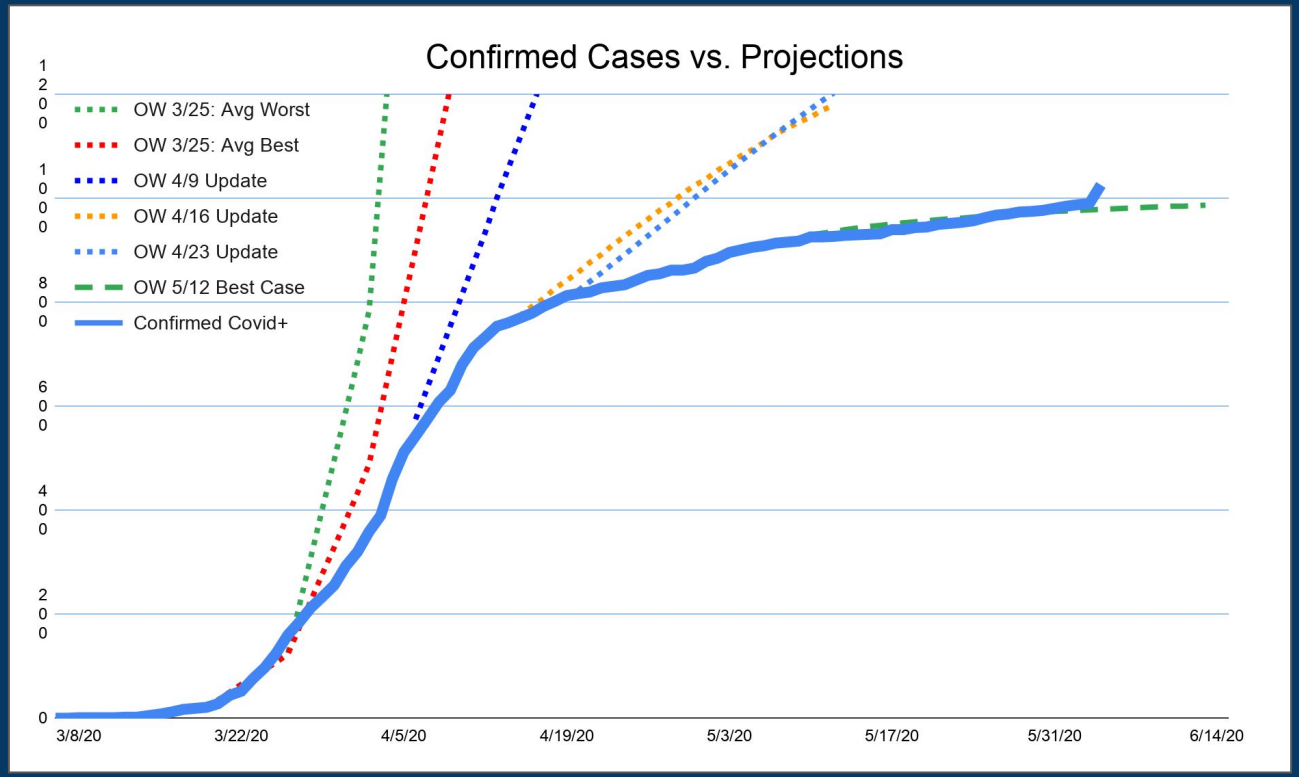
COVID-19 Modeling
June 5, 2020

Presentation available at:
dfr.vermont.gov

Outbreaks & Modeling

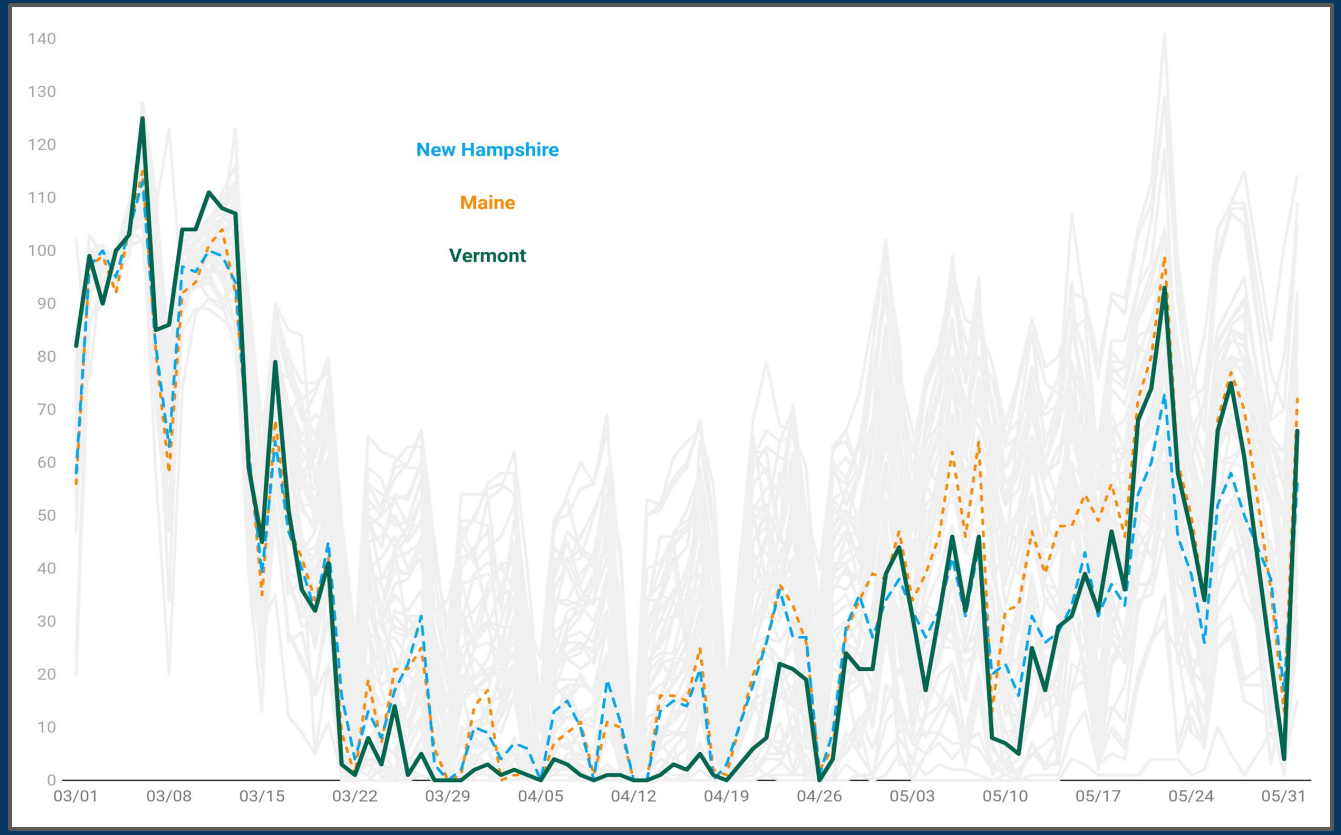
- Not unexpected, but nearly impossible to predict
- Large jump in Vermont numbers, but context and perspective are important
- Testing and contract tracing rapidly developed — should suppress spread and long-term impact

Vermont Results Continue to Track Low Case Forecasts



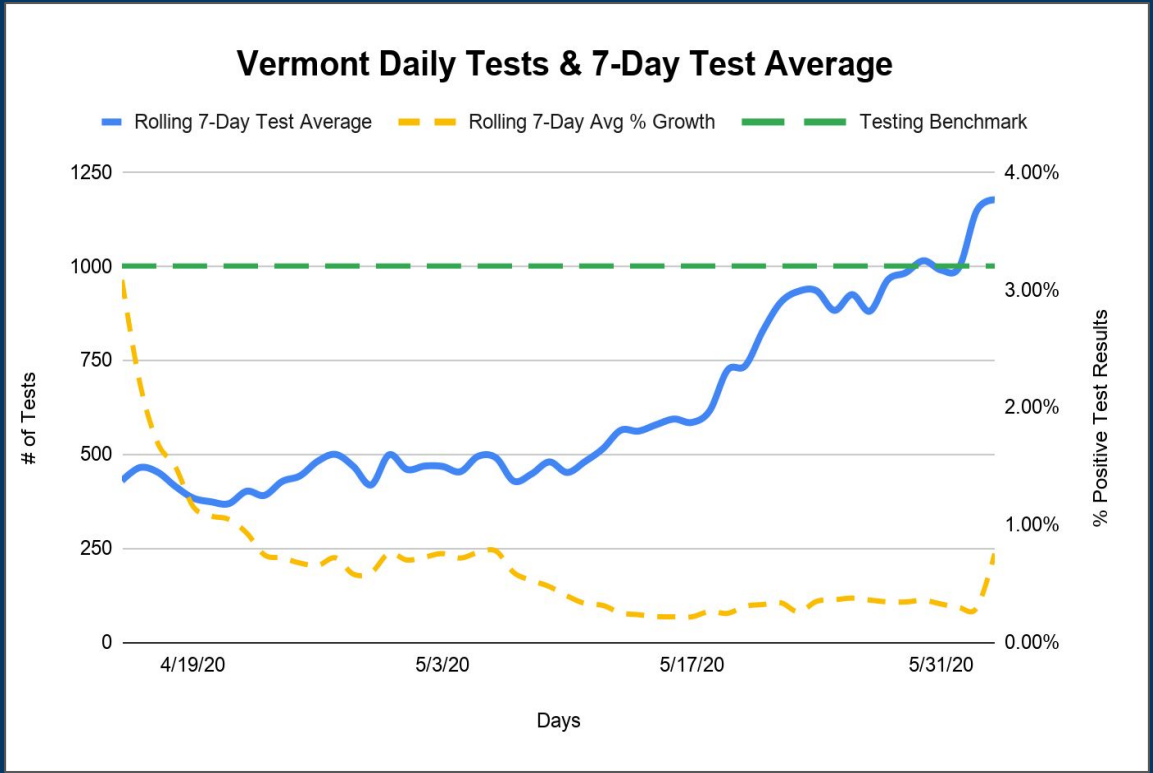
Sources: Oliver Wyman (OW) May 12, 2020 Model & Vermont Department of Health

Mobility Data: Reopening Vermont & Warming Weather



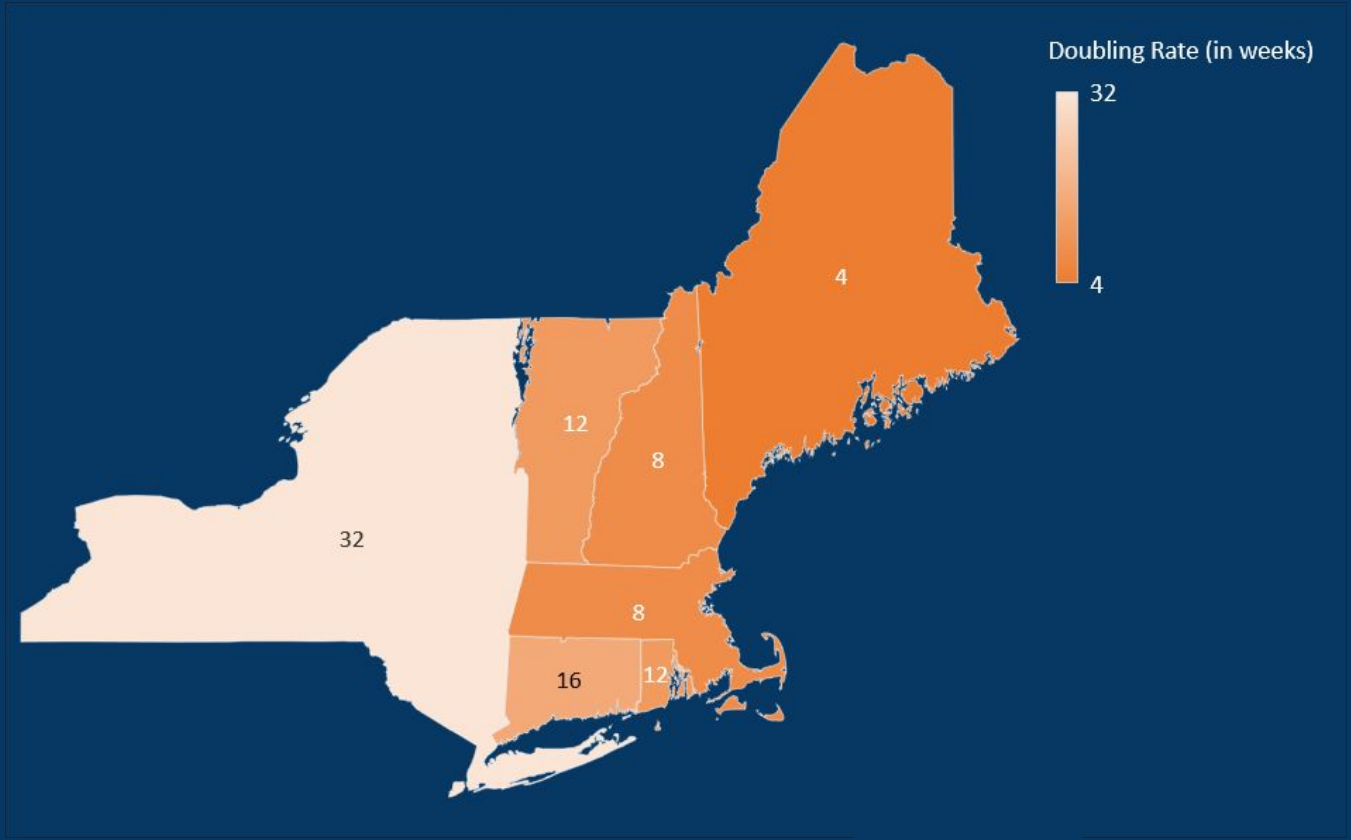
Source: Descartes Labs – June 1, 2020

Increased Testing in Vermont



Source: Vermont Department of Health; tests measured as results reported to VDH by day

Vermont's Doubling Rate: 12 Weeks



Source: Johns Hopkins University

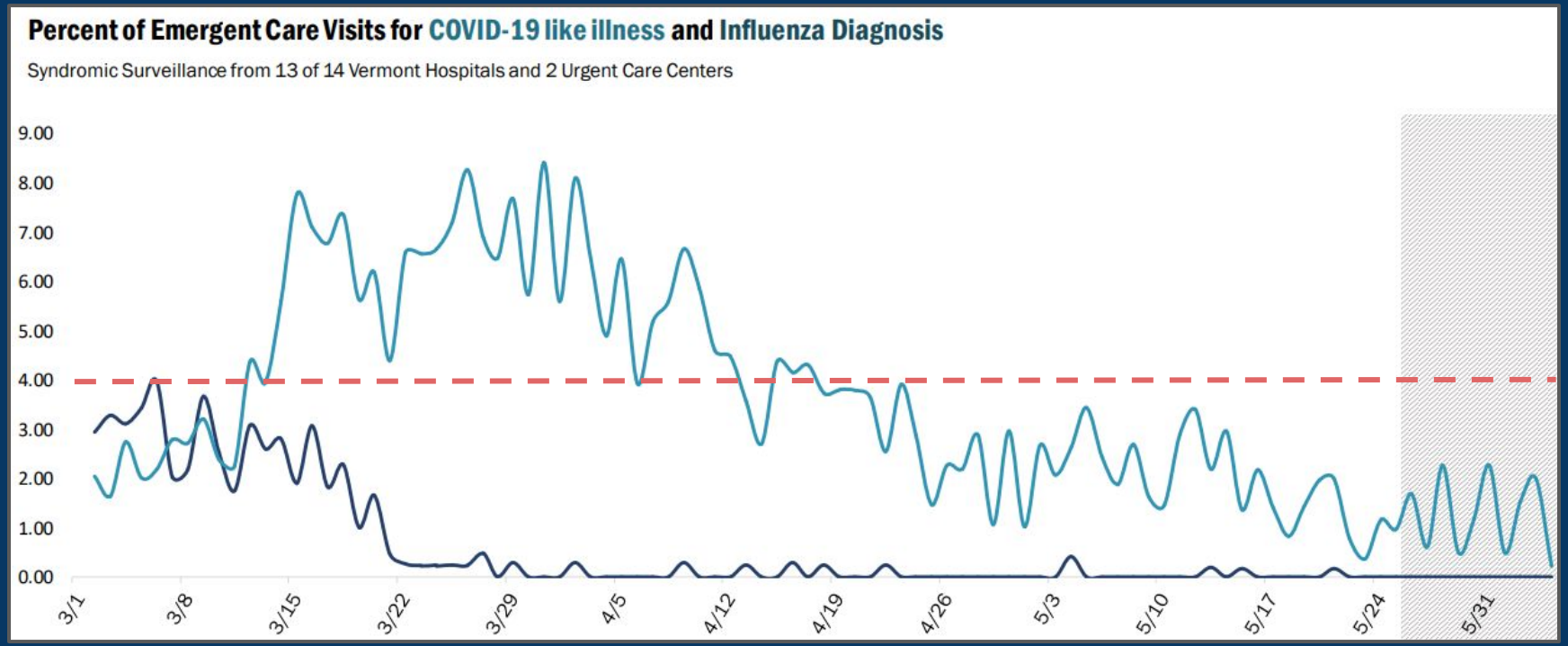
RESTART VERMONT

Reopening Metrics

1. Syndromic Surveillance
2. Viral Growth & Reproductive Rates
3. Percentage of New Positive Tests
4. Hospital & Critical Care Bed Capacity

Data Point 1: Syndromic Surveillance

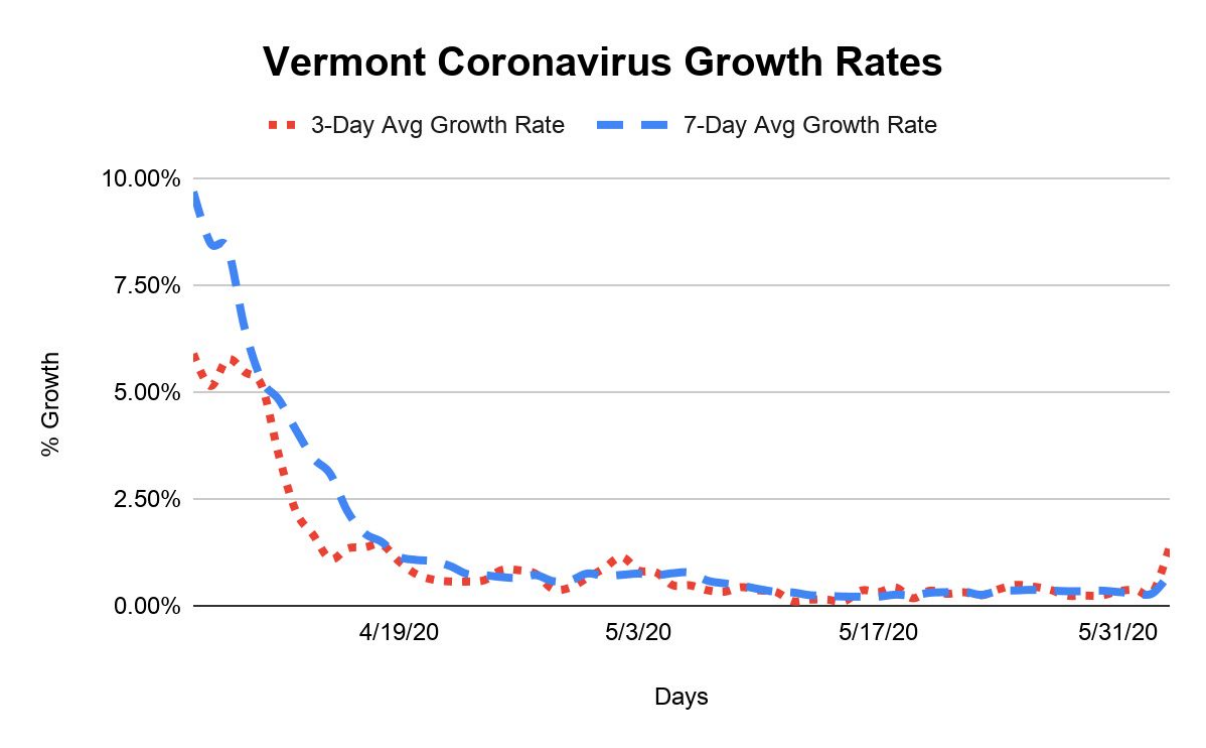
- **Summary:** Percentage of visits with COVID-19 like illness and Influenza diagnosis
- **Warning Flag:** Percentage of visits exceeding 4% for multiple consecutive days



Source: Vermont Department of Health

Data Point 2: Viral Growth and Reproductive Rates

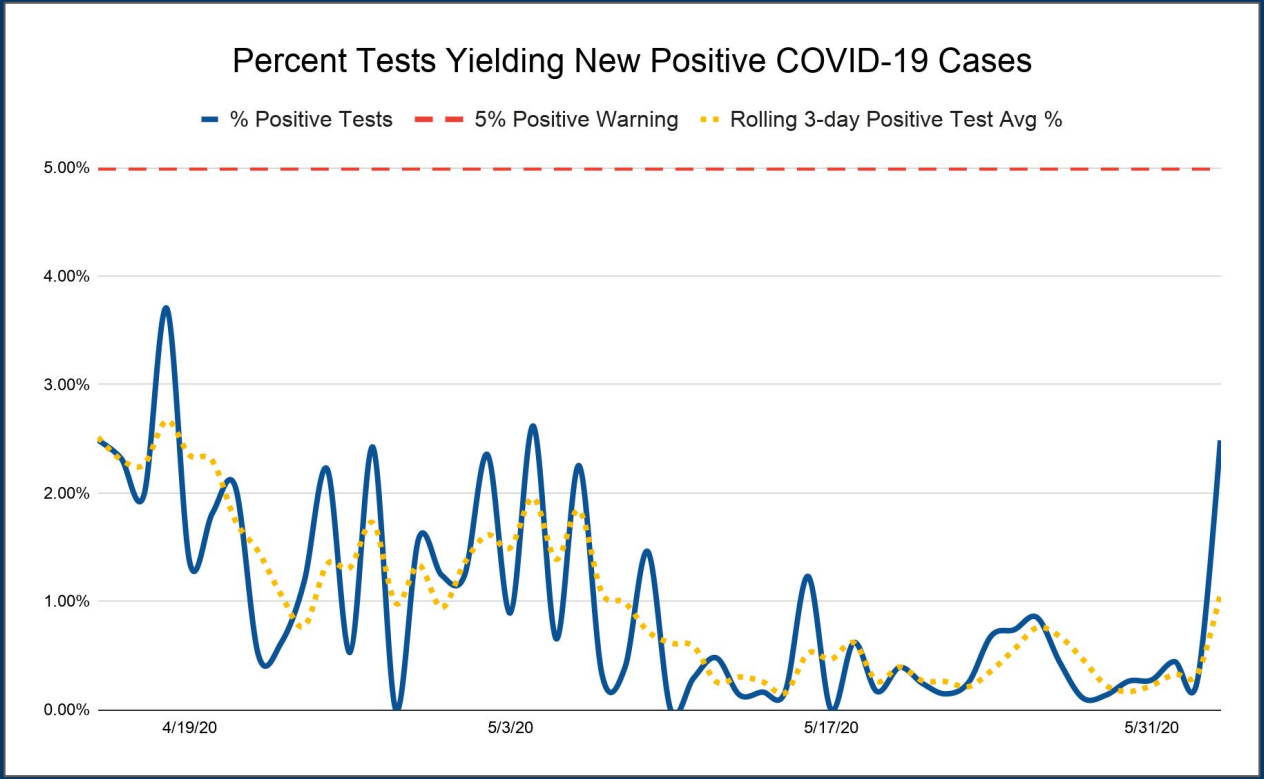
- **Summary:** Case growth measured by daily, 3-day, 7-day, and effective reproductive rate (R_t)
- **Warning Flags:** Sustained viral growth that would lead to <30% of open ICU beds



Source: Vermont Department of Health

Data Point 3: Percentage of New Positive Tests

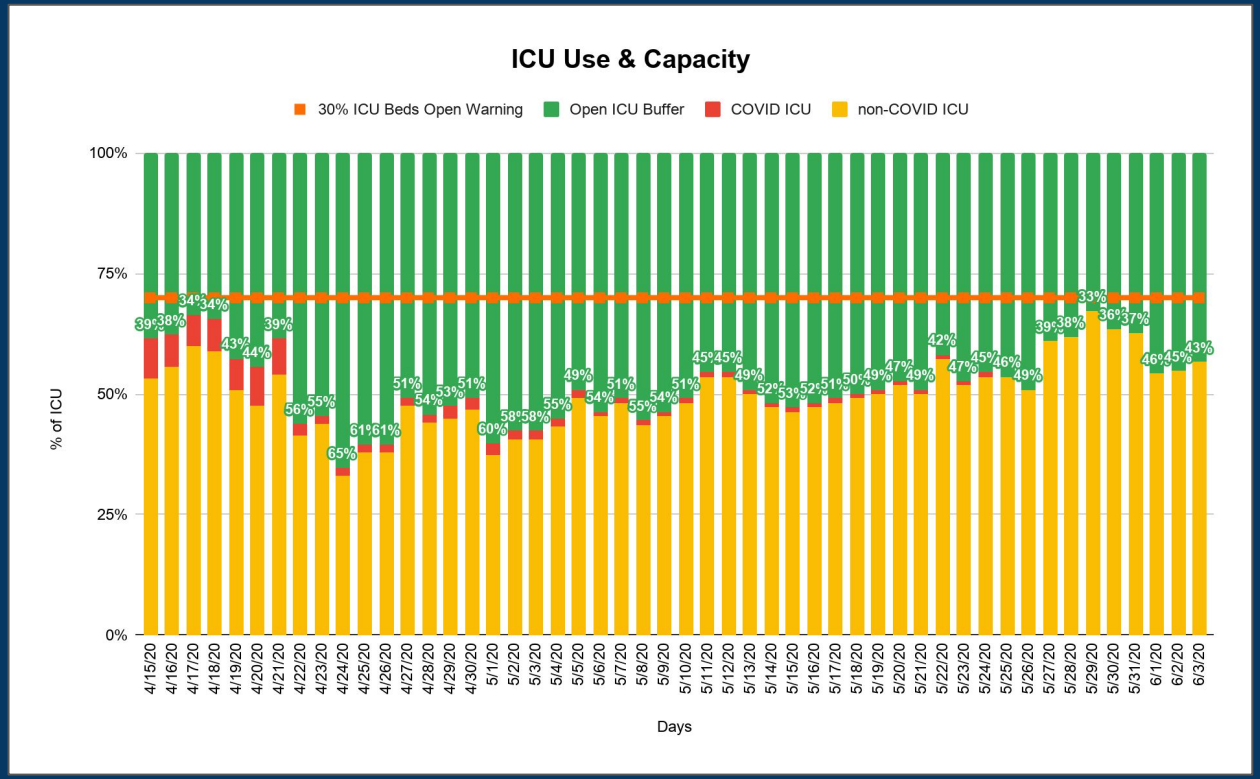
- **Summary**: Percent of tests resulting in a new positive case
- **Warning Flags**: New positives represent >5% of daily results



Source: Vermont Department of Health

Data Point 4: Hospital & Critical Care Beds

- **Summary:** Number of occupied and unoccupied medical surgical and ICU beds
- **Warning Flags:** Reduction in ICU open beds to less than 30%



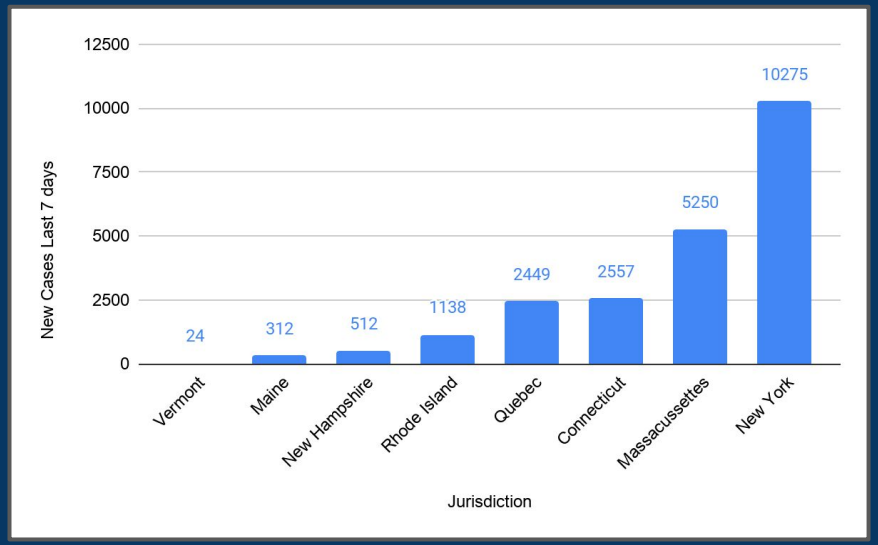
Source: Vermont Department of Health

RESTART VERMONT

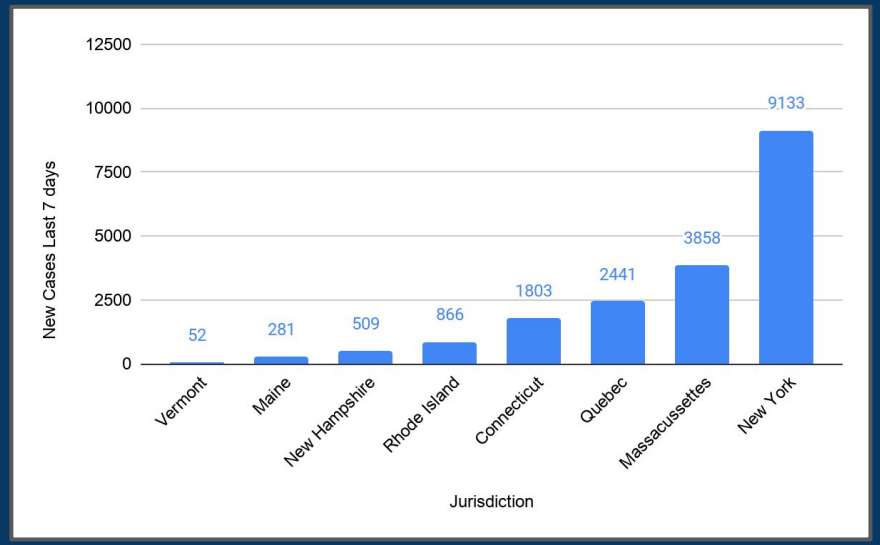
- Regional Data
- Expanding the Map

Regional Monitoring
Previous 7-Day Experience

Positive Cases May 21th to May 28th



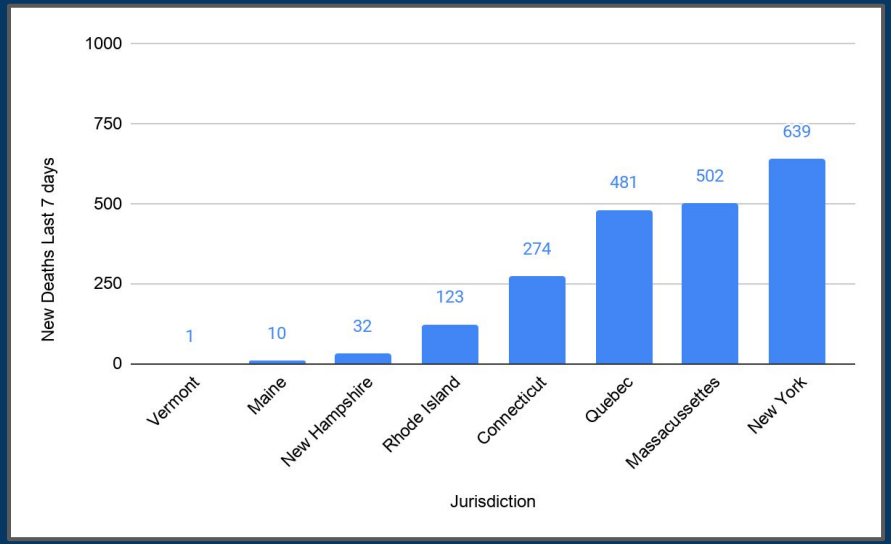
Positive Cases May 29th to June 4th



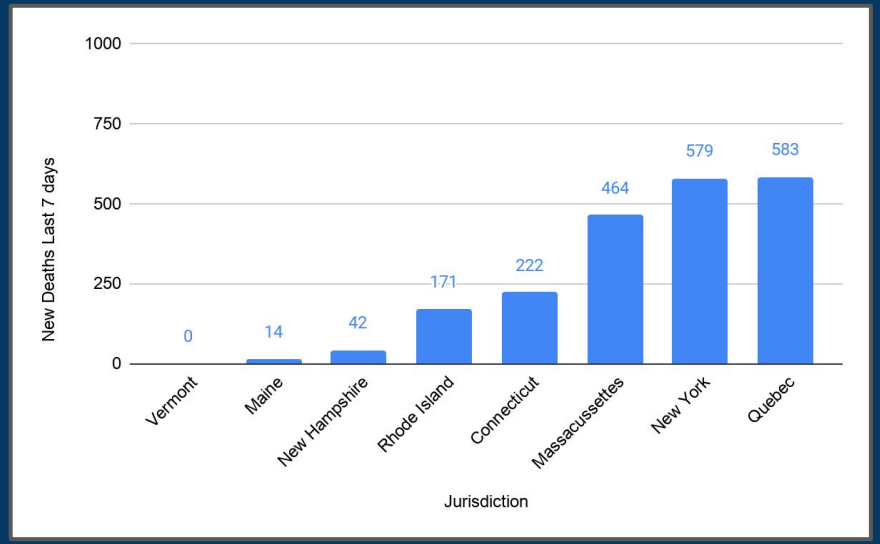
Source: Johns Hopkins University & USA FACTS

Regional Monitoring
Previous 7-Day Experience

Deaths May 21th to May 28th

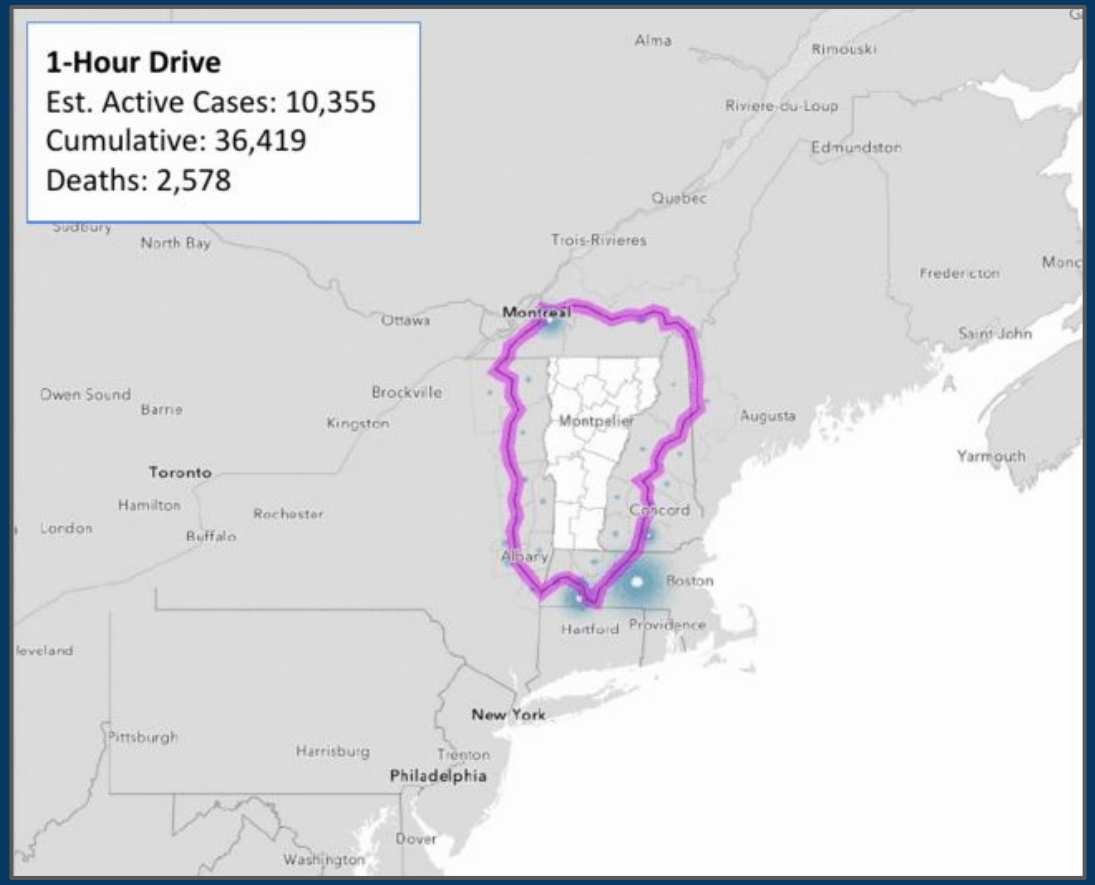


Deaths May 29th to June 4th



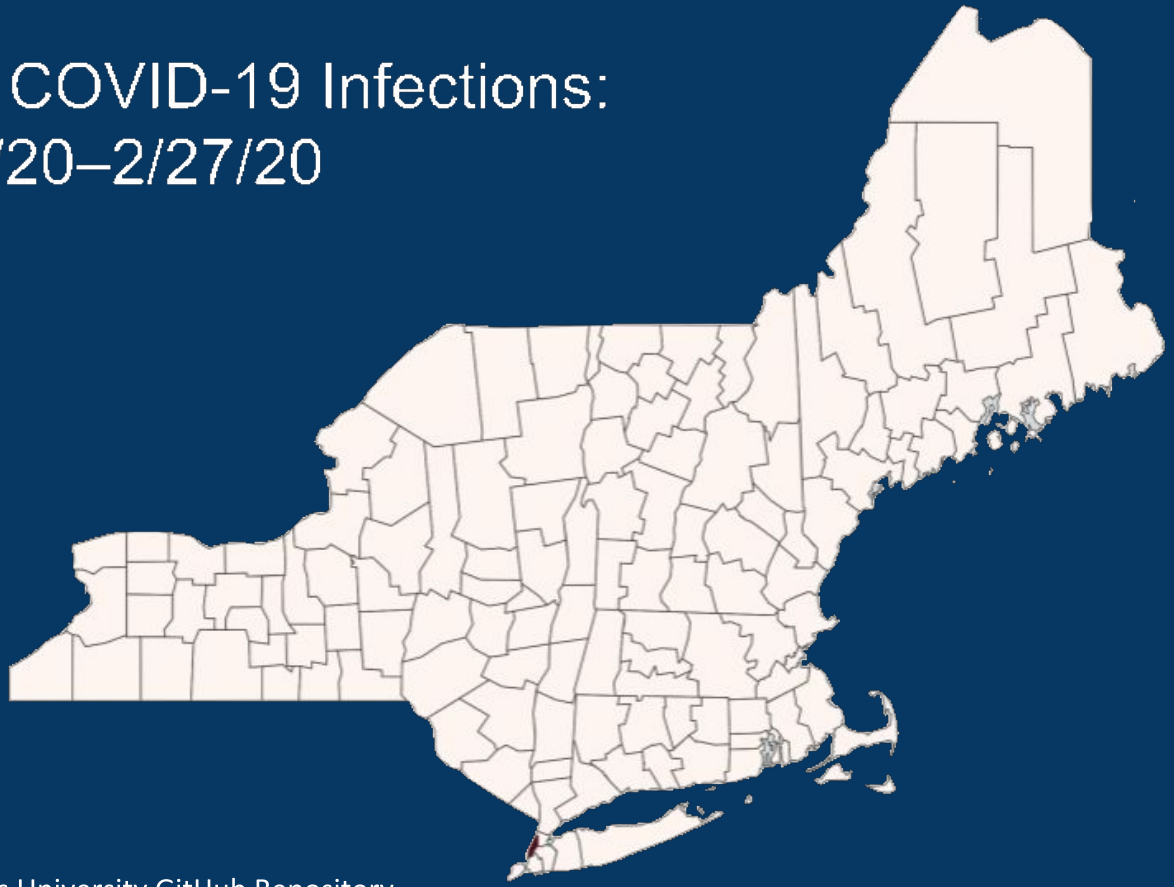
Source: Johns Hopkins University & USA FACTS

Regional Monitoring: Drive Time from Vermont



Source: Raw data from Johns Hopkins University and ESRI Services (check DFR.Vermont.Gov for dynamic map)

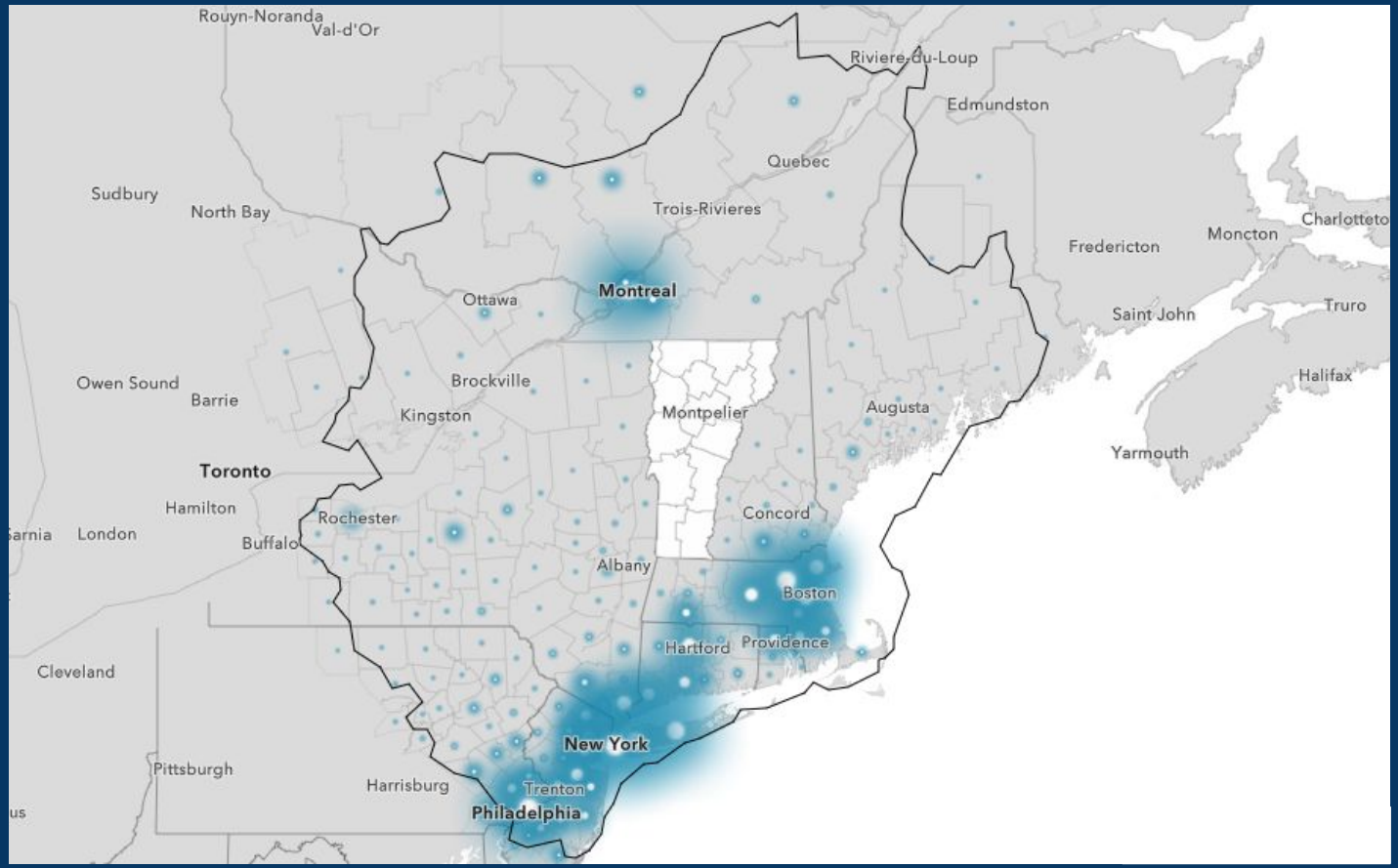
Regional Monitoring: New Case Heat Map



Source: Johns Hopkins University GitHub Repository

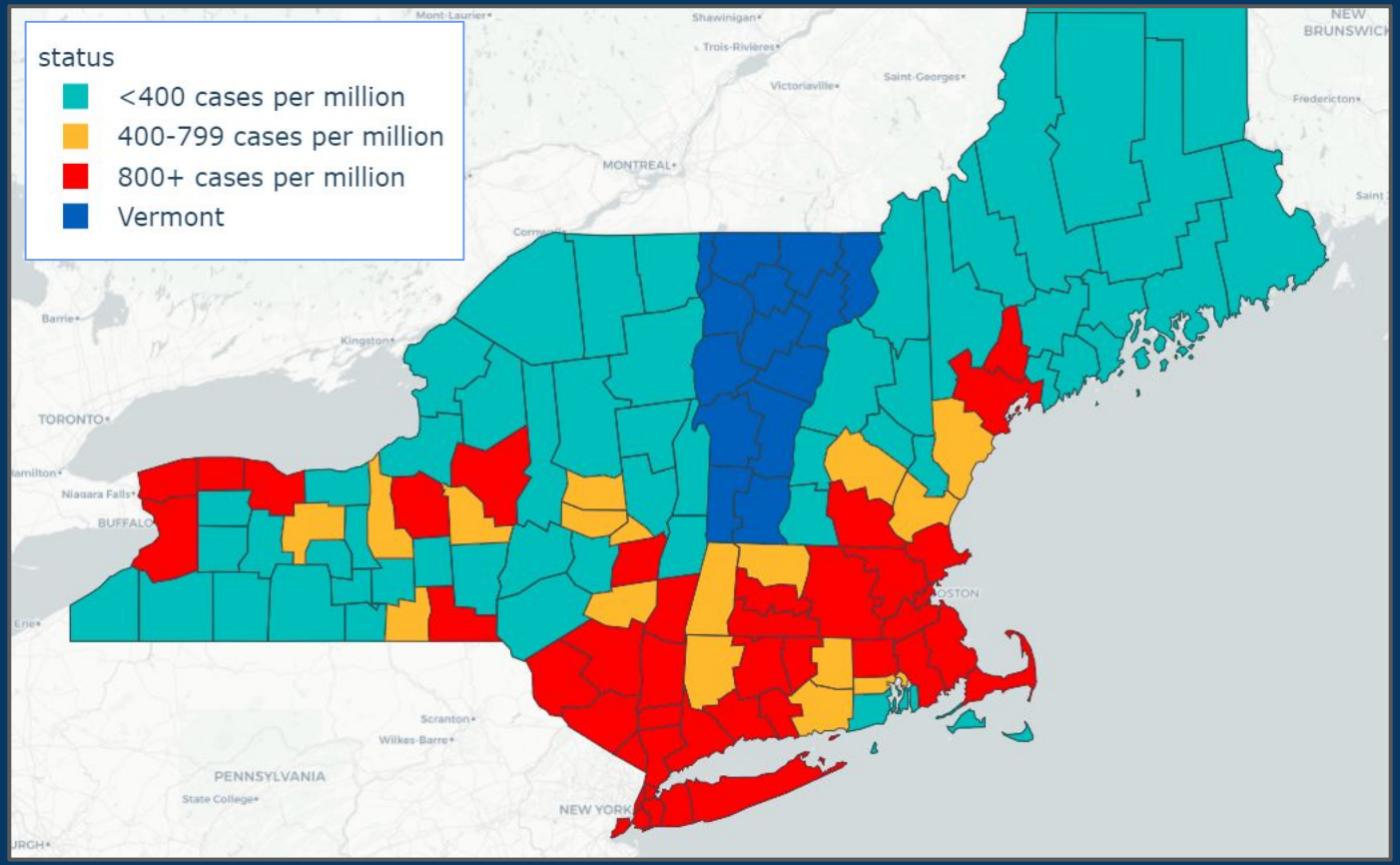
Expanding the Map: Leisure Travel Policy

Regional Monitoring: Drive Time from Vermont



Source: Raw data from Johns Hopkins University and ESRI Services (check DFR.Vermont.Gov for dynamic map)

Reopening Vermont: County-level Active Cases



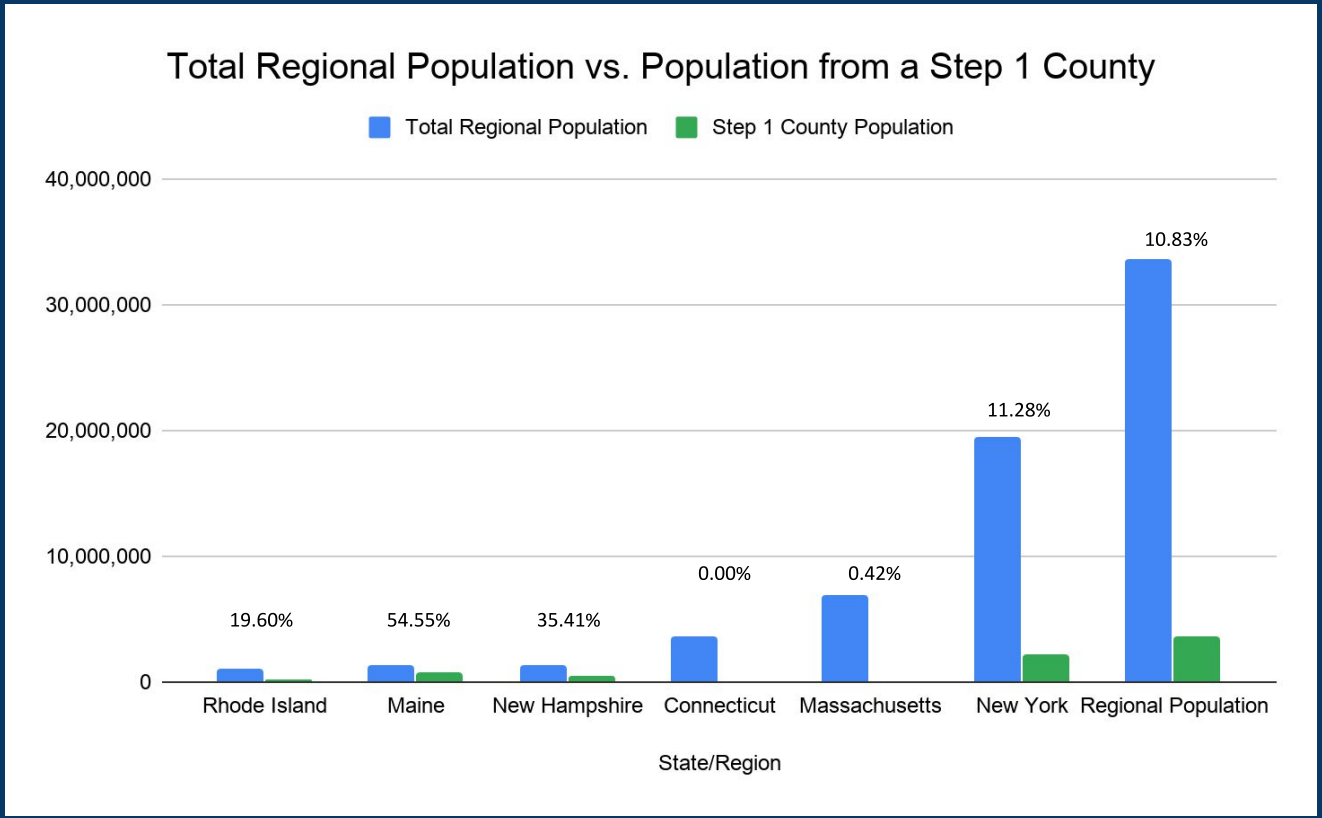
Source: Raw data from Johns Hopkins University date June 4, 2020 (dynamic map available at Vermont ACCD site)

Leisure Travel Policy: Step 1

Effective June 8, 2020

- Travelers to and from a Step 1 County will not be subject to the 14-day quarantine
- Travelers must arrive via personal vehicle without stopping
- Travelers required to sign up for daily symptom check reminders with Sara Alert
- Travelers are reminded to safely connect with friends and family

Leisure Travel Policy: Step 1



Source: Raw data from Johns Hopkins University date June 4, 2020 (dynamic map available at Vermont ACCD site)