



Metropolitan Area Transportation  
Operations Coordination



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# Update on the Metropolitan Area Transportation Operations Coordination (MATOC) Program

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Metropolitan Washington Council of Governments

Presentation to the MWCOG Board of Directors

April 10, 2013



*"Working together to reduce incident-related travel delays through improved coordination, cooperation, and information-sharing."*



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## Origins of MATOC

- Stakeholders reacted to the Washington area's challenges of transportation coordination in the aftermath of the 9/11 attacks, as well as other noted events
  - Woodrow Wilson Bridge Jumper (November 5, 1998)
  - “Tractor Man” (March 17-19, 2003)
  - Metro Bomb Threat near Stadium-Armory (December 12, 2003)
- Ad hoc committees studied the issue; tabletop exercises were conducted to probe potential solutions (2001-2005)
  - It was observed that if there were a dedicated staff to handle external ripple effects, it would relieve this burden from those responding to the primary incident
- Federal SAFETEA-LU earmark for MATOC start-up (approx. \$1.7M including match) obtained for the region through efforts of Congressman Moran (2005)
- DDOT funded a study by the USDOT Volpe Center that documented needs, drafted an organizational structure, and developed a concept of operations (2005-2006)
- TPB followed up with facilitating the set up of institutional arrangements (2006-2009)



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## MATOC Mission and Operations

- A joint program between DDOT, MDOT/SHA, VDOT, & WMATA to promote inter-agency information sharing and coordination
  - Modeled after New York's TRANSCOM ([www.xcm.org](http://www.xcm.org))
  - Sustained operations began in 2009
- MATOC's mission is to provide **situational awareness** of transportation operations in the National Capital Region (NCR)
- This is achieved through the **development and communication of timely and reliable information** that enables operating agencies and the traveling public to make appropriate decisions
- MATOC develops and implements the **tools and processes** needed to facilitate coordinated operating agency responses during incidents
- MATOC is not set up to be command and control, it is **advisory in nature** and serves as a decision support function



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## Budget and Activities

- **Annual Budget** of \$1.2M now funded by DDOT, MDOT/SHA, and VDOT
  - Full funding received for FY12 & FY13
  - Supports 4 Core Program Elements – 1) Operations, 2) RITIS O&M, 3) RITIS Enhancements, 4) Special Studies
- **MATOC Steering Committee**
  - The governing body of MATOC comprising senior transportation operations officials from DDOT, MDOT/SHA, VDOT, and WMATA, with MWCOG TPB transportation director as an ex-officio member
- **Advisory Subcommittees**
  - Roadway Operations Subcommittee plus Transit Task Force
  - Information Systems Subcommittee
  - Severe Weather Working Group
- **MATOC Operations Center and Personnel**



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# MATOC

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## Many Participating Agencies



Potomac and Rappahannock  
Transportation Commission



District Department of Transportation



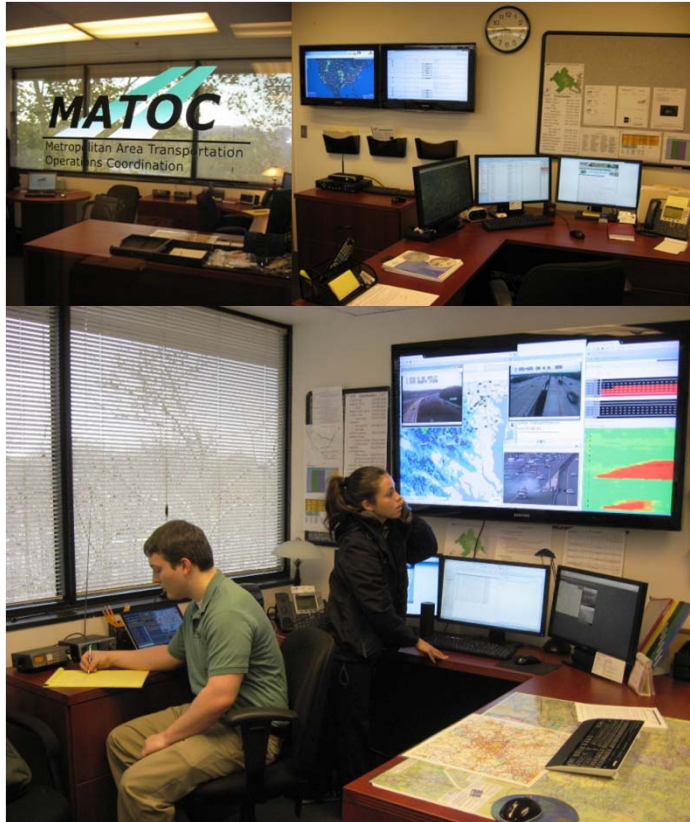
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## MATOC Operations Greenbelt, MD



### **Hours of Operation**

- Monday-Friday
  - 4:30am-8:00pm
- 24/7 Operations on an on-call basis
- RIC Program Coordination
  - Remote Reporting from DC HSEMA (weekly)

### **Staff**

- 2 Operators, 1 Analyst, 1 Facilitator

### **Monitor**

- RITIS, CapWIN, WebEOC, VJIC, Public Safety & Media Scanners, Regional/Statewide Alerts, Commuter Bus & Rail Operations, Weather, Social Media

### **Incident Criteria for MATOC Involvement**

- Interstates and major arterials within the NCR
- 50% closure, >30 minutes, >4 mile queue



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# The Situational Awareness Mission of MATOC

## Input



Traffic Cameras



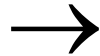
Media Broadcasts



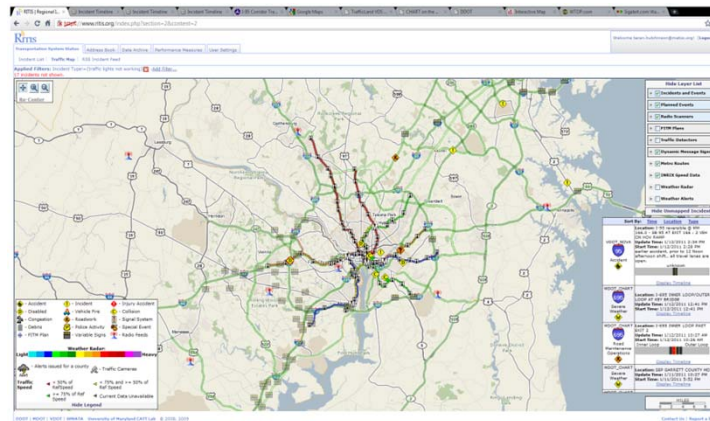
Scanners  
(Public Safety / Media / Agency/Traffic Spotters)



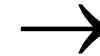
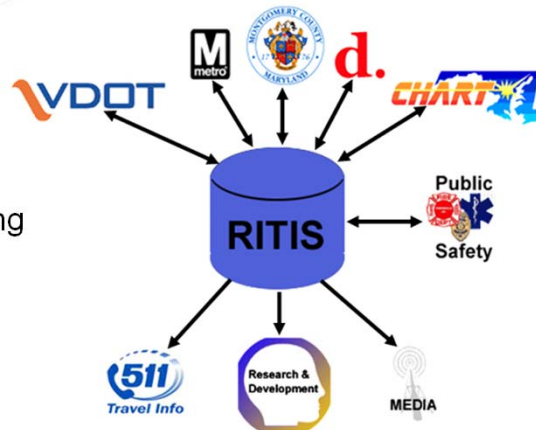
Incoming Messaging Feeds  
(Agency / Media / Social Media)



## Fusion



RITIS - Regional Integrated Transportation Information System



## Notifications



MATOC SITUATIONAL AWARENESS ALERT:  
I-95 Northbound, North of Exit 158, Prince William County, VA Multi-Vehicle Accident blocks all travel lanes, traffic is getting by on the left shoulder. Emergency crews are on scene. Delays are approximately 1 mile and growing.

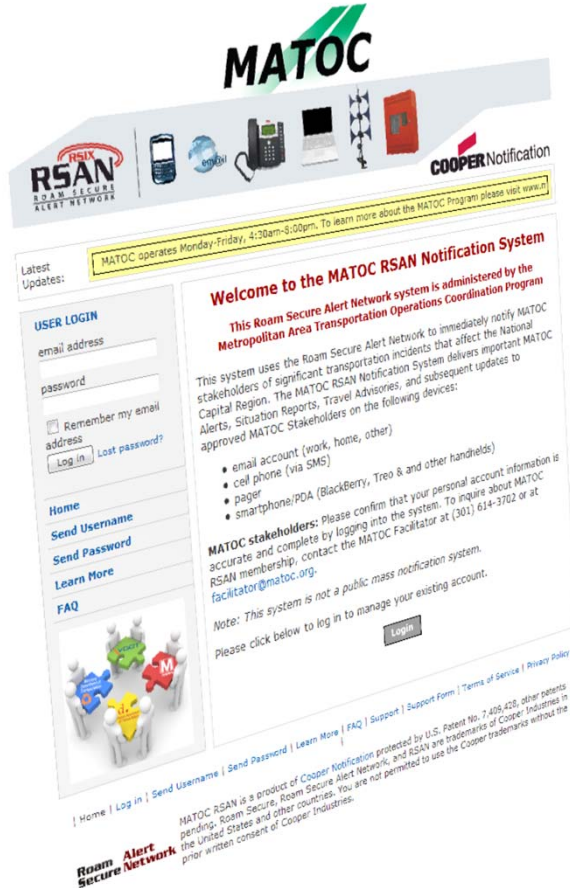
MATOC Staff Monitoring





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# MATOC Interagency Notifications



**MATOC Alerts:** Day-to-day incidents, “pay attention”, includes RITIS incident timeline when available. **@MATOC**

**MATOC Travel Advisory:** Upcoming special events, scheduled roadwork, press releases, etc.

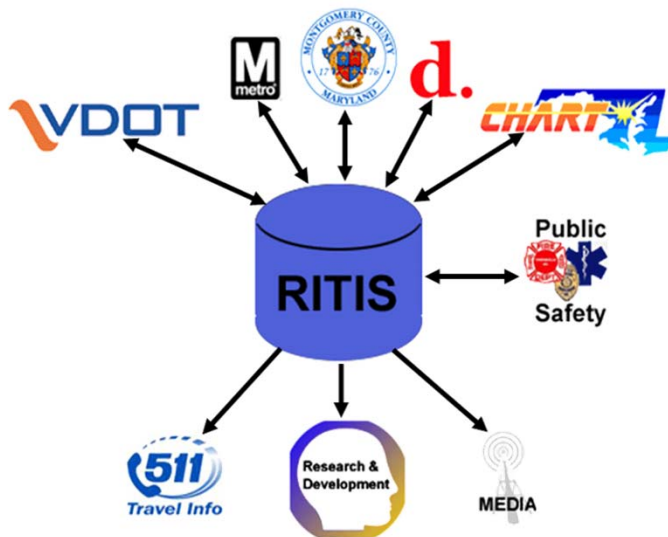
**MATOC Situation Report:** Multiple incidents, region wide weather events, special/planned/unplanned events, etc.

**MATOC Severe Weather Notice:** Coordination of mobilization plans, convene MATOC Weather Call



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### RITIS = Regional Integrated Transportation Information System

- Amalgamated automated data from many sources
- Fuse together into share-able formats
- Share with agencies, media, and the public

### Major Uses of RITIS

- The major information source for MATOC staff as they undertake their regional coordination role
- Data shared back and integrated into agency systems
- Used by non-transportation partners in public safety, emergency management, military
- Data archives for analysis
- Publicly available information provided on [www.MATOC.org](http://www.MATOC.org)



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# MATOC Traffic View (Public Version of RITIS)



The screenshot shows the MATOC Traffic View interface. On the left is a 'Settings' panel with a table of incident locations and lane status. The main area is a map of the Washington D.C. region with traffic data overlays. On the right is a 'Live Traffic' and 'Traffic Cameras' menu with various options like 'Accidents and Events', 'Overhead Signs', 'Camera Feeds', 'Comparative Speed', 'Traffic Speed', 'Congestion', and 'Weather'.

Location	Type	Lane Status
MD 495 I-495 WEST AT SEVEN LOCKS RD	West	East
MD 650 MD 650 NORTH AT MD 292	South	North
MD 95 I-95 OUTER LOOP AT EXIT 22 MD 295 BALTIMORE WASHINGTON PKWY	Inner Loop	Outer Loop
VA 66 I-66 east @ MM 52.7 - EB 66 AT 52.7MM	East	
MD 50 US 50 EAST FROM MD 192 TO MD 197	West	East
VA 495 I-495 south @ MM 43.0 - SB 495 SO RT 193 GEORGETOWN PIKE	South	
MD 95 I-95 OUTER LOOP AT EXIT 17 MD 202 LANDOVER RD		
VA 66 I-66 west @ MM 71.0 - WB 66 WO GLEBE RD EXIT 71 I ONE LANE BLOCKED 3 ...	West	
VA 495 I-495 north @ MM 52.0 - NB 495 SO LITTLE RIVER TRK EXIT 52 I ...	North	
VA 66 I-66 west @ MM 71.0 - delays 71 to 75	West	
MD 100 MD 100 EAST AT WATERFORD RD	West	East
MD 648D MD-648D - MD 648D WEST AT MD 2		
MD 696 I-695 INNER LOOP CURTIS CREEK DRAWBRIDGE	Inner Loop	Outer Loop

Go to [www.matoc.org](http://www.matoc.org) and click on the “Traveler Info” tab



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## MATOC and the Public

- Post-9/11 question: how to inform the public ahead of time about major situations that will affect their travel (e.g., avoid traffic jams around a public safety incident)
- Today: MATOC pursues a “wholesaler” role for information sharing:
  - Developing and sharing correct, timely information among agencies, utilizing traffic information from private companies (e.g. INRIX) and other public and private sources
- Earlier envisioned “retail” role has evolved over the years in light of the many ways the public now gets information:
  - Rise of private sector systems: in-vehicle navigation devices (nationwide systems)
  - Rise of social media: Twitter (@MATOC); Waze (private sector crowdsourcing traffic app)
  - MATOC, agency/jurisdictional, and other public agency systems:
    - MD 511 – [www.md511.org](http://www.md511.org) – VA 511 – [www.511virginia.org](http://www.511virginia.org)
    - WMATA (includes regional transit trip planner) – [www.wmata.com](http://www.wmata.com)
    - MATOC – [www.matoc.org](http://www.matoc.org) (Traveler Info Tab)
    - Transportation included in regional security website [www.capitalregionupdates.gov](http://www.capitalregionupdates.gov)
- **Goal: One Message, Many Voices**

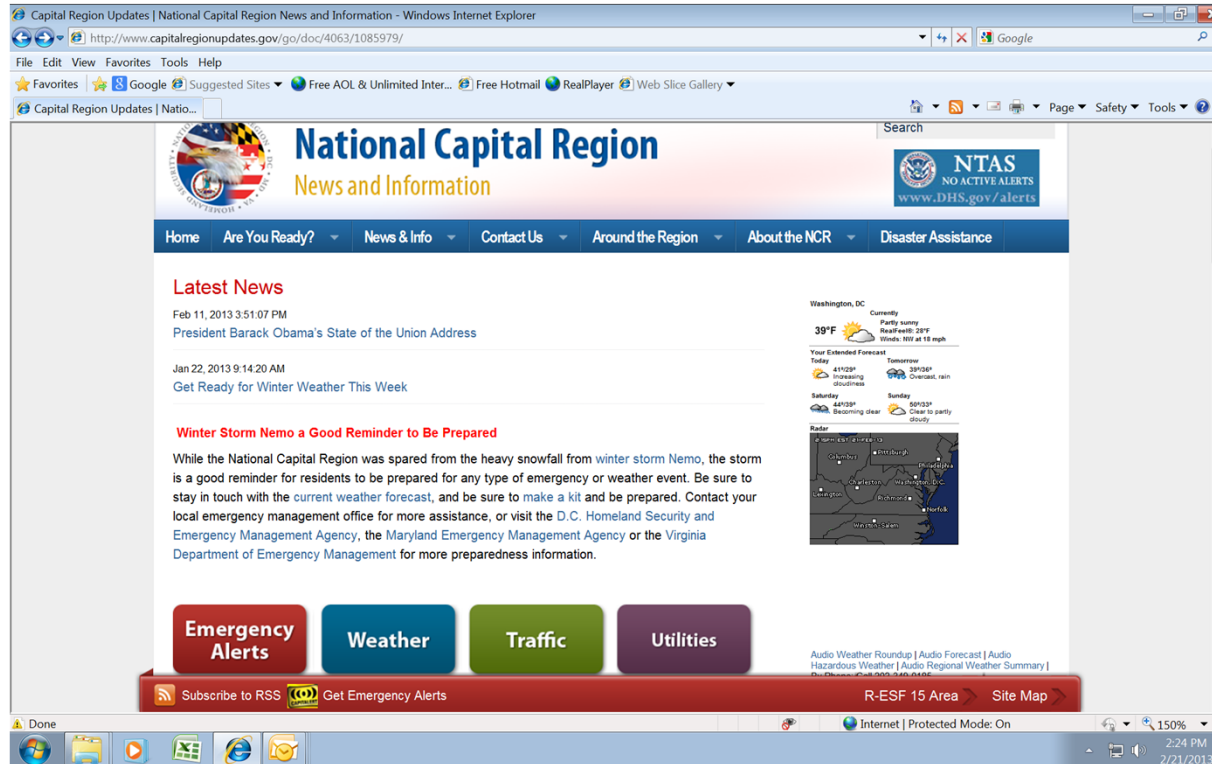


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# MATOC and RITIS Supply Information to [www.CapitalRegionUpdates.gov](http://www.CapitalRegionUpdates.gov)



- Emergency information website established under regional Homeland Security programs
- Envisioned as a one-stop source for multi-agency emergency information
- Automated data feeds taken both from transportation agency websites and from RITIS



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## MATOC & RITIS Accomplishment Highlights Since Jan. 26, 2011 Snow Event

- MATOC

- MATOC Alerts Twitter Feed
- Roam Secure Network (RSAN)
- RICCS Paging Capability
- Strengthened Relationships
  - E.g., EM, NPS, USPP, Transit, RICP
- Severe Weather Coord. Group
- MATOC Website with Traveler Information
- Expanded RITIS Training

- RITIS

- Significant Increase in Usage
  - 2,000+ Users
- Addition of CCTV Capabilities
- Expansion of Probe Data Coverage
- Addition of Evacuation Layers
- Addition of Transit System Data
- Expanded Weather Data
- Personalized Alerts
- Points of Interest Function



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# Special MATOC Operations During Severe Weather Events

## Pre-event

- Monitor weather forecasts and DOT mobilization plans
- Consult with MATOC Severe Weather Coordination Work Group
- Participate in and monitor regional conference calls (MWCOG, DOTs, Transit, etc.)
- Ramp up to 24/7 Operations 3-4 hours prior to the event entering NCR. Two 2-person teams filling Operations & Support roles.

## During Event

- Monitor core systems as well as other storm related resources; VDOT Snow Map, Fairfax County Road Closure Map, Montgomery County Storm Map, etc.
- Hourly reporting of major transportation incidents, road closures, and changes in transit (bus & rail) service levels
- Consult with RITIS Support team as needed
- Return to Normal Operations & Reporting as recovery operations begin to wind down

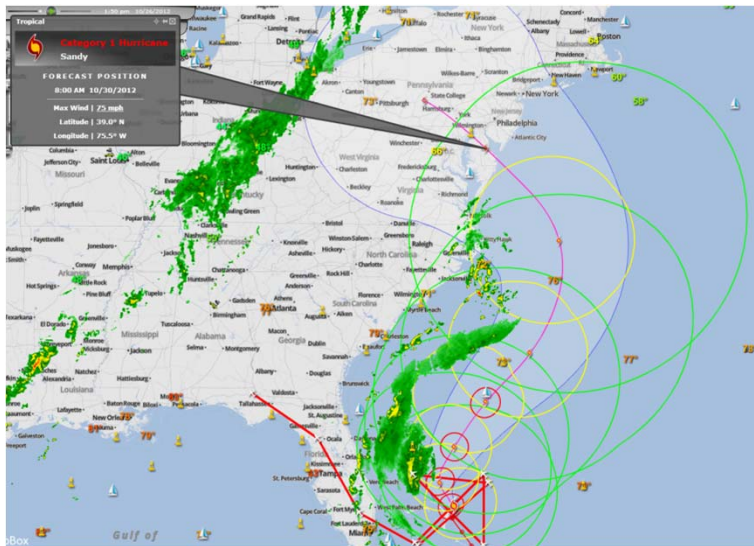


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# Hurricane Sandy October 29-31, 2012



## MATOC Operations

- Began monitoring & tracking October 22
- Tested draft Severe Weather Coordination SOP
- Participated in and monitored regional conference calls
- Ramped up to 24/7 Operations on October 29
  - Two 2-person teams (Operations & Support)
  - Elevated reporting of major incidents, road closures, and transit service levels
- Enhanced Coverage: Mon(12am) to Wed(12am)



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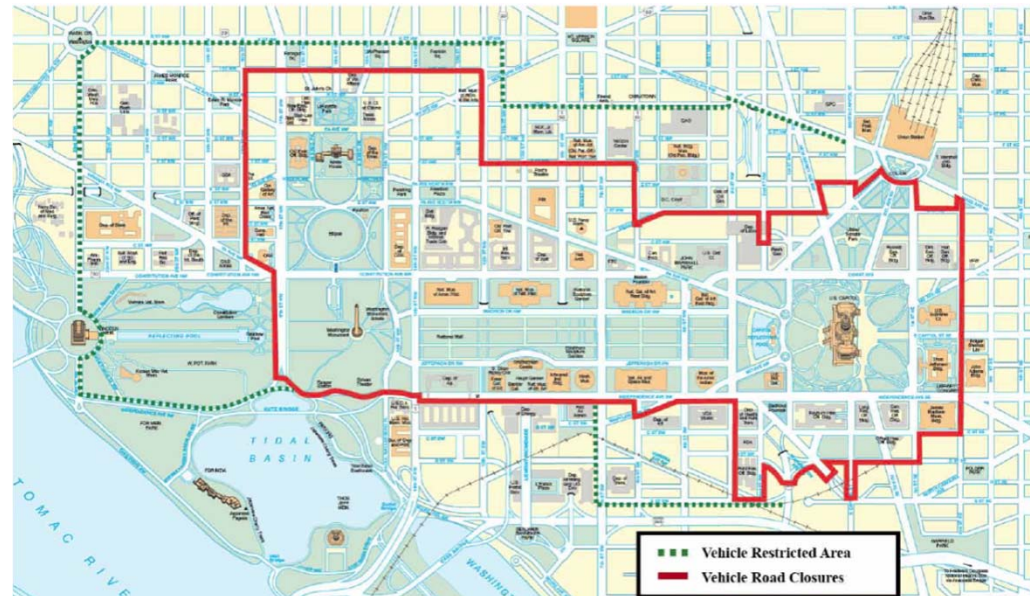


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# MATOC Operations During the Presidential Inauguration January 20-21, 2013



- Began pre-event planning last summer
- Participated in and monitored pre-event meetings & exercises throughout event planning period
- Assembled a web page for transportation partners with Inaug. info/plans from agencies
- Ramped up to 24/7 Operations on Jan. 20 & 21
  - Two 2-person teams (Operations & Support)
  - Coverage at both MATOC offices and DC Homeland Security/Emergency Mgt. Agency
- Similar MATOC involvement in preparation and activities for Fourth of July events annually



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## Upcoming MATOC Activities and Initiatives

- Continued outreach/site visits to agencies by MATOC staff to meet with transportation and public safety agency operations personnel
  - Networking with stakeholders bolsters regional information sharing
  - Focus both on MATOC staff interactions and RITIS use
- New monthly web-based training seminars on use of RITIS
  - Sessions vary between introduction sessions for new users, and update sessions on new RITIS features for established users
- Regional construction coordination/scheduling study now beginning
  - Will study how the region's transportation agencies, in conjunction with MATOC, can better coordinate, schedule, and communicate lanes closures and service disruptions associated with planned construction activities and special events
- Continuous improvements/enhancements to MATOC operating procedures and to RITIS features

## Outlook

- MATOC operations staff benefits from observing the entire regional situational awareness picture, and “connecting the dots”
- Puts MATOC in a position of identifying actions/responses that would be helpful when incidents occur
- MATOC staff contacts and recommends actions to DOTs, transit agencies
  - Regarding ripple effects
  - Not involved in on-scene issues
- MATOC committees continue to be a successful forum for information exchange among the region’s operations personnel, including on roadway operations, transit, snow/severe weather, and special events
- MATOC staff has successfully used the power of information to enhance regional transportation coordination and decision making