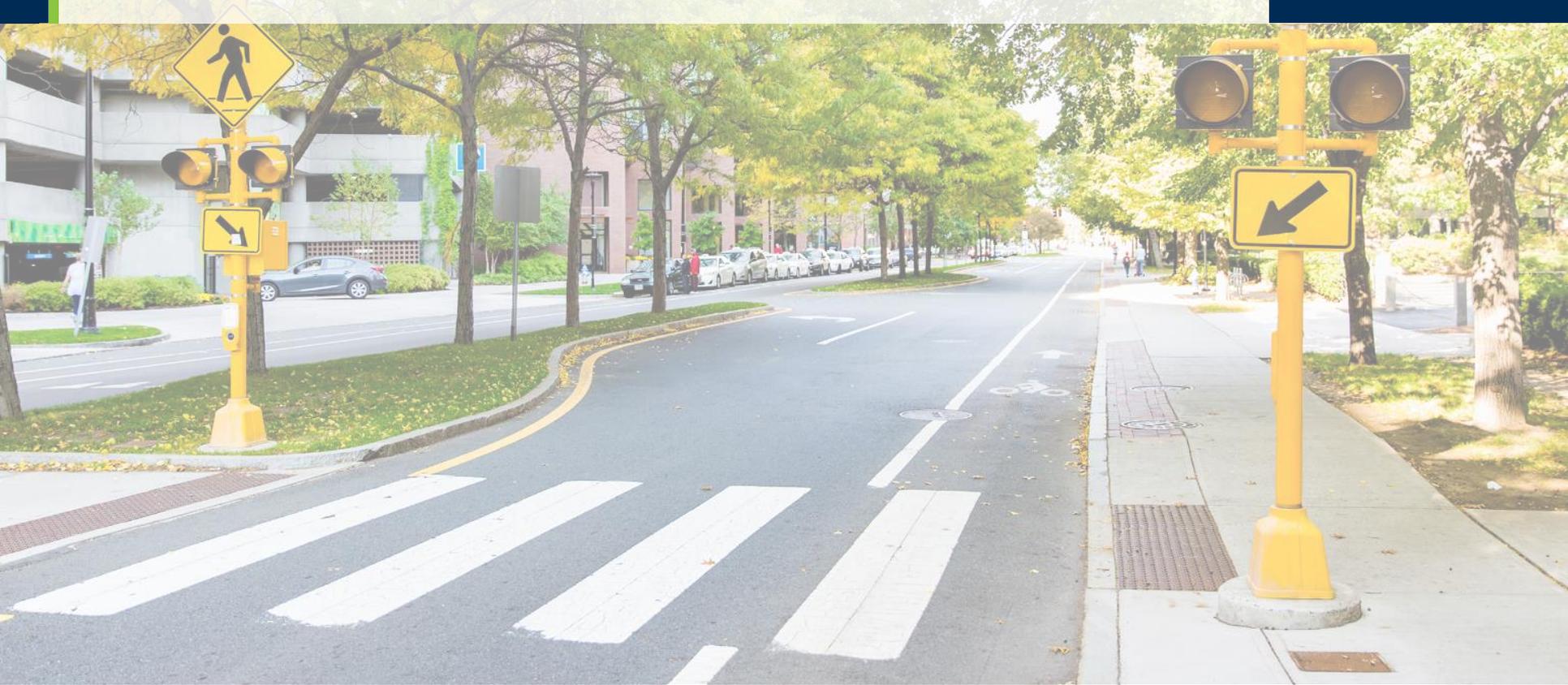


NAVAL BASE COMMUTER MULTI-MODAL MOBILITY PLANNING STUDY

Naval Air Station Patuxent River



PRESENTED TO:

St. Mary's County Commissioners, Maryland

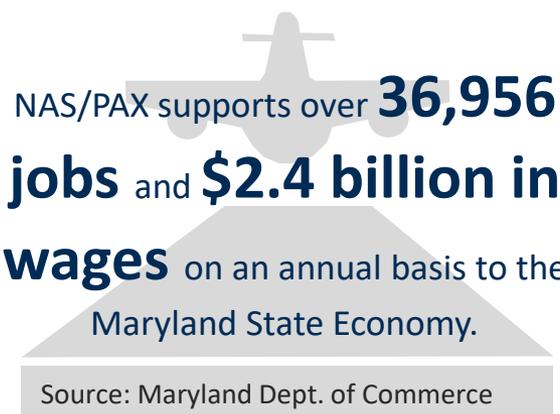
NOVEMBER 5, 2019



Introduction & Project Vision

Recognizing the transportation challenges of the MD-235 corridor, the Naval Base Commuter Multi-Modal Mobility Planning Study was developed to encourage NAS/PAX employees to **change their transportation patterns** and get out of their vehicle **even just one day a week.**

- Strategies are needed to decrease automobile traffic on the major thoroughfares in Calvert and St. Mary's Counties
- NAS/PAX is the largest employer in the county and the nucleus that generates automobile congestion in the area
- Congestion issues throughout the corridor can be lessened by addressing on-base transportation trends
- NAS/PAX is the focus; however, many recommendations span outside of installation and make connections to existing roadway infrastructure

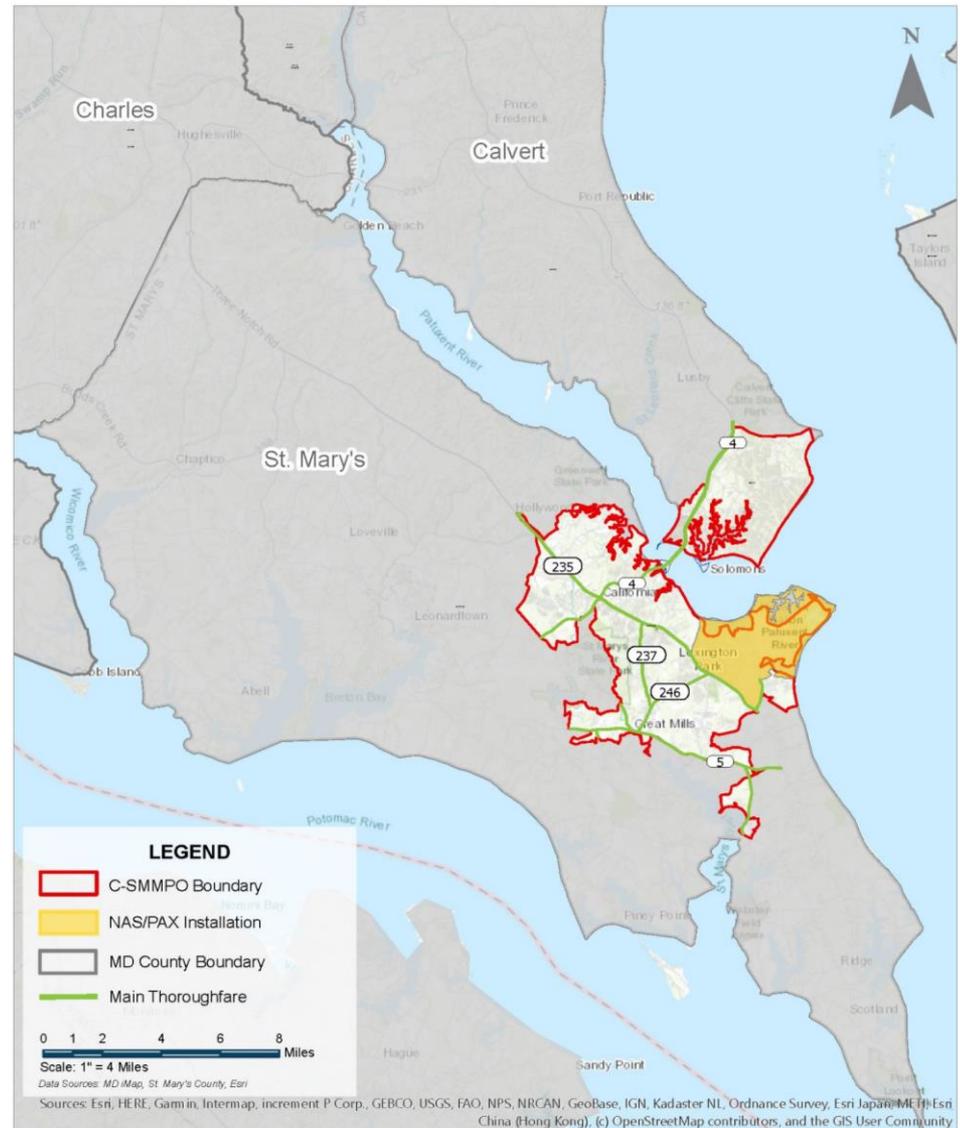


NAS/PAX supports over **36,956 jobs** and **\$2.4 billion in wages** on an annual basis to the Maryland State Economy.

Source: Maryland Dept. of Commerce

C-SMMPO & NAS/PAX Overview

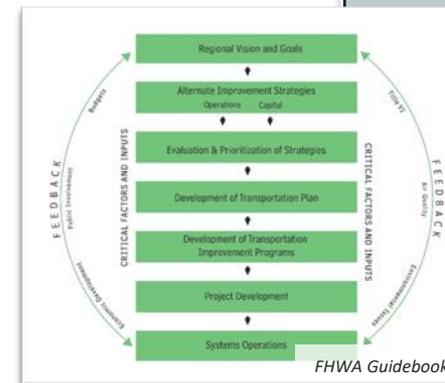
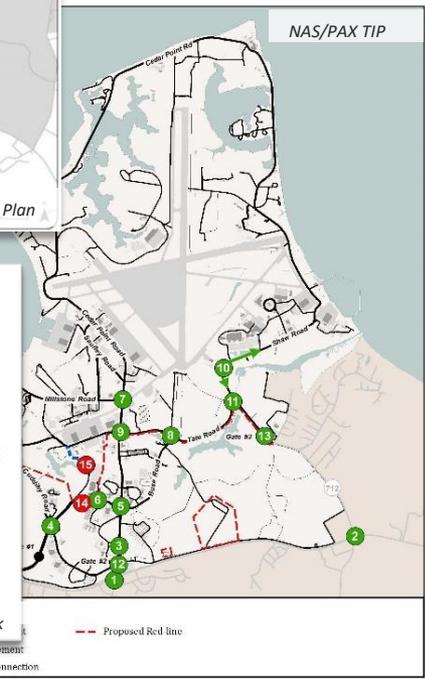
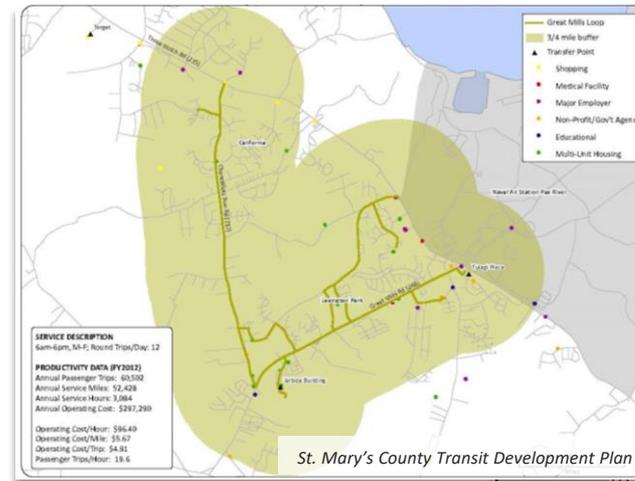
- NAS/PAX is located on the eastern side of the C-SMMPO
- MD 235 is the main access route to the base and points south
- Governor Thomas Johnson Bridge to the north connects the C-SMMPO to the rest of Calvert County



Previous Planning Studies

Previous plans were studied to understand the condition of the existing transportation network and the connectivity challenges that are faced on base.

- **St. Mary's County Transit Development Plan (2013)**
- **NAS Patuxent River Transportation Improvement Plan (TIP)**
- **Transportation and Traffic Update (Presentation from April 2018)**
- **Joint Land Use Study Report: Naval Air Station (January 2015)**
- **FHWA Guidebook for Measuring Multi-Modal Connectivity**



General Analysis & Observations

Main areas of focus:

- **Activity Nodes:** Key locations on-base that have the largest concentrations of employees daily
- **Pedestrian Environment:** Gaps in sidewalk connections and few pedestrian amenities (lighting, shade trees, bicycle facilities, etc.) particularly at activity nodes
- **Parking Assessment:** Insufficient amount, vehicles parked on the side of the road and in the grass
- **Roadway Condition and Operation:** Roadways in need of repair and maintenance throughout base

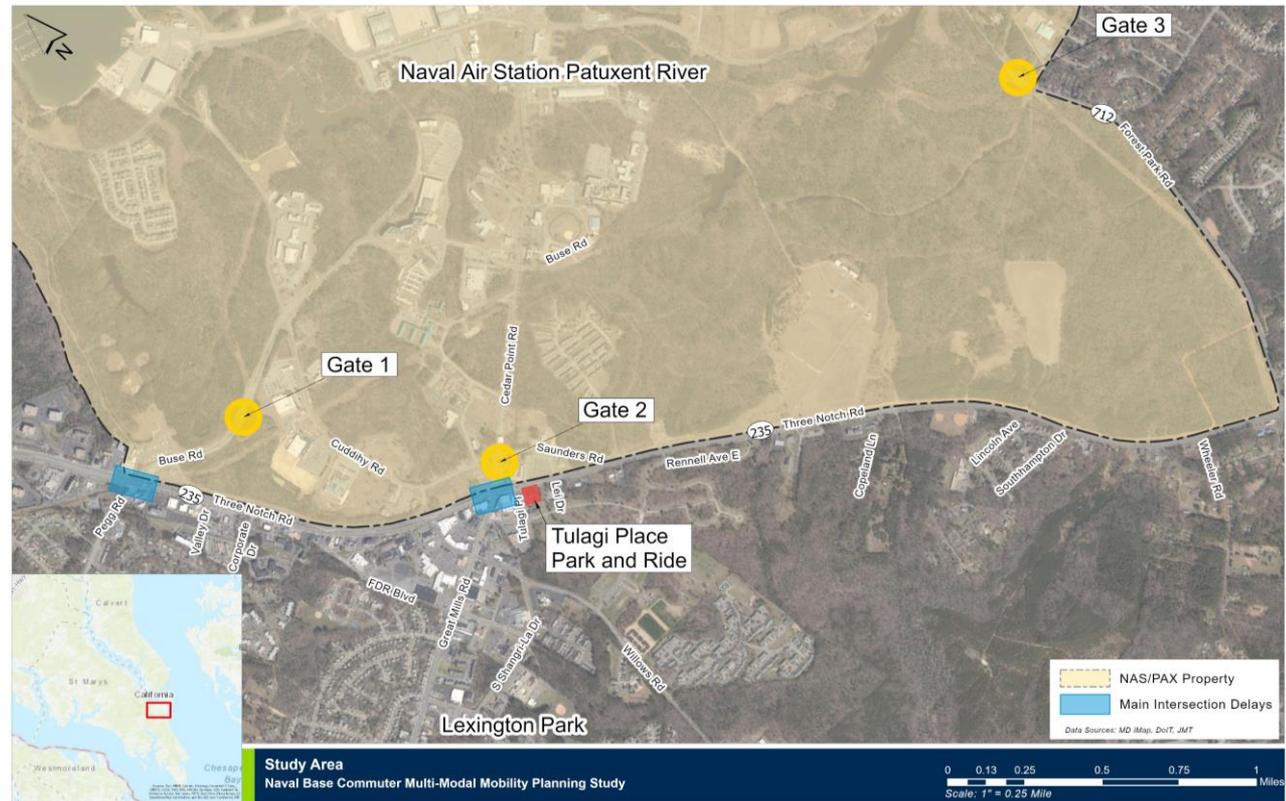


Locations of NAS/PAX activity nodes as identified during initial site visit by JMT.

General Analysis & Observations: MD 235 Context

Main areas of focus:

- **NAS/PAX Gates:** Three gates to access installation
- **Intersection of MD 235 & NAS/PAX:** No pedestrian facilities to cross the road
- **Tulagi Place Park and Ride:** ¼ mile south of Gate #2 and an underutilized area



Public Engagement

A public workshop was held on Wednesday, May 15, 2019 at the Patuxent River Naval Air Museum.

Naval Air Station Patuxent River

Potential Solutions & Opportunities



Space Programming

- Recommend food truck programming as a lunch time option either on or off base

Improved Transportation Options

- Explore creation of ten base "trucks" to strategically place sub-stops as part of a larger base wide shuttle route
- Consider the same areas as potential locations for the implementation of a bike share program

Pedestrian Infrastructure Enhancements

- Improve pedestrian safety through traffic calming measures and maintained crosswalks on base
- Explore possibility of new pedicab crossing of MD 215 at Gate #2

May 15, 2019



Naval Air Station Patuxent River

Next Steps

We want to hear from YOU!



Scan to access the survey!

Input from tonight's meeting will be used in conjunction with transportation survey results to gain an understanding of what is needed and wanted from NAS PAX's new multi-modal mobility system. Participant feedback will help guide:

- Potential shuttle routes
- Pedestrian connectivity plans
- Bike share facility placement

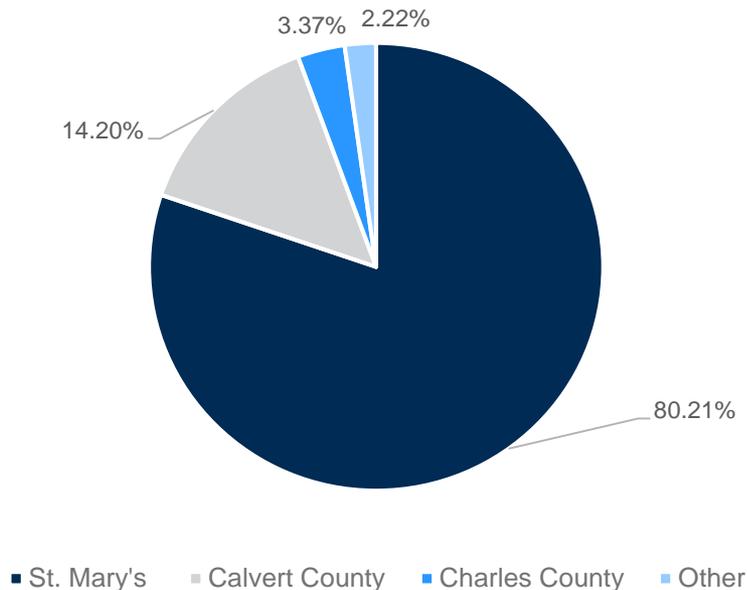
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- Educational opportunity for the community to learn about the study's purpose, context, and goals
- Promotion of the **Transportation Preference Survey**

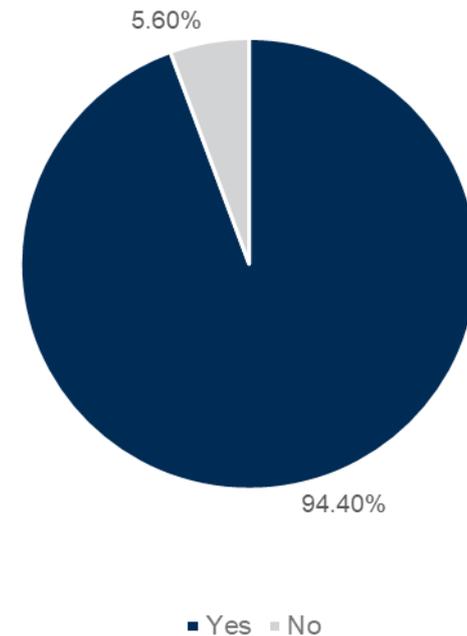
Transportation Preference Survey: Summary

- Survey was open from May 10th through June 10, 2019
- Promotion through C-SMMPO, NAS/PAX community, the Commanding Officer, and social media outlets
- **2,254 responses received**

Q: Which county do you live in?



Q: Do you work at NAS/PAX or an associated facility?

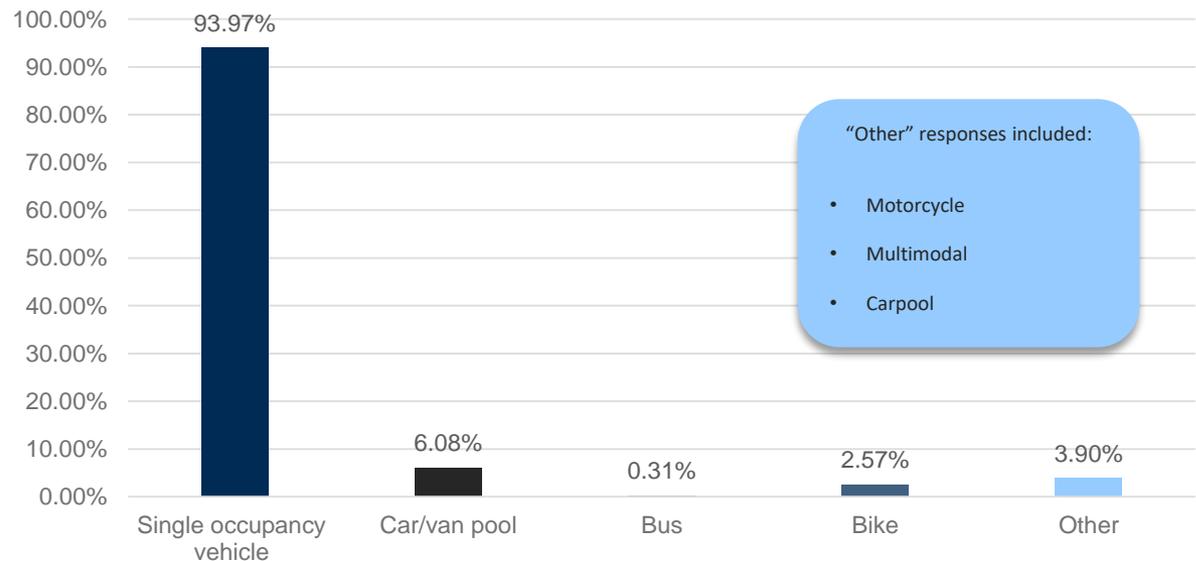


Transportation Preference Survey: Summary

Q: What do you see as your greatest challenge for commuting to work?

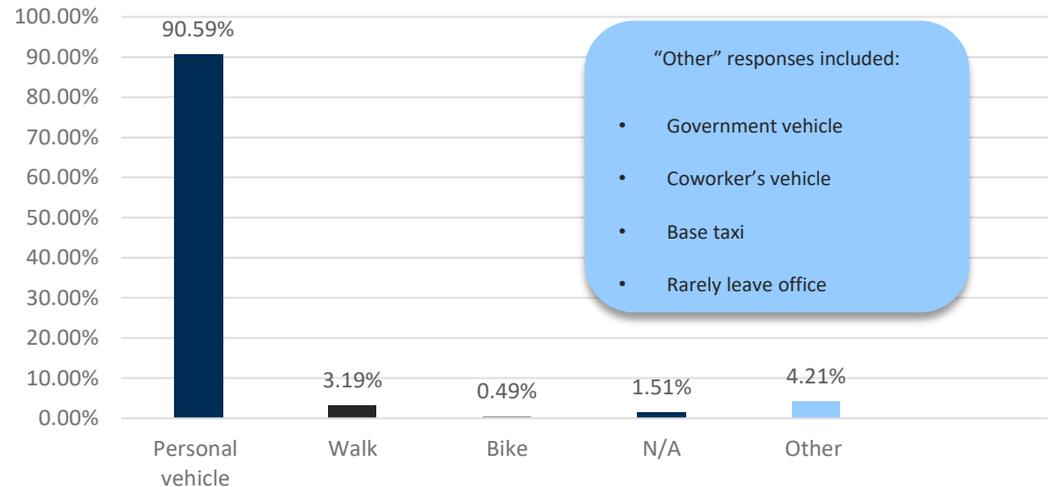


Q: If you travel to the base for work, how do you get there?
(Check all that apply)



Transportation Preference Survey: Summary

Q: Once on base, what is your main mode of transportation to get around?

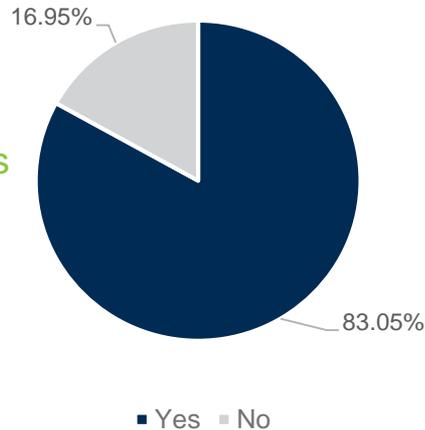


Distance between buildings
Dangerous **Bike** Lack of shoulders
Lack of parking **Lack of dedicated lanes** Lane maintenance
Cars Visibility **Lack of Sidewalks**
Size of base Showers

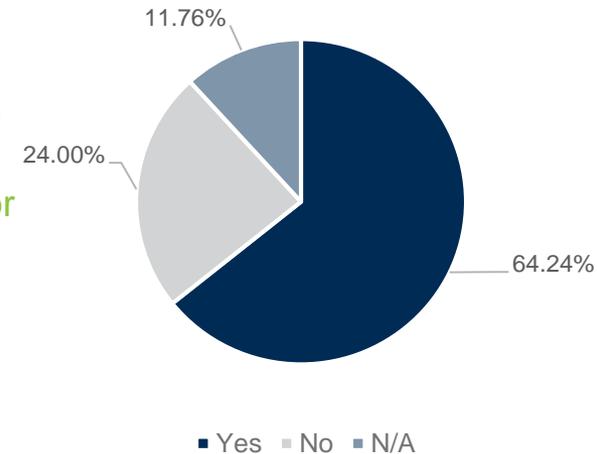
Q: If you walk or bike around base, what do you see as the greatest challenge?

Transportation Preference Survey: Summary

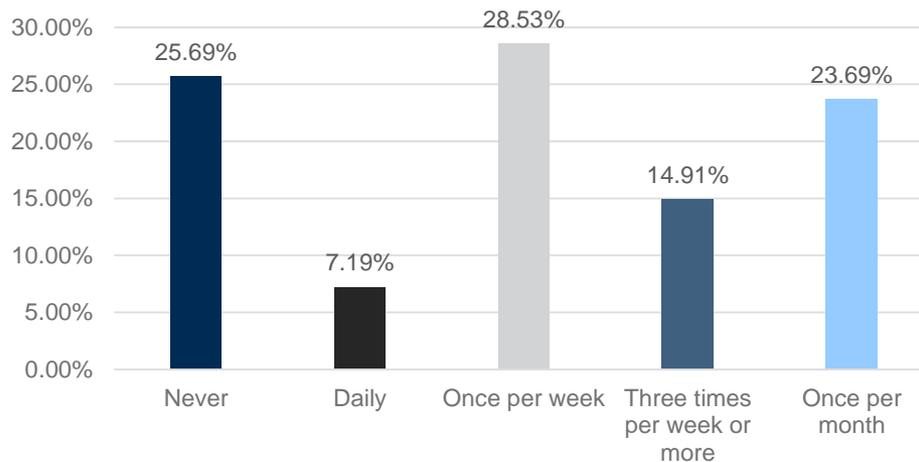
Q: If additional and accessible lunch options were provided on base, would you stay on base and frequent them?



Q: If there was a no cost taxi service for on/off base travel for official business, would you use it?



Q: If there was a circulator bus route than ran throughout NAS/PAX, would you use it for travel between buildings for meetings, lunch, etc.?



RECOMMENDATIONS

Areas of Improvement

Recommendations within the Naval Base Multi-Modal Mobility Planning Study are broken down into five main areas of improvement:



**Transit
Recommendations**



**Bicycle
Improvements**



**Pedestrian
Connectivity
Recommendations**



**Recommended
Geometric
Changes**



**Transportation
Demand
Management
(TDM)
Improvements**



Transit Recommendations

1.1 & 1.2: Install Alternative Mobility Hubs and Develop an On-Base Shuttle System

- On-base shuttle as an alternative to single vehicle occupancy
- Alternative Mobility Hubs to act as innovative transfer and receiving points that support a multi-modal system

An example of an Alternative Mobility Hub. Source: <https://nacto.org/publication/transit-street-design-guide/station-stop-elements/stop-elements/small-transit-shelter/>



Proposed locations for shuttle stops and alternative mobility hubs

Timeframe: Short Term (0-5 Years)
Key Agencies: NAS/PAX

Estimated Cost: \$250,000 - \$300,000



Transit Recommendations

1.3: Reinstate the On-Call Taxi Service

- Supported by Transportation Preference Survey respondents
- Provide alternative and reliable means of transportation for those who choose to step away from their personal vehicle

"[I] do not walk or bike. Do not leave work as it is too hard to find parking and it takes too long with traffic to get lunch/errand and return."

-Transportation Preference Survey
Respondent

Timeframe: Short Term (0-5 Years)
Key Agencies: NAS/PAX

Estimated Cost: No Cost (NAS/PAX to fund)



Bicycle Improvements

2.1: Implement a Bike Share Program On-Base

- Supply bicycles for short-term, low-cost use through a network of convenient parking stations
- Increase the public perception and acceptance of bicycles as a viable mode of transportation
- Docked system only at NAS/PAX
- Locate docking stations at Alternative Mobility Hubs



Capital Bikeshare Docking System. Source: Shutterstock

Timeframe: Short Term (0-5 Years)
Key Agencies: NAS/PAX, St. Mary's County

Estimated Cost: \$150,000 - \$200,000



Bicycle Improvements

2.2 & 2.3: Increased and Improved Bicycle Facilities

- Desire for shower facilities was one of the most common feedback items received as part of the survey
- Facilities placed in convenient locations would entice employees to utilize bicycling as a mode of transportation



Bike lockers in Montgomery County, MD. Source: Montgomery County Planning Department *Bicycle Parking Guidelines*

Timeframe: Short Term (0-5 Years)
Key Agencies: NAS/PAX

Estimated Cost: \$75,000 - \$85,000



Bicycle Improvements

2.4: Implement a Bicycle Subsidy Program

- Utilize the Department of the Interior's Transportation Subsidy Program as a guide
- NAS/PAX employees would receive a monthly subsidy for commuting by bicycle at least 20 days in a month
- Financial assistance available for the purchase, improvements, repair, storage, and/or maintenance of a non-motorized vehicle
- Employees to apply via an application system and complete daily or monthly certification logs

Timeframe: Short Term (0-5 Years)
Key Agencies: NAS/PAX, DOD, DOI

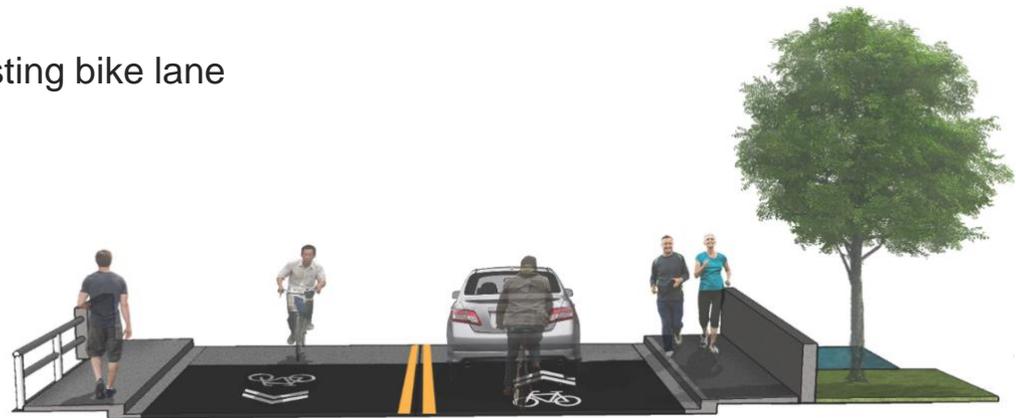
Estimated Cost: No Cost



Bicycle Improvements

2.5a & 2.5b: Improve Bicycle Infrastructure On-Base

- Ensure dedicated bike lanes are established along additional roads throughout base, creating a continuous road network
- Re-stripe the existing bike loop
- Install sharrow markings on all secondary and local roads to promote bicycling
- Key locations to add bike lanes:
 - Cedar Point Road from MD 235 to existing bike lane
 - Along Buse Road
 - Along Millstone Road



Roadway with sharrows. Source: JMT

Timeframe: Short to Medium (0-10 Years)
Key Agencies: NAS/PAX

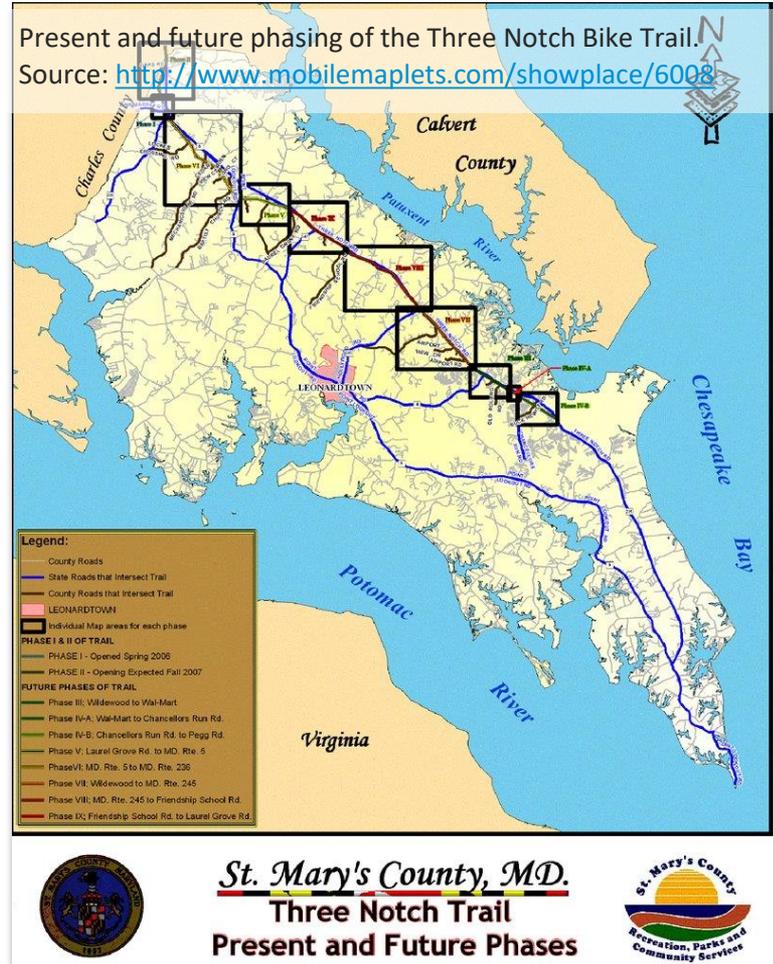
Estimated Cost: \$600,000 - \$700,000



Bicycle Improvements

2.6 a-e: Improve Bicycle Infrastructure Off-Base

- Reconsider location of bike lane infrastructure on MD 235
- Support the completion of the Three Notch Bike Trail
- Support the completion of the FDR Boulevard Project
- NAS/PAX should stay in contact with the C-SMMPO and county officials to be aware of current and planned transportation improvement projects that will benefit multi-modal commuting on-base



Timeframe: Varies

Estimated Cost: Varies per recommendation

Key Agencies: NAS/PAX, MDOT SHA, St. Mary's County



Bicycle Improvements

2.6f: Create a Bicyclist Education and Safety Campaign

- Public outreach campaign to share information about new bicycle lanes, routes, storage options, shower and locker facilities
- Can also be used to share general safety tips for bicyclists and drivers



Example bike safety campaign material.

Source: BikeMaryland

<https://www.bikemaryland.org/resources/safety/for-drivers/>

Timeframe: Short Term (0-5 Years)

Key Agencies: NAS/PAX

Estimated Cost: \$20,000 - \$30,000



Pedestrian Connectivity Recommendations

3.1 & 3.2: General Infrastructure Improvements

- Form an interconnected pedestrian network by the installation of appropriate sidewalk facilities between major employment centers
- Primary focus should be on areas that access the most frequented buildings
- Pedestrian crossings and signals should be added to all appropriate intersections (ex. Cedar Point Rd/Buse Rd and Cedar Point Rd/Tate Rd)
- Crossings also added at appropriate and comfortable intervals throughout base

Timeframe: Medium to Long Term (5+ Years)

Estimated Cost: Varies

Key Agencies: NAS/PAX



Pedestrian Connectivity Recommendations

3.3: Implement a Pedestrian Crossing of MD 235

- Southern-most side of intersection is most appropriate as it avoids conflict between the high-volume free flow right from the base to MD 235 and reduces the overall number of conflicts between vehicles and pedestrians
- Pedestrian activated signal only
- Influences connection to the Tulagi Place Park and Ride



Location of new proposed crosswalk in proximity to Tulagi Place Park and Ride. Source: JMT

Timeframe: Medium Term (5-10 Years)
Key Agencies: MDOT SHA, St. Mary's County

Estimated Cost: \$200,000 - \$250,000



Pedestrian Connectivity Recommendations

3.4: Reimagine Tulagi Place Park and Ride

- Space activation is key
- Ex.: create a food truck park on a weekly or monthly basis
- Access becomes possible with the installation of a pedestrian crossing of MD 235
- Could be used as overflow parking for base facilities that are close to MD 235



Timeframe: Short Term (0-5 Years)
Key Agencies: NAS/PAX, St. Mary's County

Estimated Cost: No Cost



Pedestrian Connectivity Recommendations

3.5: Increase ADA Compliancy

- Majority of pedestrian infrastructure lacks ADA accessibility
- NAS/PAX should be encouraged to ensure that any new construction complies to ADA guidelines: appropriate sidewalk widths, ADA ramps with detectable warning surfaces, appropriate number and location of compliant parking spaces, and accessible ingress and egress for all buildings.

Timeframe: Medium to Long Term (5+ Years)
Key Agencies: NAS/PAX

Estimated Cost: Varies



Recommended Geometric Changes

4.1-4.10: Location Specific Recommendations

- Series of geometric changes to existing infrastructure to encourage transit, bicycle, and walking as feasible transportation alternatives.



Timeframe: Varies

Key Agencies: NAS/PAX, MDOT SHA

Estimated Cost: Varies per recommendation



Transportation Demand Management Improvements

Transportation Demand Management strategies can be a combination of traditional and technology-based services to encourage the use of transit, ridesharing, walking, biking, and telework.

5.1: Staggered Work Hours

5.2: Increased Telework Opportunities

5.3: Transportation Stipend Promotion

5.4: Forum Creation for Car/Van Pool Participants

5.5: Transit Education and Awareness Campaign



An example of a commuter transportation service in Maryland. Source: MDOT

<http://www.mdot.maryland.gov/newMDOT/Commuter/Old/CommuterOptions>

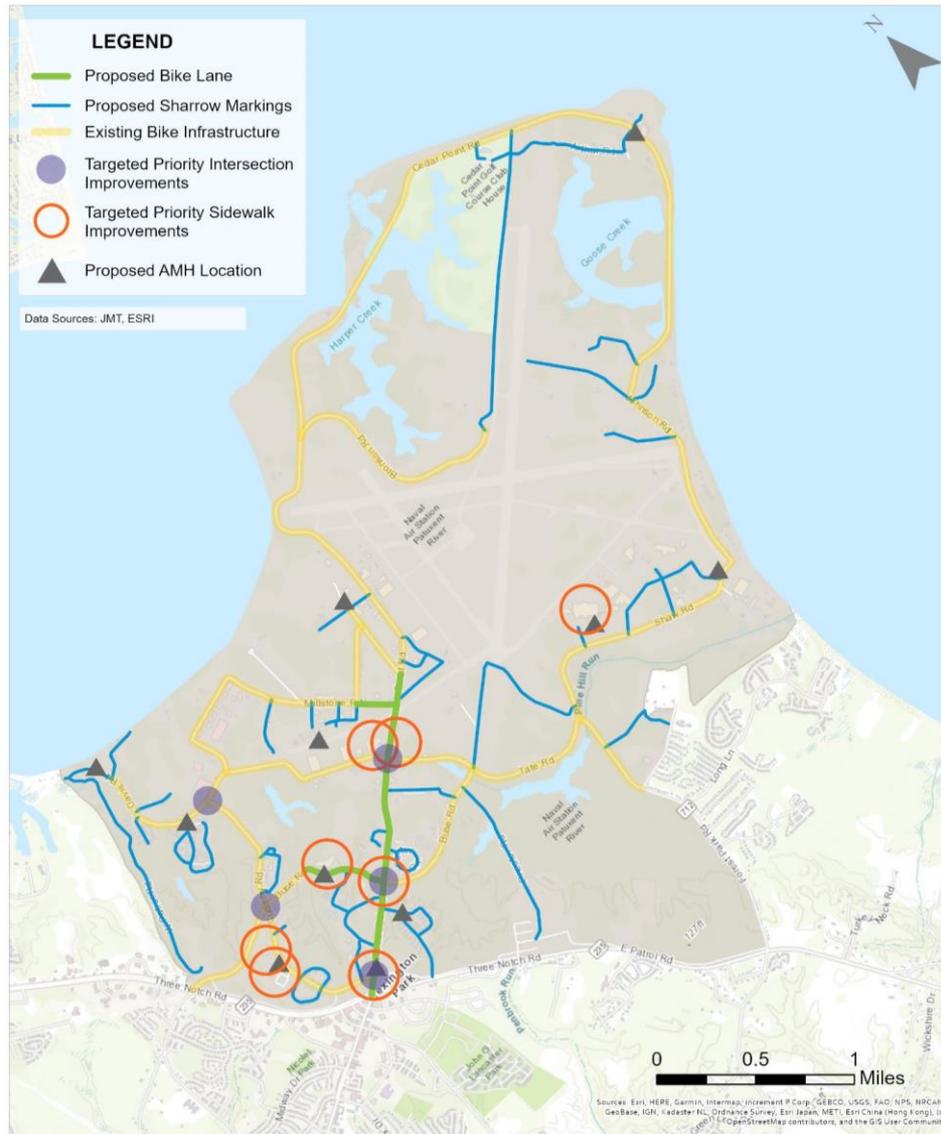
Timeframe: Short Term (0-5 Years)

Key Agencies: NAS/PAX

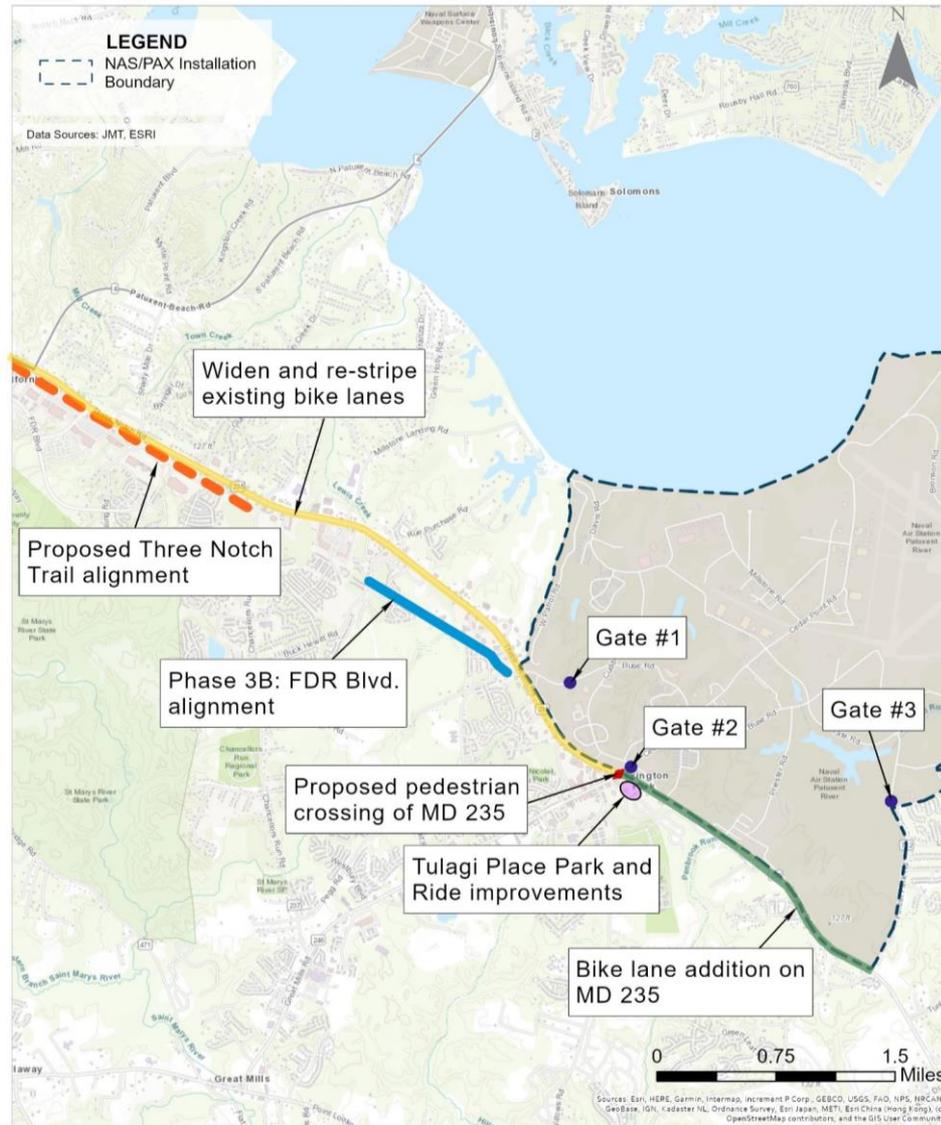
Estimated Cost: No Cost*

**Assume \$20,000 - \$30,000 for cost of Transit Education and Awareness Campaign*

On Base Recommendation Summary



Off Base Recommendation Summary



QUESTIONS?