NAVY TRIANGLE INFLUENCE AREA (NTIA) MASTER TRANSPORTATION PLAN

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February 5, 2015
Naval Station Norfolk (NSN)
Master Transportation Plan (MTP) Goals

- MULTIMODAL plan
- Plan for future growth without increasing congestion
- Meet transportation needs of both the NTIA and the surrounding areas
- Provide cohesive connections to major regional projects
- Develop short-, mid-, and long-term projects and prioritize resources to carry them out
- Ease command transition by furnishing a “guidebook” pertaining to internal and external transportation needs
MTP Challenges with Military Installations

- Installations are cities
- Each installation has a unique mission
- Different missions = Different land uses
- Different land uses = Different trips
  - Cars
  - Pedestrians
  - Heavy vehicles
  - Sensitive materials
    - Route restrictions
    - Time of day influences

NAVY TRIANGLE INFLUENCE AREA (NTIA) MASTER TRANSPORTATION PLAN
Master Transportation Plan

1. Data Collection
2. Existing Conditions
3. Future Conditions
4. Recommendations
5. Implementation Strategy
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Data Collection

Traffic Counts

Gate Utilization

Sidewalk Conditions Inventory

Transit Stops and Shelters Inventory

User Surveys

Parking Inventory and Occupancy

Gate Queuing

Gate
Queue Lines
Time

0530 Hours
0630 Hours
0730 Hours

Gate 2
Gate 1
NSN Gate 3A

Admiral Taussig Boulevard

Hammond Ave

Gate 3A

Data Sources: Aerial Photography: City of Norfolk, 2011

SCAN HERE: goo.gl/h6yok

NSA HR Gate C

Ingram Street

Bunker Hill Place
Data Collection: Traffic Counts

- Turning movement counts – Intersections
- Average daily volumes – Roadways
- Gate counts – Entry control point
Data Collection: Sidewalk Condition Inventory

- 415,000 linear feet (*over 78 miles*) of sidewalk was inventoried
  - **Good**: Wide, no cracking, and even surface
  - **Fair**: Narrow, minor cracking, and even surface
  - **Poor**: Narrow, cracking, and uneven surface
  - **Missing**: Nonexistent
Data Collection: Transit Stops and Shelters Inventory

- Inventoried HRT routes, stops, and shelters
- Identified incorrect information
Data Collection: Parking Inventory and Occupancy

- Inventoried 342 lots/areas by space type
  - Accounted for approximately 80% of total lots across NSN and NSA HR
  - Over 49,600 total spaces

- Flyovers – 2 days, 3 time periods (6 photographs)
  - Over 159,000 total vehicles were counted
Data Collection: User Surveys

- HRTPPO Military Commuter Survey
  - Conducted through Regional Planning Organization
  - November 8, 2011 to February 24, 2012
  - 29 Hampton Roads military organizations
  - Transportation to/from installations
  - 10,994 total respondents
    - 5,772 from NTIA
Data Collection: User Surveys

- NSN and NSA HR Installation Circulation and Parking Survey
  - Supplement to HRTPPO survey
  - January 2, 2013 to February 1, 2013
  - Specific to NTIA
  - Transportation within the installations
  - Survey could be taken on any electronic device
  - 1,896 total respondents
Using gate counts and observed gate queue lengths, the following was determined:

- Gate lane capacity
  - Entry control point capacity: ~400 vphpl
  - Reduction in queue with additional gate capacity

Within NTIA, morning queuing is more than 7.0 total miles
Master Transportation Plan

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Existing Conditions: Sidewalk Conditions Inventory

Sidewalk Condition

- Good
- Fair
- Poor
- Non-Existents
Existing Conditions: **Transit Stops and Shelters Inventory**
Existing Conditions: Parking Inventory and Occupancy

- Identified areas with illegal parking
- Less than 70% occupied
  - Not a lack of parking
  - Parking proximity problem
The NSN and NSA HR Installation Circulation and Parking Survey provided detailed input on trips internal to the installation:

- Where do trips originate?
- Where are trips destined to?
- Opinions on multimodal elements?

“Gate Balancing” was observed
Existing Conditions:

Gate Utilization:

Gate 2
Gate 1
NSN Gate 3A

0530 Hours
0630 Hours
0730 Hours

1) Gates 1, 2, and 3A queue is at Air Terminal

2) NSA Gate 5 has no queue at 0530 hours

3) NSN Gate 22 has only minor queuing at 0530 hours

4) Therefore, “Blue” queue (5:30 a.m.) is not a result of gate processing

Length of “Gap” = 1.5 miles

Focus attention on the "Blue" lines (0530 hours)
Existing Conditions: Environmental

- Water resources including wetlands, streams, and bodies of water
- Hazardous waste and solid waste areas including Superfund sites
- Historic districts
- Noise including Air Installation Compatible Use Zone (AICUZ) restrictions
- Explosives safety quantity distance (ESQD) arc constraints
- Threatened and endangered species
- Air quality and greenhouse gas (GHG) emissions

Figure 8.4 - AICUZ/ESQD Legend

Legend:
- Zones
- ESQD Arcs
- Noise Zones (dB)
  - 65
  - 70
  - 75
  - 80
  - 85
- Accident Zones
  - Clear Zone
  - APZ-1
  - APZ-2
Existing Conditions: Environmental

- Intended to identify critical areas and sites to be avoided and/or preserved
- GIS layers developed to illustrate environmental conditions and constraints
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Future Conditions

1. Identify planned and programmed projects
2. Determine potential change in “trips”
3. Repeat existing analysis with new numbers

Traditional “outside the fence” application is not valid for military installations

- Installation Trip Generation Tool
- Pier Trip Generation Tool
Future Conditions: Installation Trip Generation Tool

- Use building sizes with existing/future land uses to determine the number of new trips generated
- Based on ITE Trip Generation Manual
Future Conditions: Pier Trip Generation Tool

Vessel Characteristics
+ Staffing Characteristics
+ Trip Characteristics

TOTAL PEAK HOUR TRIPS
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Recommendations

- Entry control points
- Streets and intersections
- Bicycles and pedestrians
- Corridor/network
- Parking
- Transit
- Environmental Analysis
Eliminate “line cutters” – Prohibit select movements in the morning

Eliminate conflicts near entry control points – Close intersections immediately adjacent to gates

Recommendations: Entry Control Points

- Gate 5
- Hampton Boulevard
- Seabee Road
Recommendations: Streets and Intersections

- Exclusive turn lanes (capacity and safety)
- Signal timing improvements
  - Phasing
  - Progression
  - Safety
Recommendations: Bicycle and Pedestrians

- **Create a bicycle and pedestrian network**
  - Improved sidewalk conditions
  - Bike lanes
  - Sharrows
  - Connections to adjacent networks
Recommendations: Corridor/Network

- Driveway realignment
- Midblock pedestrian crossing relocation
- Lighting and signing improvements
- Intelligent transportation systems
Recommendations: Parking

- Parking structures
- Assigned parking system
Recommendations: Transit

- HOV lane connections and incentives
- Internal circulator
- Coordination with local transit routes and services
Recommendations: Environmental Analysis

- Environmental constraints evaluated to identify fatal flaws and/or adjustments that may be necessary to accommodate environmental conditions
- Generalized recommendations made with respect to need for mitigation sites as appropriate
- Vehicle miles traveled (VMT) and GHG emission reductions evaluated as part of the transportation alternatives
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Implementation Strategy

- Finalized recommendations
- Prepared cost estimates
- Short-, mid-, and long-term prioritization
- Completed final documentation
Implementation Strategy: Next Steps

- Update cost estimates (as needed)
- Update short-, mid-, and long-term prioritizations
- Identify potential funding sources
Regional Influence of MTP

- Several other Hampton Roads installations have requested abbreviated MTP studies “quick studies”:
  - JEB Little Creek-Fort Story
  - Naval Air Station Oceana
  - Dam Neck Annex
  - Naval Weapons Station Yorktown
  - Cheatham Annex
  - Naval Support Activity Norfolk Naval Shipyard
  - Naval Support Activity Hampton Roads Portsmouth Annex
Questions