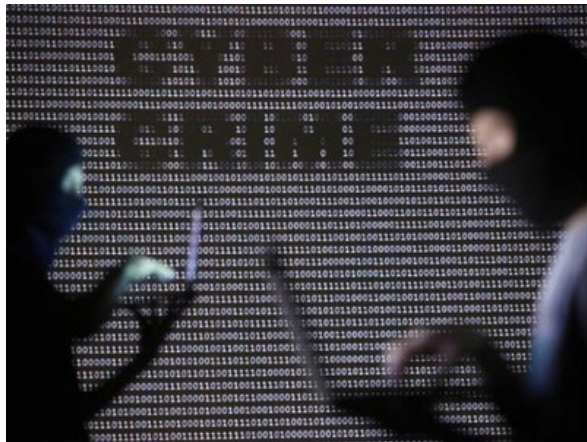


# Cybersecurity

## What are the risks to TSMO/ITS Infrastructure?



# Cybersecurity

Cyber Crime is up

**600% POST-PANDEMIC**

**\$3.86 MILLION**

is the global average cost of a data breach

**ONLY 16% OF EXECS**

say they are prepared to deal  
with cyber risk





# Cybersecurity Risks

- What is the impact if someone takes control or disables any TSMO/ITS Infrastructure?
  - What can go wrong?
- How does this impact Traffic Operations?
- How does this impact the agency?
- How do you incorporate Cybersecurity solutions within existing procurement processes?



# Lose control of infrastructure



# Impact to Traffic Operations

- Impact to driver and vulnerable user safety
- Impact to Highway Safety and Mobility
- Inability to manage traffic during an incident
- Inability to manage a severe weather event
- Reputation loss and erosion of public trust
- High recovery/remediation costs



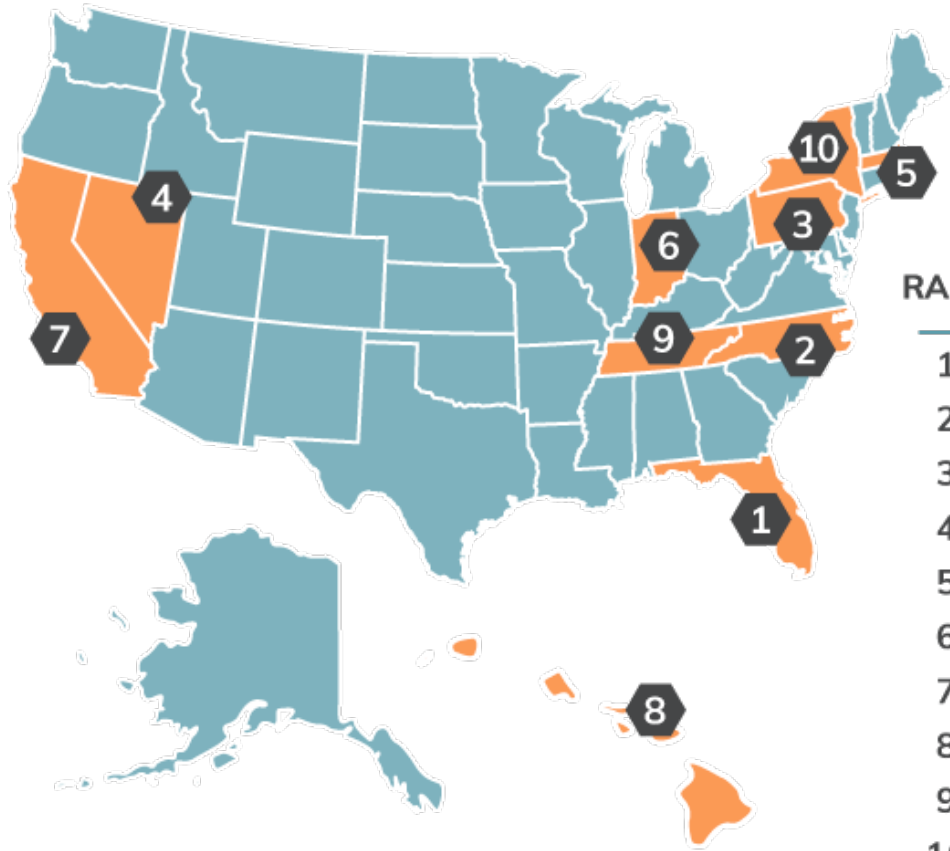


# Impact the Agency or Client

## WORST DMV & DOT DATA BREACHES BY STATE

 AutoInsurance.org

RANK	STATE	PEOPLE IMPACTED	DEPARTMENT BREACHED
1	Florida	133,000	US DOT
2	North Carolina	65,013	NC DOT & DMV
3	Pennsylvania	11,400	PA DOT
4	Nevada	8,800	NV DMV
5	Massachusetts	7,202	MA DOT's RMV
6	Indiana	4,000	US DOT
7	California	3,200	CA DMV
8	Hawaii	1,892	HI DOT
9	Tennessee	500	TN DOT
10	New York	200	NY DMV



# Fit within procurement process

- How to develop system specifications/requirements?
- Requirements for Solution/Submittal approval?
- How to test for Cyber Security?
  - White box vs. Black Box Testing
- How do you know if protection does not meet requirements?
- How to maintain Cyber Security protection?
- Ensure adequate funding for cybersecurity is included in all projects

## Black Box Vs White Box Testing



# City of Tampa ATMS

Project: \$39M, 375 Intersections, 50 CCTVs, 125 Miles of Fiber, 40 RSU, ATMS S/W, AI Prediction S/W, NMS, 10G Network

- Included Cyber Security Protection as part of project not a bolt on later.
- RSU & Wireless Networks most vulnerable
- Added 3<sup>rd</sup> party cyber security certification for devices
- Added white box testing certification
- Added basic intrusion detection testing
- Well planned, but DB Firm did not coordinate cabinet build with cyber security device install and required a separate field visit to add devices

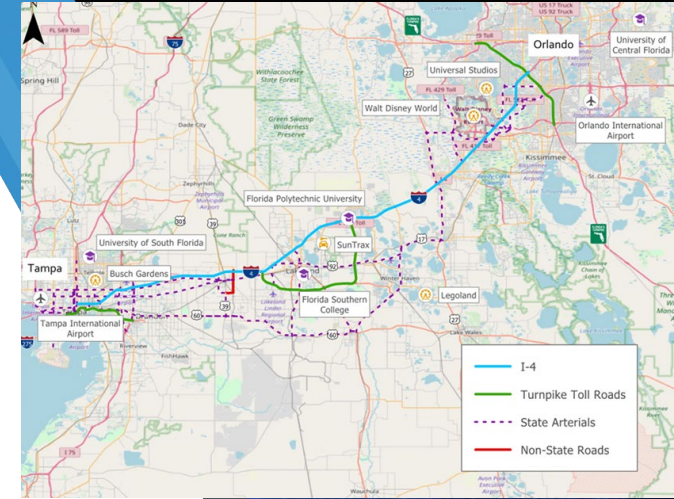




# Tampa I-275 ICM Project

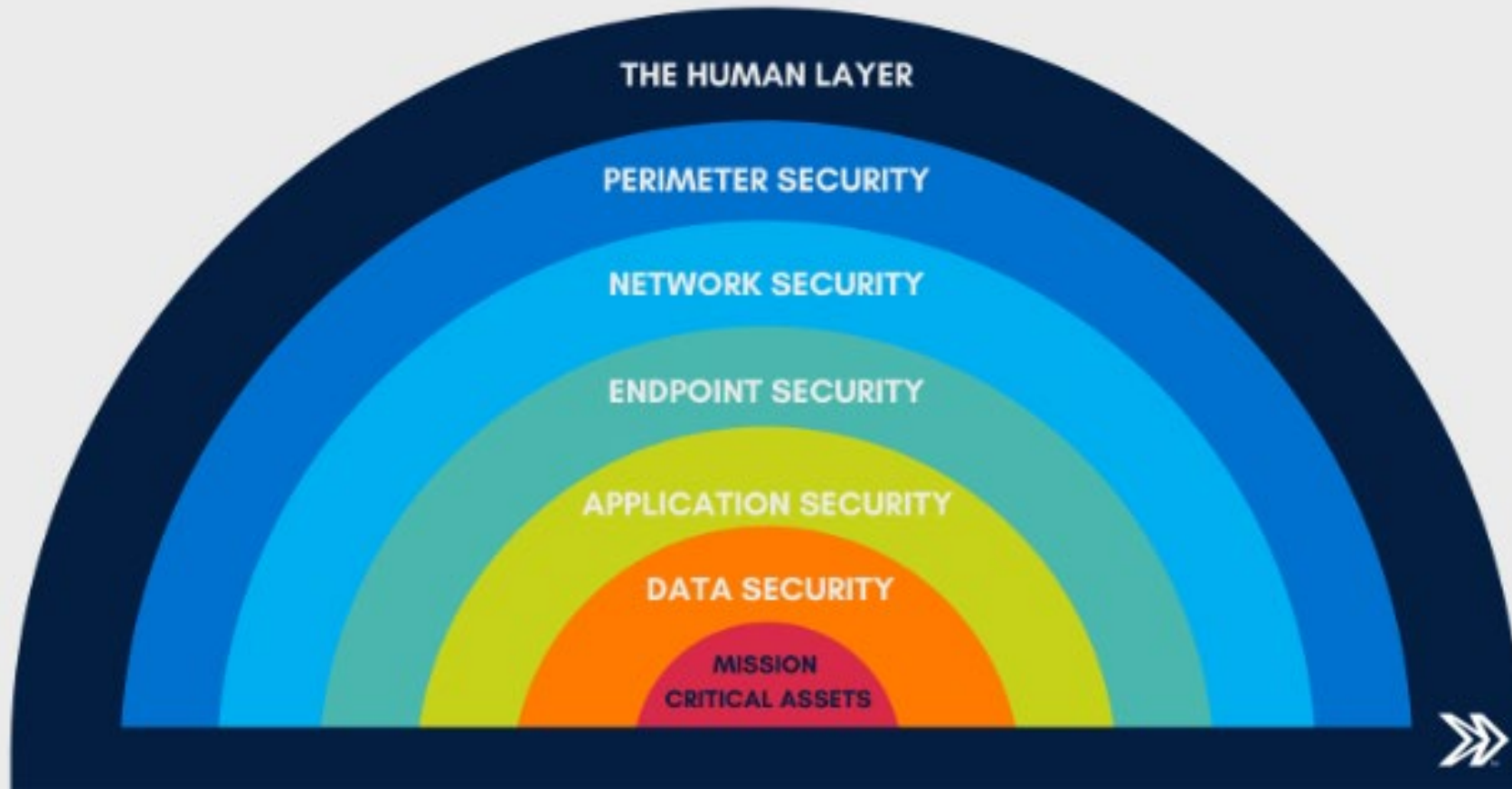
Project: \$30M, 80 RSU, 50BT, 50CCTV, 160 DMS, AI ICM  
Predictive S/W & H/W solutions

- Protected RSUs, most vulnerable and integrated with near-miss crash detection and signal controller
- Added 3<sup>rd</sup> party cyber security certification for devices
- Added white box testing certification
- Added basic intrusion detection testing
- Developed an improved RFP to ensure cybersecurity was implemented across all operational platforms
- Leveraged City of Tampa ATMS Cyber Security deployment



# Cybersecurity Good Practices

## THE 7 LAYERS OF CYBERSECURITY



PRIVATE IP VS PUBLIC IP

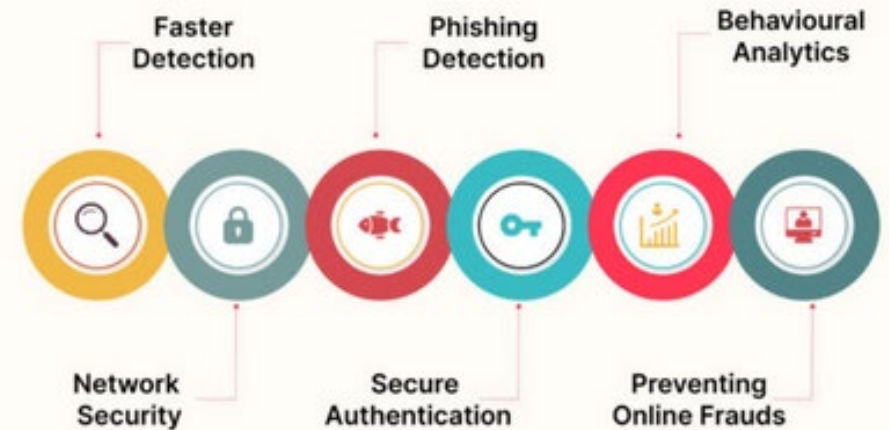


# Cybersecurity Good Practices

## 9 STEPS TO CYBERSECURITY



## AI and ML in CyberSecurity





# Contact Info

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