



Pennsylvania
Transportation Advisory Committee

E-COMMERCE STUDY

FEBRUARY 3, 2025



Pennsylvania
Department of Transportation

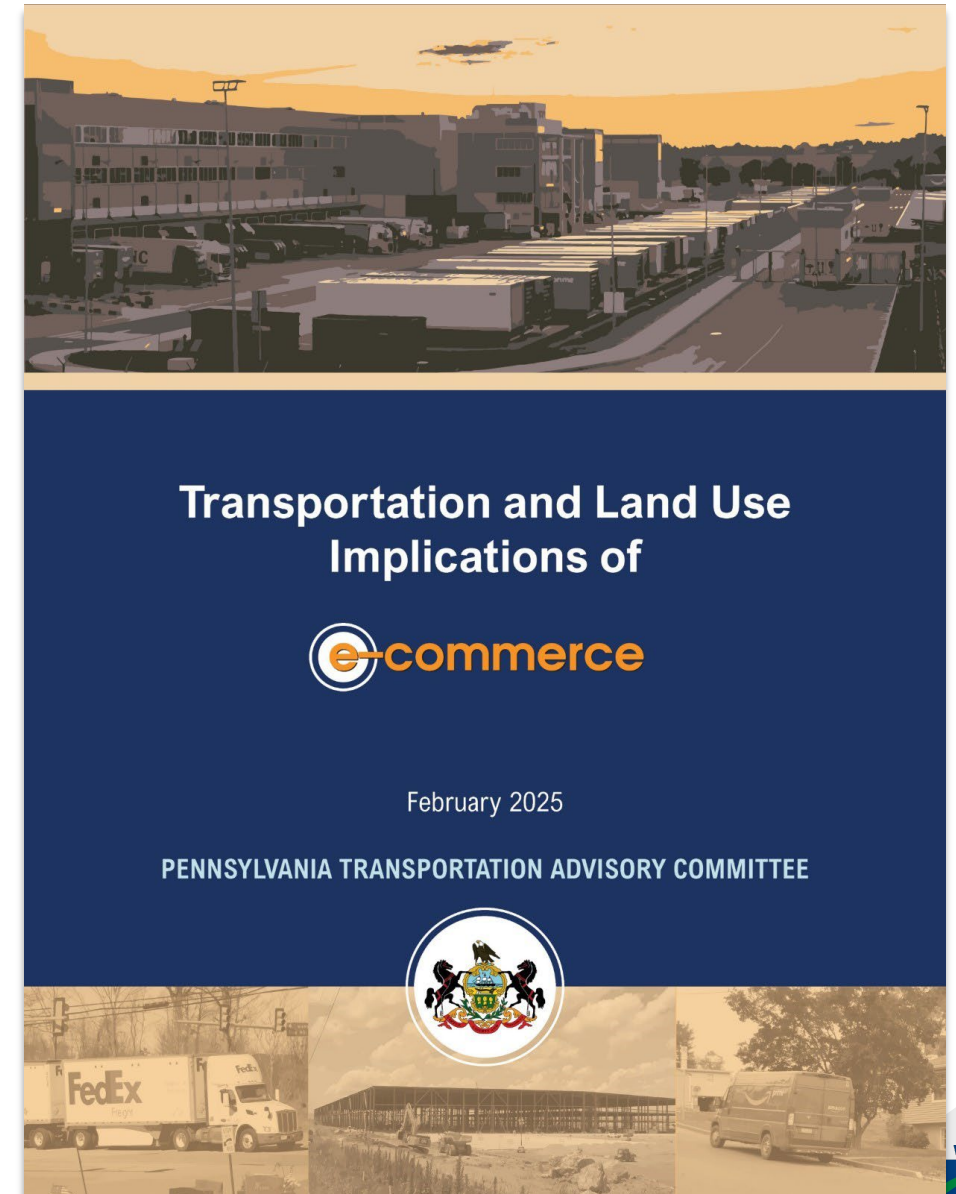
OBJECTIVES AND OUTCOMES

- Identify land use changes related to growth of e-commerce, transformation of retail establishments resulting from changes in landscape and demographics.
- Evaluate economic impact of these changes in terms of employment, real estate valuations, traffic and congestion, pedestrian and active transportation user safety, and other “last-mile” considerations.
- Identify how these trends impact PA’s transportation network and implications for future infrastructure needs.
- Evaluate the transportation funding implications related to e-commerce (e.g., package delivery fees, Goods Delivery Fee proposed by TROC).



REPORT COMPONENTS

- Executive Summary
- Letter from the Chair
- Study Purpose & Methodology
- MPO/RPO Survey Results
- Literature Review
- Pennsylvania E-Commerce Profile
- Package Delivery Fee Reassessment
- Land Use: Planning & Zoning
- E-Commerce & Environmental Justice
- Findings and Recommendations



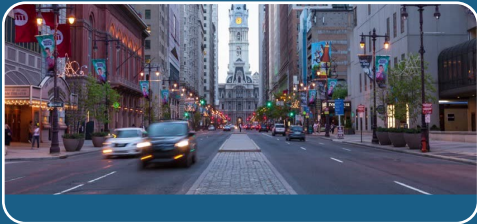
FINDINGS



Transportation



Land Use

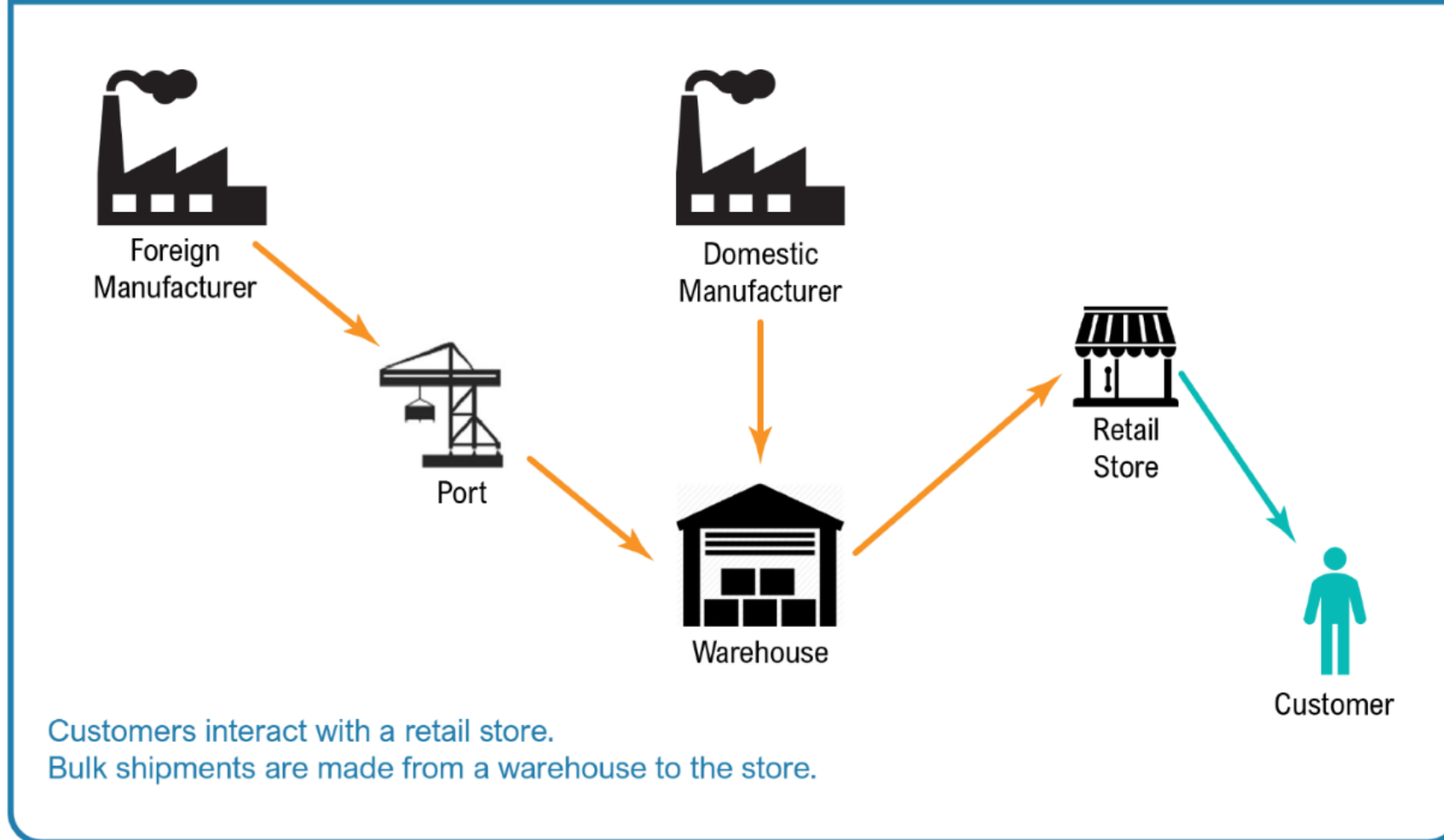


Economic Development



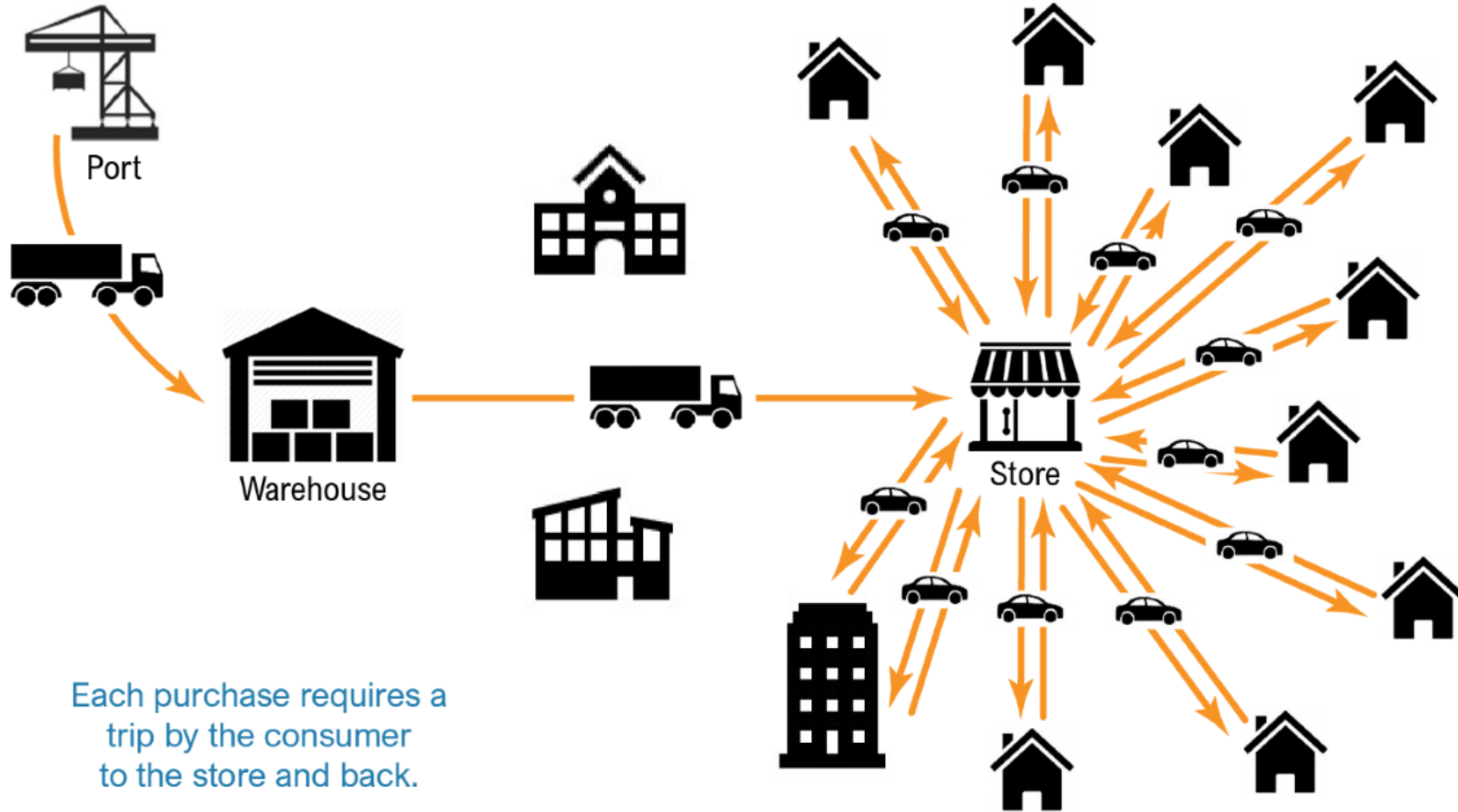
SUPPLY CHAIN: TRADITIONAL

Traditional Retail Supply Chain

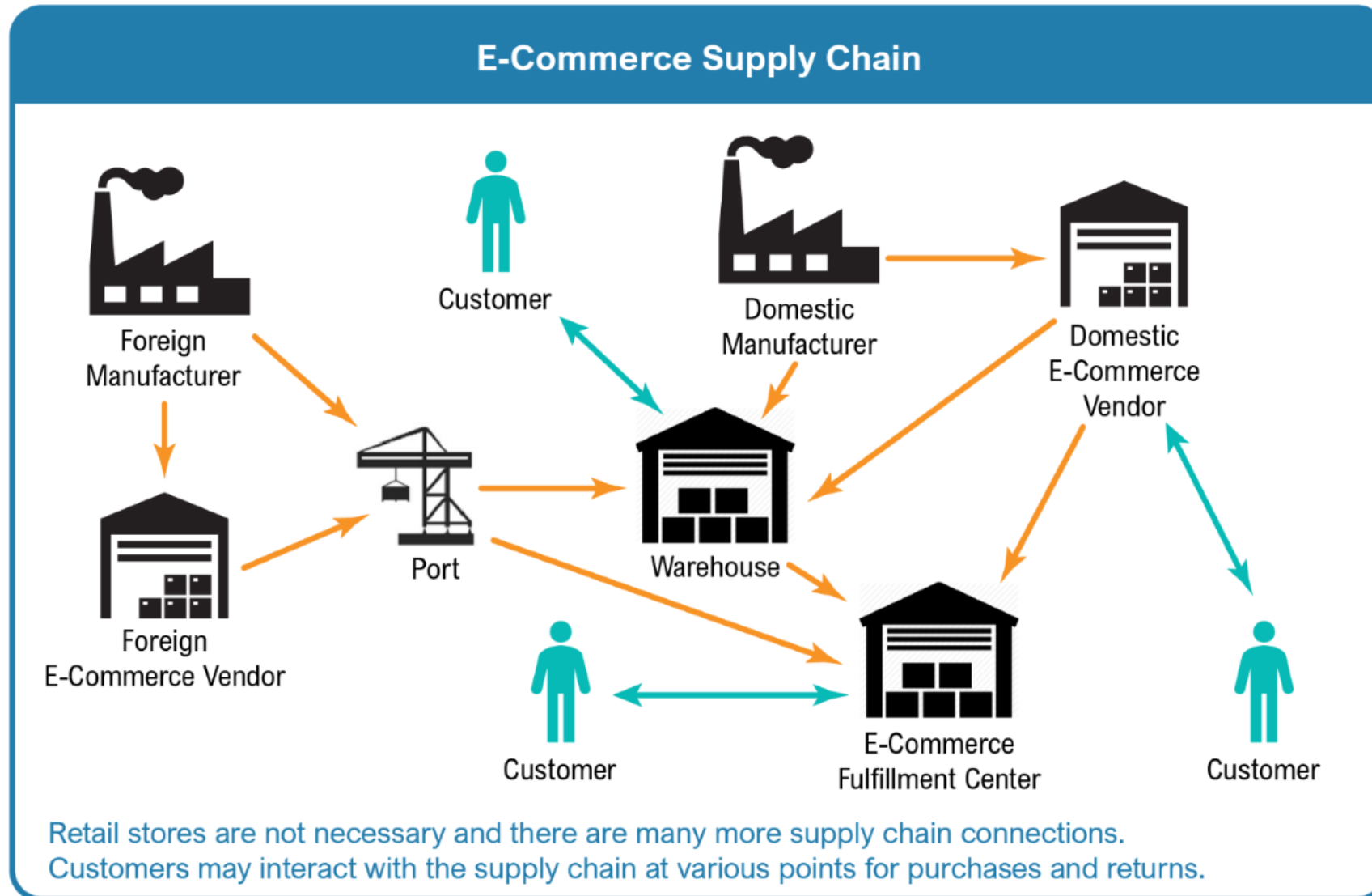


TRANSPORTATION IMPLICATIONS

Traditional Retail Tripmaking

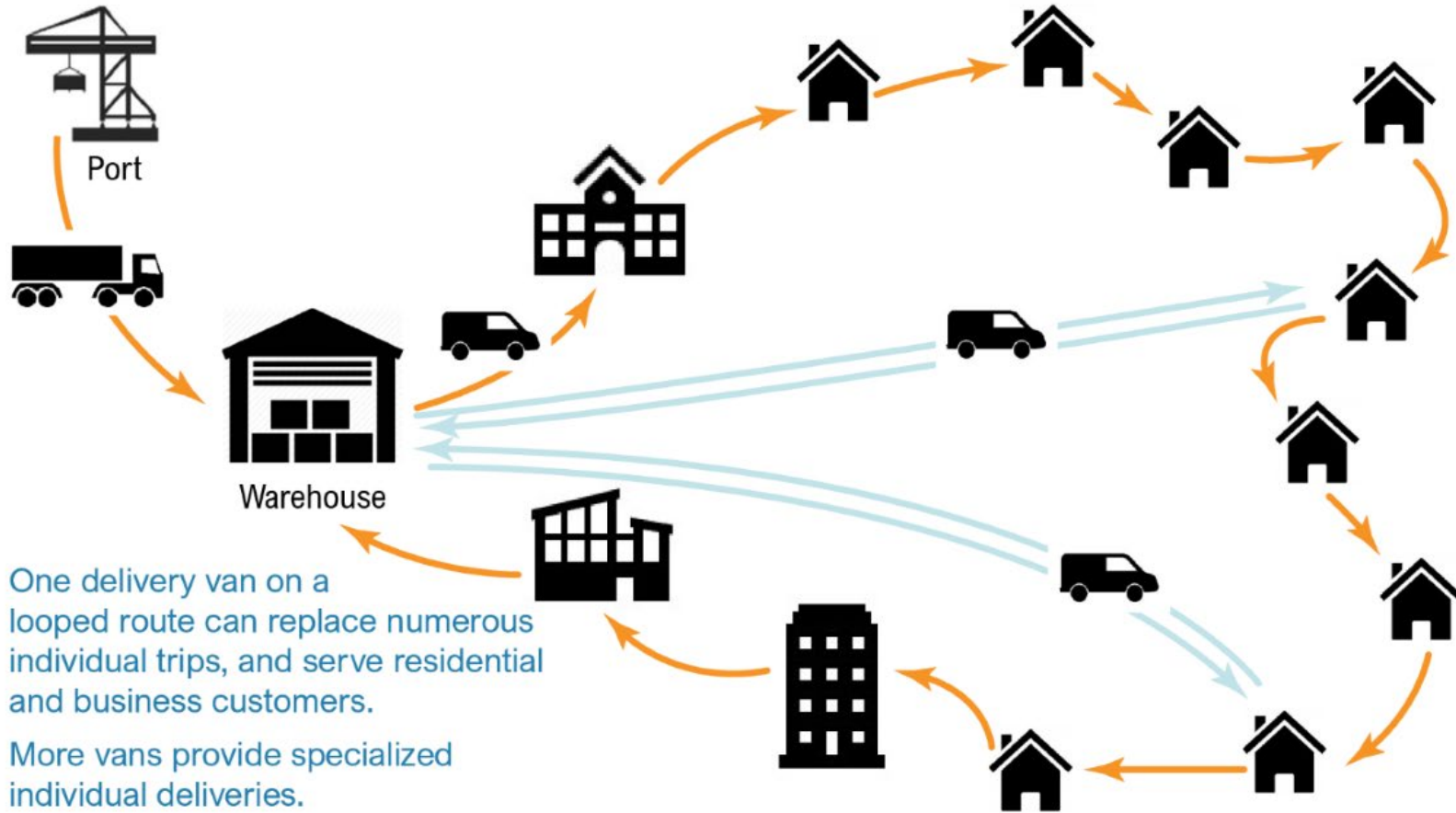


SUPPLY CHAIN: E-COMMERCE

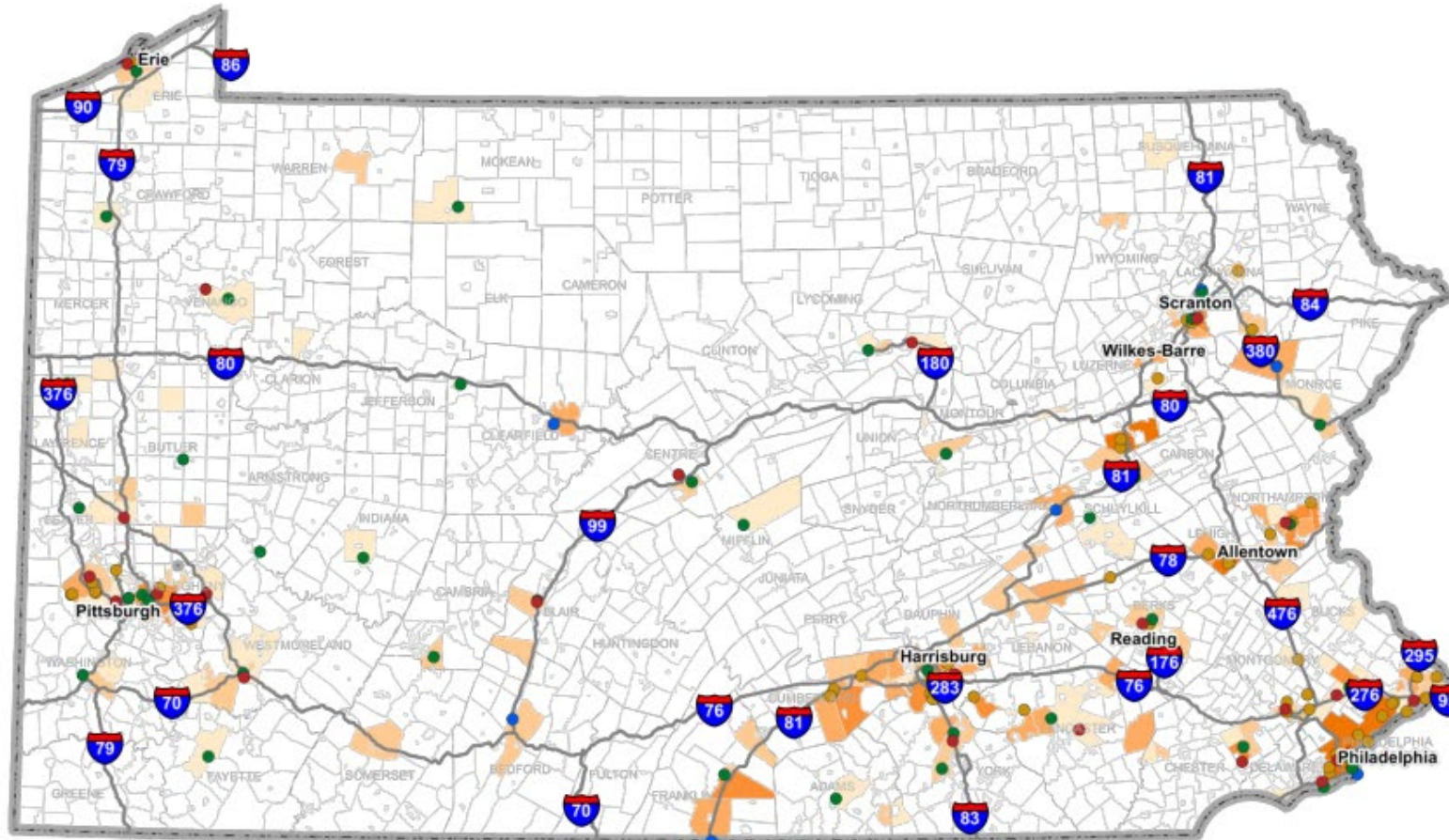


TRANSPORTATION IMPLICATIONS

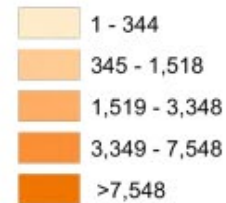
E-Commerce Tripmaking



E-COMMERCE: PA FREIGHT PLAN (2022)



E-Commerce Employment



Select Logistics Facilities

- FedEx Shipping
- UPS Shipping
- Walmart Distribution Center
- Amazon Fulfillment Center



The growth of e-commerce has resulted in changes in truck operations that will likely accelerate over time, with more frequent trips in smaller trucks and vans.



E-COMMERCE BENEFITS AND COSTS

Benefits	Costs
<ul style="list-style-type: none">▶ Higher-paying jobs than traditional retail▶ Cost-effective global reach for businesses▶ State and local revenue through property tax and income tax▶ Consumer convenience; delivery options▶ Economies of scale for last-mile deliveries (fewer customer trips)	<ul style="list-style-type: none">▶ Localized congestion▶ Safety▶ Local transportation infrastructure maintenance▶ Displacement of traditional retail employment sectors▶ Community aesthetics and quality of life



RECOMMENDATIONS: **TRANSPORTATION**

- A. Policymakers should consider a **package delivery fee** to fund needed transportation infrastructure.
- B. Work with MPO/RPO regions to develop **regional freight plans** that include intermodal strategies for goods movement and e-commerce considerations at a local level.
- C. Address the **public transportation needs** for e-commerce workforce access.
- D. Develop a **needs assessment** for e-commerce related to transportation infrastructure (particularly for the local network).



RECOMMENDATIONS: **LAND USE & LOCAL GOVERNMENT**

- E. Develop and promote the use of an **e-commerce planning and development guidance handbook**.
- Develop an e-commerce model ordinance
 - Incorporate delivery needs into “Complete Streets” standards
- F. Municipalities should **amend zoning regulations**, including incorporating loading zones into any new developments.



RECOMMENDATIONS: PUBLIC-PRIVATE COLLABORATION

- G. Pursue ongoing **relationships with e-commerce providers**, including engagement in appropriate forums.
- H. Incorporate e-commerce as part of the statewide emphasis on **truck parking** accommodation and staging areas.
- I. Work with e-commerce retailers and industrial developers to identify opportunities for new e-commerce development in town centers to **support existing and new business establishments**.
- J. Explore locating e-commerce fulfillment centers on **airport properties** (which typically have available land and road access).



RECOMMENDATIONS: DATA COLLECTION & ANALYSIS

- K. Implement **post-development traffic data collection** programs for industrial sites to quantify the changing characteristics of site operations and deliveries as e-commerce continues to evolve.
- L. Analyze the impact of brick-and-mortar losses on various **tax revenue streams** in relation to e-commerce tax revenue gains.
- M. Develop capabilities and tools for **economic analysis for transportation planning**.
- N. Produce a **quantitative analysis** of the various impacts and benefits of ecommerce.



DISCUSSION





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TRENDS IMPACTING THE TRANSPORTATION WORKFORCE

FEBRUARY 3, 2025 | KEITH CHASE



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Objectives & Outcomes

Assess population, demographic, economic and technological **trends** impacting transportation

Evaluate transportation **workforce implications**

Determine stake and **collaboration opportunities** among:

- Modes
- Public Private
- Agencies
- Intergovernmental

Produce findings and recommendations



Study Status

February

- TAC Update
- Develop Preliminary Findings and Recommendations



March

- Preliminary Report to Taskforce
- Consensus on Direction and Implementation Approaches



April

- Draft Final Report to TAC and STC



Stakeholder Workshops Refresh

Workshop Logistics:

- 3 workshops held December 3/4/5
- 1.5 hours duration
- **67 participants**
- Representing public and private sector and multiple modes

Workshop Purpose: To obtain wide ranging input from key stakeholders. **EMPLOYER FOCUSED!**

11 Questions:

- Problem definition and impacts
- Potential solutions
- Collaboration



What We've Learned

- The transportation workforce gap is a substantial problem and will worsen unaddressed.
- Cascading impacts for other sectors and the public at large.

“It will be a substantial problem in five years, especially if we keep kicking this down the road.” – Workshop #1 Attendee



What We've Learned

Transportation jobs heavily impacted:

- Drivers/vehicle operators
- Mechanics
- Maintenance

“How do we change the mindset of younger employees while also adapting to shifts in the existing workforce?” – Workshop #2 Attendee



What We've Learned

Other Stakeholder perspectives (few of many):

- Must better promote transportation career tracks and job opportunities
- “Poaching” is a problem deserving attention
- Public sector wages not competitive with private sector
- Transportation agencies are advancing creative solutions—share and apply best practices
- Generational preferences and perspectives must be kept in view.

How can we work together and not against each other in terms of dealing with limited workforce availability? - Workshop #1 Attendee





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TAC STUDY TOPIC SELECTION

FEBRUARY 3, 2025 | BRIAN FUNKHOUSER



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STATUS

Advanced Aerial Mobility and Pennsylvania's Advanced Aerospace Economy: Opportunities for Statewide Integration and National Leadership – Overlaps with current Department efforts. Tabled until after PennDOT provides updates to TAC at a future meeting

Exploratory Scenario Planning for PennDOT: Preparing for Future Uncertainties – PennDOT suggests removal at this time. This is being considered as part of the Department's long-range planning efforts.



STATUS

Consensus building Toward Transportation Funding Solutions in Pennsylvania – Tabled during discussion at December 2024 TAC meeting

Equitable Transit Oriented Development in Pennsylvania – Department suggests that topic be tabled.

An Assessment of Parking – Impacts, Costs, Issues, and Implications – Tabled, pending outcome of similar DVRPC study

Wildlife Vehicular Collisions and Potential for Wildlife Crossings – PennDOT was awarded a Federal Wildlife Crossing Pilot Program to complete a comprehensive strategic plan.

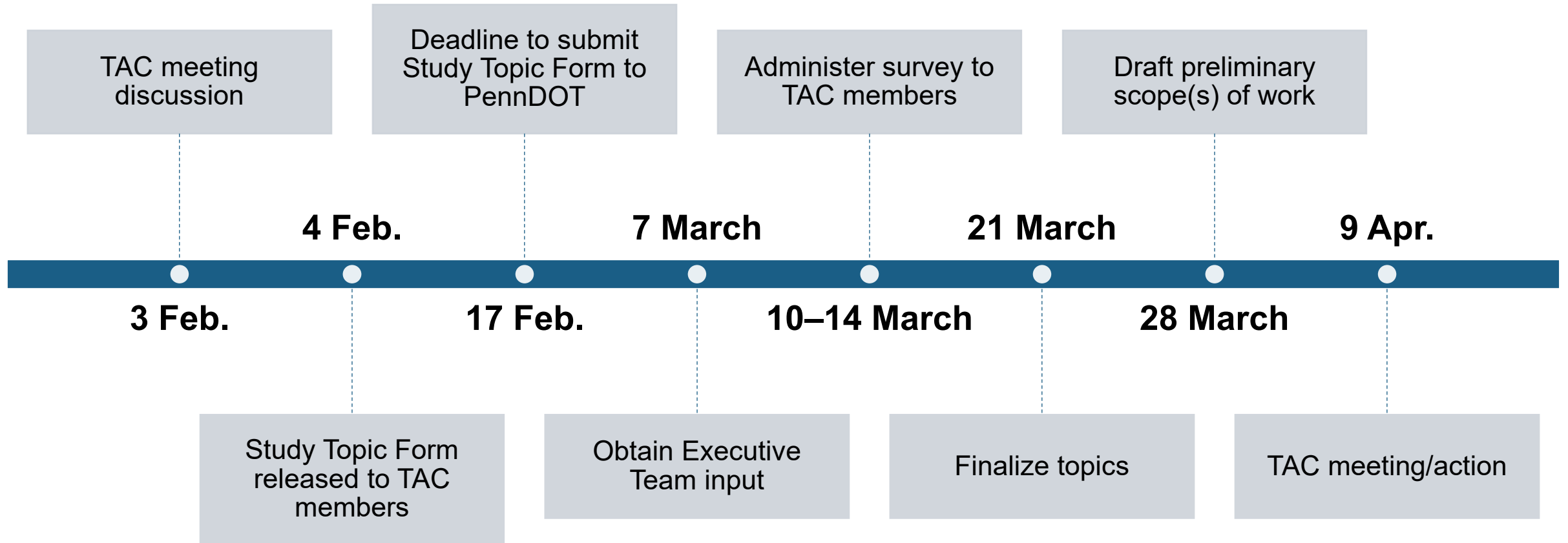


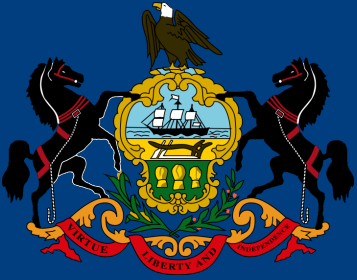
PROJECT TYPES

TAC Project Types	Description
Studies	Conventional, in-depth studies as TAC typically undertakes
Research and White Papers	Typically, short duration activity to address one or more research questions or topics
Analyses and Evaluations	Typically, short duration activity reviewing a subject or conducting a mini analysis
Seminars/Workshops/ Expert Panels	Presentations with TAC interaction with experts on topics of interest, proceedings summaries can be prepared as well



PROCESS SCHEDULE





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