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# **Nationwide Differential Global Positioning System (NDGPS) Status**

**Presentation to:**

**CGSIC/U.S. States and Localities  
Subcommittee Meeting**

**ION GNSS 2008**

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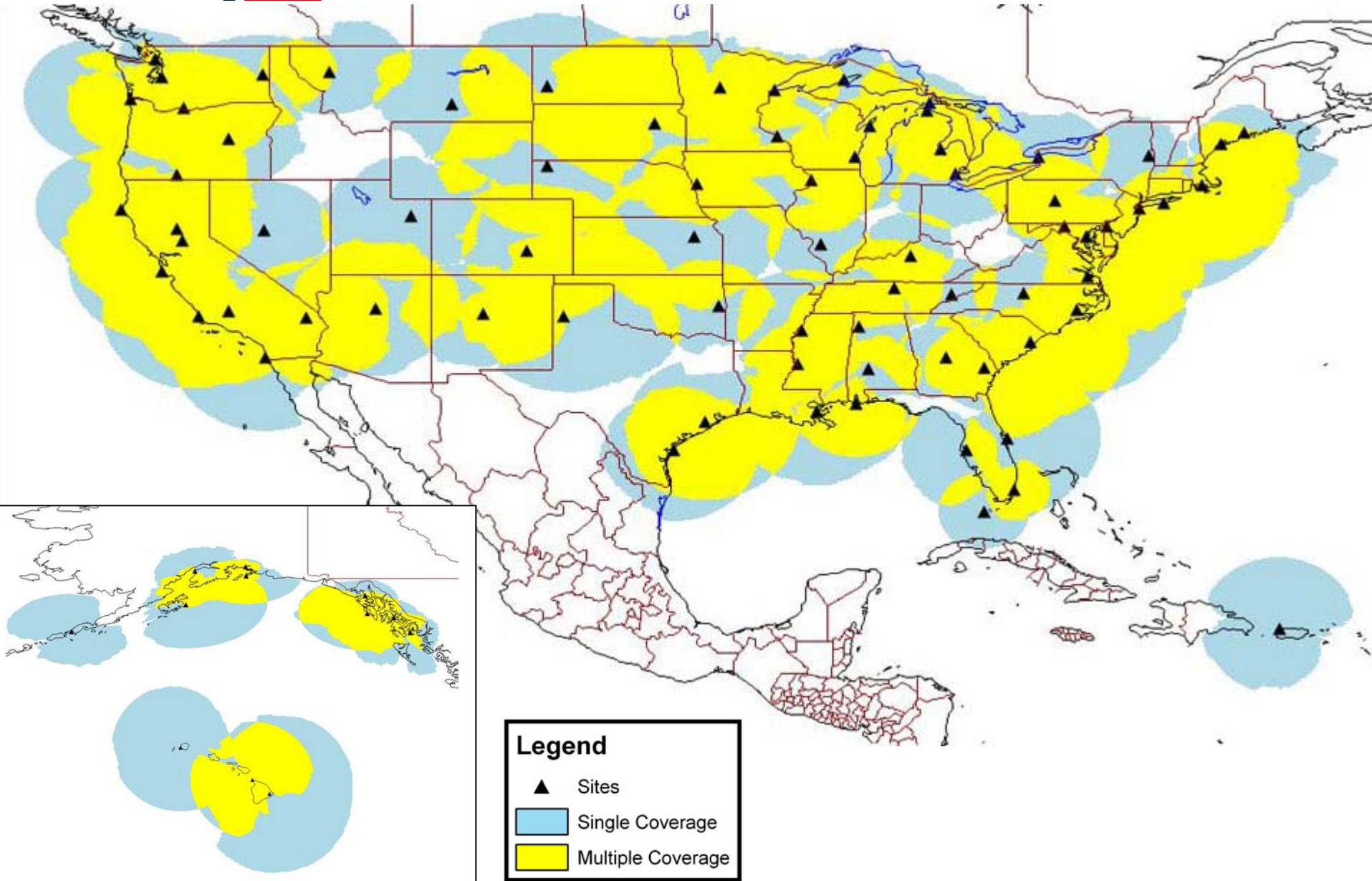
## **Bottom Line**

- **Inland NDGPS recognized as a national utility by National PNT EXCOM**
- **DOT to Continue NDGPS Operations**
  - Inland system at risk due to deferred equipment recapitalization
  - FY09 inland O&M remains underfunded
- **Operated/managed by USCG/NAVCEN as a joint system with Maritime DGPS**





# Combined DGPS Coverage Today





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# Assessment Affirms Requirements

- Assessment affirms operational requirements for inland NDGPS

- Transportation operational requirements:

- Federal Highway Administration (FHWA)
  - » *on behalf of state and local DOT stakeholders*
  - » *routine use in Federal-Aid Program*
  - » *survey, construction, quality, asset management*
- Federal Railroad Administration (FRA)
  - » *safety system requirements (positive train control, track defect location)*
- Association of American Railroads
  - » *baseline reference for positive train control*
- National Governor's Association
  - » *use by state DOTs, resource management*



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## Assessment Affirms Requirements (2)

- Assessment affirms operational requirements for inland NDGPS
  - Other Federal operational requirements:
    - Department of Agriculture (NCRS, Forest Service)
      - » *1 meter real-time positioning and navigation*
      - » *Fire management and safety*
    - Department of Commerce (NOAA – NWS, NGS)
      - » *Continuously Operating Reference Stations*
      - » *Weather forecasting*
    - Department of the Interior (BLM, NPS, USGS)
      - » *1 meter real-time positioning and navigation*
      - » *Fire management and safety*
    - Numerous natural resource stakeholders



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## Assessment Affirms Requirements (3)

- Assessment affirms operational requirements for inland NDGPS
  - State/local and private sector operational requirements:
    - Civil GPS Services Interface Committee (CGSIC)  
U.S. States and Localities Subcommittee
      - » *State Departments of Transportation, Natural Resources, Environmental Protection, Agriculture, Parks*
      - » *Multiple states and counties also responded*
    - Private/Non-Profit Requirements
      - » *U.S. GPS Industry Council*
      - » *National Precision Farming Association*
      - » *Professional Land Surveyors*



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## **Assessment Affirms Requirements (4)**

- **Assessment results affirm research needs for inland NDGPS**
  - Transportation research requirements:
    - Federal Highway Administration (FHWA)
    - Federal Railroad Administration (FRA)
    - Association of American Railroads
    - Alliance of Automobile Manufacturers
    - Advocates for Highway and Auto Safety
- **Assessment affirms no other existing PNT augmentation meets accuracy requirements for multiple terrestrial applications**





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## NDGPS Funding, FY 09

- **DOT/RITA FY09 Funding = \$4.6M**
  - Pass-through to U.S. Coast Guard for O&M
  - Insufficient to meet O&M requirements
  - Action to DOT to solve problem
- **DOT “Parking Lot” Request = \$8.4M**
  - O&M shortfall = \$0.8M
  - Recapitalization = \$4.0M
  - Complete IOC = \$3.6M



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# Projected NDGPS Funding Needs: FY09 + Recapitalization

[USCG+DOT Estimates]

- **FY09 Shortfall**

- \$4.6M as placeholder; insufficient for O&M
- Shortfall ~ \$0.8M

- **Recapitalization (required in FY09 for any operational scenario)**

- \$3.5 – 4.0M
  - *Equipment refresh required for ongoing operations (deferred maintenance)*
  - *Three years behind Maritime DGPS*
  - *Future estimates based on completing recapitalization (proven reduced O&M costs)*

- **Total Additional Need: \$4.3 – 4.8M**



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# Projected NDGPS Funding Needs:

## FY10 and Outyears

[USCG+DOT Estimates]

- **Current System; no build-out**
  - \$5.9M average annual operations and maintenance (O&M) only
- **Complete Initial Operating Capability (IOC) – 8 sites**
  - \$3.4 – 3.8M capital costs
  - \$6.2M annual (O&M)
- **Complete Full Operating Capability (FOC) – 20 sites**
  - \$19.0M additional capital costs
  - \$6.5M annual O&M