Massachusetts: MassAir Improves

E X C H A N G E   N E T W O R K   S U C C E S S   S T O R Y

Need for the Exchange Network

Massachusetts Department of Environmental Protection (MassDEP) maintains a network of 28 air monitors around the state, tracking hourly readings for up to five pollutants from each.

The network can generate over 1,000 measurements of the State's air quality each day—and over 300,000 data points each year.

Until recently, the State underwent a labor-intensive manual process to quality assure all of its air quality data prior to sharing it with its programs, EPA, and the public.
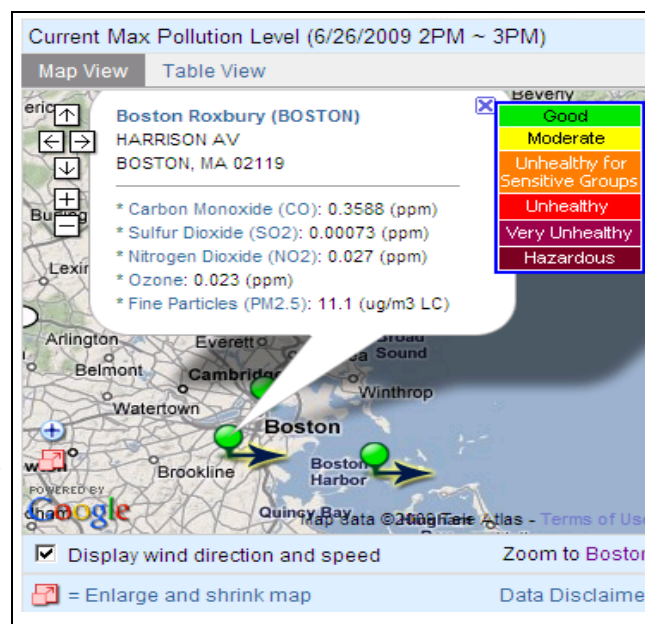
Most of the public only saw this data on an annual basis—through a hard copy report. Any other requests for data had to go through a time-consuming process that took up valuable agency staff time.

The Exchange Network Solution

To reduce costs and increase efficiency, Massachusetts integrated its air quality data internally and exchanged it with EPA's Air Quality System (AQS) using the Exchange Network.

The State took advantage of its data integration and Exchange Network flow implementation to accomplish two other key goals:
- Automating and streamlining data quality assurance, and
- Providing real-time air quality data to the public.

"With MassAir Online, we are able to provide residents with a more timely and interactive feature that includes continuous air quality information from all our monitoring stations across the Commonwealth."

—MassDEP Commissioner Laurie Burt

Current Max Pollution Level (6/26/2009 2PM ~ 3PM)

Map View | Table View

Boston Roxbury (BOSTON)
HARRISON AV
BOSTON, MA 02119

* Carbon Monoxide (CO): 0.3588 (ppm)
* Sulfur Dioxide (SO2): 0.00073 (ppm)
* Nitrogen Dioxide (NO2): 0.027 (ppm)
* Ozone: 0.023 (ppm)
* Fine Particles (PM2.5): 11.1 (ug/m3 LC)

Good
Moderate
Unhealthy for Sensitive Groups
Unhealthy
Very Unhealthy
Hazardous

☑ Display wind direction and speed   Zoom to Boston

= Enlarge and shrink map   Data Disclaimer

SUMMARY

Need
- MassDEP generates air quality data to share with EPA and the public
- The status quo data quality process was manual and labor-intensive
- Public access to data was limited to an annual report and individual time-consuming requests

Solution
- Developed an enterprise air quality database at MassDEP
- Implemented the Exchange Network AQS flow
- Developed a suite of automated data quality assurance tools
- Implemented MassAir Online to share real-time air quality data with the public via maps and downloads

Benefits
- Reduced the cost of data analysis and exchange
- Improved data quality
- Increased public transparency
- Produced reusable tools for Exchange Network partners

Massachusetts made MassAir possible by integrating its air quality data into an enterprise database.

From this database, the State could:

- Implement the State's "Air QA Tools" application, which allows DEP staff to review all data through a single interface and manage technical issues at any of its monitors
- Provide data to the MassAir Online website, where the public can view real-time air quality data from any monitor in the State through an automated mapping tool (among other formats) and receive alerts about unhealthy levels of air pollution.

The Benefits

In implementing MassAir, the Massachusetts ensured a number of benefits:

- *Lowering the cost of data analysis and exchange* by automating processes for quality assurance, public data access, and exchange with EPA. The State leveraged the State's existing node technology and off-the-shelf products, such as Google Maps, to save money.

- *Increasing the quality of data* through use of the QA tool that automatically checks data and provides information to staff on data that needs to be checked manually by MassDEP Staff.

- *Increasing transparency* by providing public access to real-time through Google Maps and data downloads in XML, CSV, and HTML formats.

- *Sharing benefits with Exchange Network partners* by creating resources, such as the map-based interface, that can be easily adapted by others with partner-specific modifications.

LEARN MORE

To learn more about the Massachusetts Department of Environmental Protection's approach to sharing air quality data using the Exchange Network, please contact:

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"Any of the Exchange Network Partners that are capable of generating air quality data in the AQS 2.0 XML format can reuse the Mass Air Infrastructure to kick-start their own interactive public web interface."

Source: MassDEP "Exchange Network Success Story: MassAir"