Maryland Statewide Truck Parking Study

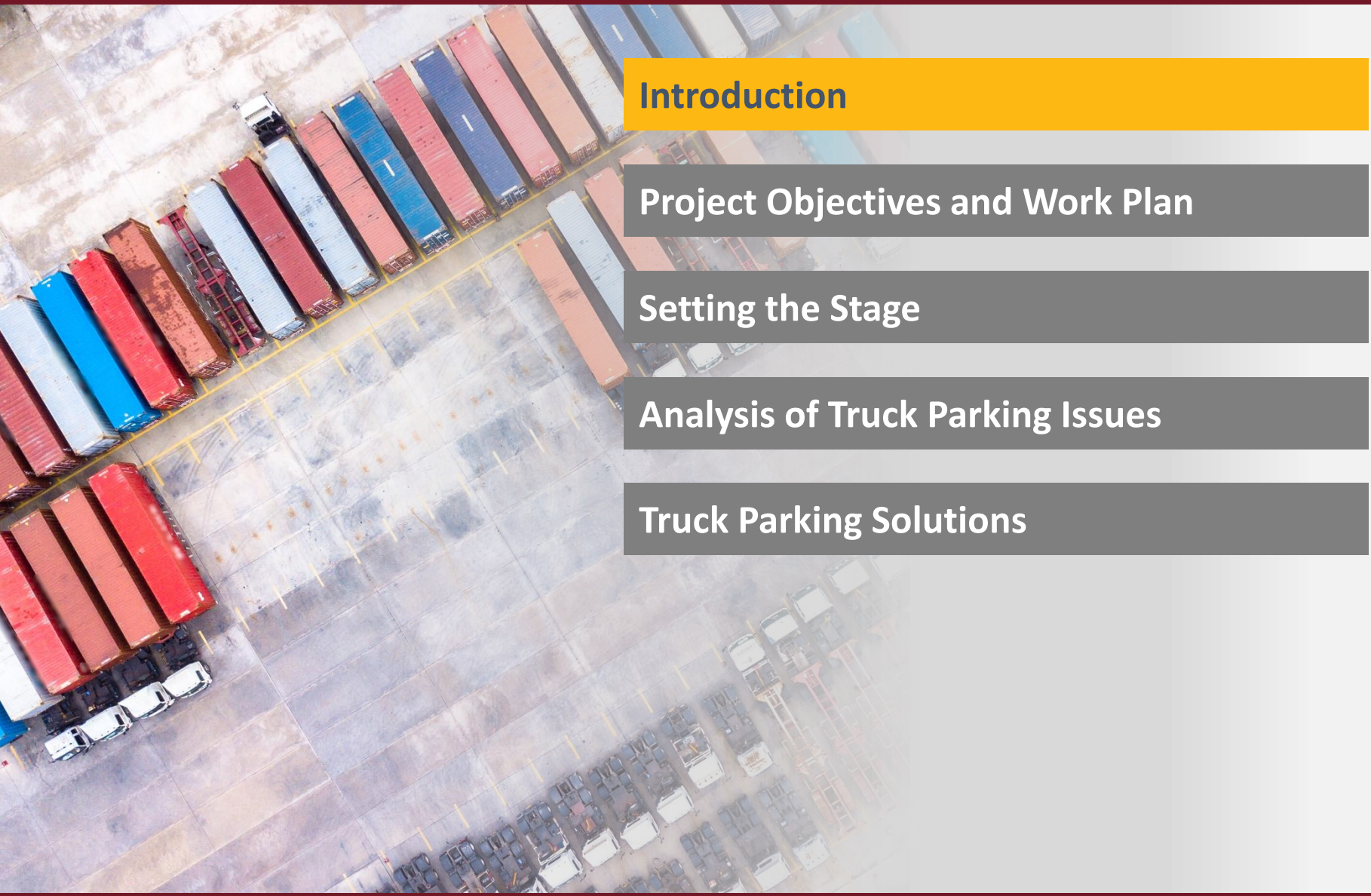
I-81 Corridor Coalition – Annual Meeting
November 15, 2019

MARYLAND DEPARTMENT OF TRANSPORTATION

ICF

CPCS

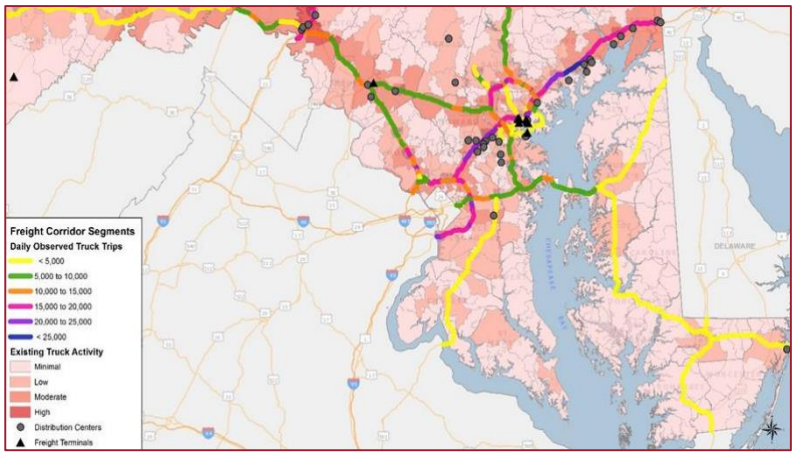
Agenda



- **Introduction**
- Project Objectives and Work Plan
- Setting the Stage
- Analysis of Truck Parking Issues
- Truck Parking Solutions

Previous Freight Planning Studies & References

- 2009 Maryland Statewide Freight Plan
- 2012 SHA/MDTA Freight Implementation Plan
- Maryland's Strategic Goods Movement Plan – 2015
- MD Excellerator - Performance Measure SHA 3.4 which aims to document the amount of Illegal Truck Parking occurring along Maryland State Roadways
- Maryland's Strategic Goods Movement Plan – 2017 Update



Source: 2017 Maryland Strategic Goods Movement Plan

Background

MAP-21 (2012) and Fast Act (2015) transportation legislation

Includes requirements and funding to address freight mobility within the statewide multimodal infrastructure network.

- Under Map-21, Jason's Law was introduced to ensure that state DOTs were providing safe and secure parking areas for the trucking industry.

Truck Parking Utilization at Welcome Centers & Rest Areas

SHA Truck Parking Facilities - Usage Chart

Truck Stop	Roadway	County	Municipality	Truck Spaces Available	Average # of Trucks						Highest # of Trucks						Annual Average Truck Volume	Average Truck %	Usage (%)					
					2012	2013	2014	2016	2017	2018	2012	2013	2014	2016	2017	2018			2012	2013	2014	2016	2017	2018
Youghiougheny Overlook Welcome Center	I-68 EB Friendsville	Garrett	Friendsville	22	18	17	21	19	21	24	24	23	26	27	27	31	3200-6100	13-30%	82%	77%	95%	86%	95%	109%
I 95 Welcome Center - Northbound	I-95 SB Laurel	Howard	Laurel	21	32	54	50	52	79	68	50	62	62	75	95	101	16000-28000	9-23%	152%	257%	238%	248%	376%	324%
I 95 Welcome Center - Southbound	I-95 NB Laurel	Howard	Laurel	46	40	38	43	58	51	53	43	46	55	56	64	61	16000-28000	9-23%	87%	83%	93%	126%	111%	115%
Maryland House - Northbound	I-95 NB Aberdeen	Cecil	Aberdeen	28	36	*	43	42	68	46	40	*	52	52	93	52	16000-28000	9-23%	129%	N/A	154%	150%	243%	164%
Maryland House - Southbound	I-95 SB Aberdeen	Cecil	Aberdeen	21	37	*	31	33	14	35	47	*	40	41	35	44	16000-28000	9-23%	176%	N/A	148%	157%	67%	167%
Chesapeake House - Northbound	I-95 NB North East	Cecil	North East	35	20	26	25	29	27	30	25	37	30	38	45	40	16000-28000	9-23%	57%	74%	71%	83%	77%	86%
Chesapeake House - Southbound	I-95 SB North East	Cecil	North East	37	18	16	14	19	13	16	24	22	20	33	16	21	16000-28000	9-23%	49%	43%	38%	51%	35%	43%
U.S. 13 Welcome Center - Northbound	US 13 NB at VA State Line	Worcester	Pocomoke City	14	18	20	20	3	1	1	23	24	26	7	1	1	1500-3000	5-16%	129%	143%	143%	21%	7%	7%
Bay Country Welcome Center	US 301 Centerville	Queen Anne's	Centerville	25	14	14	19	22	24	28	22	16	25	33	34	35	2900-5200	18-36%	56%	56%	76%	88%	96%	112%
I-70 Welcome Center - Eastbound	I-70 EB South Mountain	Frederick	Myersville	26	41	39	38	37	41	43	48	47	43	44	50	47	6000-16000	11-30%	158%	150%	146%	142%	158%	165%
I-70 Welcome Center - Westbound	I-70 WB South Mountain	Frederick	Myersville	23	25	24	30	23	33	23	35	33	46	30	44	45	6000-16000	11-30%	109%	104%	130%	100%	143%	100%
I-70 Truck Rest Arera	I-70 EB New Market	Frederick	New Market	9	10	14	13	13	16	14	13	15	18	18	20	21	6000-16000	11-30%	111%	156%	144%	144%	178%	156%

Note: * Under construction for renovations

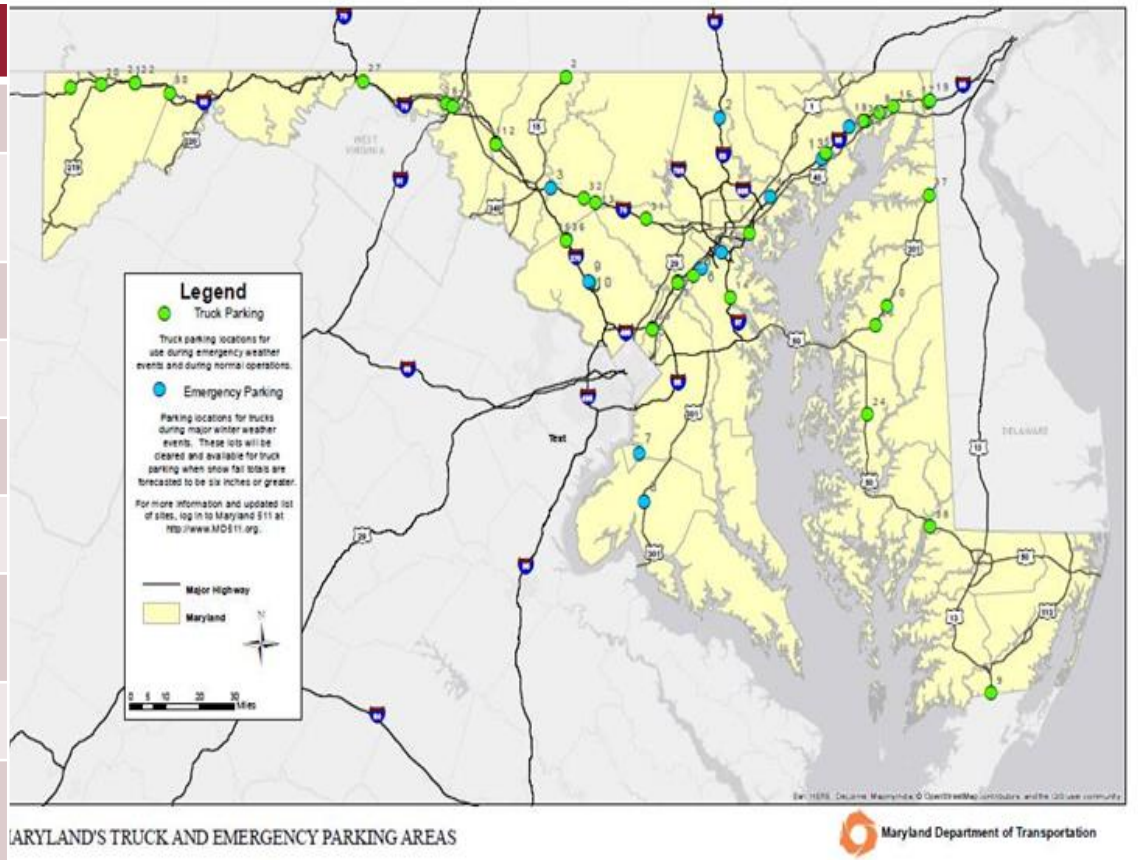
**Was not included in highest ruck parking volumes list

***Not included in counts as this is not located on the existing MD Truck Network

Usage	Percentage
Low	0-25%
Average	25-50%
Moderate	50-75%
Full	75-100%
Over	≥100%

Recent Truck Public Parking Expansions (2010-Present)

Location	Spaces
I-95 SB Welcome Center (Laurel)	41
I-95 NB Welcome Center (Laurel)	*0* (4F issues)
I-495/I-495 Weigh Station/P&R	9
US 301 Bay Country Rest Area	14
I-95 NB Maryland House	28*
I-95 SB Maryland House	21*
I-95 NB Chesapeake House	35*
I-95 SB Chesapeake House	37*
I-70 EB Welcome Center	10+ (in design)
I-70 WB Welcome Center	10+ (in design)



*MDTA facilities

MD Freight Efforts Along I-81

Projects

Maryland's 2020-2025 Consolidated Transportation Program and Freight Financial Plan include projects that address freight mobility within the statewide multimodal infrastructure network.

- I-81, Study to reconstruct I-81 from the West Virginia State Line to the Pennsylvania State Line (Bridge replacement and capacity improvements) – Phases 1-4;
- I-81, Phase 1 – Construction is underway to upgrade and widen I-81 from US 11 in West Virginia to north of MD 63/MD 68 (3.6 miles).

INFRA Grant

MDOT supported and coordinated with the Hagerstown Eastern Panhandle Metropolitan Planning Organization (HEPMPO) in the latest INFRA Grant submission for I-81 in March 2019.

TSMO

Transportation Systems Management and Operations (TSMO) allows states and local jurisdictions to identify strategies that focus on operational improvements before capacity is needed.

- I-81 at I-70 interchange: Merge and Diverge Improvements to widen accel/decel lanes until
  Phase 2 is funded.

Agenda

- Introduction
- **Project Objectives and Work Plan**
- Setting the Stage
- Analysis of Truck Parking Issues
- Truck Parking Solutions

Project Objectives

The Maryland Statewide Truck Parking Study will provide MDOT with the data, context, and actionable solutions needed to advance priority projects and strategies that improve truck parking statewide.

1.) Assess existing truck parking locations and utilization

2.) Assess truck parking needs based on gaps in the system and truck parking demand

3.) Identify truck parking opportunities statewide

4.) Identify funding opportunities including innovative options - exploring P3 and grant opportunities

Expected Output

Identify Truck Parking Supply, Utilization, & Gaps

- Analysis must cover public and private truck parking locations

Define and Prioritize Truck Parking Opportunities & Solutions

- Critical to differentiate the type of project – no “Silver Bullet”

Stakeholder Involvement

Soliciting Public & Private Sector Input & Validation

Approaches to Stakeholder Input	Public Sector Input Required
Working Groups	Recurring involvement in the study, two options: ▪ Internal Working Group ▪ External Working Group
Surveys	General fact-finding and qualitative insights
Consultations	One-on-one discussions, as needed
Truck Parking Workshop	**Free flow discussions of potential solutions to identify and receive input on addressing truck parking issues in Maryland.**

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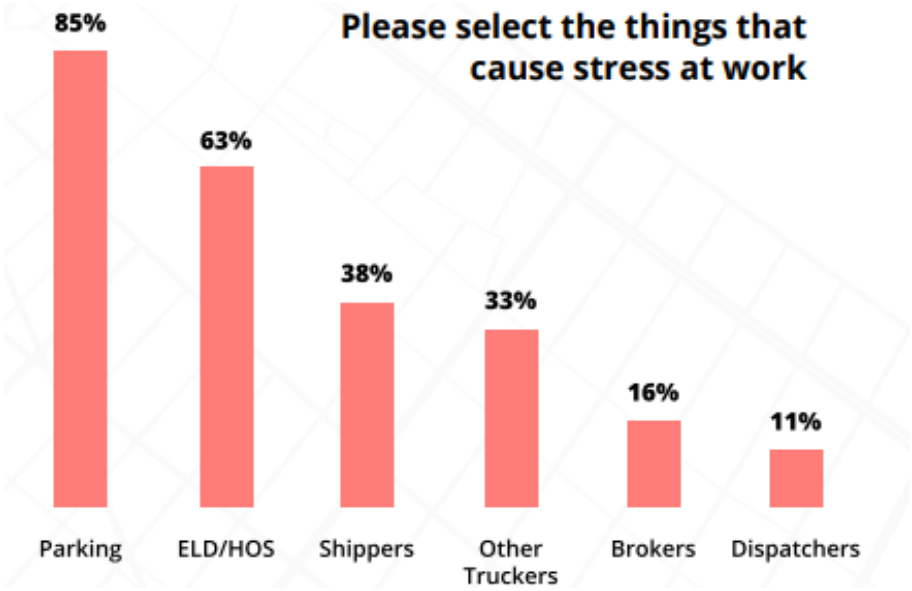
Why a Truck Parking Study?

- **Truck Parking is a Top Issue for Truck Drivers**
- **Truck Parking is Critical to Supply Chains (Compliance and Staging)**
- **Truck Drivers in Maryland Face Truck Parking Shortages**



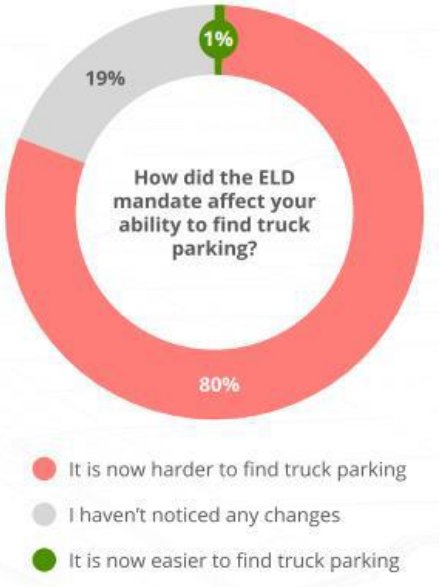
Source: 2018 Trucker Path Survey

- **Inadequate Truck Parking Negatively Impacts**
  - Truck drivers –safety and wages
  - Infrastructure –ramp and shoulder damage
  - Other roadway users –Parked truck in ROW

Hours of Service (HOS) Regulations

- **HOS - Establishes Limits on Driving and On-Duty Time**
  - ➢ Maximum of 11-hours driving and 14-hours on-duty
  - ➢ Required 30-minute break by the 8th hour of driving
  - ➢ 10-hours off-duty to maximize drive and on-duty time

- **HOS – Regulations & Electronic Logging Device (ELD) Mandate**
  - ➢ First regulated in 1938; Latest change in 2013
  - ➢ Rulemaking is currently under review
  - ➢ Deadline for ELD implementation started in Dec. 2017
  - ➢ ELD enforcement began in April 2018
  - ➢ Additional Automatic On-Board Recording Device (AOBRD) replacement deadline in Dec. 2019

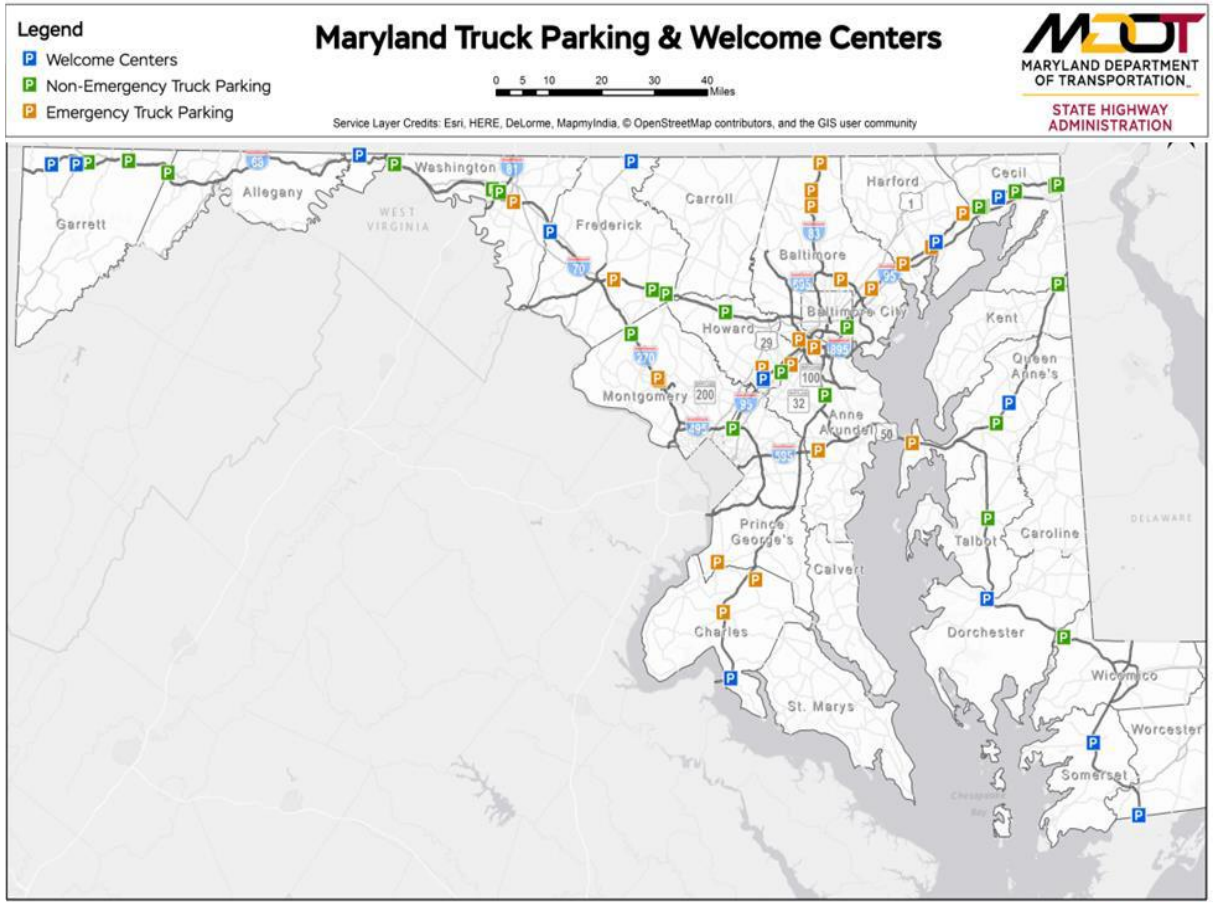


Source: 2018 Trucker Path Survey

Real or Perceived Truck Parking Shortage?

Truck Parking Issues Result if there is a Real or Perceived Shortage of Truck Parking Supply vs Demand

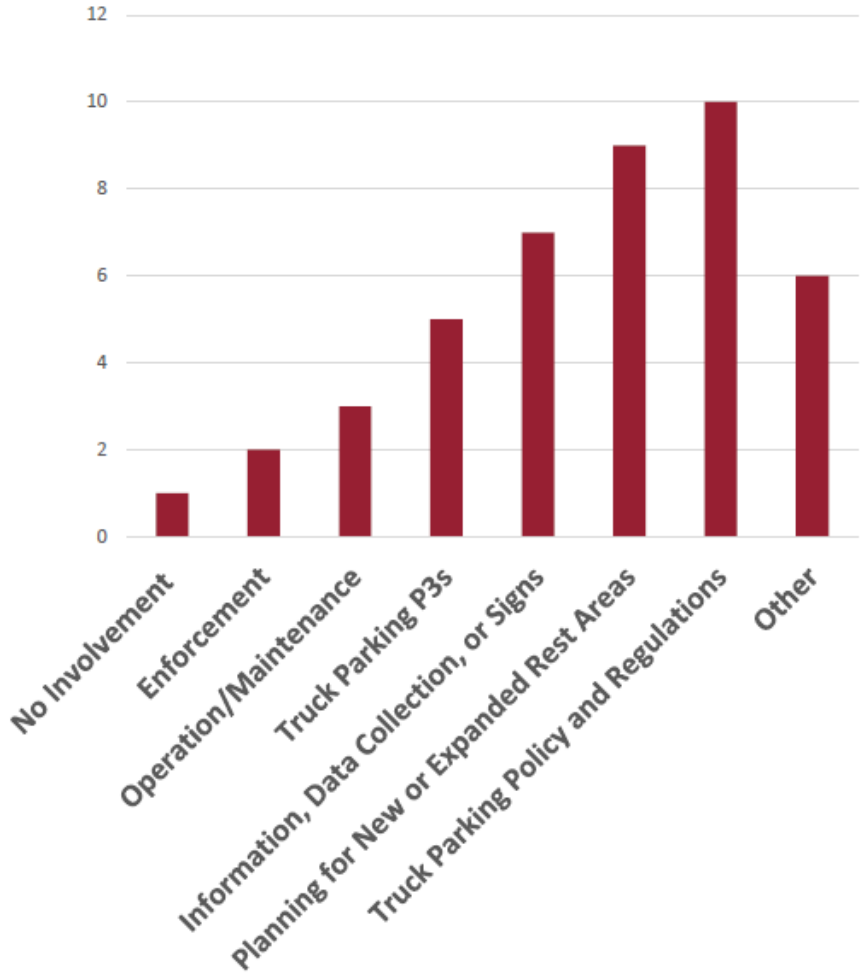
- **Real Shortage:** Not enough public and private spaces to meet demand
- **Perceived Shortage**: Truck parking spaces are available, but drivers do not know about them



Existing Role of MDOT in Truck Parking

- **Survey of Internal MDOT Stakeholders**
  - MDOT is engaged in truck parking throughout the organization
  - Highlights the importance of continued internal engagement

- **Other truck parking activities**
  - Emergency truck parking / resiliency
  - Safety
  - Oversize/Overweight freight



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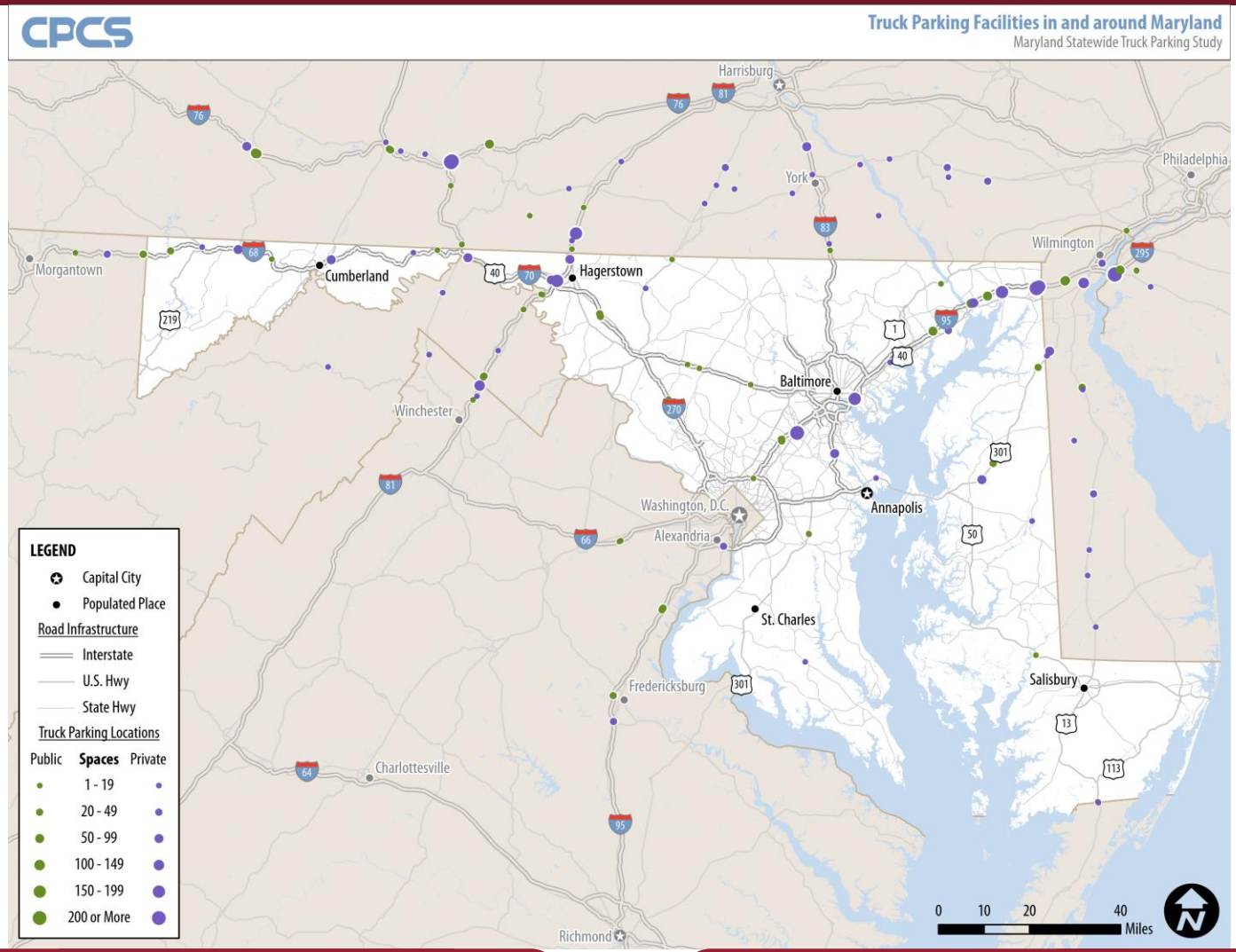
- **Analysis of Truck Parking Issues**
- Truck Parking Solutions

Truck Parking In Maryland



Maryland

2,267 Private Spaces
595 Public Spaces
2,862 Total

25-Miles Around Maryland

2,019 Private Spaces
810 Public Spaces
2,829 Total

Truck Parking Utilization

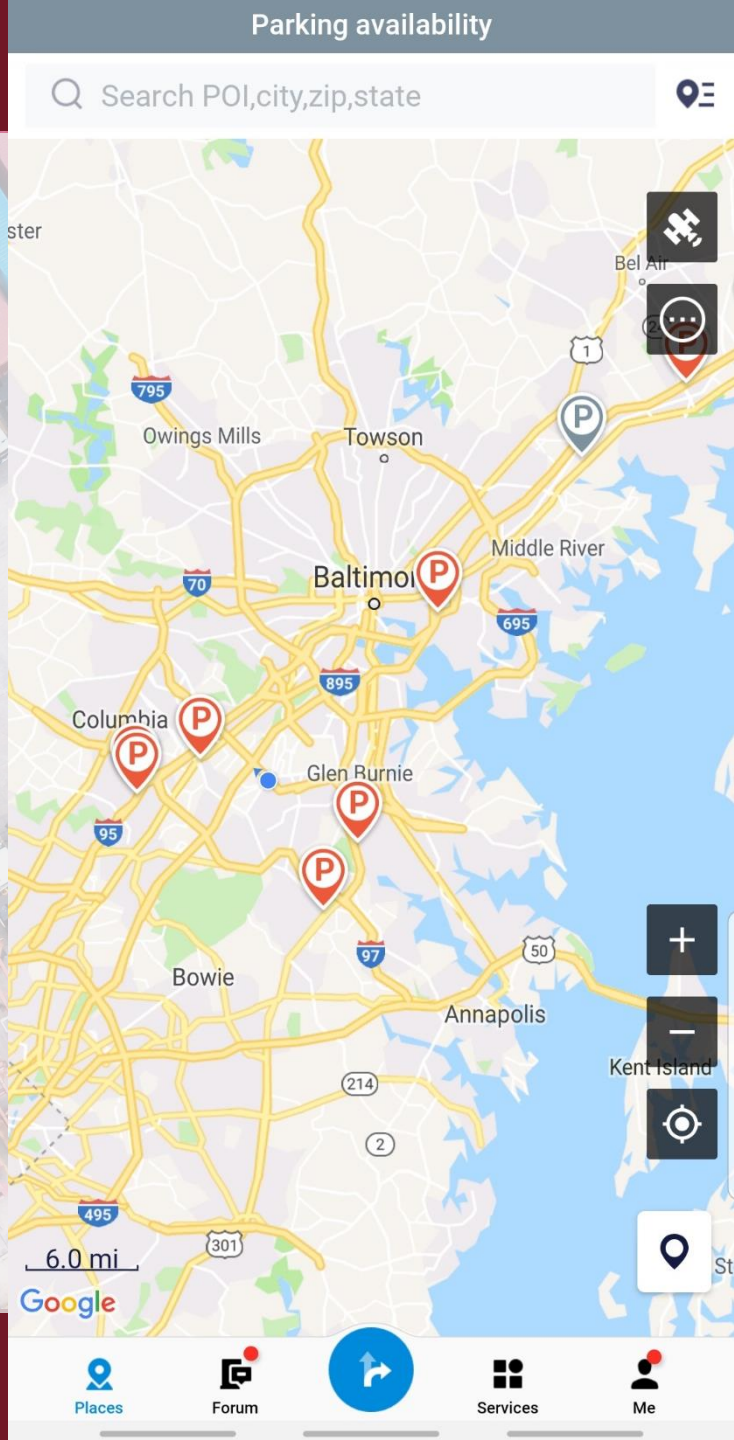
Leveraging the crowd

- > 1 million monthly users validate and update

Information

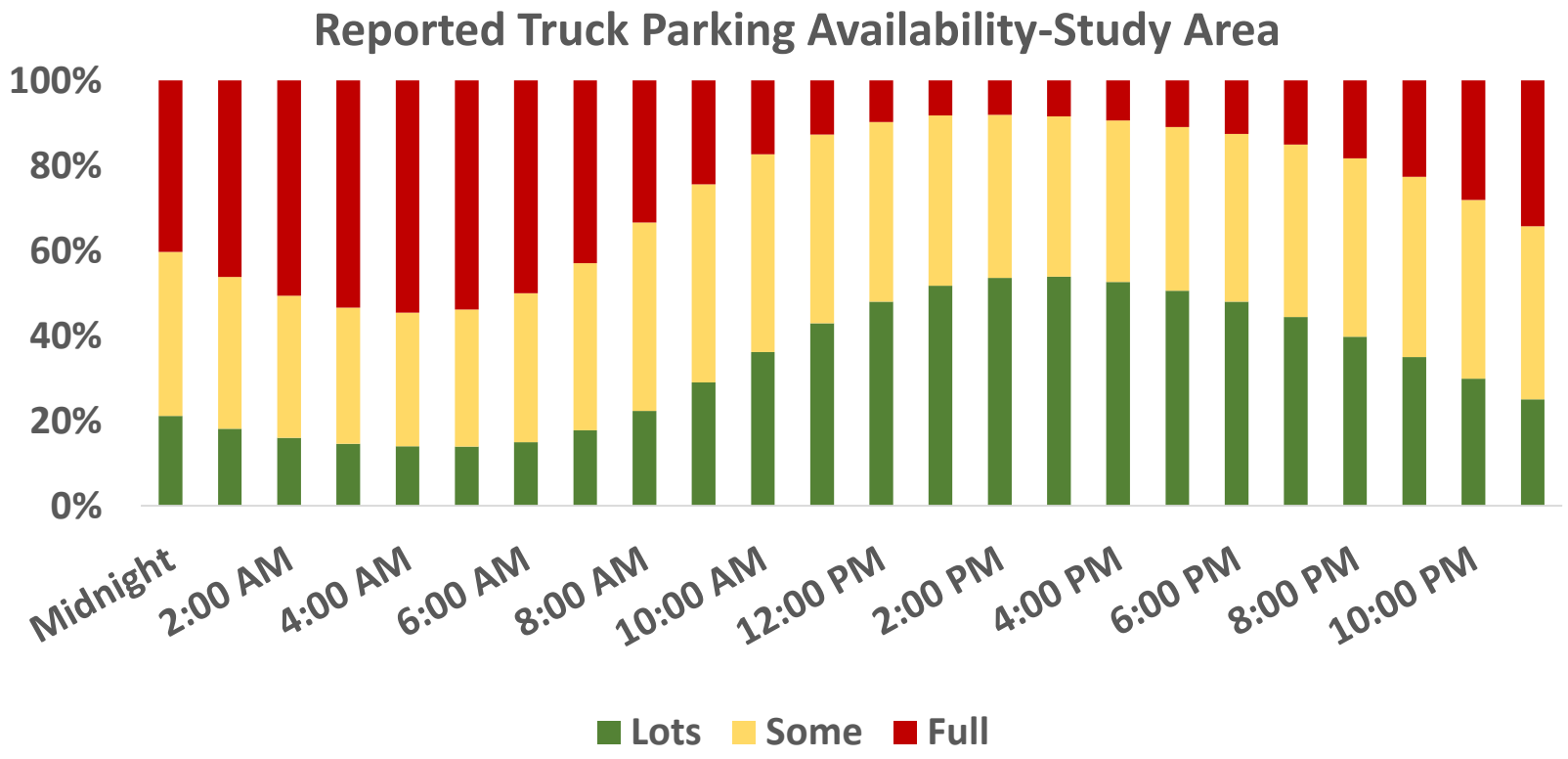
- Number of spots, amenities, history, and reviews

Location based prompts to update truck parking utilization



Study Area Truck Parking Utilization

- **Truck parking is most difficult to find overnight**
  - 4pm to 4am spaces are filling



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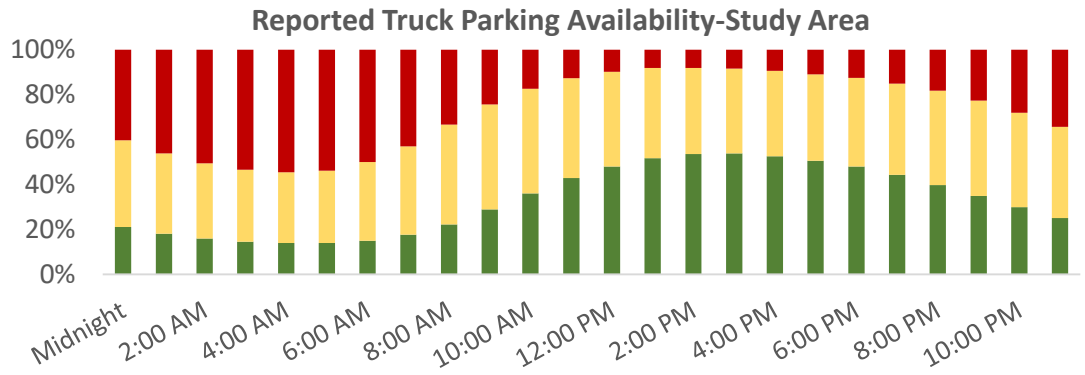
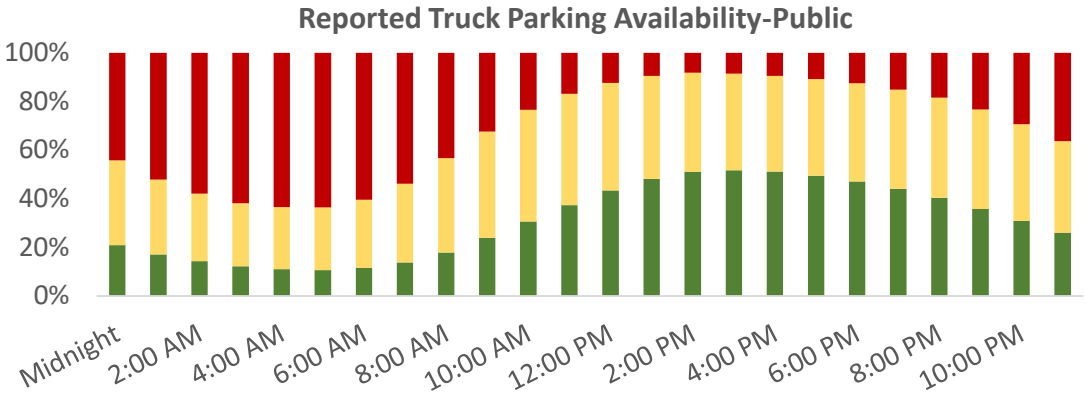
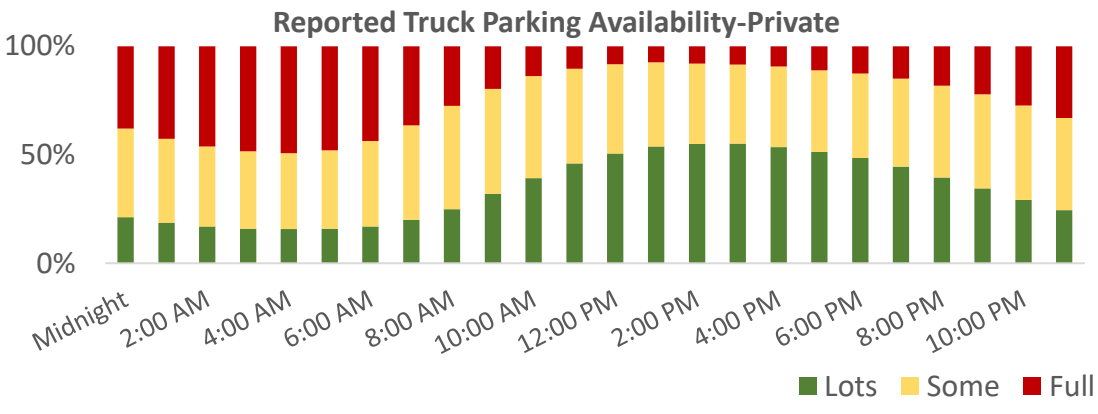






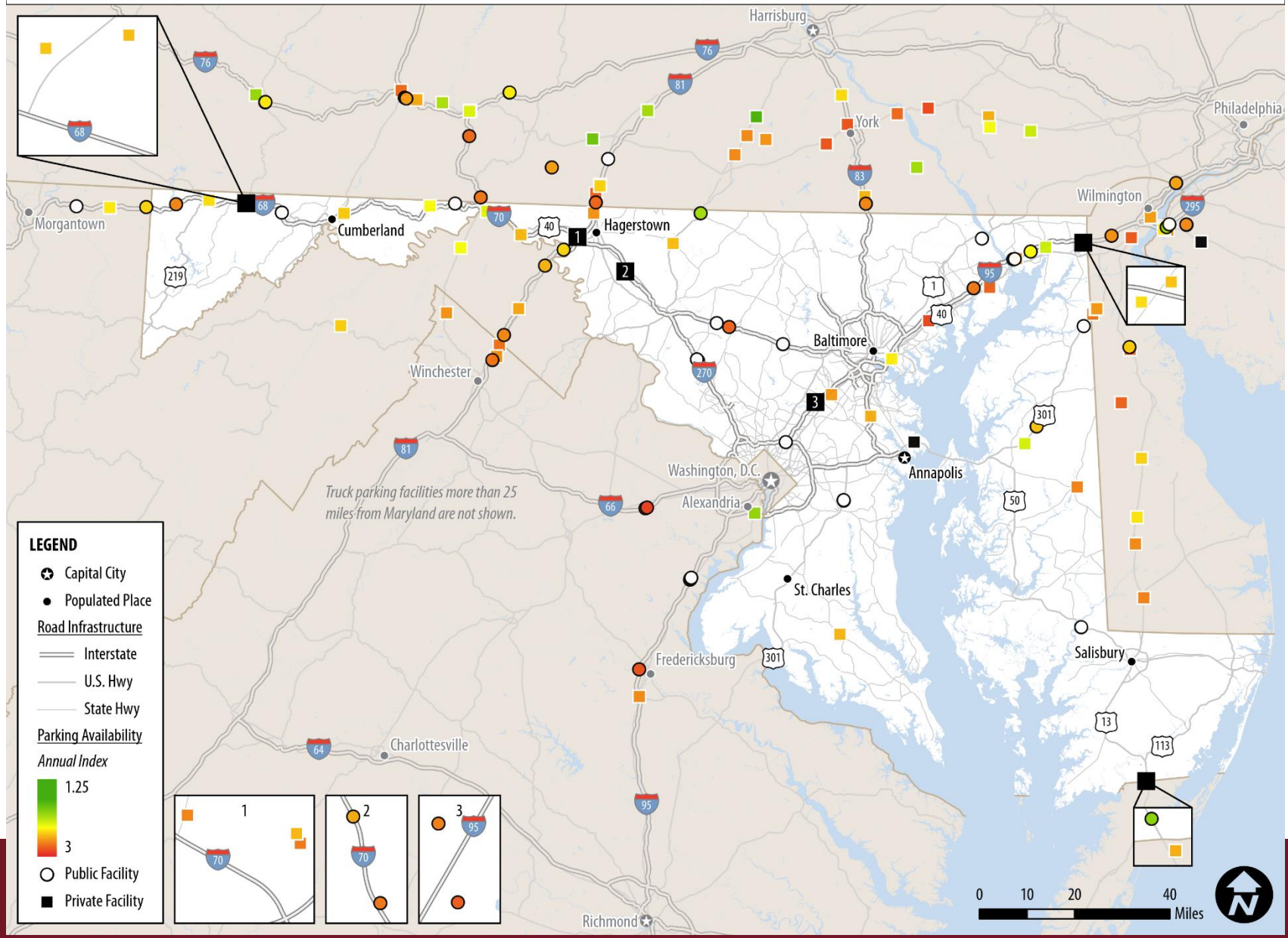
- **Truck parking is most difficult to find overnight**
- **Public locations fill quicker than private locations**

Utilization 9am – 10am

CPCS

Weighted Availability = 43%

9am - 10am

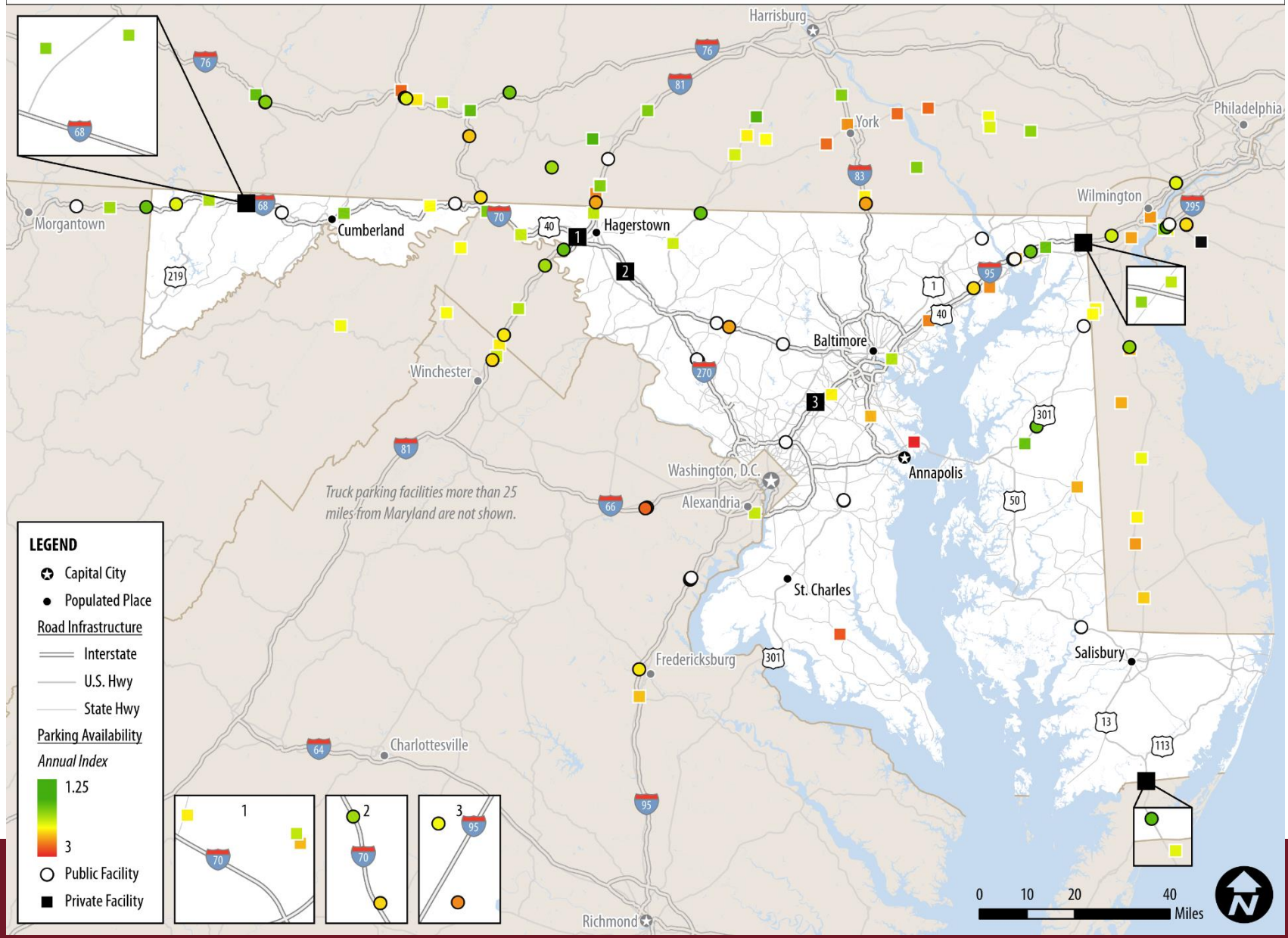


Utilization 3pm – 4pm

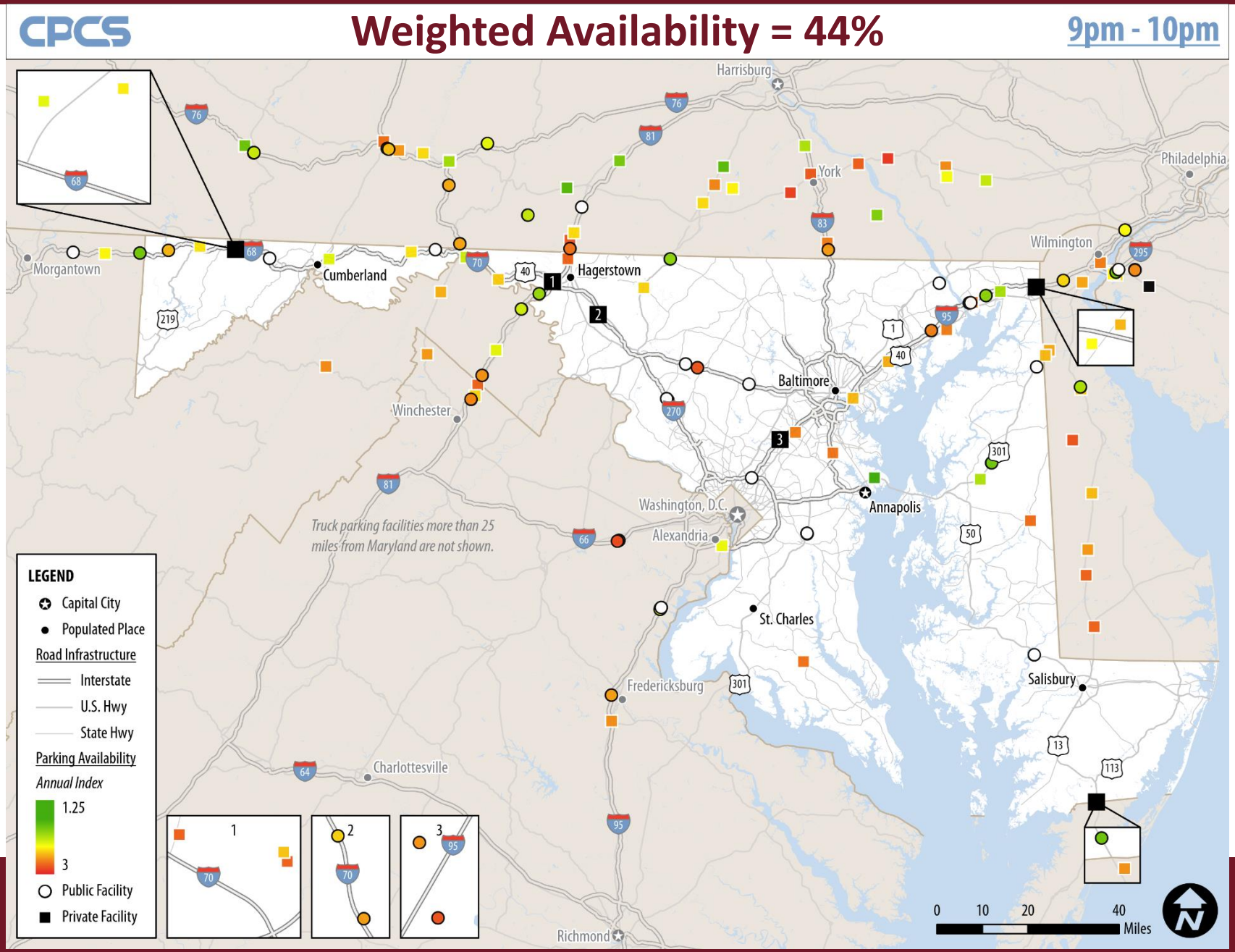
CPCS

Weighted Availability = 66%

3pm - 4pm



Utilization 9pm – 10pm



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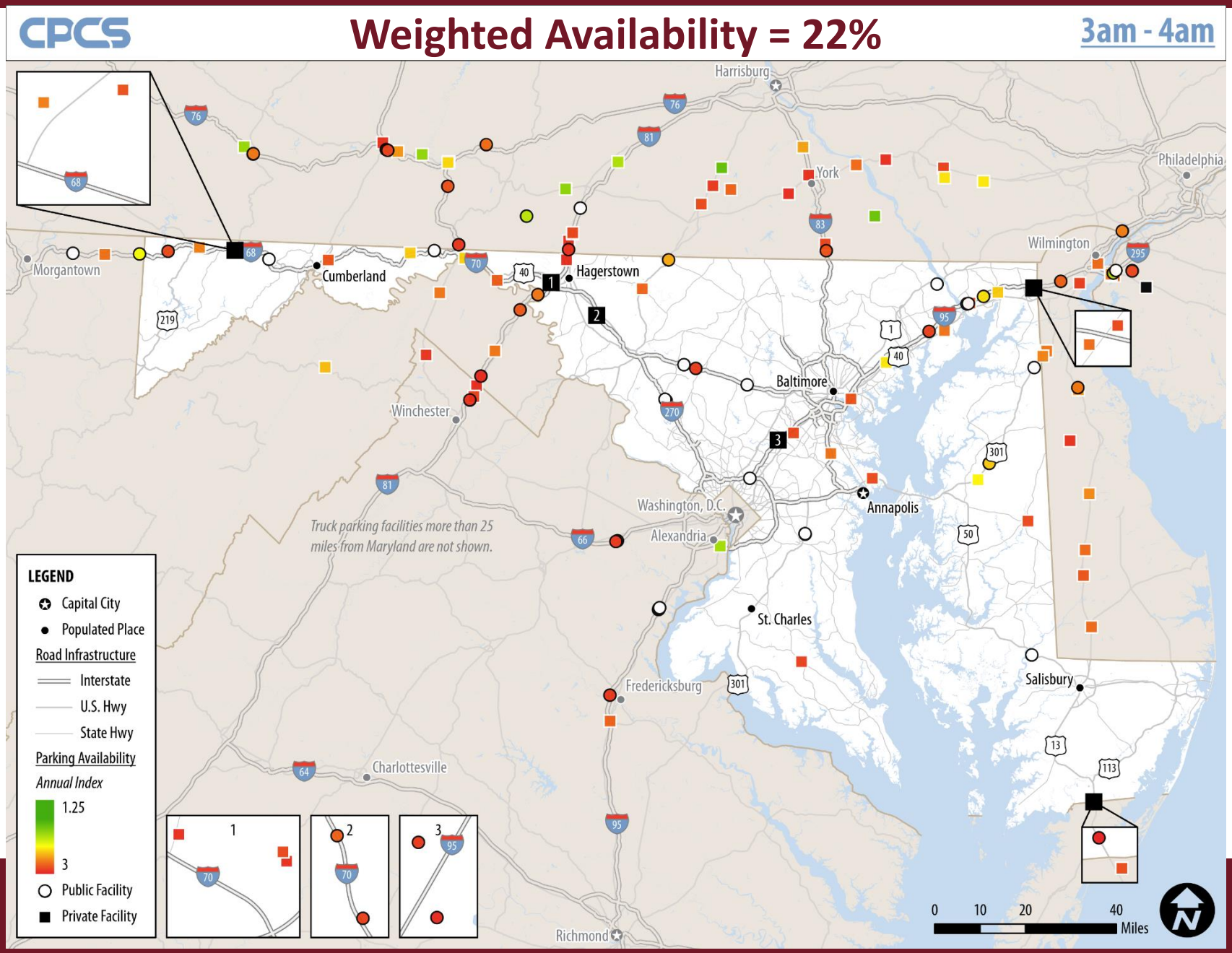
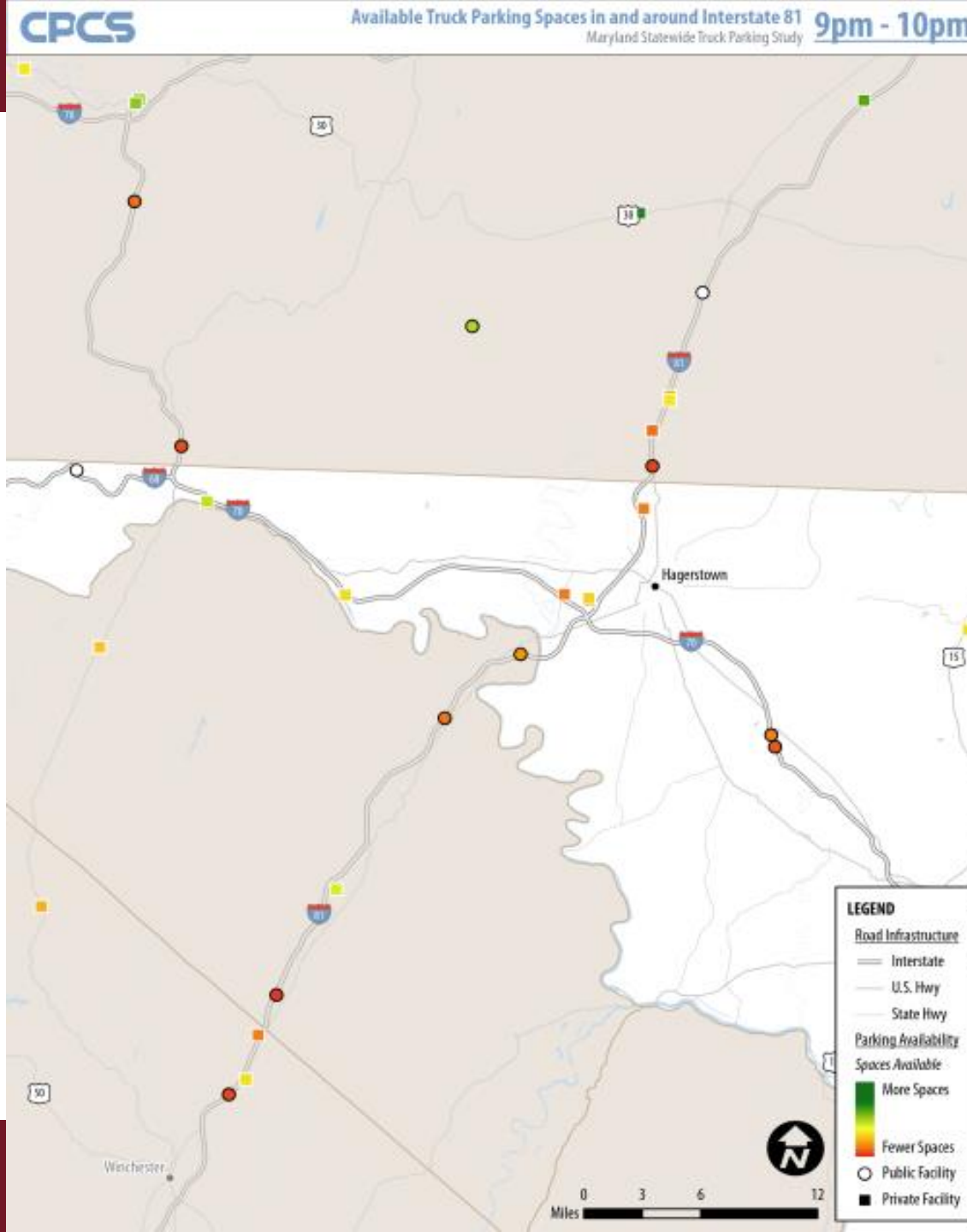


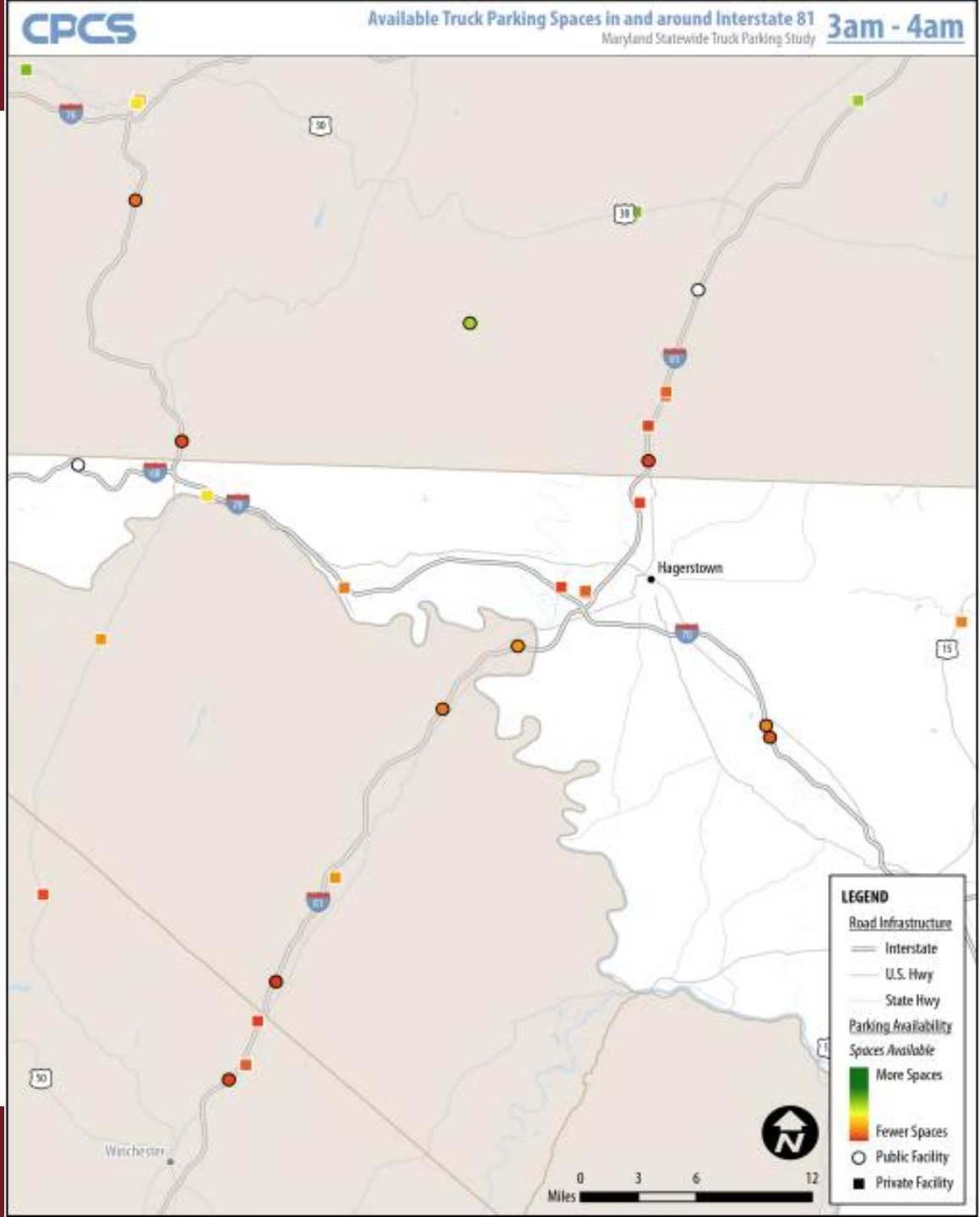
Utilization on the I-81 Corridor

9pm – 10pm



Utilization on the I-81 Corridor

3am – 4am



Findings of the Trucker Path Analysis

- **Maryland has 3.8 private truck parking spaces for every public space**
- **Truck parking is most difficult to find overnight, especially in the early morning**
- **Interstates and urbanized areas have high truck parking utilization**
  - Especially I-81, I-95, and the area around Baltimore and Hagerstown
- **Public truck parking locations have higher utilization rates overnight than private truck stops**

WHAT is the Best Way to Coordinate for This Corridor?

Truck GPS Data Examples

- Undesignated Truck Parking occurs statewide but is heaviest on IS and near urban areas

Williamsport, MD

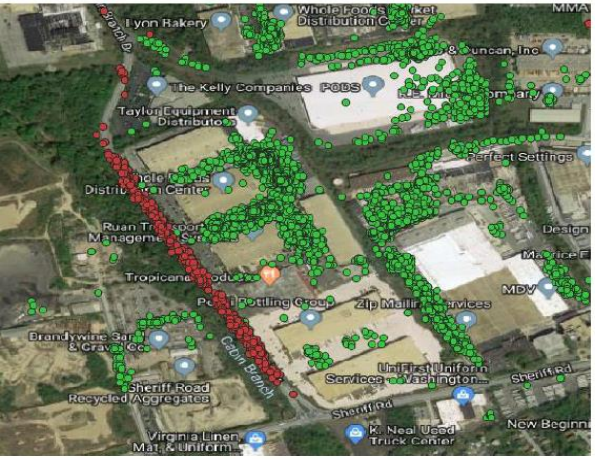
Cluster of Stop Events

Street View

Source: CPCS Analysis of INRIX Data, Imagery ©2018 Google

Landover, MD

Cluster of Stop Events

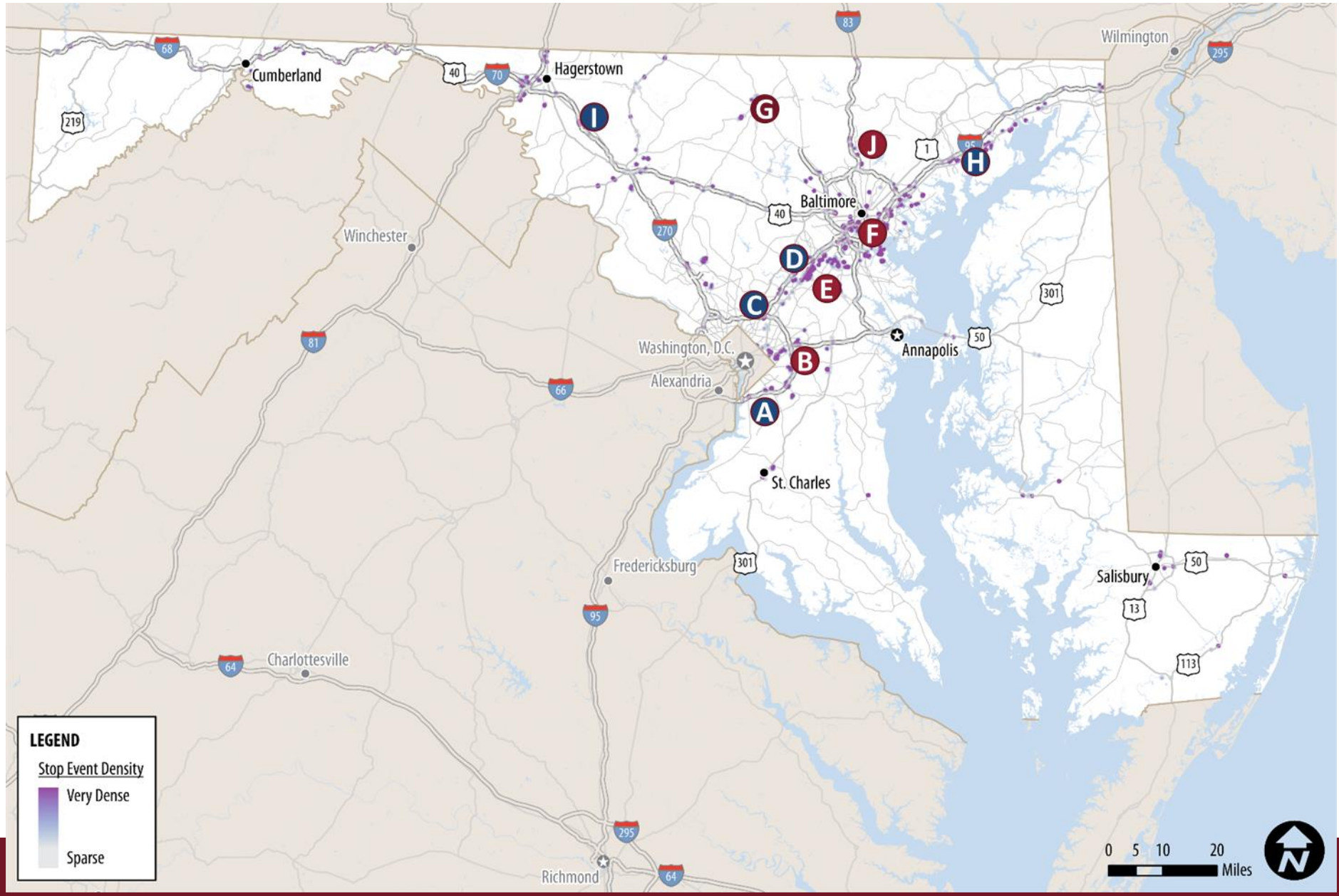


Source: CPCS Analysis of INRIX Data, Imagery ©2018 Google

Street View

- Frequent Locations Used:
  - On/Off ramps
  - Frontage Roads & Connectors to Truck Stops, Hotels / Motels, and Warehouses
  - Vacant Lots & “Authorized Vehicles Only” areas

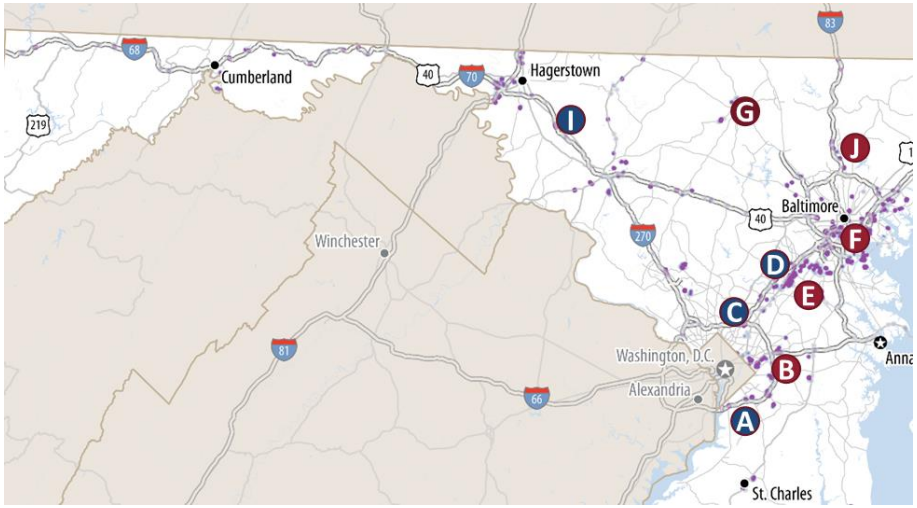
Undesignated Truck Parking Clusters

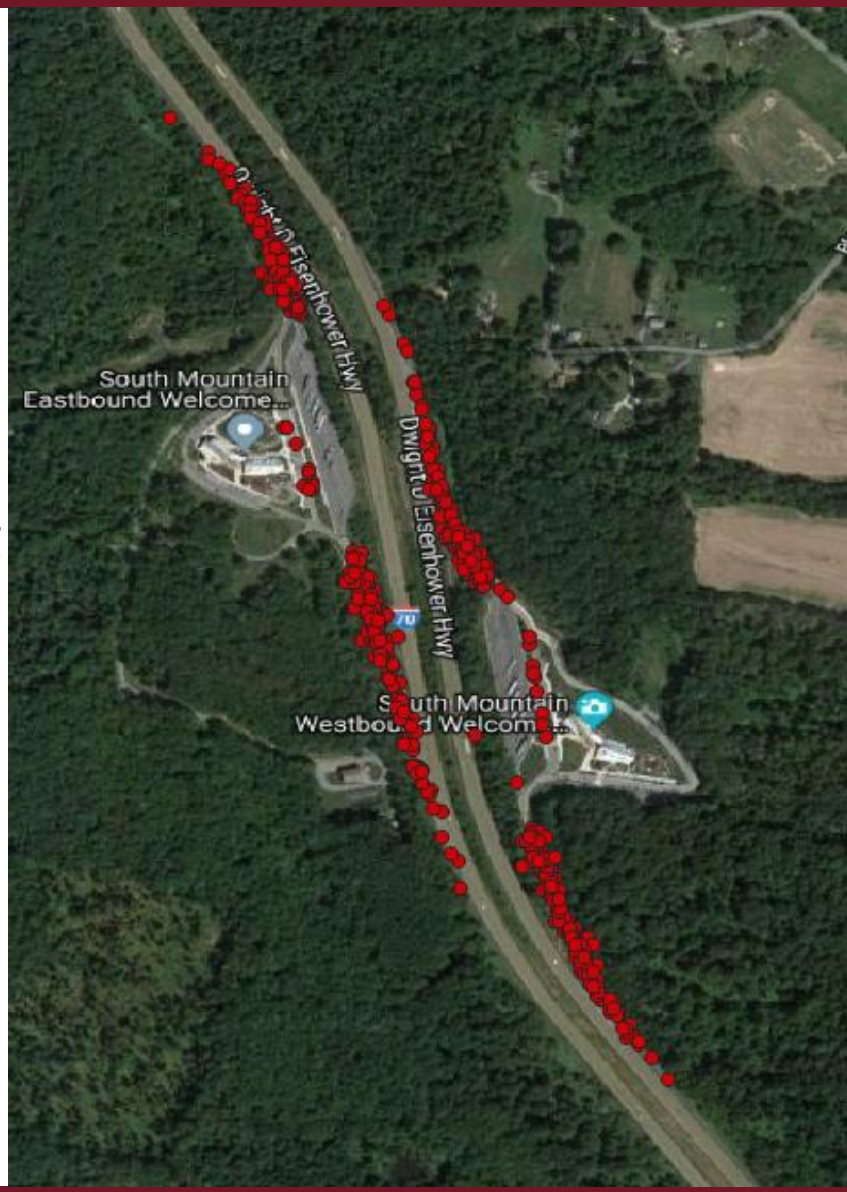


Cluster I: South Mountain Welcome Center – I-70

Over 1,600 trucks parked around the South Mountain Welcome Center

- **Eastbound: 26 existing truck parking paces**
- **Westbound: 23 existing truck parking paces**





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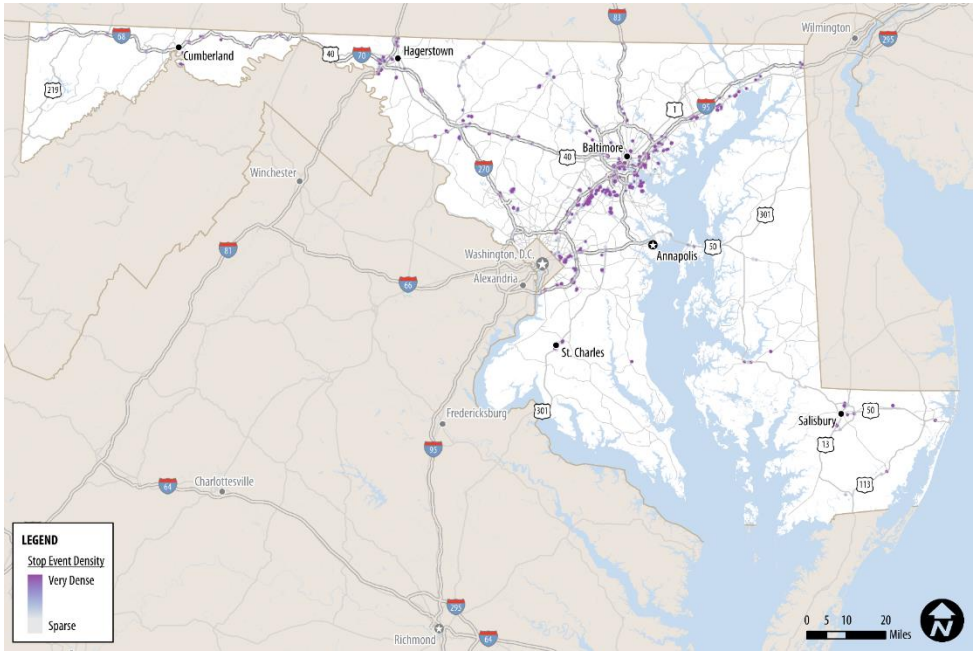
- **Truck Parking Solutions**

Match Truck Parking Issues to Solutions and Identify Opportunities

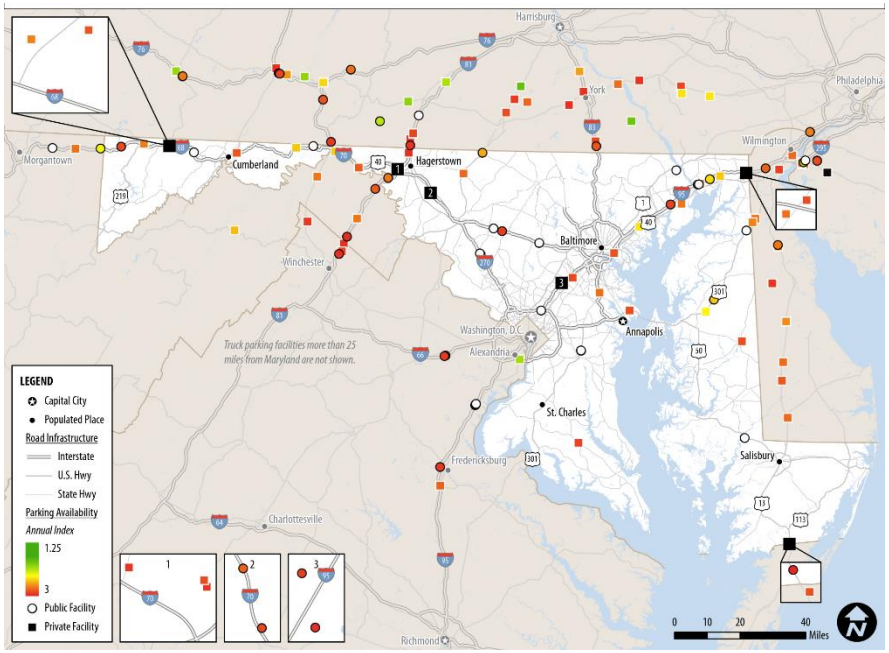
Capacity Solutions

- Undesignated Truck Parking
- Nearby truck parking is full



Information Solutions

- Undesignated truck parking
- Open truck parking spaces nearby



Match Truck Parking Issues to Solutions and Identify Opportunities

Information Problems

Where are parking locations?	What are parking amenities?	Are spaces available?

Information Solutions

Stand – Alone Solutions		IT Information System Required	
Maps	Fixed Signs	Websites and Apps	Variable Signs

Lower Cost
Less Complex
Short-Term Implementation

Long-Term Implementation
More Complex
Higher Cost

Match Truck Parking Issues to Solutions and Identify Opportunities

Capacity Problems

How do we provide additional parking?

Capacity Solutions

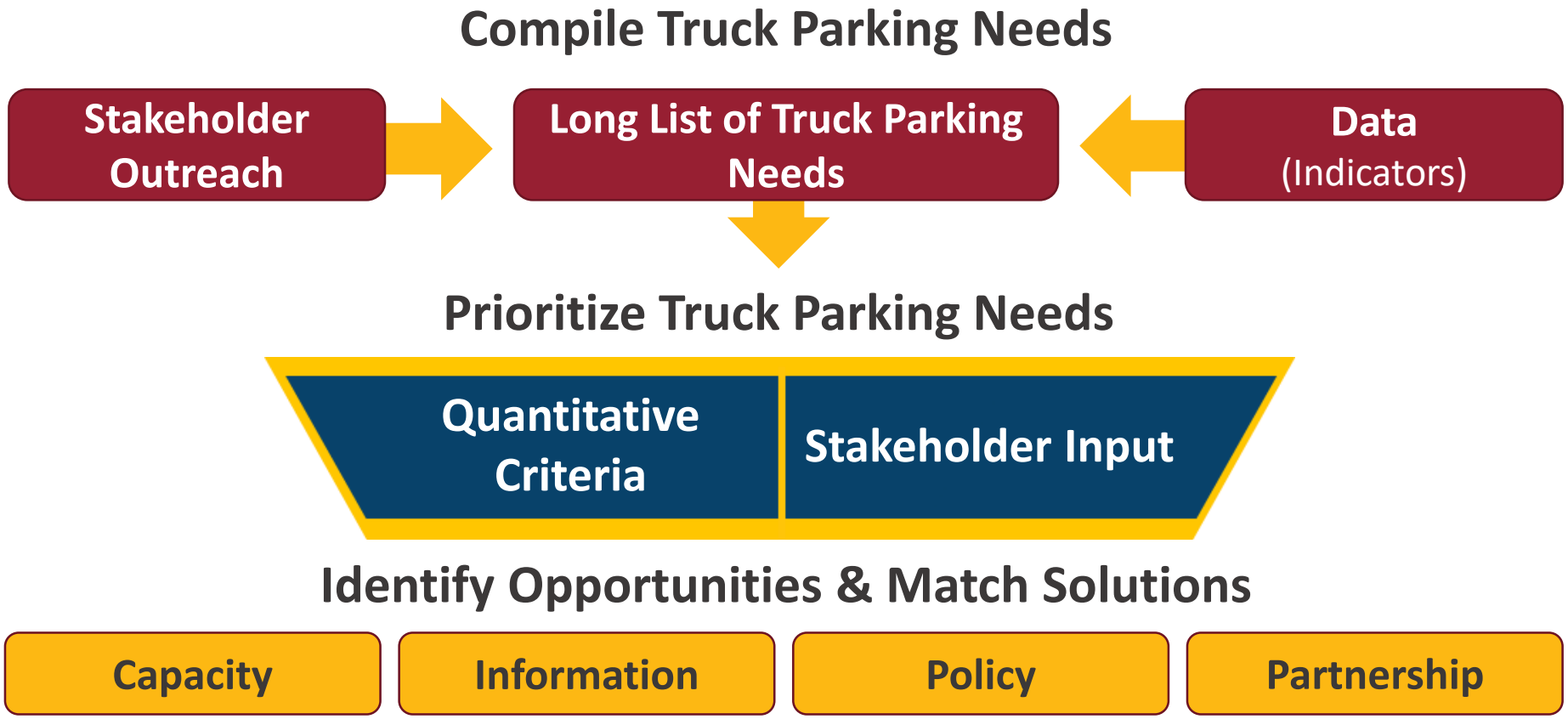
Collaboration Required		Stand-Alone Solutions	
P3s	Adapting Existing	Re-Opening Areas	Building New Areas

Lower Cost
Uncertain Complexity

Higher Cost
More Complex

Translating Undesignated Truck Parking to Solutions

Add Context to Undesignated Truck Parking Locations and Focus on those that are Most Acute



Translating Undesignated Truck Parking to Solutions

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MDOT Statewide Truck Parking Study
http://www.mdot.maryland.gov/newMDOT/Freight/Truck_Parking_Study