

# Truck Parking Demand Model

Youngmin (Troy) Choi, P.E., Ph.D.

Research Lead, Trucking Lab, LLC

troy@myrigparking.com

Evidence-Based Forecasting & Network Strategy using Minimal Data

## WHAT IS PROPOSED

- Uniform Hexagon Grid (7-mile) & Two Complementary OLS Models.
- Standardized 3-Step Decision Framework (Diagnosis → Prediction → Gap Analysis).
- Scalable methodology utilizing minimal inputs for national-to-local consistency.

## 01. THE 3-STEP METHODOLOGY

Utilizing a **50-square-mile Hexagon Grid** and a **Two-Model OLS Framework** to standardize planning.

### 🔍 Step 1: Diagnose (Current Conditions)

- **Shortage Hotspots:** Cells in Top 10% for both AADTC and Peak Utilization.
- **Latent Unmet:** Top 10% AADTC but TruckSpace < 5 spaces.

### 📈 Step 2: Estimate (Future Demand)

- Applies **FAF (2035)** truck traffic projections to the predictive coefficient.

### ⚠️ Step 3: Gap Analysis & Priority

- **Gap** = Future Need - Current TruckSpace.
- **Priority:** High (>95), Med (20-95), Low (1-19).
- *\*Applied only to Group A/B (Prediction valid).*

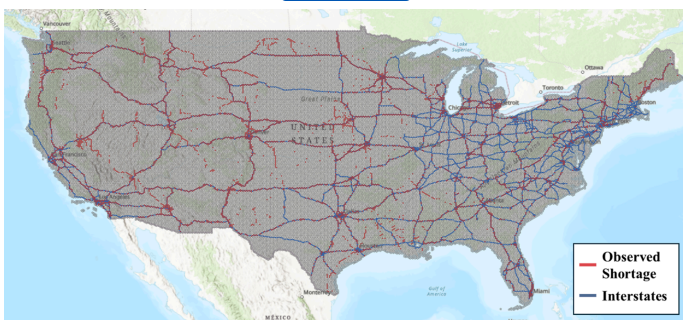
## 02. STRATEGIC CLASSIFICATION (2X2 TYPOLOGY)

Systems are classified by "Demand Signal" and "Supply Signal" to tailor policy.

	Supply Signal Weak	Supply Signal Strong
Demand Signal Strong	<b>Group A: Traffic-Driven</b> Long-haul, through-traffic corridors. <b>Strategy:</b> Prediction-centric approach is suitable. (Ex: SC, WI, AL)	<b>Group B: Full-Service</b> Strong demand & mature private supply. <b>Strategy:</b> Design Public-Private role division. (Ex: CO, MT, UT)
Demand Signal Weak	<b>Group C: Hub/Constrained</b> Ports/Metros with land constraints. <b>Strategy:</b> Focus on Latent Unmet map; Policy levers are key. (Ex: NJ, PA, CA)	<b>Group D: Policy-Driven</b> Driven by non-traffic factors (Amenities, Policy). <b>Strategy:</b> Exclude prediction; use diagnostic results. (Ex: KY, NV, FL)

## 03. VISUALIZING THE CRISIS & OPPORTUNITY

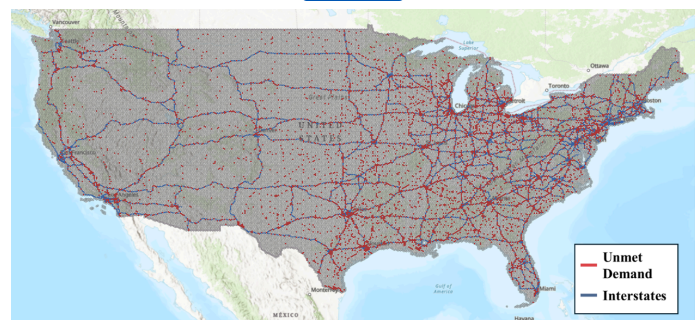
### DIAGNOSIS



### Current Shortage Hotspots

Locations with top 10% Traffic & Utilization requiring immediate

### INSIGHT



### Latent Unmet Demand

High Traffic but Zero Official Capacity.

## 04. ACTIONABLE CONSULTING INSIGHTS

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**Where is urgent?** List short-term candidates using Figure 1 (Hotspots) and Figure 2 (Latent Unmet).

**How much is needed?** Calculate 2035 Net Demand using Predictive Coefficients on traffic forecasts.

**What to do?** Group A/B: Prediction-based Expansion. | Group C/D: Regulation, Land use & Ops improvements.