors:
  - Recreational hot spots,
  - Density,
  - Transportation infrastructure (e.g. sidewalks, bikeways, etc.),
  - High local and visitor interest in alternative transportation,
  - Existing regional/national trails (Blue Trail and otherwise),
  - Singular or continuous seasonal/special events, and
  - Other factors not explored in this report including:
    - Local/regional transportation plans, and
    - Transportation needs of underserved communities.
- FWS transportation staff are encouraged to use analysis tool (mentioned above) to learn about alternative transportation at other refuges and determine where further studies should be pursued.
- Pending data set completion, another round of analyses and an update of the tool will be needed to grasp the full FWS alternative transportation story.

### Acknowledgements

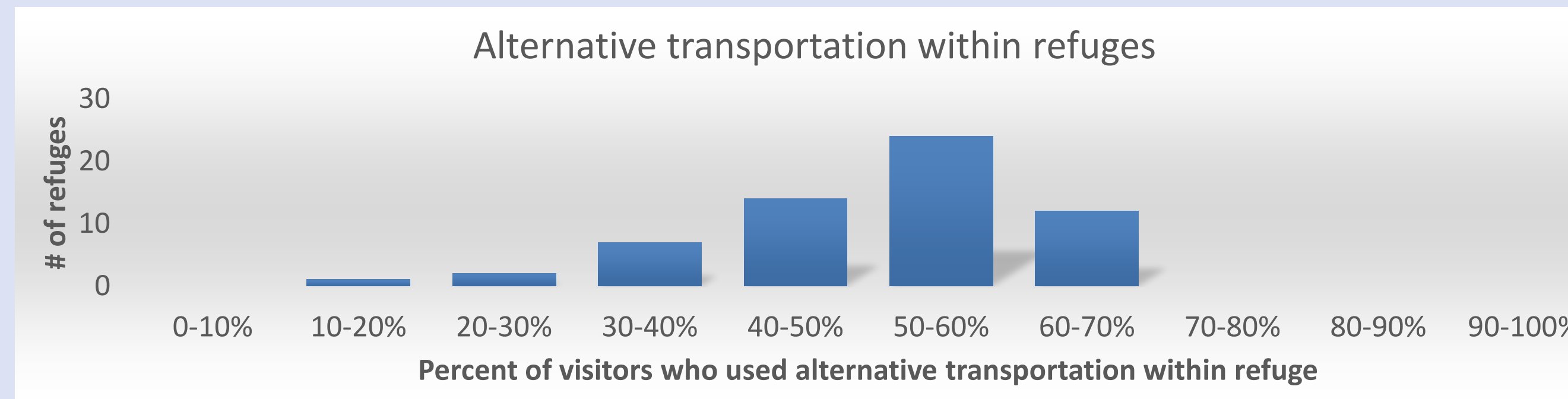
Laura Whorton, FWS  
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## Overall Results

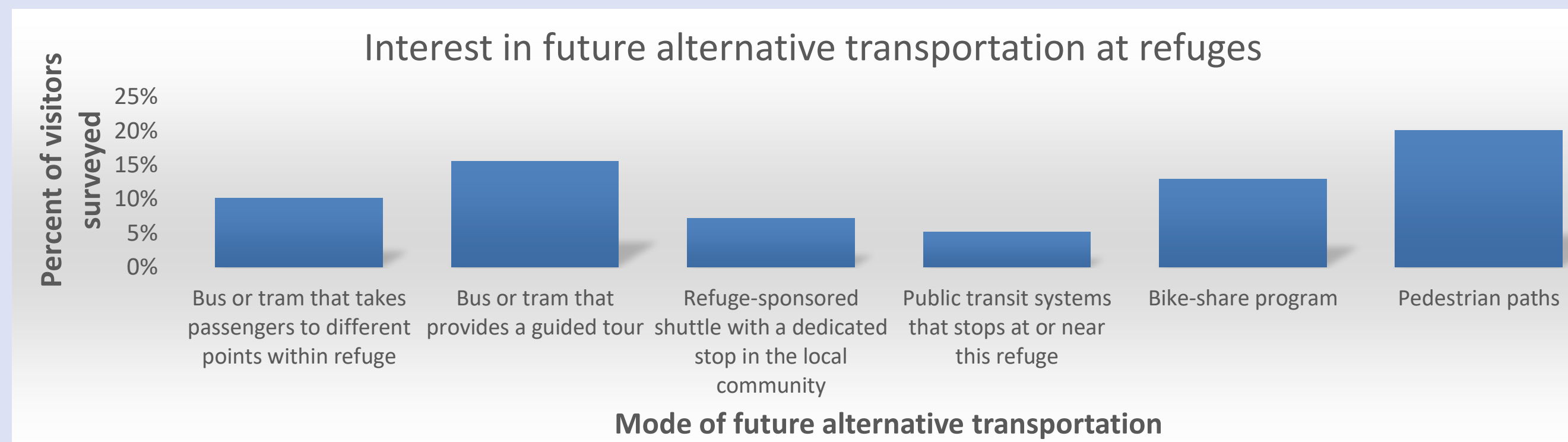
- Most refuges had 10-20% of visitors surveyed use alternative transportation to get from the local area to the refuge. Two outliers were Waccamaw and Cape May Refuges, with 62% and 72% of visitors, respectively.
- 1,800 out of 10,850 visitors surveyed reported using alternative transportation to get from the local area to the refuge.



- The highest number of refuges had 50-60% of visitors surveyed use alternative transportation *within* refuges.
- 5,400 out of 10,850 visitors surveyed reported using alternative transportation *within* refuges.



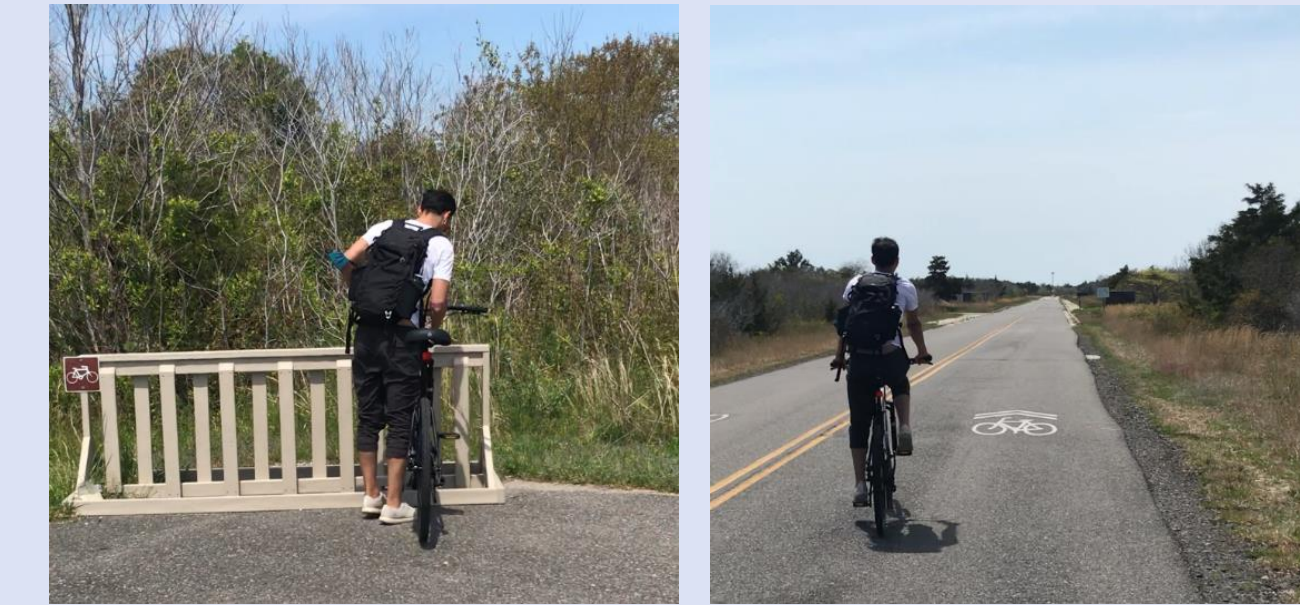
- In terms of interest in future alternative transportation modes:
  - 35% of all visitors surveyed would be likely to use some form of alternative transportation.
  - Highest percentage of visitors were interested in pedestrian paths.
  - If bus/tram/shuttle options are combined, highest percentage of visitors were interested in some form of shuttle.



## Case Studies

### #1 Cape May Refuge

- Not an urban refuge.
- Surveys occurred at one recreation hot spot: Two Mile Beach.
- Highly populated communities nearby.
- Boardwalk bike rentals in area.
- 72% of visitors surveyed walked or biked to refuge (beach).
- Majority of visitors very or extremely interested in future alternative transportation opportunities.
  - Specifically pedestrian paths.



### #2 Waccamaw Refuge

- Not an urban refuge.
- Surveys occurred at two recreation areas (one was only accessible by boat).
  - Water-based recreation is very popular on the refuge and in the area.
    - Waccamaw River Blue Trail provides 14 public boat launches on or near refuge.
    - At least one of these launches has kayak rentals.
- 62% of visitors surveyed used alternative transportation to travel from local area to refuge.
  - 93% of those visitors travelled by boat.
- Recreation and transportation likely intertwined due to the Blue Trail and necessary multi-modality of boating.

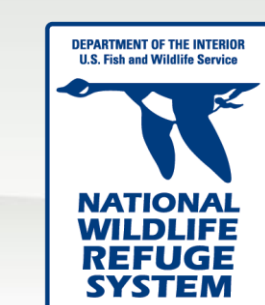


### #3 National Elk Refuge

- Not an urban refuge, but in high recreation area with many public lands and many transportation options, including:
  - Refuge sleigh ride shuttle,
  - Refuge tour van (until 2019),
  - Bus tour from local wildlife viewing company,
  - START bus system,
  - Walking,
  - Biking.
- Surveys occurred at interagency visitor center and various pullouts during sleigh ride season for elk viewing.
- 41% of visitors surveyed used alternative transportation to travel from local area to refuge.
  - 72% of those visitors traveled by refuge shuttle/tram (likely seasonal sleigh ride shuttle).
- Majority of visitors were very or extremely interested in future alternative transportation opportunities.
  - Specifically some form of shuttle (may indicate interest in continuing use of existing shuttles).



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