



Delaware First/Final Mile Network Development

Focus Group Meeting 2
June 3, 2021

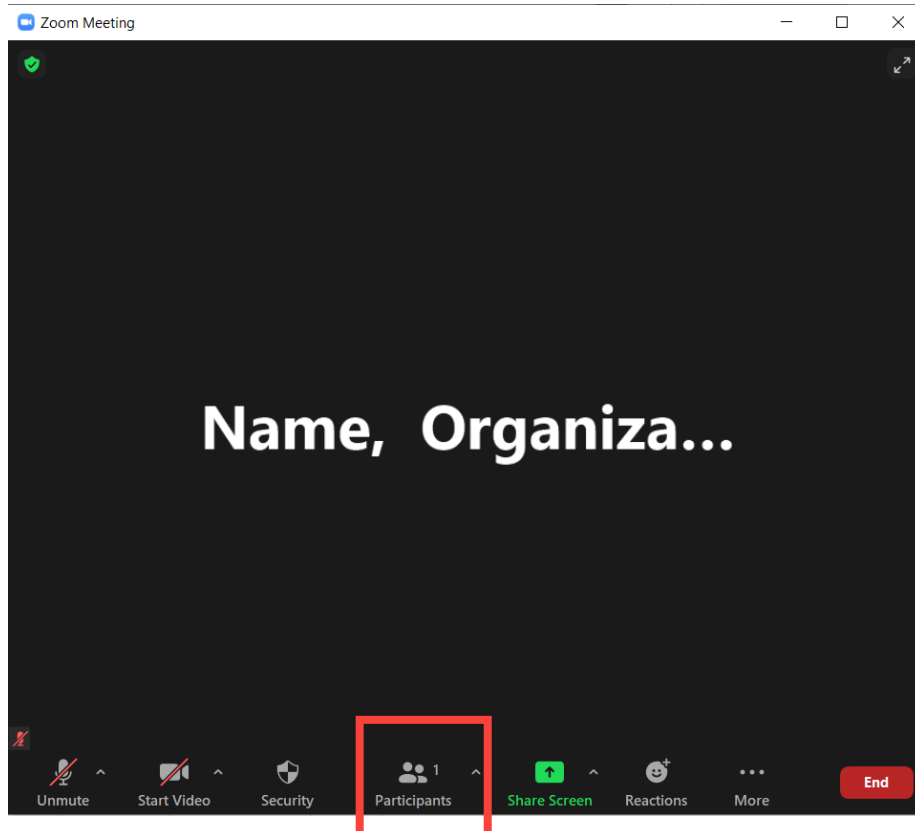




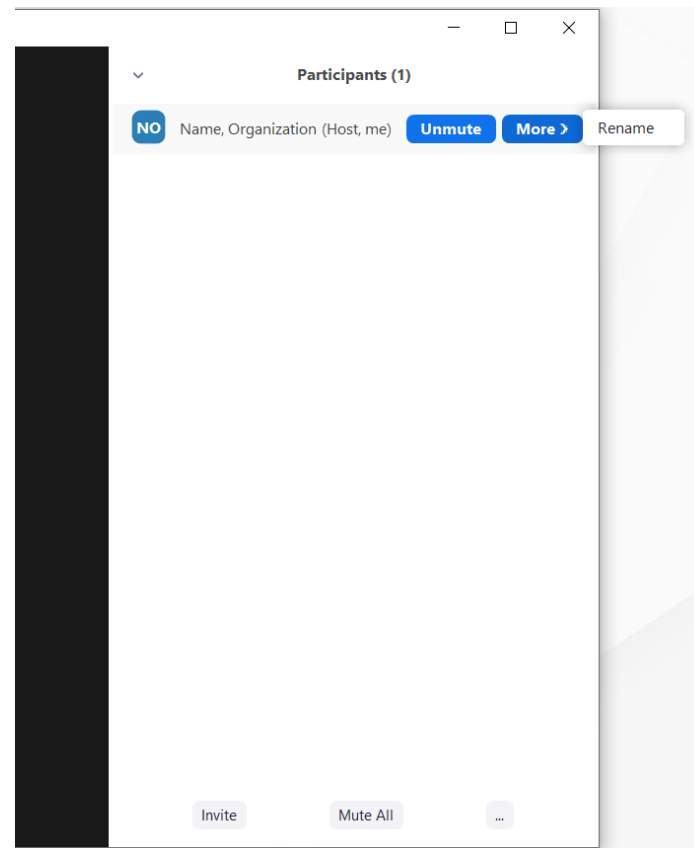
Introductions

Please edit your Zoom name to “*Name , Organization*”

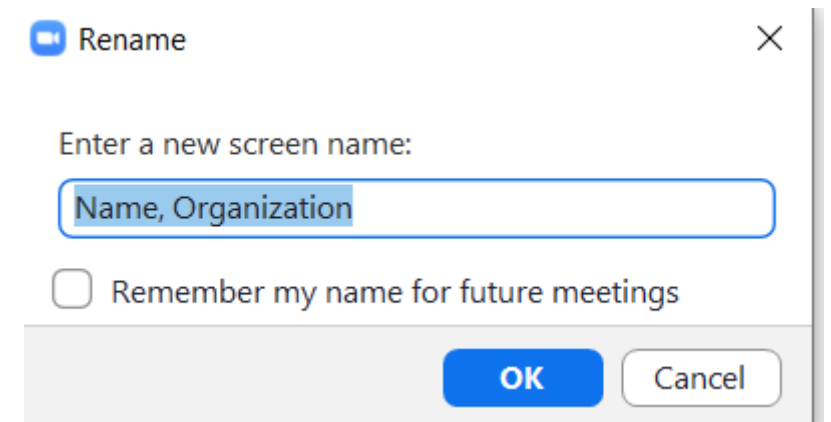
1. Click on Participants in the bottom toolbar



2. In the participants pop-out, hover over your name and click “More” to find the “Rename” option.



3. Enter your name and organization



Welcome!

From Daniel Blevins, Principal Planner, WILMAPCO





Welcome back to the Focus Group!

Please introduce yourself:

Network Development Project Team:

- WILMAPCO
- DelDOT
- Dover/Kent MPO
- Salisbury/Wicomico MPO
- FMCSA
- Delaware Motor Transport Assn.

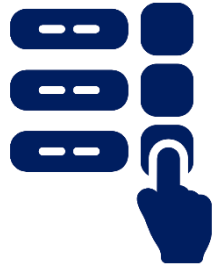
Public Sector

- University of Delaware – Troy Mix
- City of Wilmington – Brian Mitchell
- City of Newark - Mary Ellen Gray
- City of Dover - Dave Hugg & Matt Harline
- DVRPC - Mike Ruane & Kristen Scudder
- Kent County - Linda Parkowski

Focus Group Attendees:

- TTI - Nicole Katsikides
- DE Farm Bureau - Richard Wilkins & Stewart Ramsey
- Gulftainer/Port of Wilmington - Dave Harriss
- Richard Hernandez – Perdue Farms
- Mountaire - Fred Bowen
- Delmarva Chicken Association - Holly Porter
- Wal Mart - Chuck Harris
- AAA Mid-Atlantic - Ken Grant
- Dot Foods - Brian Sylvester
- FedEx - Rick Keiluhn
- AutoPort - Roy Kirchner
- Interstate Container - Chip Potterton
- Burris Logistics - John Bunting
- Choptank Transport - Geoff Turner
- Stewart Pryor – Trucker
- **Anyone else?**

Soliciting Your Input



During this session, an online audience response application (Mentimeter) will be used to collect your inputs.



Voting will be anonymous



The inputs will be used as talking points to facilitate discussion around the first/final mile network.



Results will be shown on the screen in real time

Go to
www.menti.com and
use the code that will
be displayed in the
banner above



Agenda

Project Update

Institutional Needs and Issues

Land Use Needs and Issues

5-Minute Break

Mobility Needs and Issues

Safety Needs and Issues

Condition Needs and Issues

Closing and Next Steps

What is a first/final mile connection?

Roadways that link truck trip origins or destinations with mainline routes of travel such as interstates or major regional highways:



Efficient and safe connections are important to all of Delaware's businesses

What is a first/final mile connection?

Connections are also relevant to other transportation users and residents:





Project Objective

Make freight transportation more efficient and safer, and reduce truck conflicts with other transportation users and residents

Key questions being asked:

➤ Where are Delaware's first/final mile connections?

➤ What are the connections' needs and issues?

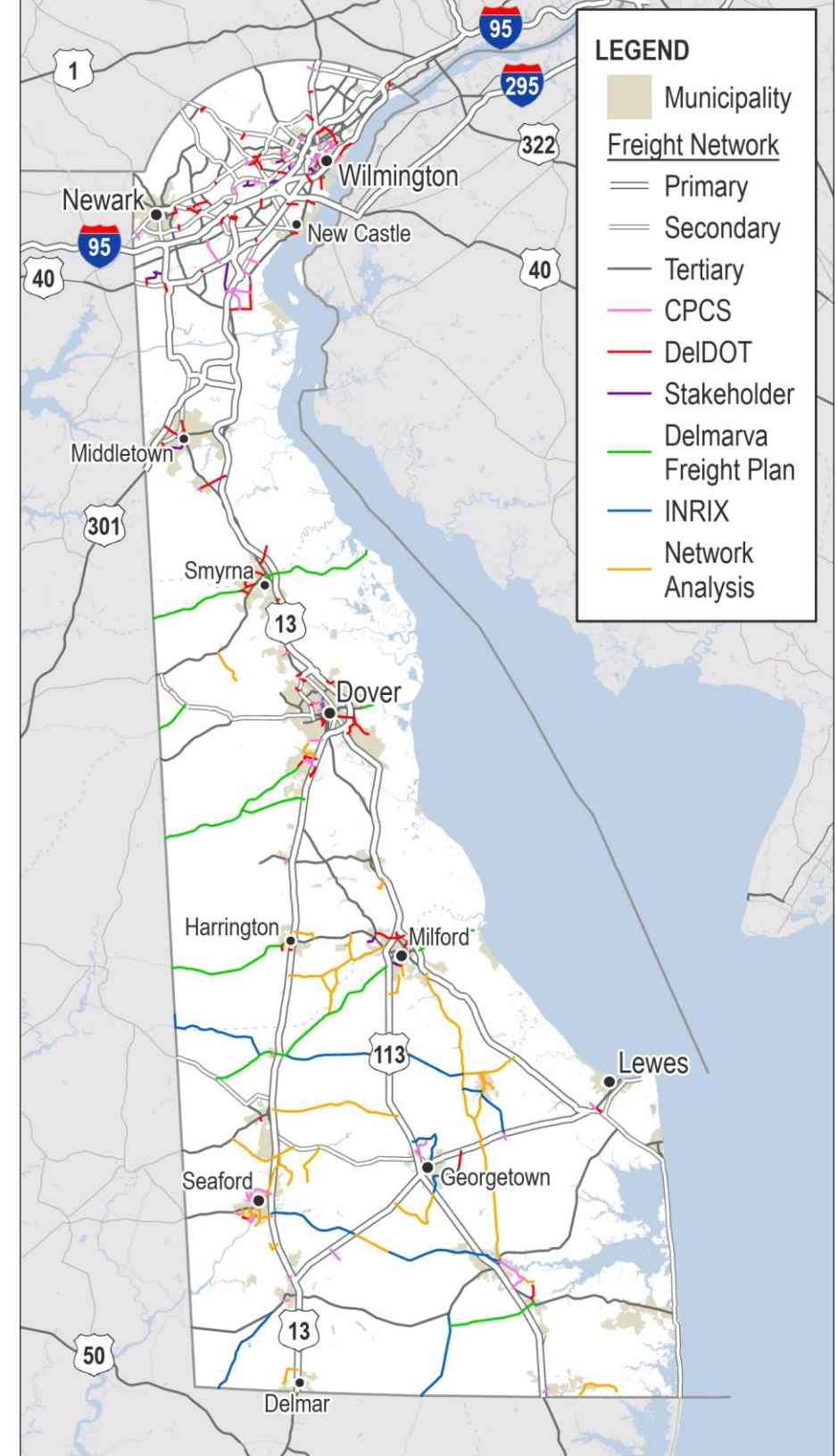
➤ How can WILMAPCO and DelDOT address those needs and issues?




Network Identification

Sources:

1. WILMAPCO's/DeIDOT's prior identification (red)
2. Delmarva Freight Plan rural routes (green)
3. Analysis of major business connections (pink)
4. ESRI truck route solver tool (yellow)
5. Screening INRIX truck GPS data (blue)
6. Stakeholder feedback for revisions (purple)



Collecting Feedback: Web Maps








First/Final Mile Study Outreach

How can you help???

1. Add a comment or concern clicking on "Points" tab below and choose type of comment/concern
2. Describe conditions you experience
3. View other comments and give added feedback to locations that have been identified.

4. For Draft Final Mile Network designations, click the "Draft" tab

Map Legend

	Category	Examples
	Mobility	Tight turns, poor geometry, congestion
	Safety	Speeding, sight lines, frequent crashes and bike/ped conflicts
	Road Conditions	Poor pavement, bridge conditions
	Land Use Conflicts	Noise/air quality issues, residential and community conflicts (i.e. schools, parks, etc..)
	Draft Final Mile Network	Comments on Draft Route designations

Welcome

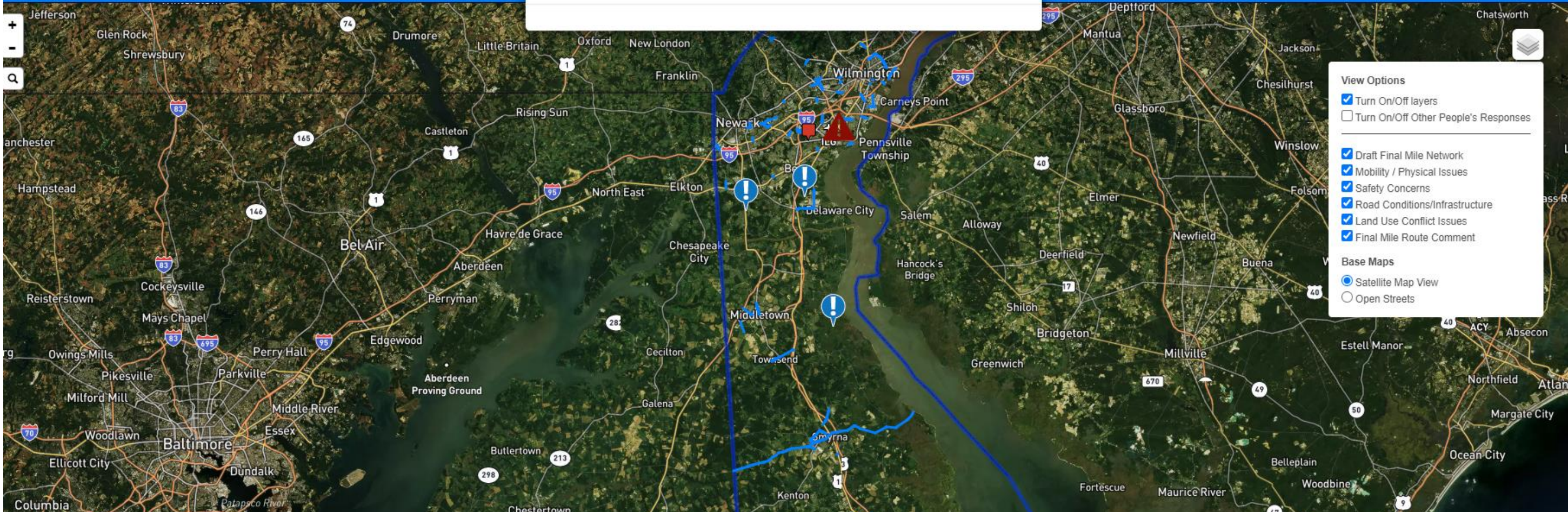
Please designate as close as possible what type of category describes you?*

Truck Driver/ Operat ▾

Thank You for your participation!

Submit

Delaware Final Mile Network About & Help ▾ Zoom To Routes Points



View Options

- ☒ Turn On/Off layers
- ☐ Turn On/Off Other People's Responses

- ☒ Draft Final Mile Network
- ☒ Mobility / Physical Issues
- ☒ Safety Concerns
- ☒ Road Conditions/Infrastructure
- ☒ Land Use Conflict Issues
- ☒ Final Mile Route Comment

Base Maps

- ☒ Satellite Map View
- ☐ Open Streets

Web Outreach Statistics

	Stakeholder Group	
	Industry and Public Agency	General Public
Unique Commenters	7	14
Comments Received	67	60
Substance of Comments		
Network Corrections or Additions	42	7
Land Use Mentions	20	13
Mobility Mentions	2	31
Safety Mentions	3	11
Condition Mentions	1	1

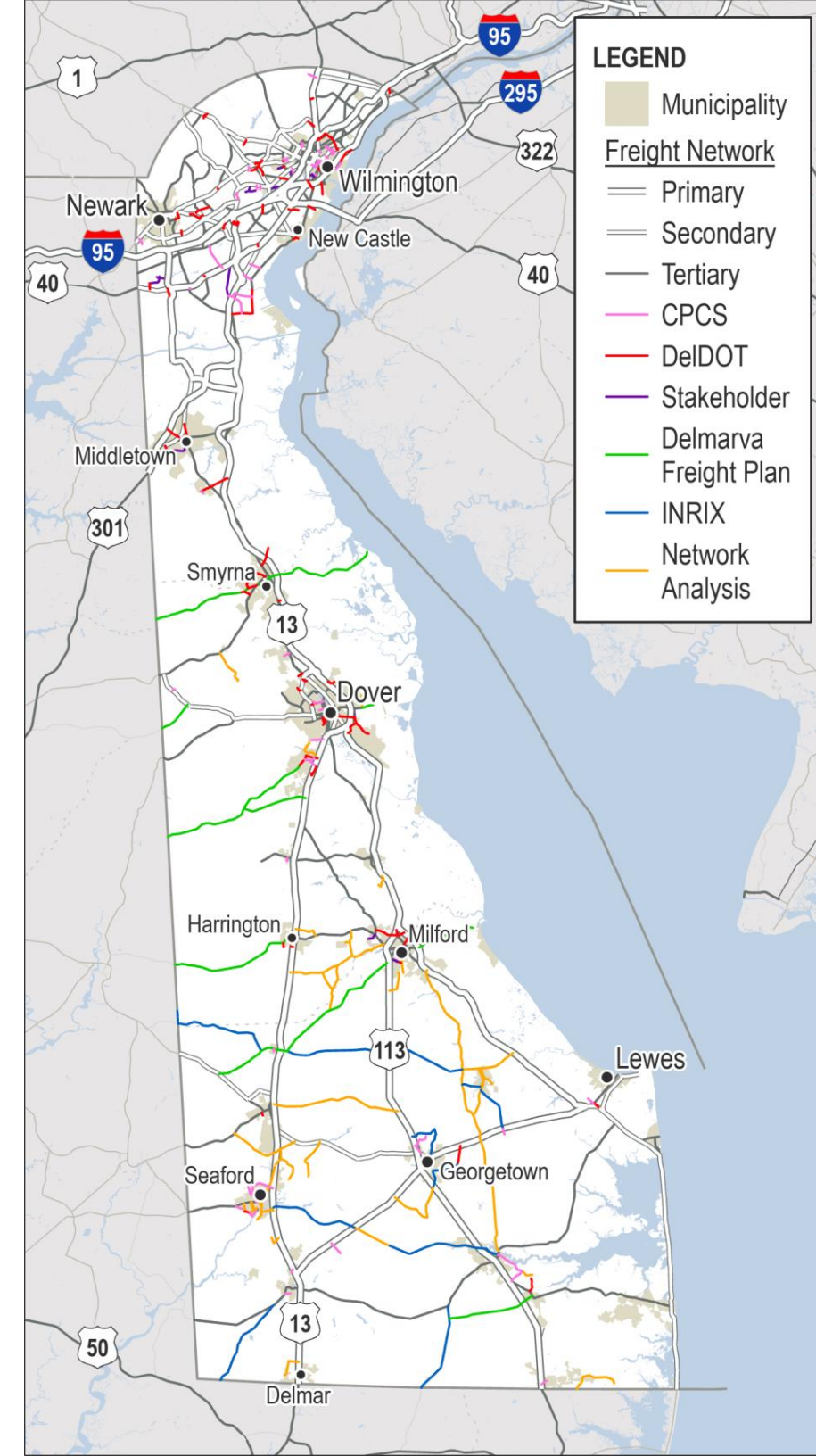
Performance Screening

Once finalized network was complete:

- Connections were conflated to Delaware Road Inventory shapefile
- 26 different datasets collected for performance screening process
- 53 attributes describing performance or context were mapped to each relevant segment

Examples of attributes:

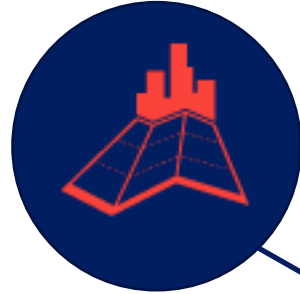
- Land use classifications
- Population density
- Shoulder and lane widths
- Bridge weight limits
- Heavy truck crash histories
- Intersection risk ratings
- Pavement condition index



Areas of Focus

Land Use

Conflicts arising due to freight routes passing through residential or otherwise sensitive areas



Safety

Barriers to safe transportation operators



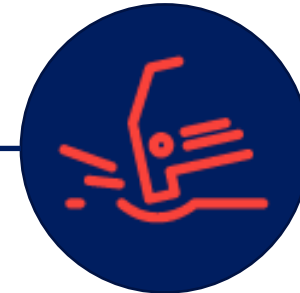
Mobility

Barriers to efficient freight transportation operations



Condition

Deteriorated or inadequate road infrastructure



Institutional

Coordination and communication challenges



Goal for Today

- Give you a chance to see results of data analysis and Wikimapping feedback
- Get your feedback on problems or solutions that should be explored further in the draft final report



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Institutional Issues and Considerations

Institutional issues may cause first/final mile problems, or make it difficult to address them

- **Institutional considerations were not specifically identified in stakeholder comments, but are an important factor**
- **Contributors to institutional conflicts can include:**
 - Land use and transportation planning responsibilities are entrusted to different agencies with different knowledge and priorities
 - First/final mile routes may be owned by multiple government agencies, making it difficult to coordinate or fund needed improvements
 - Data related to understanding first/final mile needs and issues may be fragmented across multiple agencies and levels of government
- **Delaware's status as a **Home Rule state** means land use decisions are made at the county and municipal levels – creating challenges for preserving freight land uses and ensuring compatibility in specific areas**
- **Most of Delaware's first/final mile network is however maintained by DeIDOT**
 - 92% of the first/final mile network is state-maintained



Framing: Origins of Freight Conflicts

Thinking about *why* conflicts arise provides context for solution framework

➤ **Ideal freight facilities are typically located in exurban environments, along major transportation corridors**

- Freight stakeholders generally prefer to locate facilities in places where conflicts can be reduced and minimized

➤ **Causes of freight conflicts include:**

- **Growth and urban encroachment:** Population growth and suburban expansion can encroach on traditional freight lands – facilities are often relatively immobile
- **Uncoordinated land use planning:** Can lead to freight facilities and non-freight land uses being developed near one another
- **Competition for land:** In relatively dense areas where greenfield or brownfield land are at a premium, freight and non-freight developers may compete for the same parcels of land

A Strategic Lens on Freight Conflicts

How can we think about balancing freight with other community needs?

- **Policymakers and agencies must carefully balance a range of competing interests** when conflicts emerge and make decisions in the best interest of all their constituents.
 - In such a context, absolutes are rarely helpful or productive.
- **Freight facilities may not be able to operate on a competitive commercial basis** with heavy restrictions and impedances
 - Over time, such facilities may relocate out-of-state, taking employment, GDP and tax revenues
- **On the other hand, a community's full economic potential and maximum quality of life may not be achieved due to freight conflicts**
 - Quality of life can deteriorate due to freight impacts such as noise, traffic, and safety
- **A strategic framework like the PMA Framework can help provide some situational guidance and hint at solutions**

Protect-Manage-Accommodate (PMA) Framework

PMA forms the basis of some solution discussions in following sections

	Protect	Manage	Accommodate
Definition	Protect freight industries from unreasonable conflicts	Manage conflicts in tactical and targeted ways	Accommodate freight needs to prevent major issues
Context	Areas where freight industries are dominant; Freight facilities of high strategic importance	Areas where freight and non-freight industries are both significant uses	Areas where non-freight industries and residential communities are dominant
Examples	Freight clusters; Ports, airports, intermodal terminals	Mixed-use areas; Freight clusters transitioning to mixed use	Central business districts; “Stranded” freight facilities (legacy facilities enveloped by communities)

Applying Strategic Logic to Conflicts

	Protect	Manage	Accommodate
Examples of Approaches	<ul style="list-style-type: none">• Separate uses where possible;• Prioritize support for competitiveness and productivity within industrial areas, which in turn drive wider economic prosperity;• Reasonably accommodate non-freight needs, ensure safety and mobility	<ul style="list-style-type: none">• Balance freight and non-freight needs;• Strive to identify tactical, targeted, and creative solutions rather than merely striving for compromise between competing stakeholders;• Communications and information sharing to build balanced perspectives	<ul style="list-style-type: none">• Recognize that non-freight needs may take top precedence in these areas;• Accommodate freight needs as reasonable to ensure everyone's safety and mobility is considered
Considerations	May require considerable advance planning to fully realize	Freight industries may impose externalities and also contribute to employment in the same communities	Beneficiaries of safe and efficient freight also include homes, restaurants and businesses

Institutional Issues Considered

Broad ideas on how Delaware can support its first/final mile work in the future:

- Understanding the problems: improving freight data availability
- Incorporating freight knowledge into existing planning flows
- Finding money: how to pay for freight investments



Data Improvements

Additional data can strengthen freight analysis in the future

➤ Data stewardship and succession planning

- Specific staff hold institutional knowledge about select datasets
- Staff changes or turnover make finding or interpreting specific datasets difficult
- Solution: implementation of changelogs for data
- Solution: data onboarding for new or relevant staff, assigning data governance tasks

➤ Data and documentation standards

- Consider starting a “data dictionary” for important freight data assets

Incorporating Freight into Other Planning

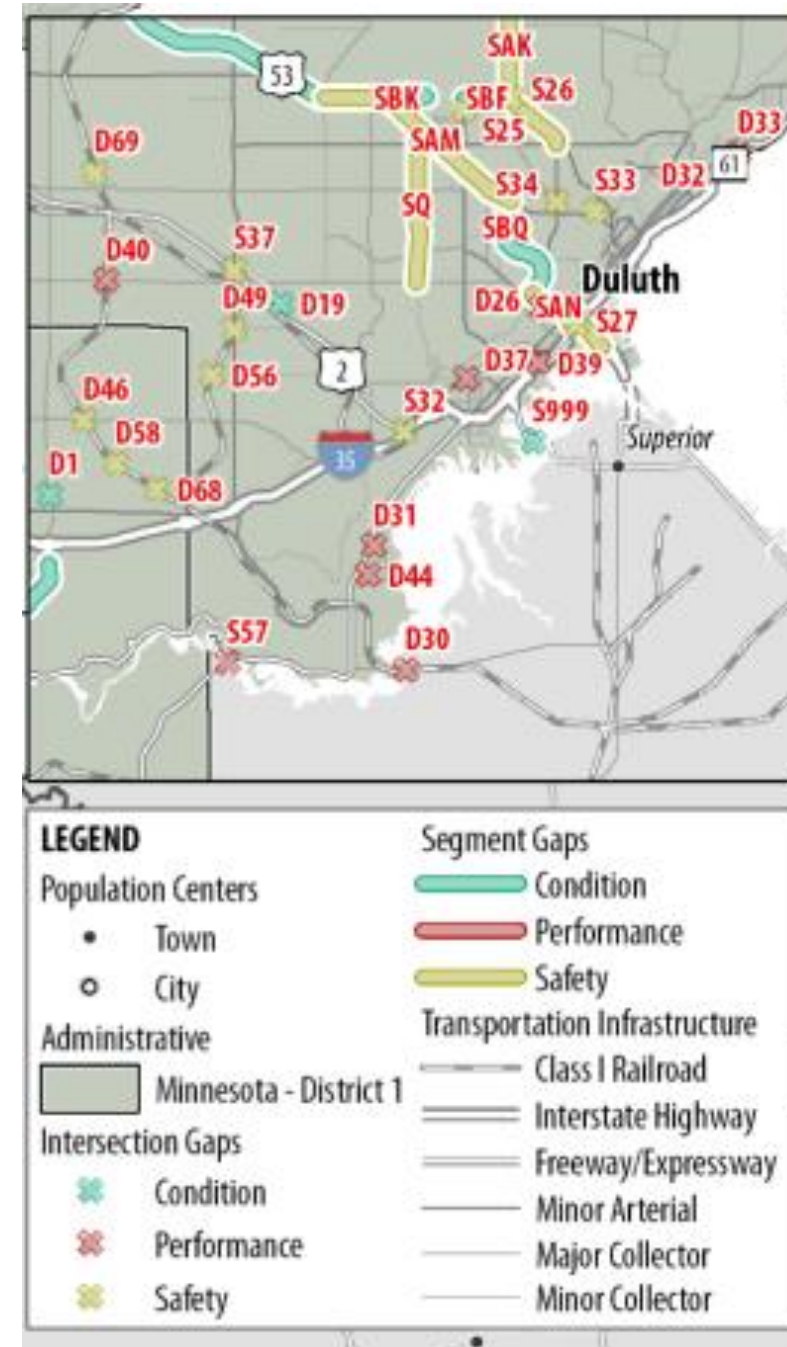
Ensure “easy-win” freight issues can be addressed by existing projects

- Delaware has substantial new information on first/final mile needs and issues
- Consider reviewing list of first/final mile connection performance data as part of existing planning processes
 - ID incremental changes or additions to existing projects.
 - ID potential policy changes at local level: truck routes, signage, etc...

Incorporating Freight into Other Planning

➤ Examples of Applications:

- COMPASS (Boise, ID) project prioritization framework: projects on ID'd freight connections or addressing documented freight issues get “bonus” points.
- MnDOT: District Freight Plan and Manufacturer Surveys used to create lists and GIS shapefiles of problems. Used as reference tools by state, county, local engineers. Also important for grant applications (see funding on next slide).



Paying for Freight Projects

Delaware and other states have tools to fund first/final mile projects

➤ Delaware has the **Transportation Infrastructure Investment Fund**

- Focus on attraction and expansion to create jobs.
- Renovation, construction, other road improvements.

➤ Other states also incentivize *retention*. For example:

- WisDOT **Transportation Economic Assistance** explicitly funds needed road condition or mobility improvements to support employment retention
- MnDOT **Transportation Economic Development** includes employment retention as eligible goal for projects, awards competitive points to projects that address previously-identified truck traffic problems, including high crash areas, flooding areas, geometric barriers, etc...
- PennDOT **Multimodal Transportation Fund** available for freight improvements



Federal Funding / Financing Programs

- National Highway Performance Program (NHPP)
- Surface Transportation Program (STP)
- Highway Safety Improvement Program
- Congestion Mitigation and Air Quality Improvement Program
- Projects of National and Regional Significance (PNRS): Section 1120
- Transportation Infrastructure Finance and Innovation Act (TIFIA)
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- Infrastructure for Rebuilding America (INFRA)
- Grant Anticipation Revenue Vehicles (GARVEE)

Questions and Comments

- What are your questions or comments about institutional needs and issues?
- What topics or solutions would you like to learn more about?

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Land Use Issues in Delaware

Much of Delaware's first/final mileage is located in sparsely-populated areas, but still impacts residents.

➤ **Continued development in rural and exurban areas will be a driver of future freight and land use conflict**

- 23% of Delaware's first/final mile connections are in areas that are developing or likely to develop
- An additional 30% are located in zones considered "mature" urban areas
- 69% of first/final mile connection mileage is within 50 feet of single-family housing land.

➤ **First/final mile connections are disproportionately concentrated in lower-income and minority neighborhoods**

- 52% of the mileage is in Census blocks with low income and minority population environmental justice indices of 50+

➤ **Environmental protection considerations are relevant to many connections**

- 158 river or stream crossings documented for the first-final network
- 23 miles of first/final mile network lie within wellhead protection areas

Noise and Livability



Location: US-202 near SR 141. Image Source: Google Street View

Issues:

- **Noise** from trucks (exacerbated by braking – e.g. downhill approaches to signalized intersections, amplification over open spaces)
- **Trucks take longer to brake** due to slower deceleration

Continuity and Strategic Connectivity

South of underpass



North of underpass



Issues:

- **Sudden transitions** in corridor typology (e.g. 4-lane divided road becomes narrow 2-lane road)
- **Can leads trucks** into / through residential areas

Location: US-202 near SR 141. Image Source: Google Street View

Trucks in Neighborhoods



Location: Lindberg Avenue. Image Source: Google Street View

Issues:

- **Inadequate access** routes to facilities
- **Intrusion** of trucks onto residential roads not designed / suited for truck traffic
- **Safety, property damage** risks

Compatibility of Adjacent Land Uses



Issues:

- **Adjacent land uses** (e.g. school beside processing plant)
- **Shared spaces** between trucks, automobiles, pedestrians in close proximity

Location: Hosier Street. Image Source: Google Street View

Solution: Strategic Truck Route Networks

- Funnels trucks to routes best suited to handle them
- Can be voluntary / suggestive, relying on mutual interest by truck drivers to avoid conflicts; or regulatory / enforced
- First/final mile connectors are critical component of such a network
- Consideration: funneling trucks to fewer roads not always desirable
- Important to consider redundancy and resiliency in case of closures

Case Study: New York City Truck Route Network

New York City Department of Transportation (NYC DOT) has established a set of roads that commercial vehicles must use in New York City. The network comprises two classes of roadways: Local Truck Routes and Through Truck Routes.

Source: New York City Department of Transportation, Trucks & Commercial Vehicles



Solution: Infrastructure Improvements

- Review can identify whether there are gaps in the transportation network to improve traffic flow and mobility from a freight / goods movement perspective
- In some cases, even small connector roads / expansions can make a big difference towards mitigating bottlenecks and helping direct trucks away from otherwise sensitive locations

Case Study: Finch West Goods Movement TMP in Toronto

The Finch West area of Toronto is a freight cluster transitioning to mixed use (including new light rail transit and bike lanes). The City of Toronto launched a goods movement-focused Transportation Master Plan (TMP), with the authority to propose physical and operational infrastructure upgrades to help facilitate the movement of goods, ranging from signal-timing and intersection improvements, to new connector roads to improve circulation.

Source: City of Toronto, Finch West Goods Movement Plan



Solution: Truck Restrictions

Type	Examples
Route restrictions	Truck prohibited road segments where truck activity occurs adjacent to sensitive land uses (e.g. schools, parks) and alternate route is available.
Time of day restrictions	Time-of-day restrictions such as at nighttime near hospitals or seniors' residences, or during school hours beside schools.
Size and weight regulation	Prohibiting large trucks from routes where roadway geometrics are not supportive, and where an alternate more appropriate route is available. E.g. based on vehicle dimensions, number of axles/tires, or vehicle weight/capacity.
Hazmat restrictions	Restrictions on where/when trucks carrying hazardous materials can operate.
Emissions controls	Idling regulations and engine compliance rules.
Commercial vehicle parking and loading zones	Designated loading zones and times for curbside loading and unloading; or restrictions to low emissions/zero-emissions vehicles in sensitive locations.

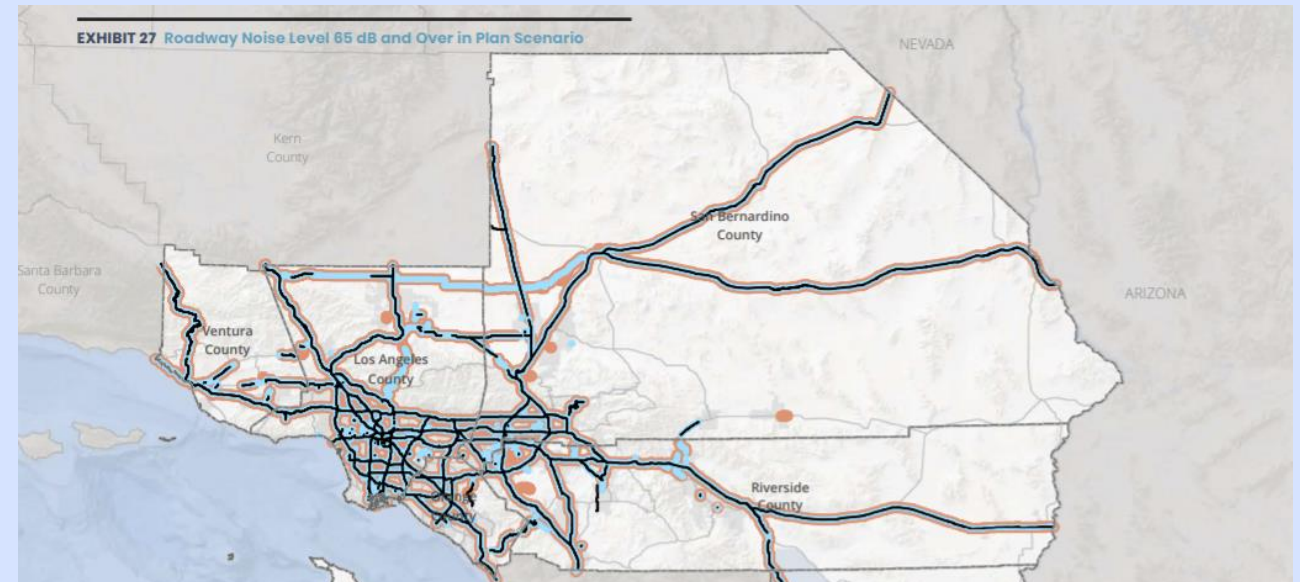
Solution: Environmental Justice Approaches

- Seeking out the input of traditionally underrepresented groups
- Proposing mitigation measures or considering alternative approaches in cases where disproportionately high and adverse impacts on minority or low-income populations are identified
- Is a new federal policy priority linked to funding programs

Case Study: Connect SoCal Environmental Justice Report

The Southern California Association of Governments (SCAG)'s 2020 Regional Transportation Plan, Connect SoCal, draws heavily on principles of environmental justice (EJ). The plan's EJ report has 18 specific performance indicators such as roadway noise impacts, emissions impacts, and distribution of travel time impacts.

Source: Southern California Association of Governments, Connect SoCal, Environmental Justice Technical Report, May 2020





Solution: Siting Future Freight Facilities

- Land use designations are generally planned and implemented at the local agency level, using the comprehensive plan, zoning code, and permitting system
- However, many regional agencies, such as MPOs, can assist by developing regional visions and goals related to freight growth and by identifying freight clusters where freight can efficiently move into and out of without disturbing other types of land uses in the broader community
- Other incentives to locate freight facilities in certain communities include tax relief programs to encourage industrial development and redevelopment consistent with regional goals
- Notifications can be used to advise residents, or prospective residents of developments in progress, of their proximity to freight facilities, corridors, or clusters

Questions and Comments

➤ What questions do you have about land use problems or solutions?

➤ What problems or solutions would you like to learn more about?

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5-Minute Break

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Mobility Issues in Delaware

Tourism and seasonal traffic congestion

- DelDOT estimated that traffic can more than double on some major routes during the tourist season

Agricultural shipments in rural areas

- Seasonal movement of freight at harvest time can create congestion

Narrow shoulders appear to be somewhat of a concern

- Nearly 9% of first/final mile connections have between 0 and 1 feet of shoulder

Narrow lane widths do not appear to be a significant issue for the most part

Turning radius was identified as an issue through stakeholder input for a few trouble spots, though data was not available

Delay at Intersections



Location: I-495 South Off-Ramp at Terminal Avenue. Image Source: Google Street View

Issues:

- **No signalization** at high traffic intersections can lead to delay and queuing
- **Trucks need** larger traffic gaps at non-signalized intersections to facilitate turns, due to slower acceleration



Facility Access



Issues:

- **Facility access** configurations can be associated with delay or unintended traffic flow patterns
- **Direct routes** to/from the highway are most efficient for trucks
- **Risk of improper use** of access points

Location: SR 72 East of SR 1. Image Source: Google Earth

Mobility at Intersections



Location: Intersection of SR 24 and SR 30. Image Source: Google Earth

Issues:

- **Roadway configuration** challenges at intersections (e.g. odd angles) can pose maneuverability challenges and cause delay
- **Trucks require more space** to complete turns than automobiles

Turning radius at intersections



Issues:

- **Urban environments and city centers** can have tight turning radii
- **Trucks have decreased maneuverability** compared to automobiles
- **Parking near corners** can make turns trickier

Location: Intersection of Main Street and State Street, Millsboro. Image Source: Google Street View

Turning radius along corridors



Location: Savannah Road in Sussex County. Image Source: Google Street View

Issues:

- **Turning radius** can also be a challenge along curving roadways
- **Two trucks passing each other** can create safety risks at high speed and with limited shoulder space

Solutions: Truck-Only Lanes / Roads

- Dedication of roadway capacity for commercial vehicles
- Can improve mobility in strategic locations
- Challenge is that these are in highest demand in congested locations – but these are also the situations with greatest pressure for maximizing full use of roadway

Case Study: South Boston Bypass

Grade-separated, limited-access truck-only roads were constructed to ensure continued reliable freight access to the South Boston Waterfront as the area was redeveloped and rail lines removed. However, in recent years there have been increasing pressures to open the road to all vehicles. MassDOT has performed 6-month and 1-year pilot projects to evaluate the traffic impacts of opening up.

Image Source: Google Street View



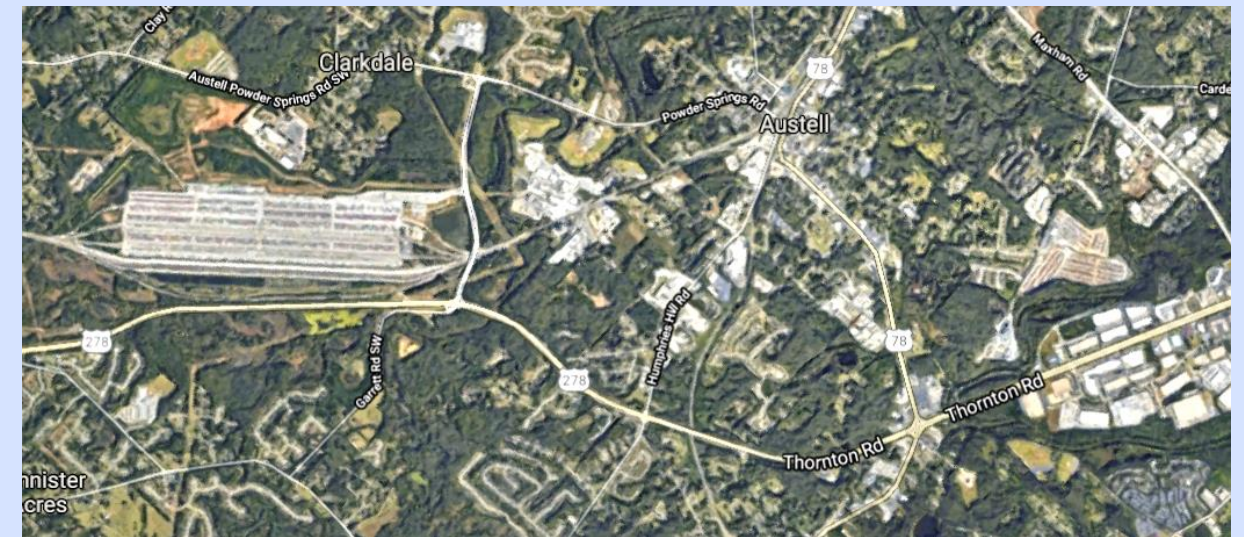
Solutions: Truck Friendly Lanes

- Corridor improvements to boost truck freight mobility
- Improvements for consideration can span a range of domains such as geometric design, operations, and information technology

Case Study: State Route 6 “Truck Friendly” Lanes in Georgia

Key freight corridor which provides access from I-20 to Norfolk Southern’s Whitaker Yard intermodal terminal. Georgia’s state freight plan includes a project for “truck friendly” lanes to include: widening existing shoulders, improving key intersections, increasing overhead signage, green signal priority, and ITS integration with the intermodal terminal (information on travel times).

Image Source: Google Earth



Solutions: Turning Radius Accommodation

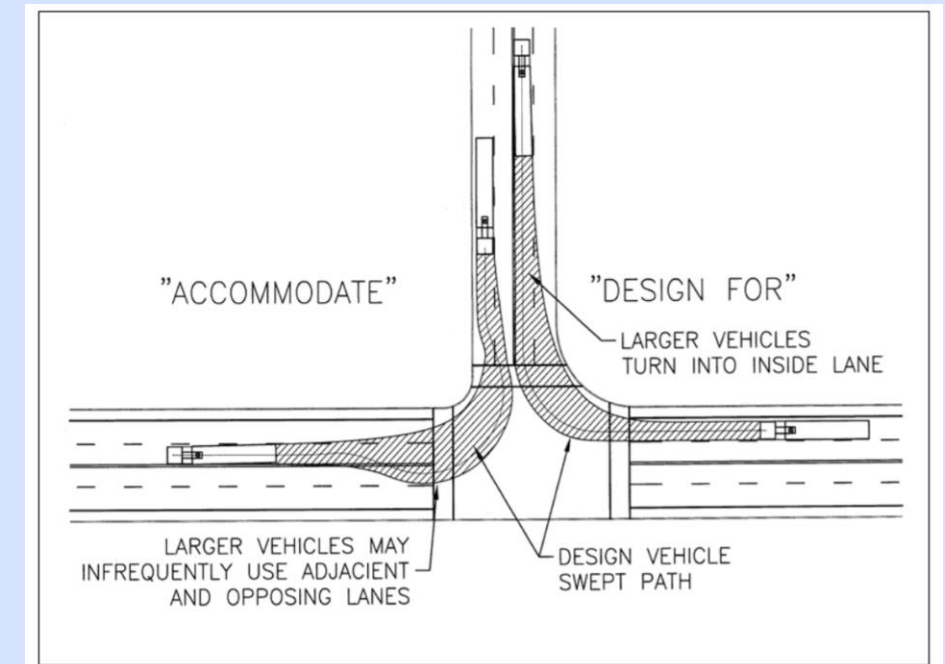
- Typically a tradeoff between the needs of trucks and other road users – pedestrians and cyclists
- Strategic approach to design for truck movements in freight districts or on key freight corridors, while designing to accommodate trucks in city centers and space-constrained areas

Case Study: Design For vs. Design to Accommodate

An illustration of the difference between “designing for” trucks and “designing to accommodate” trucks.

Flexible road space, careful design consideration, and restricting parking near the intersection can improve mobility and safety for all road users.

Image Source: City of Portland, 2008



Questions and Comments

➤ What questions do you have about land use problems or solutions?

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Safety Issues in Delaware

Safety risks include corridor and intersection truck-involved crashes

- Between 2014 and 2019, 1,122 crashes were observed on Delaware's first/final mile network
- First/final mile intersections tended to have higher risk ratings than average as determined by Delaware's risk assessment framework (65 first/final mile intersections represented in dataset)

Other safety risks include vulnerable road users – cyclists/pedestrians

- 814 pedestrian crosswalks on Delaware's first/final mile network
- Sidewalks parallel at least one side of 57.2 miles on this network
- 215 miles of first/final mile connections (about 62% of the state total) have some form of designed bicycling facilities
- 228 intersections between the first/final mile network and other transportation assets have some form of bike infrastructure or designation

Safety at Intersections



Location: Boulden Boulevard at Matassino Road. Image Source: Google Street View

Issues:

- **Absence of signalization** may create safety challenges at intersections
- **Trucks take longer** to complete turns, due to slower acceleration

Bicycles and Pedestrians



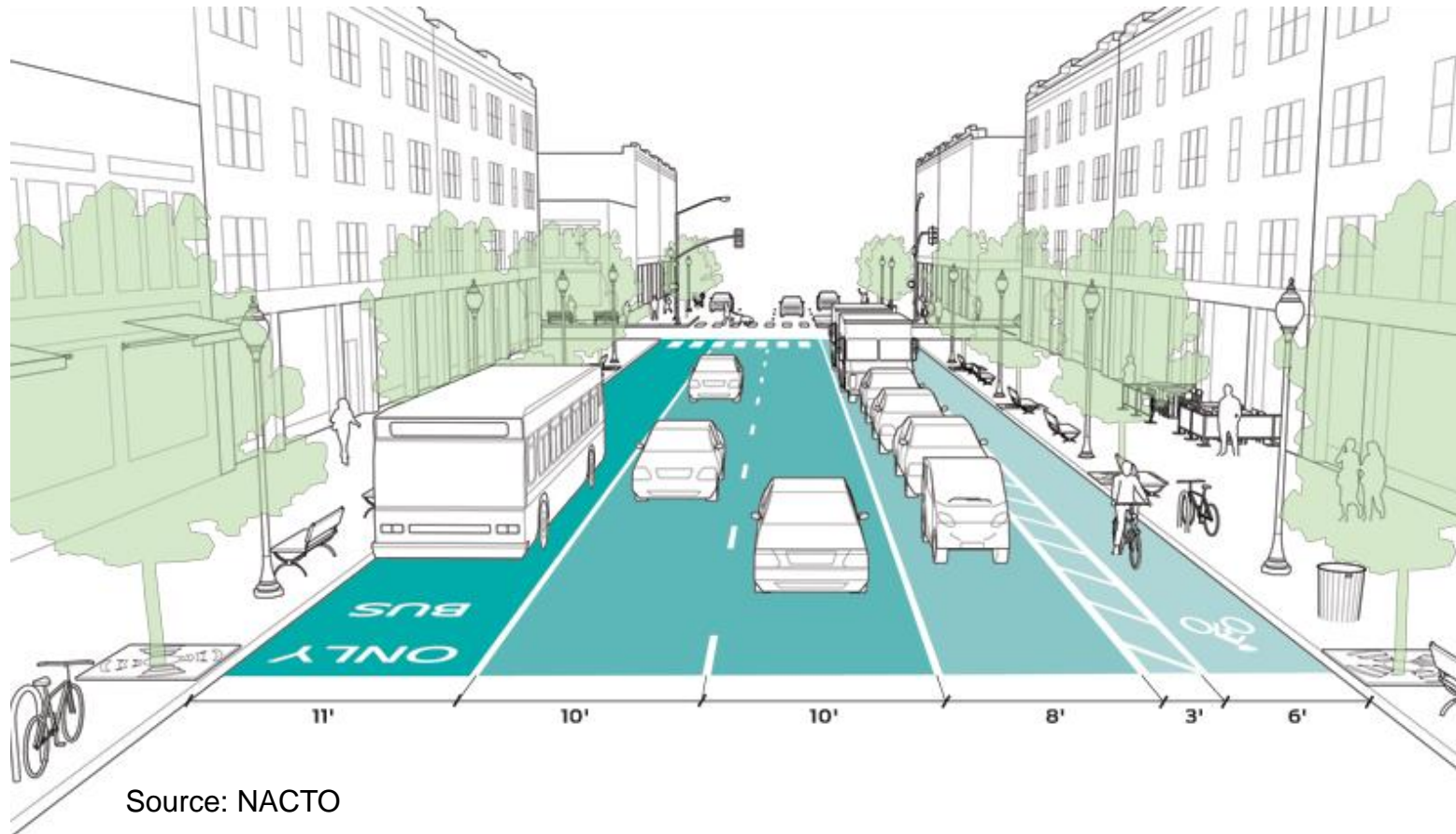
Location: Wrangle Hill Road. Image Source: Google Street View

Issues:

- **Dual importance** of corridors for freight and for bike/peds
- **Narrow bike lanes and lack of sidewalks** can contribute to reduced safety, and also perceptions of greater risk which may discourage cycling/walking

Solutions: Lane Width

- Balancing act: wide lanes encourages higher speed
- Curb lane greater than 11' for truck- and bus-specific areas



Solutions: Accommodating Left Turns

- Access points onto / off of trunk highways are a common safety concern
- J-Turns / RCUTs to reduce opportunities for right-angle crashes, blocked lanes.





Other Solutions

- Further separation or designation of bicycle lanes.
- Truck routes: examine potential routes to remove, mitigate high-risk areas
- Traffic signals: addition of green time on through-routes to reduce stopping



Questions

- Are there any other safety topics or potential solutions that are relevant to you?
- Is there anything else you would like to learn about in regard to safety?

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Condition Issues in Delaware

- **Condition issues were less often noted in the literature, as well as by stakeholders**
- **Some comments were received about road quality in specific locations**
 - Condition issues can include not just structural issues like potholes, cracking and rutting, but also risks associated with poor drainage and roadway debris (sand/gravel)

Flooding and drainage



Location: Pyles Lane at Pigeon Point Road. Image Source: Google Street View

Issues:

- **Poor drainage** can lead to flooding and pavement deterioration
- **Risk of increased wear and tear and safety hazards** for trucking fleets

Sand and debris on roads



Location: Federal School Lane. Image Source: Google Street View

Issues:

- **Sand and gravel** can accumulate on roadways especially near gravel pits
- **Poor drainage** can lead to muddy conditions during precipitation
- **Cars can track in** sand, gravel and mud into adjacent residential neighborhoods



Questions

➤ Any questions or comments related to condition?

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Closing and Next Steps

Remaining Project Work

- Ground-truthing analysis results
- Draft and final report documents
 - Summary of prior Working Papers
 - Deeper dive on select first/final mile problems or solutions of interest
 - Proof of concept prioritization exercise
- Delivery of finalized first/final mile network dataset



Thank you!

