



# COG WINTER WEATHER MEETING

Maryland Department of Transportation

State Highway Administration

Office of Maintenance

November 10, 2020

# ASSETS

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- 28 Maintenance Shops in 7 Districts
- 17,373 Lane Miles
- 5,206 Centerline Miles
- 39.6 Billion Annual Vehicle Miles of Travel
- Annual Average Daily Traffic
  - 50,000+: 3,205 Lane Miles (19%)
  - 10,000-49,999: 7,4507 Lane Miles (43%)
  - <9,999: 6,661 Lane Miles (38%)

# RESOURCES

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- ~1,100 Maintenance Shop Employees
  - ~740 Field Employees
  - ~110 Managers
  - ~200 Administrative Staff and Mechanics
  - ~50 Winter Volunteers
- ~600 MDOT SHA Dump Trucks
- ~2,000 Hired Equipment Contractors
- \$71 Million Winter Budget
- ~400,000 tons Salt
- ~1.7 million gallons Salt Brine

# YEAR-ROUND WINTER PLANNING

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# WINTER PREP – SUMMER

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- Update Statewide Salt Management Plan
- Finalize New Salt Contracts with DGS
- Repair/Replace Salt Structures
- Repair/Replace Brine Tanks and Components
- Repair/Replace Brine Makers
- Restock Inventory for Winter Equipment Needs

# WINTER PREP – FALL

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- Prepare/Finalize Hired Equipment Contracts
- Develop/Finalize Route Plans
- Re-Stock Material Supplies – Salt, Brine, Plow Blades, etc.
- Prepare State Equipment
- Host Hired Equipment Meetings
- Inspect and Calibrate Equipment – State and Hired
- Host Internal Town Meetings
- Complete Snow College for New Hires
- Complete Practice Runs and Route Inspections



# WINTER EVENTS

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- Monitor Weather
- Participate in Statewide Calls
- Apply Salt Brine as Warranted
- Prepare District/Statewide Plans
- Act on Plans
- Monitor Weather and Pavement Temperatures/Conditions
- Adjust Plans Appropriately
- Clean-Up
- Re-Stock Material Supplies – Salt, Brine, Plow Blades, etc.
- Inspect and Repair Equipment
- Make Roadway Repairs – Potholes
- Repeat!

# WINTER CLEAN-UP – SPRING

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- Assess and Repair Salt Structures
- Re-Stock Salt Supply
- Clean, Inspect, and Repair All Equipment
- Clean Brine Makers and Saddle Tanks
- Assess and Repair/Replace Brine Tanks and Components
- Assess and Repair/Replace Brine Makers
- Perform Route Inspections and Make Roadway Repairs
- Analyze Data captured from Watersheds and Stream Monitoring

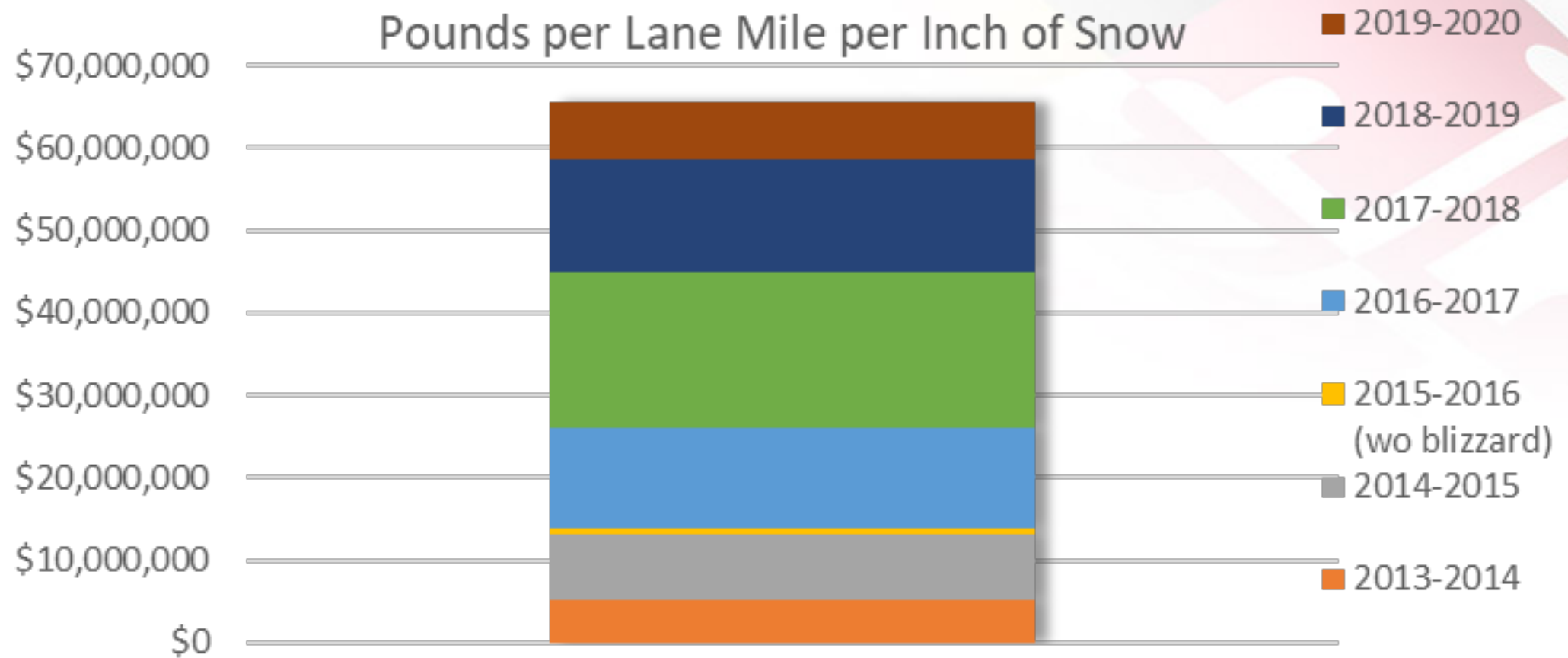


# TOP ACCOMPLISHMENTS

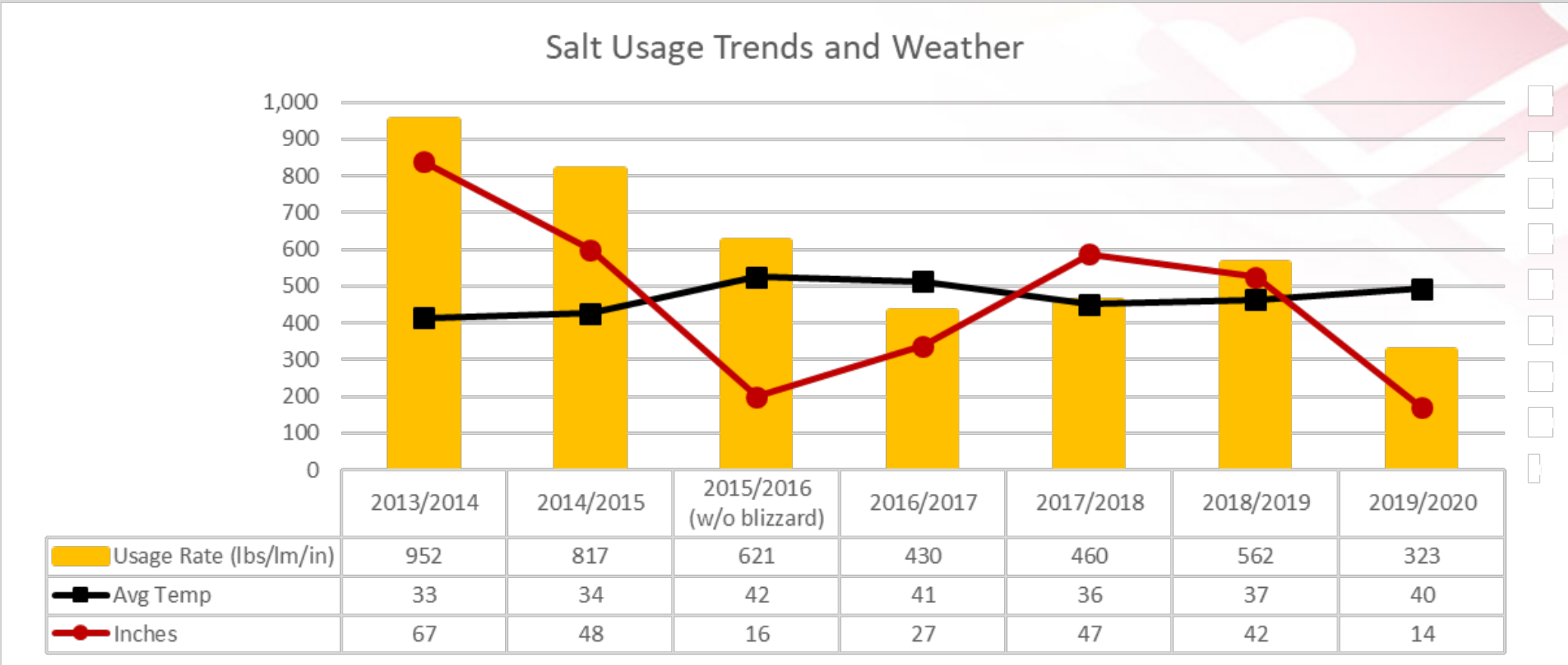
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- Continued Salt Reduction Savings the past 7 Winter Seasons
- Average 2 Hours to Bare Pavement the past 7 Winter Seasons

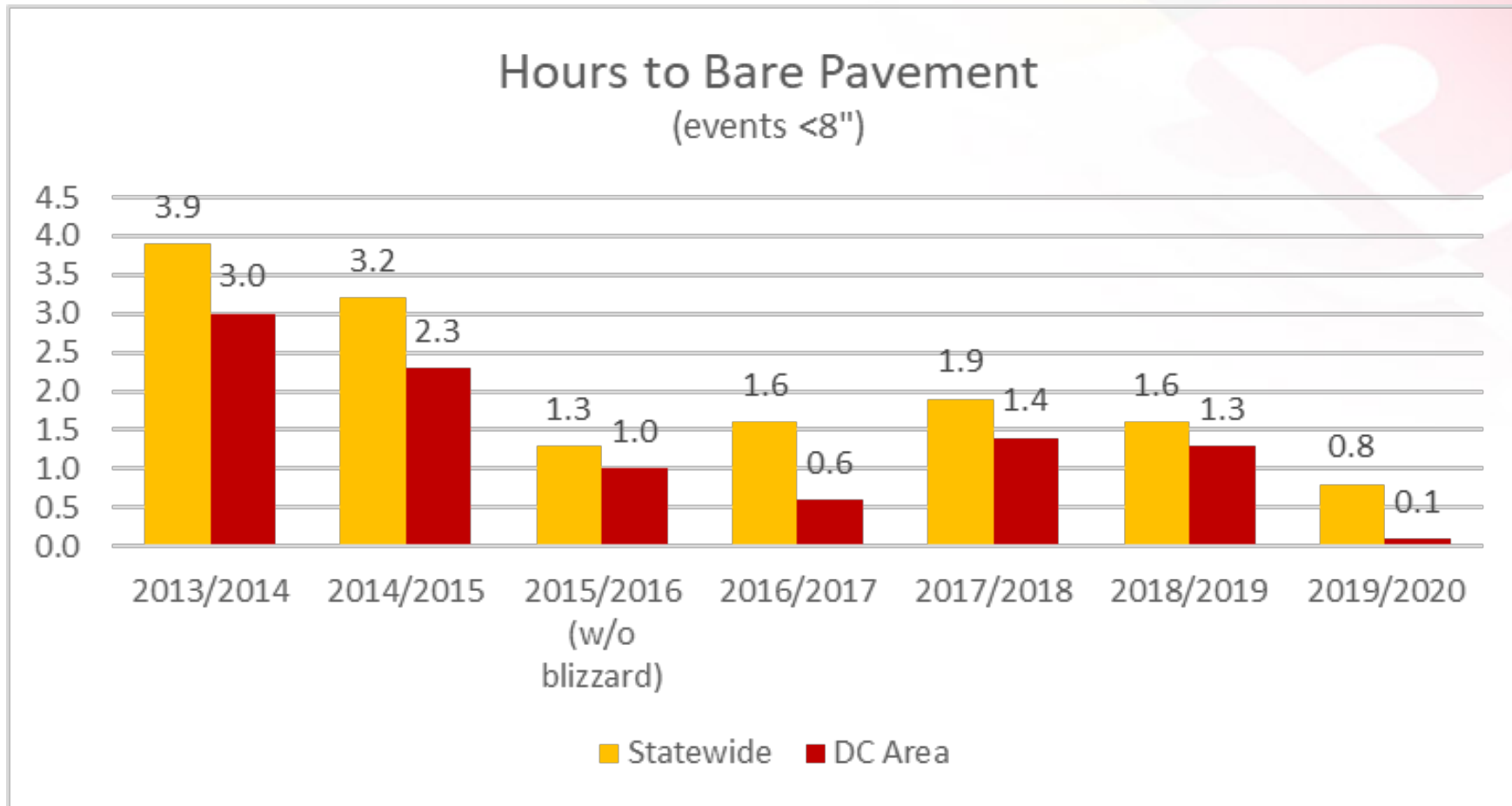
## Savings by Reducing Pounds per Lane Mile per Inch of Snow



# SALT USAGE TRENDS/WEATHER



# BARE PAVEMENT



# WINTER TECHNOLOGY

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- Loader Scales
- Additional Contract Anti-Icing Equipment
- Expanded Direct Liquid Application Routes
- Slide-In Tanks
- Additional Brine Making and Storage Capacity
- MARWIS
- Dual Wing Plows
- Barcode Scanner – Asset Panda
- S.T.O.R.M. App

# BRINE OPERATION

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New Brine Maker



Brine Tanks



Brine Application





# MARWIS



ViewMondo®

CURRENT DATA      DIAGRAMS      REPORT

SHA MARWIS-1  
141114 (0014.1114)

- dry (0)
- damp (1)
- wet (2)
- ice (3)
- snow/ice covered (4)
- chem. wet (5)
- slush (6)
- critical (7)
- snow covered (8)

1/30/2018 7:48:59 AM - 1/30/2018 9:55:09 A

1/30/2018 9:51:30 AM



# DUAL WING PLOW

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# BARCODE SCANNER – ASSET PANDA



The screenshot shows the Asset Panda web application interface. The browser address bar displays 'login.assetpanda.com/equipment'. The page title is 'Equipment'. A search bar is present above a table of equipment records. The table has columns for Barcode ID, Equipment Configuration, Company Name, VIN or Serial #, Contractor Email, District, Shop, Event, and Status. The status column uses green dots to indicate 'Available' items.

Barcode ID	Equipment Configuration	Company Name	VIN or Serial #	Contractor Email	District	Shop	Event	Status
00-001			kjoiuatnkm08	prichardson@m...	Test District	Erin L Dey		Available
00-002			ads5146bsd	prichardson@m...	Test District	Erin L Dey		Available
00-003	26 - Liquid Appl...		1111	prichardson@m...	Test District	Erin L Dey		Available
00-004			qadqgtqarvc54		Test District	Erin L Dey		Available
11-001					1	Cambridge		Available
11-002					1	Cambridge		Available
11-003					1	Cambridge		Available
11-004					1	Cambridge		Available
11-005					1	Cambridge		Available

# S.T.O.R.M. APP

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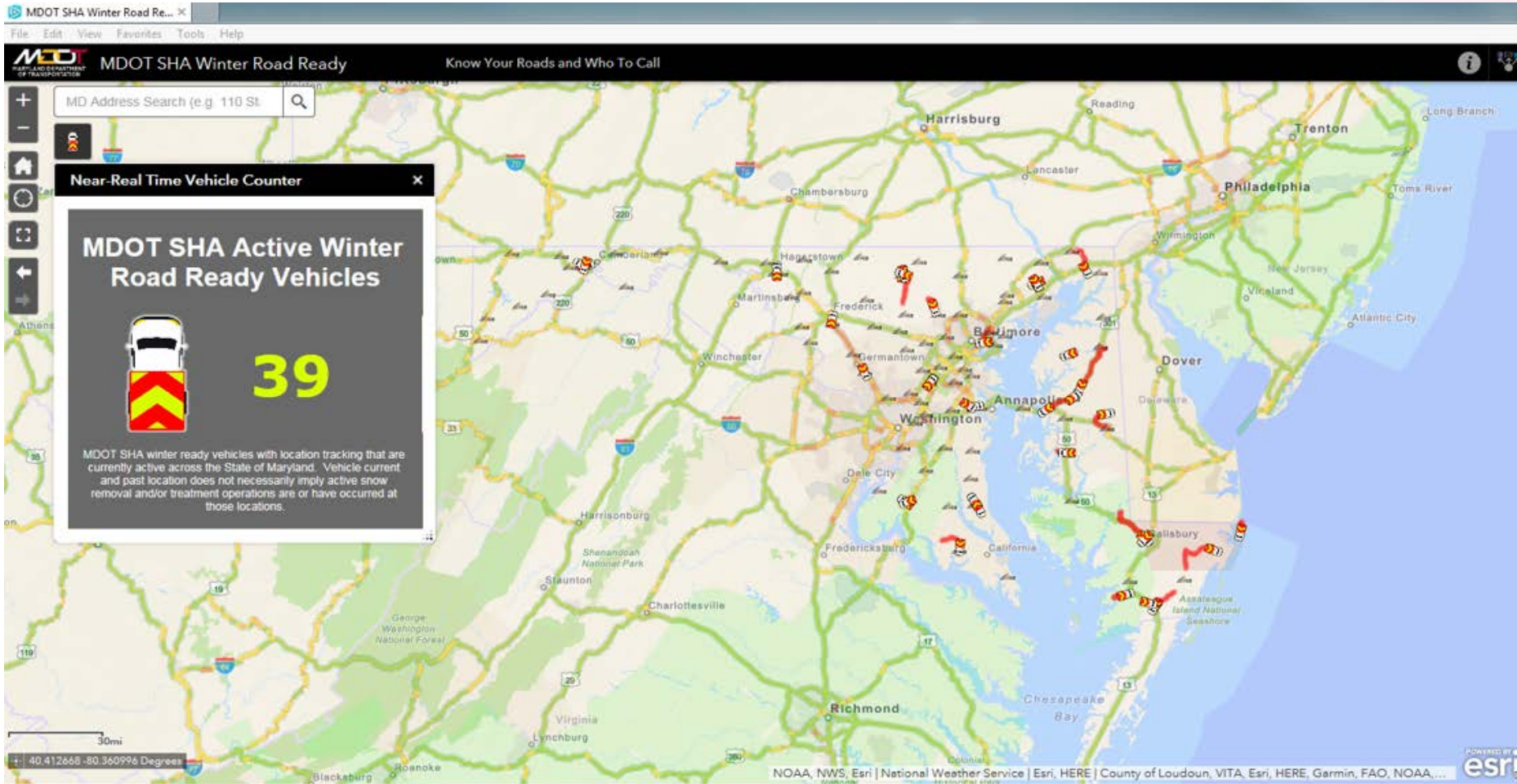
**APP**



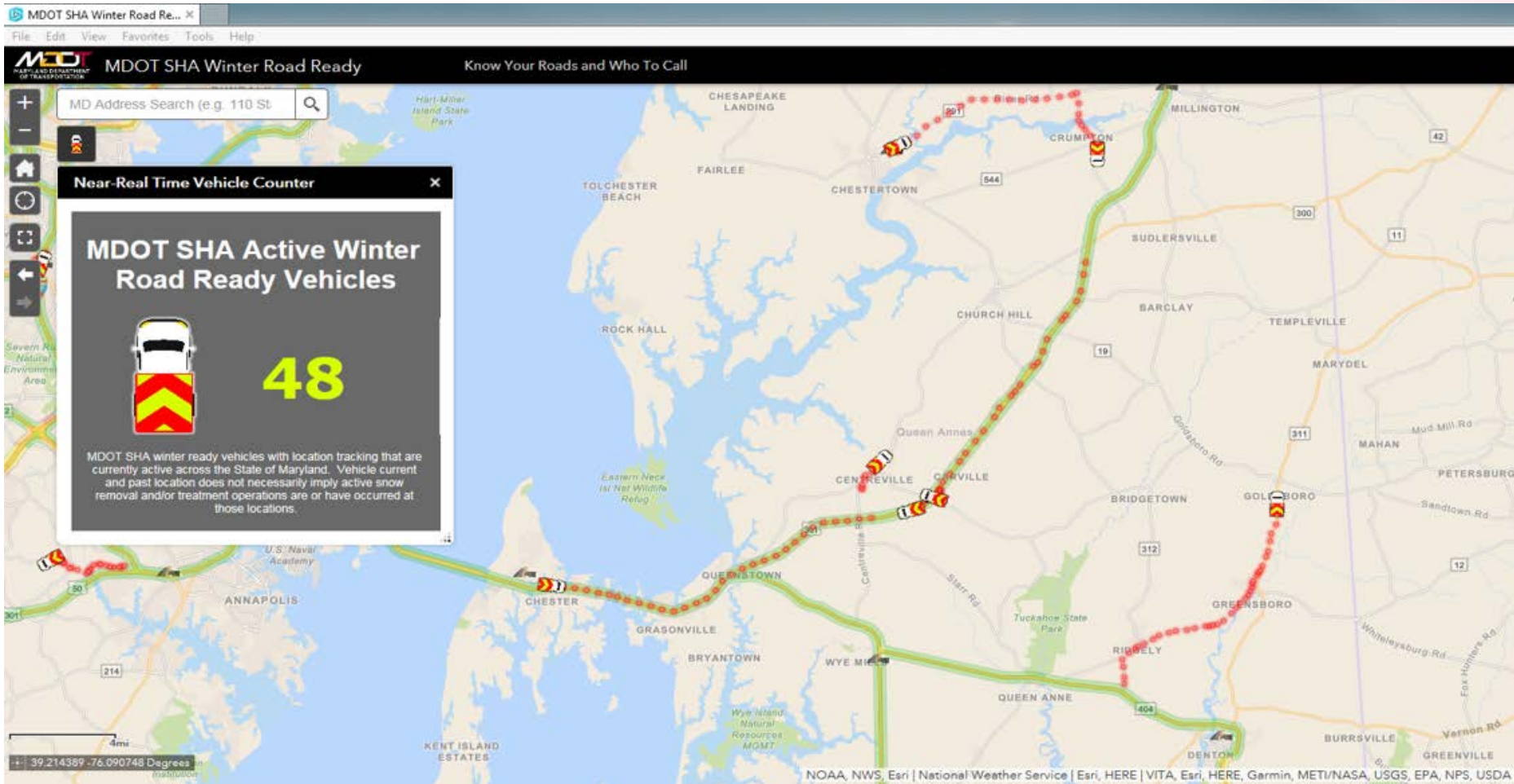
**Winter Road Ready**



# S.T.O.R.M. – PUBLIC



# S.T.O.R.M. – PUBLIC





# S.T.O.R.M. – INTERNAL

MDOT SHA Winter Operations Dashboard

**Dry 1150**

**Damp/Wet 20**

**Chemical Wet/Snow/Ice 00**

**Snow/Ice Warning 00**

WPL C-506 AT GANTRY S-9  
DEFAULT EB VIEW

Live Video Feed (if video is not streaming please click in frame area above to activate)

Active Snow Ops Vehicles: 410

All Active Vehicles (not including CHART): 960

**MDOT**  
MARYLAND DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
**CHART**

**Incident Events**

- Baltimore City:** debris on roadway @ I-95 SOUTH AT EXIT 53 I 395 CAL RIPKEN WAY (SB). (Updated: 10/12/2018, 9:25 AM)
- Anne Arundel:** accident @ MD 258 AT MD 4. (Updated: 10/12/2018, 9:25 AM)
- Saint Marys:** incident @ MD 249 NORTH/SOUTH AT DRAYDEN RD. (Updated: 10/12/2018, 9:25 AM)
- Anne Arundel:** severe weather @ US 50 EAST/WEST AT MP 33 (BAY BRIDGE)PHASE 1 WIND WARNINGS. (Updated: 10/12/2018, 9:25 AM)
- Baltimore City:** incident @ I-695 INNER LOOP/OUTER LOOP AT MP 49.3 (FRANCIS SCOTT KEY) BRIDGE PHASE 1 WIND WARNINGS. (Updated: 10/12/2018, 9:25 AM)
- Anne Arundel:** flooding @ MD 450 EASTWEST AT HUNTINGWOOD DR. (Updated: 10/12/2018, 9:25 AM)

# WINTER DURING COVID – MDOT SHA

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- MS Teams Statewide Town Meeting
  - November 19<sup>th</sup>
- Different Reporting Areas
- Staggered Start Times
- Separate Restroom/Resting Facilities for Teams A/B
- Staggered Meal Times
  - Social Distancing at Restaurants
  - Carryout



# WINTER DURING COVID - CONTRACTORS

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- Appointments for Contract Paperwork Submittal
- Staggered Equipment Inspections
- Pre-Winter Meeting
  - PowerPoint Presentation via link
- Not Permitted in MDOT SHA Buildings
  - Spot-a-Pot?
- Outside Check-In/Check-Out
  - Drive-up windows
  - AVL distribution for season