FGDC Annual Report to OMB
Format for Agency Reports – FY 2004

The following outline should be used by FGDC Member Agencies (or Bureaus) for their Annual Spatial Data Reports, which will be consolidated by the FGDC and submitted to OMB. Reports **should be brief, using bullets where possible**. Please provide only the information that will be useful for OMB to assess the agencies' achievements and for establishing future direction.

Part A
GENERAL FEDERAL AGENCY RESPONSIBILITIES REPORT (All Agencies)

1. **Agency or Bureau:** US Department of Transportation
   Federal Railroad Administration (FRA)
   US Maritime Administration (MARAD)
   Research and Special Programs Administration (RSPA)
   Federal Highway Administration (FHWA)
   Federal Transit Administration (FTA)
   Federal Aviation Administration (FAA)
   Bureau of Transportation Statistics (BTS)

2. **Name of Contact for Report**: Mark Bradford
   Email: Mark.Bradford@bts.gov **Phone Number**: 202.366.6810

Contributors:	**Email**	**Phone Number**
Carl Fischer	carl.fischer@fra.dot.gov	202 493 6411
Daniel Yuska	Daniel.Yuska@Marad.dot.gov	202-366-0714
Samuel Hall	samuel.hall@rspa.dot.gov	202-493-0591
Roger Petzold	roger.petzold@fhwa.dot.gov	202-366-4074
Ron Boenau	ronald.boenau@fta.dot.gov	202-366-0195
Barry D. Eisemann	barry.Eisemann@nhtsa.dot.gov	202-366-5367
Barbara Cordell	Barbara.L.Cordell@faa.gov	405-954-7557 x 7557

3. **Steering Committee Member**:

	Email:	**Phone #:**
William Chang	william.chang@bts.gov	202.366.4334

4. **Coordination Group Participant(s):**

	Email:	**Phone #:**
Carol Brandt	carol.brandt@bts.gov	202.366.6662
Mark Bradford	mark.bradford@bts.gov	202.366.6810

5. **Subcommittee or Working Group Participation (Subcommittees or Working Groups your agency is involved with, but does not lead).**

   The USDOT's modal administrations are involved in the following subcommittees and working groups.
   - Geospatial One-Stop Initiative
   - FGDC Coordination Group
   - FGDC Steering Committee
   - FGDC Standards Working Group
   - Geospatial Applications and Interoperability WG

- FGDC Homeland Security WG
- DOD's Joint Forces Command Homeland Infrastructure Foundation Level Database (HIFLD)
- TRB (Transportation Research Board) Statewide Transportation Data and Information Systems, A1D09
- TRB Committee on Spatial Data and Information Science, ABJ60
- NAS (National Airspace System) Information Architecture Committee (NIAC)
- Geospatial Information System Working Group (GISWG/NIAC) Chair
- FAA's Automated Integration Team (AIT)
- ARINC 424 (Aeronautical Radio Incorporated, international standard)
- Interagency Air Cartographic Committee (IACC)
- RTCA Committee
- MSAW (Minimum Safe Altitude Warning) and Conflict Alert Policy Board
- Aeronautical Exchange Model (AIXM) U.S. Review Board
- Aeronautical Information Working Group (AISWG) member

6. **Strategy: Has your agency prepared a detailed strategy for integrating geographic information and spatial data activities into your business process - in coordination with the FGDC strategy, pursuant to OMB Circular A-16? If yes, briefly describe.**

Most modal administrations have not developed a strategic plan for integrating GIS data into their business process; however, many of the modal administrations have been making important initial strides in this direction.

- FTA is currently reviewing, through the specially created GIS task force, the potential for using geographic information and spatial data. Recommendations on a future GIS program for FTA will be delivered to the FTA Administrator in 2005.
- The FAA has formulated a sound foundation with the GISWG (GIS Working Group) in preparation for integrating geographic information and spatial data activities into its business process. The GISWG has brought together people with experience and background to enhance and support the NAS (National Airspace System), and over the next year will be working to develop a detailed strategy.
- The FAA is working with Oracle and ESRI to develop a strategy for a technology upgrade on our procedures development software to include geographic information and to automate our charting processes.
- The FAA is also working with Eurocontrol, NGA and Spatial Standards groups to modify the AIXM model to include GML for exchanging geographic information.
- FRA is a user of geospatial data as well as a maintainer of its own rail networks.
- BTS is implementing a detailed strategic plan to engage modal administration and encourage greater participation and contributions from

all of the modal administrations. We have not formalized the schedule for this project.

7. **Compliance: How are your spatial data holdings compliant with FGDC Standards? How is your agency involved in Framework Standards development and adoption? Also, please list the FGDC Standards you are using or plan to use in your organization.**

   - All data created by BTS is compliant with FGDC Standards. All data distributed includes FGDC compliant metadata.
   - BTS plans to implement all future Geospatial One Stop standards approved through the FGDC and / or ANSI process. BTS conducts QA/QC on other transportation data distributed through the National Transportation Atlas Databases (NTAD) Program as well as prepare FGDC compliant Metadata for each.

8. **Performance Measures: Does your agency have performance measures for spatial data activities? If so, please list the measures and target and describe how they contribute to development of the NSDI.**

   - With the exception of the Office of Pipeline Safety (OPS), most modal administrations do not currently have performance measures for spatial data activities.
   - Performance measures for transportation industry participation in Geospatial One Stop are in the early conceptual stage of development.
   - The OPS has developed performance measures for Capital Planning and Investment Control purposes (Exhibit 300). These performance measures relate to E-gov activities and compliance and do not contribute to the development of the NSDI.

9. **Reducing Redundancy of Planned Acquisitions Do you use the Geospatial One-Stop portal, geodata.gov, to ensure that the data are not already available?**

   Currently, use of the Geospatial One Stop portal is not part of the business enterprise of each modal administration. This will change as the portal matures and gains greater use. Until this happens, with a few exceptions modal administrations are ensuring, through other means, no data redundancy.

   - FAA conducts extensive searches of private and government sources to ensure redundancy does not occur.
   - The FRA currently maintains two national rail networks. A 1:100,000 scale cartographically accurate network, and a 1:2,000,000 scale attribute rich network for transportation modeling. While both networks serve slightly different purposes, plans are to merge both networks.
   - RSPA/OPS data collection efforts are not duplicated by other agencies.
   - BTS surveys other Federal and state transportation agencies to ensure that the identified data of interest does not already exist. BTS also considers whether another agency is planning to create the database in the near future. If the answer is yes to either of these points, BTS will either use

the existing data or explore ways to assist or participate with other interested agencies in its creation.

10. **Collection: Do your agency contracts and grants involving data collection include costs for following and using NSDI standards?**

    Because most GIS programs and their GIS products at the DOT are small, specialized, independent, and developed through gradual and piecemeal efforts, a coordinated review of compliance to NSDI standards has not been undertaken. Compliance reviews will occur as these programs mature and other supporting efforts, like Geospatial One Stop, come on line.

    - FAA adheres to certain geospatial standards. The FAA will begin, in the future (no dates or timelines have been established), to bring their data into compliance with NSDI standards.
    - Most spatial data used by FHWA is obtained from publicly available sources. Data collected by FHWA supports a specific programmatic mission or legislative requirement (e.g., Highway Performance Monitoring System (HPMS) or National Bridge Inventory (NBI)) and does not include costs for NSDI standards.
    - BTS data collection efforts include costs for complying with NSDI standards.

11. **Clearinghouse for Existing Data: Is all the data and/or metadata that your agency is able to share with the public published on the NSDI Clearinghouse? If not, please cite barriers encountered.**

    Some geospatial data at the DOT may not be published on the NSDI Clearinghouse. This is due to the fact that many of these efforts are small in scope, budget and impact since.

    - FAA data that is funded through public sale is not distributed free on the Internet to the public sector. Some of the funding for the maintenance of this data is derived from the public's need for certified Government information. Safety and temporal requirements for the distribution of high quality data published in the NSDI clearinghouse are under consideration.
    - None of the RSPA/OPS data is available to the public
    - Data that is maintained and distributed by BTS is published on the NSDI Clearinghouse. Some of the data available through the clearinghouse is maintained by other modal administrations.

12. **Clearinghouse for Planned Investments: Is your agency posting information on planned investments in geospatial information to the Geospatial One-Stop portal to encourage partnerships and leverage investments in the acquisition of geospatial data? If not, please cite when you will begin doing so and what barriers you have encountered that would prevent posting this information.**

    BTS has posted two data collection projects on the portal. Other modal administrations are planning to use the portal for this purpose as the portal and their GIS programs mature.

13. **Geodata.gov: If metadata for your agency's geospatial data/information holdings is on a Clearinghouse Node already, has that Node been registered on geodata.gov for scheduled harvesting visits? If not, when is the Node scheduled to begin regular visits by the geodata.gov harvester?**

    Yes, the DOT's geospatial data, distributed by BTS, is available on the Clearinghouse node and registered for harvesting.

14. **E-Gov: How are you using geospatial data in your mission activities to provide better services? (Please list)**

    - FRA's web site "http://safetydata.fra.dot.gov/maps/" publishes grade crossing safety information. FRA also simulates rail freight traffic over its rail network database to track the movement of various commodities, including hazardous materials, which helps FRA in the distribution of its track inspection program. Finally, FRA maintains and distributes to the public two-rail network GIS databases (1:2,000,000 scale and 1:100,000 scale).
    - FTA is using geospatial data to analyze population density.
    - Within FAA, geospatial data is an integral and critical part of the air transportation information provided to the flying community and is part of its standard practice. At present, the official FAA source for National Airspace System (NAS) data is the NASR database. The following is a list of the services provided that use FAA's geospatial data: NIAC/GISWG (NAS Information Architecture Committee), Enroute, Terminal, Tower and Regional Air Traffic Control Facilities, Radar Video Mapping (RVM); overall support of NAS, MVA, ERIDS and CMAP; support of Digital Aeronautical Chart data and products which include but are not limited to the following: PCS, FDMSAW, DEVCONDOR Database, ARINC (Aeronautical Radio, Inc) Database, Obstruction Database, COMPSYS, Standards for Aeronautical Surveys-FAA Order 405, CMAP, IAP-PDF, Digital Terrain, VFR and IFR charts. FAA is researching the feasibility of publishing government spatial holdings listed above on the Internet and the FAA Intranet.
    - Within the FHWA, geospatial data is an integral part of the following activities: interactive GIS web sites for national highway system and metropolitan planning, aggregation of census demographic data (e.g. population) by geographic units to compute highway-funding allocations, integration of spatial data with transportation planning models, air quality non-attainment areas, and urbanized areas allowing the identification of potential local coordination issues and develop policies and guidance to address these issues, displaying boundary data and other FHWA databases on our internet web site allows local contributors to identify and correct errors. Work associated with the National Highway Planning Network: National Highway System codification, including the Strategic Highway Network, National freight flow analyses, National highway planning analyses

- RSPA/OPS uses its data for regulatory purposes and general public information (informing the public of the existence [not location] of pipelines within communities.)
- BTS has developed an interactive Internet mapping center that allows user to evaluate highway conditions, and railroad crossing safety. Additionally, the geospatial data is available for download from the BTS web site.

15. **Geospatial One-Stop: How is your agency involved in the Geospatial One-Stop (Funding Partner, Channel Stewardship, geospatial framework data interoperability pilots, posting standards based Web Mapping services to the portal, etc)?**

- OPS has posted metadata for all geospatial data to Geospatial One Stop.
- FAA, FTA, FHWA and FRA are participating with BTS in the development of transportation standards for the Geospatial One-Stop.
- BTS continues leading the development of the transportation theme standards.
- BTS is funding the development of a production Geospatial One-Stop for Transportation portal. It is projected to be partially operational by March 2005.
- BTS is funding the development of Geospatial One Stop supporting documents. These are an implementation guide and business cases for Geospatial One Stop.

16. **Enterprise Architecture: Is geospatial data a component of your enterprise architecture? Please provide a brief summary of how geospatial data fits into your enterprise architecture.**

- As the principal map and terrain model developers for FAA in support of the NAS, AVN has developed and integrated certified geospatial methods into its enterprise architecture. AVN uses these methods to collect and validate data and to develop, maintain and validate charts and terrain data models. These geospatial methods have been made available to other government agencies in the form of geospatial tools. FAA is also taking part in developing a draft Framework Data Content Standard for Air Transportation in coordination with BTS.
- While there are currently no references to geospatial data in the FRA Enterprise architecture, FRA has incorporated spatial data into some of its programs. FRA's rail network, through traffic simulation of hazardous materials, is used to allocate safety inspection resources. Also, FRA has started to use global positioning to more accurately locate its inspection sites. Geospatial data are incorporated into FRA “Services for Citizens” Business Area. FRA has participated in the development of the draft GOS Framework Data Content Standard for Rail.
- FTA has participated in the development of the draft GOS Framework Data Content Standard for Transit.

- RSPA/OPS are examining ways to integrate legacy data systems with GIS. A project is currently underway to integrate NPMS (National Pipeline Mapping System) pipeline data with compliance and incident history data.
- Most FHWA legacy databases are being retrofitted with location attributes, where feasible. FHWA has no agency-wide enterprise architecture strategic plan. FHWA has participated in the development of the draft GOS Framework Data Content Standard for Roads.
- Currently BTS does not have a geospatial enterprise architecture. BTS has been involved in the development of all mode standards comprising the GOS Framework Data Content Standard for Transportation.

17. **Partnerships: What efforts are being taken to coordinate data and build partnerships at the field level for data collection and standards development? Identify partnerships and data sharing activities with other federal agencies, state, local, and tribal governments and other entities. Does your agency have any formal agreements or MOU's concerning data sharing and integration?**

The DOT has a long and positive history of collaborating with other Federal and non-Federal agencies for data collection.

- FAA has built partnerships with the following organizations with its AVN-40 (Information Technology Staff, Aviation Systems Standards Program). These include: NIAC/GISWG, Enroute, Terminal, Tower and Regional Air Traffic Control Facilities, ATCA (Air Traffic Control Association), IACC, NAIC, AIT, RTCA (Radio Technical Commission for Aeronautics), EuroControl, NGA, NASA, USGS, NOAA/NGS, AOPA (Aircraft Owners and Pilots Association), ARINC (Aeronautical Radio, Inc), ALPA (Airline Pilots Association), and private agencies; developing overall support of NAS including ERIDS, CMAP in the ARTCC's (Air Route Traffic Control Center), support of Digital Aeronautical Chart data and products. FAA is researching the feasibility of publishing government spatial holdings listed above on the Internet and the Intranet.
- FHWA works with State DOTs and MPOs to obtain geospatial data and data updates on an annual basis. Our data products are used by other federal agencies and other entities, though there are currently no formal agreements or MOU's concerning data sharing and integration. FHWA also provides training and conducts outreach activities, such as workshops to reach State and other providers.
- OPS has a statutory requirement that mandates operators' submission of data to the NPMS. OPS shares NPMS data with federal, state, and local government agencies and tribal governments. OPS also has an MOU with various Federal Agencies that call for the use of the National Pipeline Mapping System to warehouse and distribute the locations of pipeline inspections and repairs.
- NHTSA has a Cooperative Agreement with Agencies in each State to collect the geospatial location information on all fatality motor vehicle data. Additionally, NHTSA has a partnership with the Bureau of Transportation Statistics to license spatial data for our mutual projects.

- BTS seeks to develop relationships with field-level organizations, or the organization(s) closest to the data development process as possible. Before conducting any data gathering effort, BTS surveys the community to identify partners and other interested parties wishing to take part in or benefit from the project. Current activities include working with the FHWA to create a spatial database of traffic recording devices, and with the States and the FHWA to create a spatial database of tunnels for highways and transit networks. BTS is also cooperating with FGDC, other Federal agencies, State and local governments, academia, and private enterprise to develop Transportation Data Content Standards and web portal to support the Geospatial One Stop initiative. BTS has recently completed work with State DOTs and private enterprise to develop an Intermodal Facilities database, and the FTA and the FHWA to develop a Transit spatial database and geo-locate bridges on a nation-wide spatial road network, respectively.

18. **Concerns or Lessons Learned: Are there areas or issues regarding spatial data that require attention, or lessons learned that you would like to share with others? Please describe.**

- FAA is sharing lessons learned by chairing the NIAC/GISWG and participating in the agency's geo-spatial awakening.
- OPS is finding that standards for dealing with security of information pertaining to critical infrastructure are vague and do not assist government agencies with protecting security sensitive geospatial information.
- BTS is developing a document on lessons-learned related to Geospatial One Stop activities.