Nationwide Differential Global Positioning System (NDGPS) Status

Presentation to:

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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

Legend
- Sites
- Single Coverage
- Multiple Coverage

09/16/08
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
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
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*
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**
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
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
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