City of Milford - Municipal Freight Planning

Final Technical Memorandum

June 2023

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1 Introduction

1.1 OVERVIEW AND BACKGROUND

In December 2022 the U.S. DOT approved Delaware's current State Freight Plan. The 2022 Delaware Plan was an update of their 2015 and 2017 plans. The 2021 Infrastructure Investment and Jobs Act requires all states to develop freight plans. [1]

Number 19 of the Plan's short-term recommendations (1-4 years) addresses local freight planning, proposing to:

> **Local Freight Planning Support**
> *Leverage DelDOT municipal assistance tasks available within statewide planning contracts, as well as similar MPO or academia resources within the state, to provide local freight-relevant planning support to municipalities throughout Delaware.*

DelDOT provided resources through its planning division for the fiscal year 2023 to advance freight planning in municipalities. DelDOT's goals include:

- Provide **additional resources** to assist municipalities in their comprehensive planning and capital and maintenance planning relative to freight,
- Leverage **other current freight planning** efforts and resources, and seek consistency whenever possible,
- Facilitate freight and truck movements locally and statewide by **tying local issues and goals with state goals and projects** that address safety, economic activity, and quality of life, and others in the *Delaware State Freight Plan,*
- Increase **collaboration** among government and industry stakeholders to facilitate current and future initiatives and implementation, and
- Evaluate potential projects that could be advanced through local, regional, state, and federal **funding sources.**

Freight planning support in the City of Milford, located in both Sussex and Kent counties, was the first of these municipal initiatives begun in the state. Lessons learned from this initial effort in Milford will be used to advance other municipal efforts in the state and assist individual municipalities to advance their own freight planning efforts.

The objectives for the City of Milford – and for each municipality included in the Local Freight Planning Support Program – include:

- Identifying potential improvements to enhance safety or efficiency for the trucking and freight community or for the areas in which they operate,

[1] The Plan in full and its appendices are available on DelDOT's freight webpage.

- Identifying opportunities to amend local comprehensive plans to adopt a more balanced approach to freight,
- Increasing collaboration among DelDOT and municipal staff involved in freight planning issues, and
- Improving collaboration among private trucking businesses, municipal and County staff, Metropolitan Planning Organizations (MPOs), and DelDOT.

This technical memorandum includes a summary of issues and next steps to assist Milford in its next steps of comprehensive, capital, and maintenance planning. The Technical Memorandum is organized as follows:

- Section 1 introduces the municipal freight planning effort and addresses the Delaware State Freight Plan, freight references in the Milford Comprehensive Plan, and several freight-related studies and plans relevant to the Milford area.
- Section 2 addresses the process used to develop the freight planning considerations for the City of Milford.
- Section 3 addresses existing conditions for freight activity and freight planning in Milford.
- Section 4 proposes next steps to address the challenges identified.

1.2 DELAWARE STATE FREIGHT PLAN

The 2022 *Delaware State Freight Plan*:[2]

> (I)s a compilation of statewide transportation planning insights that focus on improving Delaware's multimodal freight transportation systems to enhance economic opportunities within the state and the surrounding regions, while also upholding federal requirements for the development of state freight plans.

The Infrastructure Investment and Jobs Act (IIJA) required states to address 17 elements.[3] The *Delaware State Freight Plan* summarizes key insights across ten freight emphasis areas, included here as Figure 1.[4]

IIJA requires the Plan to be updated every four years to better align with other typical transportation planning and programming periods. Therefore, Delaware's freight plan will next be updated in 2026.

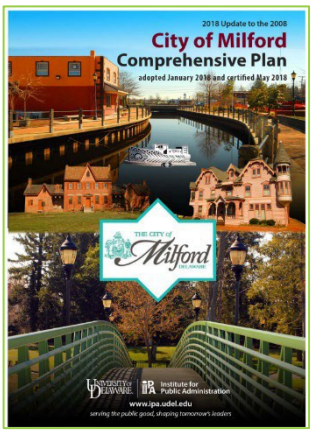
[2] DelDOT, Delaware State Freight Plan, https://deldot.gov/Business/freight/pdfs/2022/2022%20Delaware%20State%20Freight%20Plan%20Full.pdf?cache=1693576399521.

[3] DelDOT, *Delaware State Freight Plan*, Figure 1-1, 2022, https://deldot.gov/Business/freight/pdfs/2022/2022%20Delaware%20State%20Freight%20Plan%20Full.pdf?cache=1685989424999. Note: The 2015 Fixing America's Surface Transportation Act (FAST Act) which addressed the previous state freight plan only required 10 elements.

[4] DelDOT, *Delaware State Freight Plan*, 2022, https://deldot.gov/Business/freight/index.shtml.

Figure 1. Delaware Freight Emphasis Areas. Source: Delaware State Freight Plan, 2022.

1.3 MILFORD COMPREHENSIVE PLAN



The City of Milford's Comprehensive Plan was most recently updated in 2018. The plan, adopted by City Council in January 2018 and certified by the Governor in May 2018, is available on the City's Planning and Zoning webpage.

References to freight and truck movement in the City of Milford Comprehensive Plan[5] are as follows:

- **Section 1-4e. Transportation**
  - **Goal** – Enable the safe and efficient mobility of residents utilizing all modes of travel, be they pedestrians, cyclists, drivers, or transit riders, via a safe and interconnected transportation system
  - **Objectives** – Coordinate with DelDOT and local businesses to address noted concerns of congestion, truck traffic, and difficult pedestrian crossings
- **Section 6-3c. Railroads** – The major north-south railroads line on the Delmarva Peninsula runs roughly parallel with SR 14, as it enters the city from the west and then turns due south, roughly following US 113. The line is owned and operated by Norfolk Southern and presently only hauls freight. It connects Milford with the northwest corridor, providing important linkages to statewide and regional destinations.
- **Section 6-5b. Truck Traffic** – The city reported few traffic concerns. However, Northwest Front Street does have a significant volume of heavy truck traffic associated with the nearby industries/major employment centers. Though the traffic volumes do not seem to be causing significant congestion, some concerns have been expressed that the continual vibrations could eventually undermine nearby historic structures. As of this plan's drafting the town was in discussions with industry representatives regarding possible solutions.

Amendments to the Comprehensive Plan were made in 2019, 2021, and 2022. The 2021 amendments included a limited number of land use and zoning changes and also allowed for the future land use classification for properties to the south of the Greater Milford Business Park to allow for its expansion. The 2022 amendments include intersection improvements at specific sites and addressed in Section 4.2 *Mobility*. City staff have noted in further discussions since the original adoption of the comprehensive plan, issues concerning inadequate intersection geometries leading to ongoing damage of public infrastructure need to be addressed.

1.4 ADDITIONAL FREIGHT RESOURCES

In addition to the local comprehensive plan and state freight plan, several freight-related studies and plans relevant to the Milford area were reviewed to ensure completeness and consistency with existing

[5] City of Milford Comprehensive Plan, 2018 (2019, 2021, 2022 Updates), https://www.cityofmilford.com/81/Comprehensive-Plan.

and near-term local, regional, and state freight planning efforts. These include the following (descriptions of these documents are included in Appendix A):

State

- *Delaware First/Final Mile Freight Network Development* (2021)
- *Delaware Statewide Truck Parking Study* (2021/update 2023)
- *Delaware Statewide Truck Bottlenecks Analysis* (2020/2022)

Regional

- Dover/Kent County MPO *Innovation 2045 Metropolitan Transportation Plan* (2021)
- Dover/Kent County MPO *Rail Corridor Industrial Land Use Study* (2022)
- Dover/Kent County MPO *Truck Parking Amenities Study* (2023)
- Dover/Kent County MPO *Kent County East/West Truck Freight Route Feasibility Analysis Phase I* (2022)
- Kent County *Transportation Operations Management Plan* (2021)
- Sussex County *Transportation Operations Management Plan* (2017)
- DelDOT *US 113 North/South Study* (2007)

Local

- *10th Street Open House* (2022) – Open House presentation
- *City of Milford Capital Plan FY 2023-27*
- *Milford Corporate Center Open House* (2022) – Poster Boards (and April 2023 City Council meeting minutes associated with the Corporate Center)
- *Milford Downtown Streetscapes* (2023) – Open House poster boards
- *S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement Project* (2023) – *Public Workshop #1* (December 15, 2022) and *Public Workshop #2* (April 4, 2023)

2 Process

The process used to identify current conditions and concerns and suggest next steps for local freight planning for Milford include:

Municipal Outreach and Document Review

- Outreach and discussion with Rob Pierce, Director of Planning for the City of Milford on October 25, 2022, at the request of DelDOT Planning. A review of concerns, both general and specific to trucking, truck routes, road, and intersection configuration, signage, and trucking facilities was covered.
- A secondary discussion that included Sara Blume, Economic Development and Community Engagement Administrator, and Rob Pierce was held on January 12, 2023, captured additional concerns and considerations. An initial list of local freight stakeholders from both the public and private sectors was developed and later refined by email.
- Research capturing issues, concerns, opportunities, and current plans was pulled from several existing reports, plans, and websites from the locality, region, and state.

Agency and Stakeholder Meeting

- A January 31, 2023, meeting with stakeholders was held to address trucking and freight movement issues. A list of attendees from that meeting are included in Appendix B.

Public Survey

- Outreach to the public and businesses was conducted via online surveys. The public surveys can be found in Appendix C. Both surveys were promoted to the community by the City of Milford's electronic newsletter and the City's social media accounts, Twitter, and Facebook. Residents and businesses were directed to the City's project website and linked participants to the surveys hosted on DelDOT's *PublicInput* portal. Images from the Milford websites promoting the surveys are available in Appendix D. The results of the surveys can be found in Appendix E.
  In addition, the request to respond to the surveys were sent via email to those private businesses that attended the stakeholder meetings to ensure they had the sufficient opportunity to provide input.

Analysis and Next Steps

- A high-level strengths, weaknesses, opportunities, and threats (SWOT) analysis was conducted based on the issues raised by all stakeholders. Recommendations to address the key issues were developed including ones that could be included in future comprehensive plan updates, capital programs, and DelDOT projects.
- Review of additional studies and updated studies and reports was conducted, as well as additional discussion with the City of Milford Planning Director to learn about advancing projects and work related to this effort.

- A summary of issues, recommendations, and next steps are included in this technical memorandum to assist Milford in their next steps of comprehensive, capital, and maintenance planning.

3 Existing Conditions

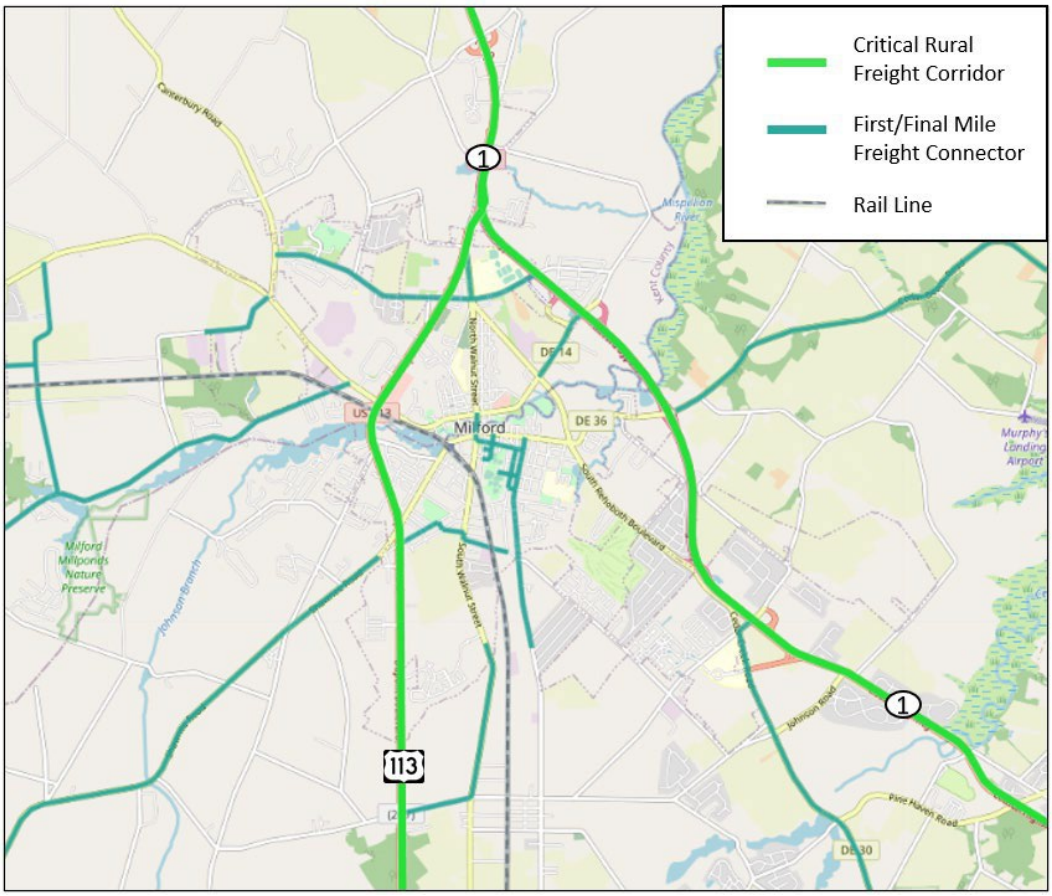
As noted in Sections 1 and 2, discussions with key stakeholders addressing the Milford area were held from fall 2022 to the present. In addition, several studies and plans were reviewed that address freight movement in the area as well. This section covers the key issues and learnings from those efforts.

3.1 Jurisdictional Issues

The City of Milford falls into two Counties – the north side of Milford is located in Kent County, and the south side is located in Sussex County. Projects that impact or require regional coordination can be challenging as a single MPO does not address the entirety of the City of Milford.

3.2 Freight Routes

Figure 2. Freight Network. Source: Delaware Freight Plan – Existing Conditions, WILMAPCO online map



As seen in Figure 2, the north-south roads serving Milford and its environs, US 113 and SR 1, are included in the Critical Rural Freight Corridors (CRFC)[6]. The CRFC is part of the National Highway Freight Network (NHFN); the NHFN consists of the four subsystems:

- The Primary Highway Freight System (PHFS);
- The portions of the Interstate System not part of the PHFS;
- The Critical Rural Freight Corridors (CRFCs); and
- The Critical Urban Freight Corridors (CUFCs).[7]

Several roads have been identified as first/final mile road connectors connecting US 113 and SR 1 to local businesses (Figure 2). These roads were identified as part of the *Delaware First/Final Mile Freight Network Development* report for, and in collaboration with, DelDOT and Delaware's metropolitan planning organizations.[8]

3.3 Zoning

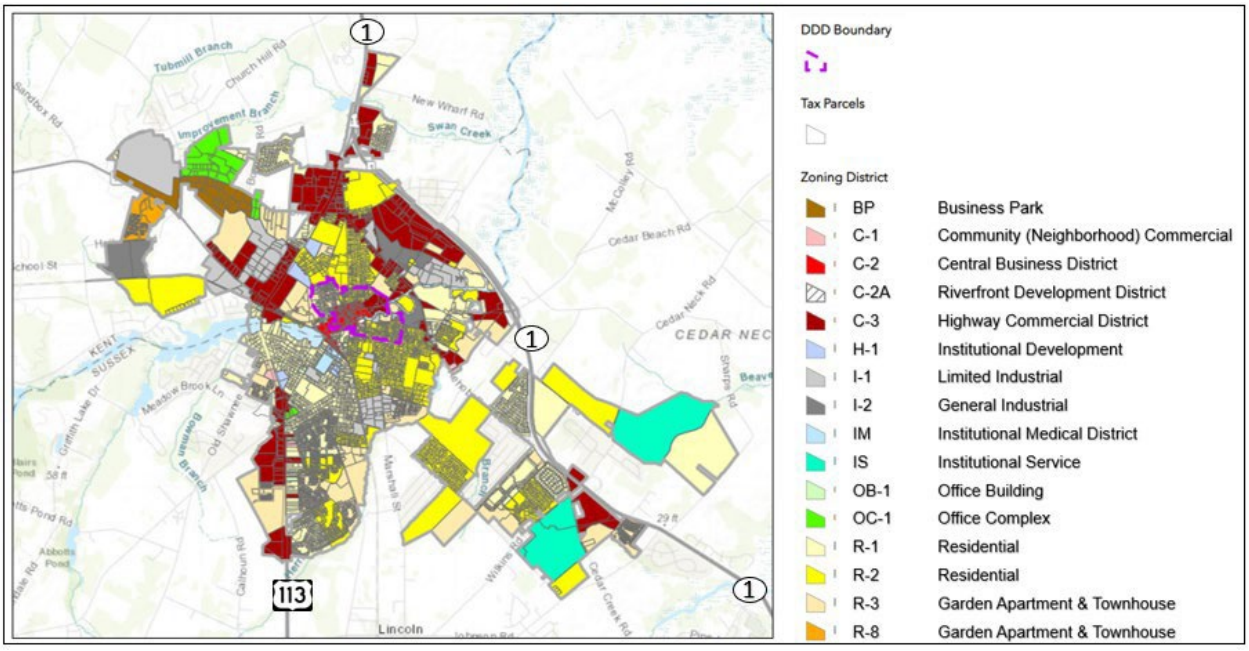
As is seen in the Milford Parcel and Zoning Map in Figure 3, several areas zoned for commercial and industrial are located nearby US 113 and Route 1, affirming the first/final mile locators identified in Figure 2. There is a cluster of industrial zoned parcels located along North Rehoboth Boulevard and SR 14 (Milford-Harrington Highway). Neither roadway is part of the National Highway Freight Network or Delaware's First/Final Mile freight network.

[6] *Delaware State Freight*, 2022, https://deldot.gov/Business/freight/index.shtml.

[7] FHWA, FAST Act, Section 1116 National Highway Freight Program (NHFP) Guidance webpage, https://ops.fhwa.dot.gov/fastact/crfc/sec_1116_gdnce.htm. The webpage provides detailed definitions of each designation. A map of the NHFN is available at the FHWA National Highway Freight Network Map webpage, https://ops.fhwa.dot.gov/freight/infrastructure/nfn/maps/nhfn_map.htm.

[8] **"**First and final mile connections are roadways that link truck-generating facilities to mainline routes of travel such as interstates or major regional highways. In the broadest sense, almost all roads serve in a first/final mile role, as even minor roads in residential or rural areas accommodate the movement of mail, packages, and garbage trucks. However, first/final mile connections more commonly refer to the roadways that link individual freight handling facilities such as manufacturing facilities, retail centers, distribution centers, warehouses, ports, intermodal terminals, and farms with major travel corridors such as limited-access highways." Source: *Delaware First/Final Mile Freight Network Development*, 2021, http://www.wilmapco.org/freight/First_Final_Mile_Final_Report.pdf.

Figure 3. Milford Parcel and Zoning Map. Source: City of Milford, Department of Planning webpage



3.4 Corporate Center

In fall 2021 the City of Milford purchased approximately 182 acres of land at the northwest corner of DE 14 (Milford-Harrington Highway) and DE 15 (Canterbury Road) for the development of a business park and employment center (Figure 4).[1]

Subdivision reviews by the City of Milford Planning Commission and City Council will be occurring in 2023. Onsite and offsite site improvements are slated to begin by 2024.

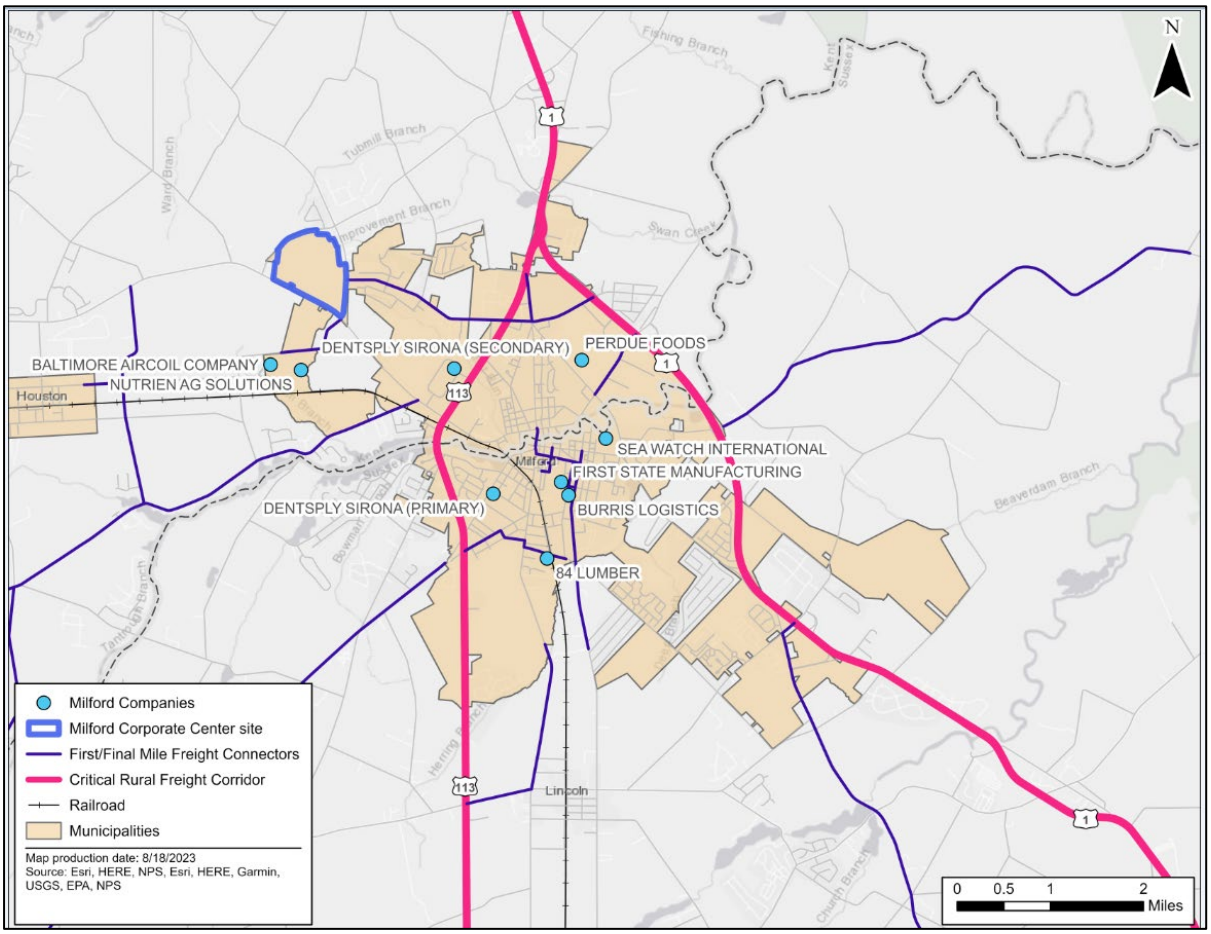
Figure 4. Rendering of Milford Corporate Center. Source: City of Milford website

[1] An aerial map of the Corporate Center site can be found on the City of Milford website at https://www.cityofmilford.com/DocumentCenter/View/4695/Fry-Farm-Aerial-Map.

3.5 Key Businesses

The location of several businesses in Milford that are reliant on trucking operations are shown in Figure 5, including Baltimore Aircoil Company, Perdue Foods, and 84 Lumber.[9] Additional businesses in Milford with truck operations include (but are not limited to) the following: Burris Logistics, Dentsply Sirona, First State Manufacturing, Sea Watch International, and Nurtrien Ag Solutions.[10]

Figure 5. Milford Businesses Reliant on Trucking



3.6 Truck Parking

There is no formal truck parking facility in the Milford area, but a substantial amount of truck staging and parking in undesignated areas does occur.[11] The *Delaware Truck Parking Study* identified 42 informal parking spots along the on and off ramps of US 113/Dupont Blvd connecting to US 1/Bay Road;

[9] These three companies also participated in the January 31, 2023, stakeholder meeting.
[10] The businesses cited here were identified by City of Milford staff.
[11] *Delaware State Freight Plan*, 2022, *Delaware Statewide Truck Parking Study*, 2021, http://www.wilmapco.org/freight/DE_Truck_Parking_Final.pdf, and confirmed by the Milford Planning Director and local stakeholders.

90% of the stops are less than 3 hours.[12] Undesignated truck parking occurs in other locations, as well. (Walmart Parking Lot, Figure 6).[13]

Figure 6. Image of undesignated truck parking at Walmart Supercenter in Milford. Source: Google Earth and Truck Parking Amenities Study, 2023.

DelDOT is seeking to advance truck parking at different locations in the state, including Milford. A concept plan was developed for one location along SR 1,[14] but the location has not been approved, design plans have not been developed, and another location may still be selected.

3.7 Congestion and Bottlenecks

Congestion along US 113 and SR 1 is an issue for both trucks and cars.[15] Figure 7 shows that US 113 and SR 1 are roads that are occasionally congested. The *Statewide Bottleneck Analysis*, however, ranked the congestion severity as low.[16] Surveys and staff feedback indicated that congestion entering and within the City of Milford can be problematic for road users – including pedestrians and bicyclists who are impacted by increased air pollution from idling trucks and higher volumes of traffic with 2022 traffic volumes of approximately 45,000 for SR 1 north of Milford (Figure 8).

DelDOT estimates peak daily truck volumes for 2022 to reach about 3,000 trucks traveling along SR 1 and about 2,000 on US 113, as is seen in Figure 9.

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[12] *Delaware Statewide Truck Parking Study,* 2021, http://www.wilmapco.org/freight/DE_Truck_Parking_Final.pdf.
[13] *Delaware Statewide Truck Parking Study*, 2021, Figure ES-4, locations D-13 and D-26 http://www.wilmapco.org/freight/DE_Truck_Parking_Final.pdf.
[14] WILMAPCO and DelDOT, Delaware Statewide Truck Parking Study, Figure 25, 2021, http://www.wilmapco.org/freight/DE_Truck_Parking_Final.pdf.
[15] *Kent County Transportation Operations Management Plan*, April 2021, https://deldot.gov/Programs/itms/pdfs/Kent-County-TOMP-Report.pdf.
[16] *Delaware Statewide Bottleneck Analysis*, 2020, http://www.wilmapco.org/freight/Bottleneck_Ranking_Summary_DE.pdf?cache=1647963368029.

Figure 7. Milford Areas of Congestion. Note: Numbers 1-4 indicate Kent County near-term projects. Source - Kent County Transportation Operations Management Plan, April 2021.

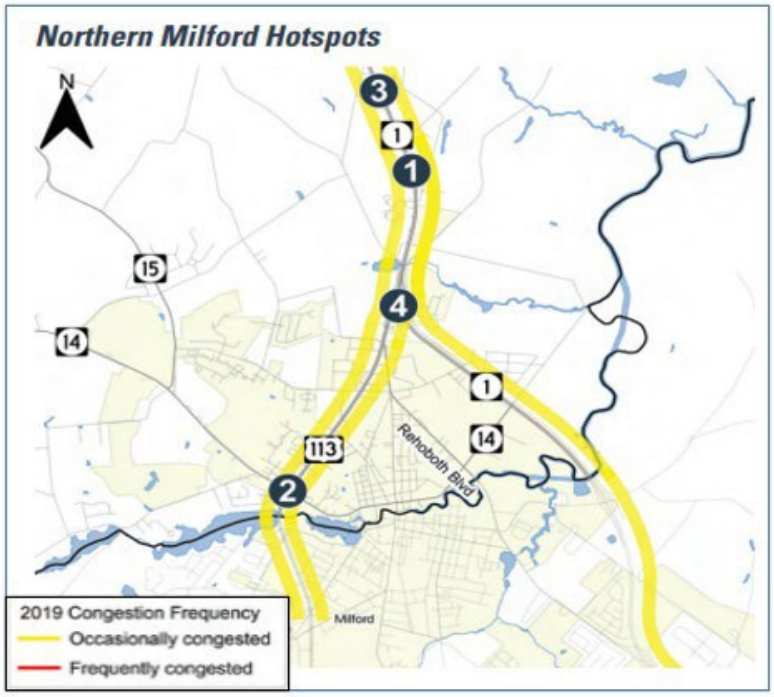


Figure 8. Average Annual Daily Traffic (AADT) (2022). Source: DelDOT. Note: Visit https://deldot.gov/Publications/manuals/traffic_counts/index.shtml for current traffic data.

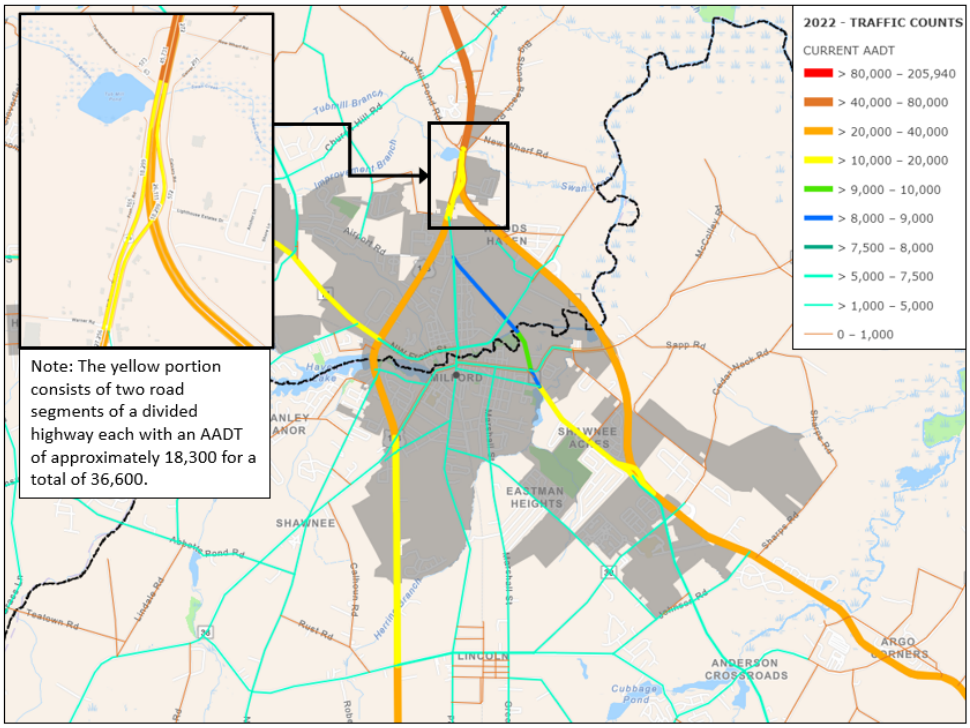
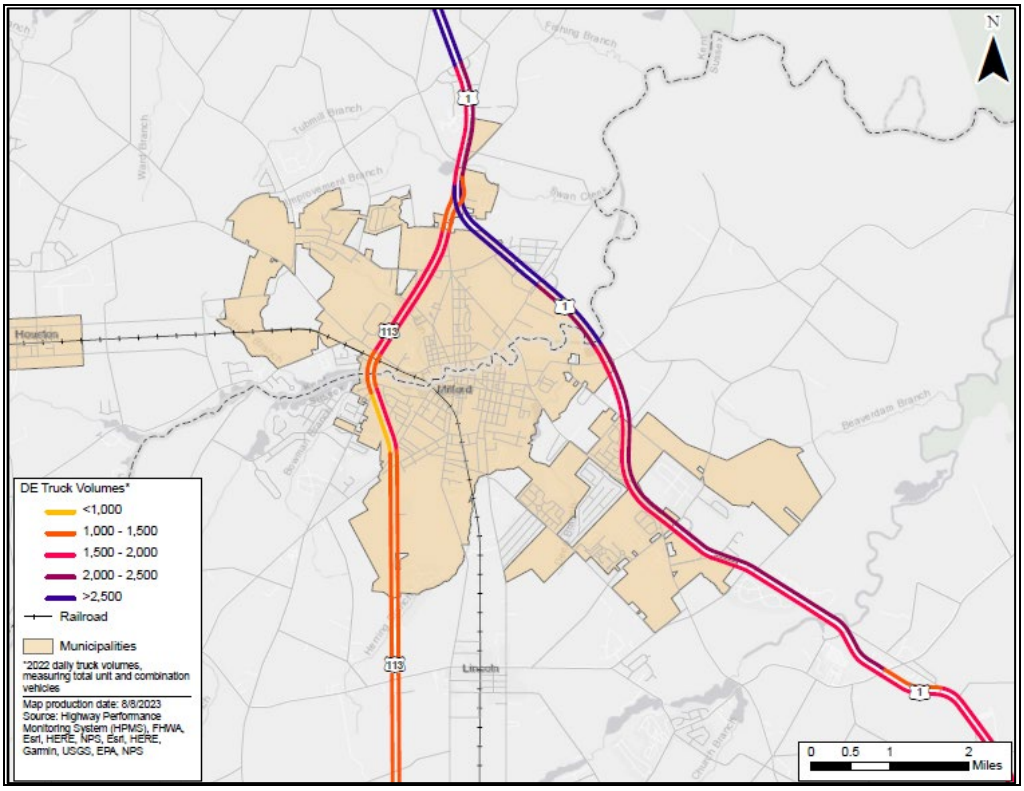


Figure 9. Average daily truck volumes. Source: WILMAPCO and DelDOT 2022.



3.8 Historic Downtown

Large vehicles require a larger turning radius than smaller vehicles. As a result, the larger vehicles can be harder to operate due to space needs, particularly in historic town centers that often have narrower roadways and buildings with infrastructure closer to the street. Also, other users of the roadway, including motorists, bicyclists, and pedestrians, can be unprepared for the occasional wide turning radius of large vehicles. A truck's wide turning radius is made more challenging by single lanes in the downtown area and non-perpendicular intersection geometries, such as South Walnut Street/Southeast Front Street (Figure 10).

Figure 10. Truck turning in downtown Milford. Source: Kent County MPO East/West Truck Freight Route Feasibility Analysis Phase I

Figure 30: A truck turning from Walnut Street onto SE Front Street in Milford. Large vel downtown are often required to make challenging turns such as this.

The frequency of trucks exceeding posted speed limits was noted by several members of the public and City staff.

3.9 North-South Truck Movement

North- and southbound truck movement is largely carried by SR 1 and US 113. These routes are CRFC-designated, as shown on Figure 11. US 113 passes through Milford proper. More problematic is for trucks to transfer between the two routes. Trucks cannot travel northbound from US 113 on to southbound SR 1 – or northbound on SR 1 to southbound US 113 – without traveling through downtown Milford or traveling two miles north to access the SR 1 interchange at Thompsonville Road. The results are increased truck movement in downtown Milford where it is not desired or trucks adding extra distance and time to their routes.

Truck movement which begins or terminates in Milford may result in trucks traveling through Milford's downtown area. This was included in the DelDOT US 113 North/South Study in 2007.[17] The study examined potential improvements throughout the entire US 113 alignment. DelDOT informed the General Assembly on January 23, 2008, that as "there is no community consensus for a compromise alternative" therefore, no further analysis was pursued.[18]

The impact of truck traffic travel through the City of Milford remains a concern for City staff and stakeholders.

[17] DelDOT Projects website, US 113 North/South Study, https://deldot.gov/projects/Studies/us113/index.shtml.
[18] DelDOT Projects website, US 113 North/South Study, https://deldot.gov/projects/Studies/us113/index.shtml.

3.10 East-West Truck Movement

Figure 11. East-west movement through Milford. Source: Kent County East-West Truck Freight Route Feasibility Analysis, 2022 (DE 14 marked in red).

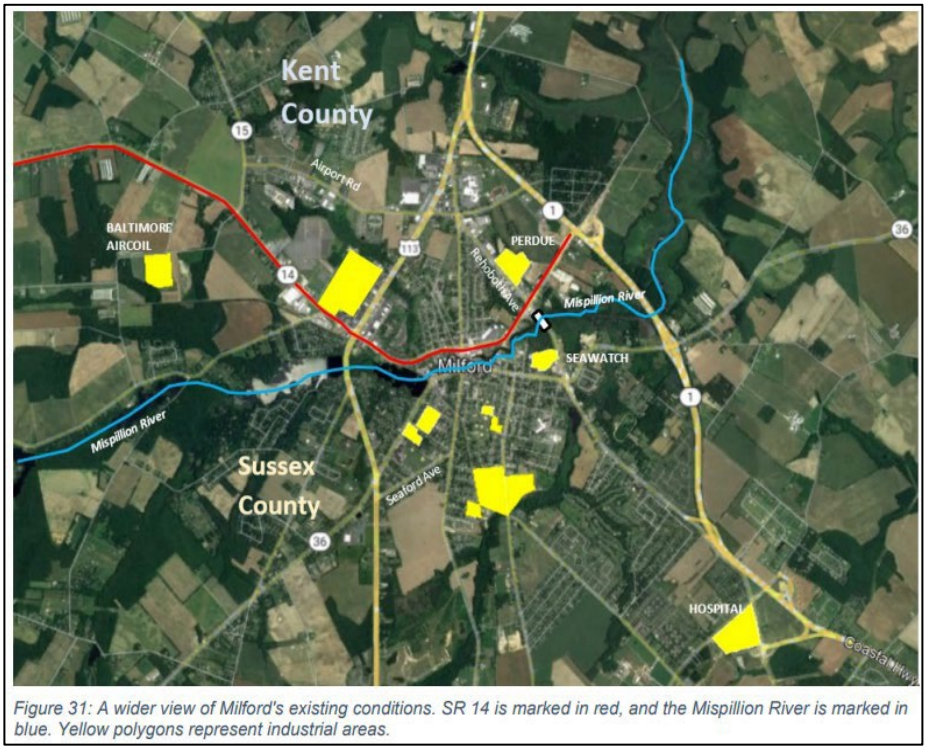


Figure 31: A wider view of Milford's existing conditions. SR 14 is marked in red, and the Mispillion River is marked in blue. Yellow polygons represent industrial areas.

Of greater concern is the impact of truck travel east-west in the region, as there is no direct route bypassing the City (Figure 11). As a result, truck volumes significantly impact traffic and the downtown area generally. The *Kent County East-West Truck Freight Route Feasibility Analysis Phase I (East-West Truck Analysis)*[19] reviews the issue noting the only viable option for trucks traveling west in the direction of Harrington is along DE 14 (Milford-Harrington Highway).

Concern about the volumes of trucks traveling east-west through local streets in the downtown and historic districts was noted by both City staff and the public surveys. A high level of discontent was reflected in the surveys. Currently, there is no available data indicating what volume of truck travel is through (and could be rerouted outside the City) and which is local (and should be accommodated).

The feasibility study recommends another phase of the study that could further "evaluate the extent of a bypass or other long-term alternatives."[20]

[19] Dover Kent MPO, *East-West Truck Freight Route Feasibility Analysis Phase I*, 2022, https://doverkentmpo.delaware.gov/files/2022/10/E-W-Truck-Study-working-draft-09-22-2022.pdf.
[20] Dover Kent MPO, *East-West Truck Freight Route Feasibility Analysis Phase I*, 2022, https://doverkentmpo.delaware.gov/files/2022/10/E-W-Truck-Study-working-draft-09-22-2022.pdf.

3.11 Truck Routing

Truck routing signage in Milford is limited. Some signage is posted that prohibit trucks from traveling on specific streets due to height and weight limitations, prohibit trucks on specific residential streets, or direct trucks to remain in right-hand lanes unless turning. Additionally, there is very limited signage concerning specific truck routes. Examples of current truck signage in Milford are included in Figure 12.

The absence of clear truck routes and associated signage can cause excessive and unnecessary truck movement in residential, downtown, and historic districts increasing congestion and the chances of unwanted incidents.

Figure 12. Truck signage in Milford on NE 10th Street, DE 14, US 113, and East 3rd Street. Source: WRA, 2023.

3.12 Bridge Constraints

Bridges can often be problematic for trucks due to weight and height restrictions, narrow lanes, and restricted maneuverability. If a truck reaches a bridge due to driver error or inadequate signage, it can be very difficult to turn around and find a viable, alternative route. The Rehoboth Boulevard Bridge has incurred damage by trucks exceeding the height limits when drivers have attempted to proceed despite signage. Such incidents have caused sufficient damage to warrant shutting down the bridge for repair twice in the last two years. The *East-West Truck Analysis* addresses this as follows:

> Rehoboth Boulevard drawbridge over the Mispillion River was damaged by a passing truck in December of 2021. (Over-height vehicles are an ongoing problem at this location.) Since the damage took place, the bridge has not been opened to allow boat passage, as doing so would possibly prevent the structure from being closed again; as of May of 2022, boats still cannot pass through to exit the river. If repairs are undertaken, trucks will need to use a detour to

access SR 14. On the other hand, should the bridge be repaired, an advanced over-height vehicle warning system may also be added, which would improve the conditions for large vehicles moving through the area.

The bridge is slated to be open in July 2023 once the repairs are complete (Figure 13).[21]

Figure 13. Rehoboth Boulevard Drawbridge. Source: WRA, 2023.

DelDOT provides information on bridge locations, but the information on load and height restrictions requires additional information.[22] The DelDOT Oversize/Overweight Permit System website lists restricted routes but does not provide the results on a map. DelDOT maps include bridge restrictions (e.g., Posted Bridge Restrictions Map), but the site is not integrated with closures for repairs (e.g., Interactive Maps that includes closures).[23] The City of Milford does not currently provide information on truck restrictions on their website. DelDOT and the City of Milford do, however, provide information on their social media and websites[24] to inform the traveling public when construction or incidents impacting travel arise.

[21] According to DelDOT's Maps website, "Rehoboth Blvd is closed from Cedar Beach Road to NE Front St for Drawbridge Repairs until 7/10/2023," https://www.deldot.gov/map/index.shtml. Note: The bridge was reopened in August 2023 to boats and cars.
[22] DelDOT Bridge restrictions, https://deldot.gov/bridgerestrictions/index.shtml.
[23] DelDOT Travel Advisories, https://www.deldot.gov/Traffic/travel_advisory/#advisories and DelDOT Oversize/Overweight Permit System, https://deldot.gov/osow/application/permrestrictions.
[24] DelDOT Travel Advisories, https://deldot.gov/Traffic/travel_advisory/#advisories and DelDOT interactive maps, https://deldot.gov/map/. City of Milford social media include Twitter, https://twitter.com/milfordde?lang=en and Facebook, https://www.facebook.com/MilfordDE.

3.13 Intersection Geometries and Access

Many of the routes that trucks use around Milford were not designed to serve high volumes of truck traffic. Some intersections and street alignments have difficult geometries and no longer accommodate the requirements of truck travel today. Some businesses have entrances that are inadequate for the volume of trucks that access them. The result is that trucks can hop curbs, damage landscaping, hit poles, and cause safety and quality of life concerns for pedestrians and other road users.

Key sites as noted in recent planning and transportation studies, discussions with Milford staff and stakeholders, and supplemented by the public surveys include:

- **SR 1/Wilkins Road** – as the road layout is not well suited to truck access due to the 90-degree turn required from/onto Wilkins Road.
- **South Walnut Street/Causey Avenue** – due to the non-perpendicular design and two streets accessing South Walnut Street from the west and Causey Avenue from the east.
- **South Walnut Street, Seabury Avenue, and West Clark Avenue** – due non-standard intersection design, with intersection accessed by two roads from the east and a noncontiguous road to the west.
- **Southeast Front Street/Marshall Street** – due to the narrow roads and residential location.
- **Northeast Front Street/North Walnut Street** – due to the narrow roads. The degree of street frontage reduces the margin of error for truck movement.
- **Wilbur Street/Pine Street/New Street** – is accessed by trucks cutting through to South Walnut Street from Seabury Avenue, however, the non-perpendicular intersection design causes significant problems for truck travel.

3.14 Rail Safety

Freight trains travel through different intersections of Milford daily (Figure 2). The level of warning technology varies from a multilane technology on Dupont Boulevard to flashing lights and gates at Causey Avenue/South Maple Avenue (Figure 14) and Jefferson Avenue/South Walnut Street (Figure 15).

Figure 14. Flashing lights and gates warning technology at Causey Ave. and S. Maple Ave.
Source: Google Earth, 2023.

Figure 15. Warning technology at Jefferson Ave. and S. Walnut St., WRA, 2023.

4 Next Steps

The suggestions provided here are a starting point to help advance safe and efficient operations for motor carriers in the City of Milford and the surrounding region, improve the smooth movement of freight in the Milford areas, and increase the quality of life for the Milford residents and businesses that live or work alongside them.

A high-level summary of next steps for consideration are included in Table 1. They are explained in greater detail in the sections that follow.

Table 1. High-level Summary of Issues and Next Steps

Category/Issue	Next Steps
4.1 Land Use	
LU-1 Comprehensive Plan and Related Plans, Policies, and Code	Increase emphasis on freight planning issues and solutions in next update of the Milford Comprehensive Plan.
LU-2 Significant Truck Movement	Make land use decisions based on an increased awareness of Milford freight uses and movement.
LU-3 Site Plan Review	Investigate feasibility of integrating freight activity in the site plan review process, especially for parcels zoned industrial or commercial.
4.2 Mobility	
M-1 Speeding	Advance efforts to reduce the speed of trucks entering Milford by advancing recommendations from the Kent County and Sussex County transportation operation management plans (TOMP) and targeted speed studies.
M-2 Congestion on US 113 and SR 1	Progress efforts to reduce congestion on US 113 and SR 1 by advancing recommendations from the Kent County and Sussex County transportation operation management plans (TOMP) and targeted traffic safety studies for critical intersections.
M-3 Difficult Intersection Geometries	Use a range of engineering solutions to address difficult intersection geometries, including restrictions to turning movements.

Category/Issue (continued)	Next steps (continued)
M-4 Access between Route 1 and Wilkins Road	Pursue recommendations for intersection realignment.
M-5 South Walnut Street, Seabury Avenue, and West Clark Avenue Intersection	Pursue recommendations considering intersection realignment and traffic calming measures.
M-6 Other Street Issues	Advance existing studies and projects while monitoring to ensure freight considerations addressed. Pursue engineering studies, as appropriate.
M-7 Bridge Improvements	Work with DelDOT to ensure safety and study structural integrity of bridges, as appropriate.
4.3 Truck Routing	
TR-1 Truck Traffic in Historic Downtown and Residential Neighborhoods	Pursue engineering studies, as appropriate.
TR-2 Through North-South Movement	Readdress issue of north-south truck movement with regional and state agencies.
TR-3 Through East-West Movement	Support Kent County's pursuit of East-West Truck Route Feasibility Analysis Phase II.
4.4 Staging and Parking	
SP-1 Truck Staging and Parking	Support DelDOT in its search for sites. Investigate possibilities for short- and long-term truck parking in and around Milford.
4.2 Education, Communication, and Collaboration	
ECC-1 Promote Education	Seek to educate the public about the importance and benefits related to freight movement and activity. Ensure municipal staff have access to best practices and options for advancing freight expertise.

Category/Issue (continued)	Next steps (continued)
ECC-2 Increase Collaboration	Increase interaction among public and private freight and trucking agencies/organizations.

4.1 LAND USE

Freight facilities and freight movement should be addressed as priorities in local land use planning – including comprehensive planning, the site plan review process, and municipal code updates. Key examples of the interrelationship between freight and local community and land use planning include:

- Freight-generating land uses support regional employment, generate revenue through state and local taxes, and allow for the availability of local goods for growing populations and businesses.
- Freight activity and freight-based land use can also bring challenges, such as routing of large vehicles through residential areas and others mentioned previously, especially if not addressed proactively.
- Freight volumes and the associated impacts on land use, are expected to continue to grow significantly in the coming years. Planning for their associated needs and impacts now will integrate them into the community more smoothly, allowing for benefits to their region sooner while simultaneously minimizing their adverse impacts to local residents and the environment.[25]

LU-1 Comprehensive Plan and Related Plans, Policies, and Code

Recommendation LU-1: Increase emphasis on freight planning issues and solutions in next update of the Milford Comprehensive Plan.

The State of Delaware requires municipal governments to develop and update their comprehensive plans according to 22 Delaware Code §702. The Delaware Office of State Planning Coordination (OSPC) provides guidelines and a checklist to facilitate the comprehensive planning process for municipalities[26] on the OSPC website.[27] Although not explicitly stated, updates to local comprehensive plans should also address freight activity and land use issues. It is important that the planning and policy direction in the comprehensive plan reflects the current community vision of Milford so it can serve as a solid foundation for other plans, policies, and decisions. Further, the comprehensive plan should consider issues and impacts associated with current freight activity, which will help the community leverage the benefits of freight, while minimizing undesirable impacts.

[25] FHWA Office Freight Management and Operations *FHWA Freight and Land Use Handbook*, 2012, https://ops.fhwa.dot.gov/publications/fhwahop12006/sec_1.htm#sec12.
[26] *State of Delaware Comprehensive Plan Checklist and Municipal Comprehensive Plan Guide*, https://stateplanning.delaware.gov/lup/documents/comprehensive-plan-checklist-guide.pdf.
[27] Delaware Office of State Planning Coordination, https://stateplanning.delaware.gov/lup/comprehensive-plan.shtml.

The following federal and state resources provide guidance for decision-makers involved with land use planning and development. Consistency with them should be sought whenever possible to allow for the ease and success of implementation.

1. The FHWA Office of Freight Management and Operations provides guidance to states, MPOs, and municipalities to assist in their freight planning. The *FHWA Freight and Land Use Handbook*[28] includes tools and resources to assess the impacts of both land use decisions on freight movement and the impacts of freight development and growth on land use planning goals.
2. The *Delaware State Freight Plan* recommends two strategies related to land use (bolded italics added):
    - ***"Freight Land Use Preservation –*** Coordinate with and educate the region's planning officials on the importance of ***preserving critical infrastructure and freight-oriented land uses*** in key freight or rail corridors and industrial areas. Planning and decision-making should aim to ***minimize residential encroachments*** while also ***managing*** real and perceived ***conflicts*** or expectations between the residential and freight communities.
    - ***Freight and Community Impact Planning*** – Implement a ***proactive approach*** to assessing and balancing freight impacts, community needs, and competing interests ***much earlier in the planning process***, including the use of tools such as the *Protect-Manage-Accommodate* framework for contextualizing freight conflicts and the local freight planning considerations checklist for freight facilities and truck routes." (The framework and checklist are included in Appendix F)
3. The guide, *Planning for Freight-Related Development*[29] includes a summary checklist to help determine what general types of freight and land use impacts in Delaware may need to be considered in local planning or economic development work.

Recommendations for the next update of the City of Milford's *Comprehensive Plan*[30] should consider the guidance provided by the documents referenced above, as well as the following topics specific to Milford, if possible:

- *Description of Physical, Demographic, and Economic Conditions – Transportation*[31]
    - Key commercial vehicle traffic routes in and through Milford, including downtown truck traffic and turning movements
    - Nearby industries and major employment centers

[28] FHWA Office Freight Management and Operations *FHWA Freight and Land Use Handbook*, 2012, https://ops.fhwa.dot.gov/publications/fhwahop12006/index.htm#toc.
[29] CPCS for DelDOT and Delaware MPOs, P*lanning for Freight-Related Development – Summary and Checklist*, 2021, http://www.wilmapco.org/freight/First_Final_Mile_Impact.pdf.
[30] City of Milford, Comprehensive Plan website, https://www.cityofmilford.com/81/Comprehensive-Plan.
[31] Terminology comes from the *State of Delaware Comprehensive Plan Checklist*, https://stateplanning.delaware.gov/lup/documents/comprehensive-plan-checklist-guide.pdf.

- Truck traffic volumes
- Key locations with the greatest concerns for truck movement
- Current conflict between through-truck traffic through historic downtown with businesses and other road users, including pedestrians and bicyclists
- Current conflict between residential and business land uses in other areas of Milford
- Current rail operators and operations in Milford
- Levels of congestion in Milford
- Lack of truck parking and staging in the Milford region
- Construction, timing, and possibilities provided by the new Corporate Center

- *Policies, Statements, Goals, and Planning Components for Transportation*[32]
  - *Policies*
    - Adopt recommendations from the 2022 *Delaware State Freight Plan* relevant to Milford and seek opportunities to implement them
    - Seek to find options that support economic development and safe and efficient freight movement and mitigate negative impacts, while promoting quality of life and safety for the community
    - Work to strengthen freight rail connections and intermodal hubs regionally
    - Ensure all project planning includes the impacts on first/final-mile freight networks and efforts
    - Promote updates to the City of Milford's City Standard Construction Specifications that reflect the needs and standards of both the traveling public as well as safe and efficient freight movement
    - Continue to engage and participate in regional and state planning and coordinate activities to ensure the needs of freight and goods movements are considered and supported[33]
  - *Planning Components*
    - Projects
      - Promote projects that reduce conflict with residential land use and vulnerable road users, reduce the impact on historic downtown, and ensure safe, viable transportation facilities for truck and rail
      - Identify routes through and around Milford that reduce impacts on residents and historic downtown businesses and communicate to

[32] Ibid.
[33] Howard County, Maryland, *HoCo By Design*, 2023, https://www.hocobydesign.com/.

commercial vehicle operators through on-street signage, online resources, and industry organizations

- Identify intersections that would benefit from adjusted geometric design to improve safety for all road users and promote safe and efficient commercial vehicle movement

- Partnerships
  - Engage freight stakeholders in discussions that affect freight mobility, safety, and efficiency in Milford
  - Educate the public on the economic importance of commercial vehicle and freight movement and their specific planning and infrastructure needs

In addition to the comprehensive plan, the City of Milford should consider reviewing and updating other local plans, policies, and code to ensure they are current and support land use and development decision-making and align with current freight activity issues.

The *Northampton County Freight-Based Land Use Management Guide* was developed in 2022 by the Lehigh Valley Planning Commission, a regional planning organization in an area that has experienced some of the highest pressures of freight activity and freight-based land uses in recent years. The guide aims to "assist municipalities in making land use decisions regarding freight-based development and to alleviate issues that result from these types of land uses"[34] and would be a good reference when other plans, policies, and code will be updated.

LU-2 Significant Truck Movement

Recommendation LU-2: Make land use decisions based on an increased awareness of Milford freight uses and movement.

Truck movement can have negative impacts on the quality of life for residents and businesses. These impacts may include high speeds, vibrations, air and noise pollution, safety concerns, and related issues.

The City of Milford may wish to evaluate incentives and disincentives related to land use and incorporate the results and recommendations of a truck routing study (to be addressed more fully in Section 4.3) in planning. The truck routing study could also explore options regarding the timing of truck movement, potential technological solutions, and alternative accessibility measures.

The movement of trucks through residential neighborhoods can be attributed to several factors, including the businesses where trucking services are used, the frequency of service required at pickup and delivery sites, and trucks lacking sufficient or accurate routing information.

[34] *Northampton County Freight Based Land Use Management Guid*e, 2022, https://www.northamptoncounty.org/CMTYECDV/Pages/Freight-Based-Land-Use-Management-Guide.aspx.

Understanding these factors is crucial for developing strategies to mitigate their negative impacts in residential areas. By conducting a truck routing study and implementing appropriate measures, such as encouraging the establishment of trucking businesses away from residential areas, optimizing pickup and delivery through staging and timing, investigating alternate access to businesses, leveraging technology solutions, and providing meaningful routing information, it is possible to minimize their adverse quality of life effects for neighboring residents.

LU-3 Site Plan Review

Recommendation LU-3: Investigate feasibility of integrating freight activity in the site plan review process, especially for parcels zoned industrial or commercial.

The site plan review process must address the crucial aspects of freight movement, truck access/parking, and mitigation of negative truck impacts on the community. This recommendation builds upon the land use planning recommendations, LU-1 Comprehensive Plan and Related Plans, Policies, and Code and LU-2 Significant Truck Movement, and emphasizes the importance of incorporating freight considerations into the site plan review process.

- First, it is vital to ensure that plan reviewers remain current on local freight-related issues, as well as general principles and best practices. Some resources have been provided earlier in this section. Additionally, freight-related educational opportunities are included in Section 4.5 of this report to assist planners in their efforts.
- Second, by consistently incorporating freight-related considerations into the site plan review process, aided by the resources cited previously,[35] decision-makers can effectively address potential challenges and optimize the integration of freight activities within the area.
- Last, the development review processes can be modified to more holistically consider freight needs and impacts from guidance provided by the *Delaware State Freight Plan*. Appendix F presents a checklist from the Plan (Table 6-4) (which is adapted from a similar checklist in the *Planning for Freight-Related Development* document[36]). The checklist can help planners address land use conflicts related to proposed freight truck trip-generating development during the development review process.
    - Note that the checklist can be used for the review of all types of development that generate freight truck trips (either pick-ups or deliveries), not just shipping facilities. The checklist considers land use conflicts around the site of the proposed facility, and transportation impacts on the roads likely to be used by trucks serving the facility.
    - The *Delaware State Freight Plan* states that "[i]t is important to note that this checklist is not intended to be a comprehensive planning resource; rather, it should be

[35] *Northampton County Freight Based Land Use Management Guide*, 2022, https://www.northamptoncounty.org/CMTYECDV/Pages/Freight-Based-Land-Use-Management-Guide.aspx.
[36] WILMAPCO, *Planning for Freight-Related Development*, 2021, http://www.wilmapco.org/freight/First_Final_Mile_Impact.pdf.

incorporated as an initial list of typical considerations as part of the land use planning process for communities that are planning for freight-related developments."[37]

4.2 MOBILITY

M-1 Speeding

Recommendation M-1: Advance efforts to reduce the speed of trucks entering Milford by advancing recommendations from the Kent County and Sussex County transportation operation management plans (TOMP) and targeted speed studies.

Trucks entering Milford have been observed to travel at unsafe speeds. Measures aimed at reducing speed should be considered. Actions including adding traffic calming devices and increasing advanced warning signs will assist trucks to slow down safely. Some of these recommendations are included in Kent County's *Transportation Operations Management Plan* (TOMP) and Sussex County's *TOMP*.[38] Additional recommendations should be developed as part of speed studies focused on problem areas.

Furthermore, it is important to prioritize education and enforcement. By raising awareness among truck drivers about specific routing, regulations, and guidelines, and by actively enforcing compliance, the frequency of trucks entering Milford at excessive speeds will be greatly reduced and enhance road safety for all.

M-2 Congestion on US 113 and SR 1

Recommendation M-2: Progress efforts to reduce congestion on US 113 and SR 1 by advancing recommendations from the Kent County and Sussex County transportation operation management plans (TOMP) and targeted traffic safety studies for critical intersections.

As discussed in Section 3.7 Congestion and Bottlenecks, occasional congestion exists along US 113 and SR 1 on the north side of Milford extending to Old Shawnee Road. Seasonal beach traffic can exacerbate congestion.[39]

Kent County's TOMP provides several recommendations aimed at reducing transportation congestion, including increased reliance on Transportation Management Center (TMC) resources, including its mobile app, the interactive web map, radio broadcasts, and variable message signs (VMS). In addition, the TOMP is advancing projects, including the installation of additional VMS signage, enhancing the intersection of US 113 and DE 14, and conducting a comprehensive traffic capacity study for SR 1 (Figure 16). VMS can provide real-time information about road conditions, congestion, and alternate

[37] DelDOT, *Delaware State Freight Plan*, pp.6-8, 2022, https://deldot.gov/Business/freight/.
[38] Kent County, *Transportation Operations Management Plan*, 2021, https://deldot.gov/Programs/itms/pdfs/Kent-County-TOMP-Report.pdf and Sussex County, T*ransportation Operations Management Plan*, 2017, https://deldot.gov/Publications/reports/ITMS/pdfs/ITMS-Sussex-County-TOMP.pdf.
[39] Kent County, *Transportation Operations Management Plan*, 2021, https://deldot.gov/Programs/itms/pdfs/Kent-County-TOMP-Report.pdf.

routes, allowing trucks drivers and others to make informed decisions and navigate roads more efficiently.

Additionally, engineering improvements to the intersection of US 113 and DE 14 are crucial to enhance safety and alleviate congestion. This intersection plays a significant role in the regional transportation network, and enhancements such as optimized signal timings, additional turning lanes, and improved signage can improve traffic flow and reduce delays.

Furthermore, a thorough traffic capacity study for SR 1 is recommended for DelDOT to assess the current and future demands on this major roadway. By analyzing traffic patterns, evaluating potential bottlenecks, and identifying areas of improvement, an engineering study will provide valuable insights for planning and implementing appropriate enhancements to handle increased traffic volumes effectively.

Figure 16. TOMP Projects for Milford.
Source: Kent County, Transportation Operations Management Plan, 2021.

Projects in the pipeline	Expected Completion Date
1 **Installing variable message signs** to inform southbound travelers of travel times on DE 1 and US 113. Giving drivers information in advance can give them time to make safer choices. Though the DE 1/US 113 split is located in Kent County, the effects of congestion here are most apparent in Sussex County. The 2017 Sussex County TOMP has a fuller examination of the issues at this split[6].	2021
2 **Improving the intersection of US 113 with DE 14** Less than a mile south of the split from DE 1 on US 113, this congested intersection has a higher-than-average crash rate, posing a problem for both vehicles and pedestrians. Changes to improve mobility and safety include adding a through lane on the westbound DE 14 approach, upgrading signal equipment, and adding crosswalks and bike lanes.	2023-2024
3 **Conducting the DE 1 capacity study** north of merge area. DelDOT is assembling a corridor capacity plan for DE 1, with a goal of conceptualizing recommendations for increasing capacity, including the addition of a third northbound lane.	2021
Short-term recommendations	
4 **Conduct a study of the northbound merge area** to evaluate short-term improvements to mobility and safety. Measures such as signing, striping, extending the merge area, flexi-posts, and transverse rumble strips may all be evaluated from an operations and maintenance perspective.	

M-3 Difficult Intersection Geometries

Recommendation M-3: Use a range of engineering solutions to address difficult intersection geometries, including restrictions to turning movements.

The tight geometries and limited turning radius on several Milford intersections and streets increase conflicts between trucks and other road users, including pedestrians, bicyclists, and cars. This situation

poses a potential risk of injury, particularly for vulnerable road users. Furthermore, the tight turning radius often results in damage to streetlights, as well as plantings and other roadside infrastructure when trucks are unable to navigate the turn within the road and drive up on curbs and sidewalks.

The following suggestions are recommended, including implementing truck aprons islands and curbs at challenging sites, to provide additional space for trucks on approved truck routes to maneuver safely. These extended areas can accommodate the trucks' larger turning radius while minimizing the potential for conflicts with other road users.

Additionally, the application of paint markings can increase pedestrians' and bicyclists' awareness of the potential path of trucks. By clearly indicating where trucks may need more space to turn, vulnerable road users can remain alert. Lastly, assessing the effectiveness and drawbacks of existing bump outs, as well as the placement of streetlamps and plantings should be considered. Relocating some streetscape elements in consideration of truck turning radii can help improve maneuverability and reduce conflicts.

M-4 Access between SR 1 and Wilkins Road

Recommendation M-4: Pursue recommendations for intersection realignment.

Entry onto and leaving SR 1 from and onto Wilkins Road is especially challenging for trucks because of the lack of ramps that are easier for trucks to navigate (Section 3.13 and Figure 17). As part of the *SR 1 Corridor Capacity Preservation Program (CCPP) Update*, DelDOT recommends a realignment of Wilkins Road and SR 1 as adjacent property becomes available.[2] Advancing these recommendations should facilitate access and egress by trucks to SR 1.

Figure 17. Wilkins Road and SR 1 (intersection at top of image)

[2] DelDOT Corridor Capacity Preservation Program, https://deldot.gov/Programs/corr_cap/index.shtml and https://kleinfelder.maps.arcgis.com/apps/webappviewer/index.html?id=25615b55fe1d4b6db101a4a348e137c4.

M-5 South Walnut Street, Seabury Avenue, and West Clark Avenue Intersection

Recommendation M-5: Pursue recommendations considering intersection realignment and traffic calming measures.

The intersection of South Walnut Street, Seabury Avenue, and West Clark Avenue with access by two roads from the east (e.g., West Clark Avenue and Seabury Avenue) and a noncontiguous road from the west (e.g., East Clark Avenue) is extremely challenging for trucks to navigate (Figure 18). The S. Walnut Street Traffic Calming & Bike/Pedestrian Improvement project is reviewing this intersection, which is considering reconfiguring or realignment of roads and intersections to address access, connectivity, and ease of travel.

Figure 18. Intersection of W. Clark Ave, Seabury Ave, and E Clark Ave. Source: Google Maps.

M-6 Other Street Issues

Recommendation M-6: Advance existing studies and projects while monitoring to ensure freight considerations addressed. Pursue engineering studies, as appropriate.

There are several streets that pose challenges to truck movement; however, several studies and projects are underway, which may address some of the mobility challenges raised by stakeholders and the public. Current planning and construction that would advance the needs of truck movement include:

- Streets associated with the planned Corporate Center, including DE 14 (Milford-Harrington Highway), DE 15 (Canterbury Road), Airport Road, and Church Hill Road,
- The City of Milford and the Dover/Kent County MPO's intersection study for 10th Street, North Walnut Street, North Rehoboth Boulevard, and North Washington Street,
- The City of Milford's South Walnut Street Traffic Calming project,[40]

[40] City of Milford Current Studies/Projects, https://www.cityofmilford.com/563/Current-StudiesProjects.

- DelDOT projects addressing specific locations of concern,[41] including:
    - US 113 and SR 14 (North Front Street) - This section is a part of DelDOT's Hazard Elimination Program (HEP). The project will include turn lane improvements on westbound DE 14 as well as upgrades to traffic signal equipment. Construction is expected to be complete in 2023
- Other road segments and intersections identified in the City of Milford *2022 Comprehensive Plan* Amendments,[42] including North Walnut Street, Northeast and Southeast Front Street, and South Rehoboth Boulevard, Southwest Front Street, and
- The Dover-Kent *2023-2026 Transportation Improvement Program* (TIP) includes improvements to Northeast Front Street (which will be made in conjunction with the new grade separated intersection at SR 1).

All transportation projects and studies should be monitored to ensure freight considerations are addressed, including the current streetscape projects for downtown Milford along Front Street, Park Avenue, Denney Row, and North Washington Street.

The projects and studies cited above will improve conditions for truck travel, but further improvements, will likely be necessary to address connectivity, directness, and ease of truck travel in and around Milford. Not all challenging street designs in Milford, however, including those with narrow streets, non-grid layout, and challenging connectivity among streets exist, require improvements. An engineering study addressing truck routing is recommended as it could identify which routes are most critical and best suited for higher levels of truck travel. Those specific streets could be the focus of further studies to identify road improvements, signalization, and redesign. Other roads, although challenging to navigate, will not merit additional study or investment at this time, as they would not be included as part of an identified truck route.

[41] Visit DelDOT Project Portal for details on current and planned projects https://deldot.gov/projects/.
[42] City of Milford *Comprehensive Plan* Amendments, Transportation, 2022, https://www.cityofmilford.com/DocumentCenter/View/4524/2022-Comprehensive-Plan-Amendment---Chapter-6-Transportation.

M-7 Bridge Improvements

Recommendation M-7: Work with DelDOT to ensure safety and study structural integrity of bridges, as appropriate.

Bridges can be significant vulnerability for truck movement in Milford. When a bridge is damaged and cannot support truck movement, the road network is even more congested, and rerouting is channeled through unintended roads and neighborhoods.

Efforts to ensure their maintenance must be prioritized, including:

- Use of a combination of warning technology, clanker balls,[43] and/or signage (with weight and height restrictions frequently and early enough to allow for trucks to reroute or turn around if needed),
- Increased communication between Milford public works staff and DelDOT staff to ensure information about perceived or potential problems can be addressed in a timely manner.
- Verification with DelDOT that structural analysis, bridge inspections, maintenance, and repairs are handled in a systematic and timely way.
- Providing general information to truck drivers and businesses on their website regarding street restrictions, time of day restrictions, downtown curb management guidance, etc.[44]
- Ensure communication with the Delaware Motor Transport Association and local businesses about changes in bridge availability occurs quickly to allow for timely truck rerouting.
- Continue to leverage social media to provide information to the public and truckers alike about road closures due to incidents, weather, etc.

In addition to the challenges posed by the closing of the Rehoboth Bridge (Section 3.12 *Bridge Constraints* and Figure 13), three Milford bridges are slated for replacement in the near future.

- The first is along Cedar Beach Road over a distributary of the Mispillion River (close to the intersection of Cedar Beach Road and Route 209).[45]
- The second is on Maple Avenue north of Causey Avenue due to the deterioration of metal pipes.[46]
- The third is on SW Front Street over the Mispillion River.

Their locations along Route 36 and Maple Avenue will likely cause significant impacts to truck and other motor vehicle travel for the duration of their construction.

[43] Clanker balls at railroad underpass on Casho Mill Road, Newark, WDEL.com, 2022, https://www.wdel.com/news/deldot-hopes-clanker-balls-stop-vehicles-from-striking-newark-bridge/article_f93e3a8c-0300-11ed-b9f0-bf6b75f105c3.html.
[44] For example, see NYC & Commercial Vehicles, https://www.nyc.gov/html/dot/html/motorist/trucks.shtml.
[45] For more information, visit https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T202107302.
[46] For more information, visit https://deldot.gov/projects/index.shtml?dc=details&projectNumber=T202107204.

4.3 TRUCK ROUTING

TR-1 Truck Traffic in Historic Downtown and Residential Neighborhoods

Recommendation TR-1: Pursue engineering studies, as appropriate.

As mentioned in Section 4 *LU-3 Significant Truck Movement*, the lack of clear routing and sufficient truck signage can significantly add to the duration and impact of truck trips by increasing re-routing and adding to road congestion. The consequences of their travel in unintended areas impact residents, businesses, bicyclists, pedestrians, and other motor vehicle traffic. As mentioned, an engineering study should be pursued focusing on providing insight into which locations would best be served by improvements (e.g., specific intersections, geometries of connecting roads). An effective plan would provide a route that avoids residential neighborhoods unless the delivery destination or the freight facility is located in that area.[47] If a study determined that key residential roads were unavoidable, further study could then be advanced to mitigate the impacts.

TR-2 Through North-South Movement

Recommendation TR-2: Readdress ongoing issue of north-south truck movement with regional and state agencies.

As discussed in Section 3.9 *North-South Through Truck Movement*, the problem of north-south through truck travel extending through the City of Milford is significant to all stakeholders. Based on discussions and surveys, the City of Milford would likely support revisiting the discussion of a bypass[48] with a greater incentive to seek consensus and revisit discussions with Kent and Sussex Counties, Dover/Kent MPO, and DelDOT.

TR-3 Through East-West Movement

Recommendation TR-3: Support Kent County's pursuit of East-West Truck Route Feasibility Analysis Phase II.

The *East-West Truck Analysis* addressed Milford's challenges and propose improvements and rerouting of traffic (bulleting and map reference added):

> Two corridors have previously been identified for potential improvements that would allow trucks to avoid Milford's downtown (Figure 19).
>
> - The northern corridor (within Kent County) would alleviate the bottleneck on US 113 by diverting traffic to SR 1 North.[49]
> - The southern corridor (within Sussex County) would serve similar purposes, but in addition to avoiding the downtown area, it would also remove trucks from residential streets in the southern part of town. While this would not be a complete bypass, it would give an east-to-west route for trucks without the challenging downtown turns.[50,51]

Figure 19. Corridors proposed for further study. Source: Dover/Kent MPO, Kent County East-West Truck Freight Route Feasibility Analysis Phase I, 2022.

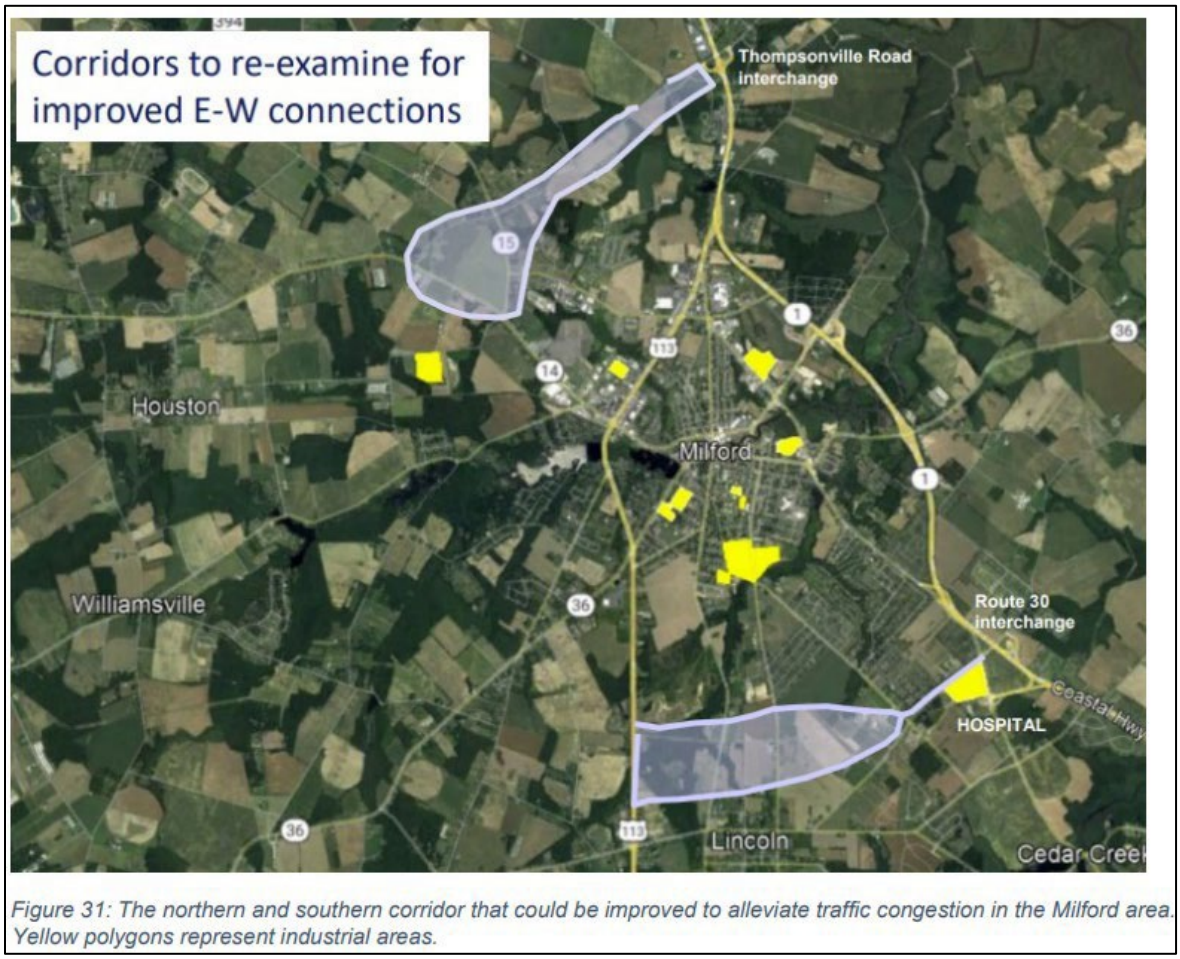


Figure 31: The northern and southern corridor that could be improved to alleviate traffic congestion in the Milford area. Yellow polygons represent industrial areas.

The *East-West Truck Analysis* recommends a Phase II study, including the following:

- "Make changes to the studied routes to make more appropriate for freight;
- Assess the need for a new route with new right of way;
- Evaluate the extent of a bypass or other long-term alternatives."[52]

Advancing the study of alternatives for east-west truck travel by Dover/Kent County MPO, or another agency, is recommended.

[47] American Planning Association, Freight Can't Wait, 2019, https://www.planning.org/planning/2019/nov/freightcantwait/.
[48] DelDOT, US113 North/South Study, 2007, https://deldot.gov/projects/Studies/us113/index.shtml.
[49] See Figure 16. This alignment runs from DE 14 along Church Hill Road to SR 1.
[50] See Figure 16. This alignment extends north of Lincoln extending westward north of the hospital complex.
[51] Dover/Kent, Kent County East-West Truck Freight Route Feasibility Analysis Phase 1, 2022, https://doverkentmpo.delaware.gov/files/2023/02/E-W-Truck-Study-final-11-2022.pdf.
52 Ibid.

4.4 STAGING AND PARKING

SP-1 Truck Staging and Parking

Recommendation SP-1: Support DelDOT in its search for sites. Investigate possibilities for short- and long-term truck parking in and around Milford.

Several initiatives concerning truck parking in the state are underway to address needs identified by stakeholders, studies, and plans. DelDOT is actively investigating potential sites along freight corridors that could be used to increase truck parking capacity throughout the state, including Milford.

A concept design was developed for Milford in the *Delaware Statewide Truck Parking Study*.[53] However, DelDOT has determined that further analysis is required, and another location may be better suited. Once the location has been determined, this document will be updated with additional information.

The new Corporate Center may provide opportunities for short-term truck staging in a future stage of construction, with access most likely from DE 14, but as the Corporate Center will not have fueling or other amenities, it will not serve as an option for overnight truck parking. The City of Milford should continue to investigate opportunities adjacent to truck routes for truck staging and parking, as demand statewide will only continue to grow.

4.5 EDUCATION, COMMUNICATION, AND COLLABORATION

ECC-1 Promote Education

Public

Recommendation ECC-1A: Seek to educate the public about importance and benefits related to freight movement and activity.

Milford and other municipalities, with the assistance of DelDOT, should seek to educate the public about the importance, benefits, and key safety issues related to freight movement and activity. These benefits are addressed by the Delaware State Freight Plan. States use different measures to educate the public, including the American Trucking Association's Share the Road Program, Washington State's Freight Virtual Tour video[54] for legislators and the public and storyboards like the FHWA's Freight Transportation Today[55] and the Mid-America Freight Coalition's Economic Importance of Freight.[56]

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[53] *Delaware Statewide Truck Parking Study*, Figure 25, 2021, http://www.wilmapco.org/freight/DE_Truck_Parking_Final.pdf.
[54] *Freight Virtual Legislative Tour*, WSDOT Rail, Freight and Ports Division, 2020, https://www.youtube.com/watch?v=D3UKj_PHt3Q.
[55] FHWA, *Freight Transportation Today*, https://ops.fhwa.dot.gov/freight/publications/fhwaop03004/today.htm.
[56] Mid-America Freight Coalition's Economic Importance of Freight, https://midamericafreight.org/index.php/outreach/importance/.

Municipalities

Recommendation ECC-1B: Ensure municipal staff have access to best practices and options for advancing freight expertise.

Municipalities, including Milford, which face complex issues and require increasing levels of expertise across a broad range of disciplines, can advance their education on freight issues by utilizing resources provided by the U.S. DOT, and regional, state, and other municipal sources. These include:

- The FHWA's freight capacity building website and report, *Building Freight Professional Capacity in the 21st Century* (Figure 20),[57]
- The National Highway Institute's freight planning classes,[58]
- The Freight Academy hosted by The Eastern Transportation Coalition (TETC) for member state agencies, and
- The bi-annual Delaware Freight Summit hosted by the University of Delaware Institute for Public Administration (see Appendix G for more information).[59]

Figure 20. FHWA Freight Management and Operations website.

Milford can also consider the best practices of other municipalities, such as New York City's Trucks and Commercial Vehicles webpage[60] and Washington, DC's Commercial Vehicles webpage, which include maps, studies, regulations, and other materials for truckers, businesses, public agencies, and the general public. Milford could also develop an online resource for businesses, truck drivers, and the general public adapted from these.

Any freight analysis done for the Milford area should consider freight data sources provided by the FHWA in their extensive, online Freight Data Library.[61]

[57] FHWA, *FHWA Building Freight Professional Capacity in the 21st Century*, https://ops.fhwa.dot.gov/publications/fhwahop09020/capacity.htm.
[58] FHWA, National Highway Institute, https://www.nhi.fhwa.dot.gov.
[59] For more information on the Freight Summits, contact DelDOT Freight Community Relations via https://deldot.gov/Business/freight/.
[60] NYC Trucks and Commercial Vehicles, https://www.nyc.gov/html/dot/html/motorist/trucks.shtml.
[61] FHWA Freight Data Library, https://fpcb.ops.fhwa.dot.gov/dataLibrary.aspx.

ECC-2 Increase Collaboration

Recommendation ECC-2: Increase interaction among public and private freight and trucking agencies/organizations.

Opportunities to increase interaction among public and private freight and trucking agencies and organizations should be pursued. The best results for future projects and initiatives require leveraging existing resources, strong relationships, good communication, and robust collaboration.

- The FHWA has developed resources addressing freight planning[62] including an online guide, *A Guidebook for Engaging the Private Sector in Freight Transportation Planning.*[63] The American Planning Association also provides guidance with its freight policy statement, case studies, and key findings that can be leveraged by planners in different states and localities.[64]
- DelDOT might integrate available information on road closures, road and bridge restrictions, and preferred truck routing onto one website and map; and provide notifications to the Delaware Motor Transport Association and other trucking associations.
    - The City of Milford would benefit from seeking opportunities to continue collaboration with private sector trucking-based businesses through the City of Milford Economic Development Office and the Milford Chamber of Commerce, as well as leveraging relationships established through MPOs and DelDOT with statewide organizations like Delaware Motor Transport Association (DMTA).

[62] FHWA Freight Planning, https://www.fhwa.dot.gov/planning/freight_planning/index.cfm.
[63] FHWA, *A Guidebook for Engaging the Private Sector in Freight Transportation Planning*, 2009, https://www.fhwa.dot.gov/planning/freight_planning/guidebook/guidebookps00.cfm.
[64] American Planning Association, *Freight Can't Wait*, 2019, https://www.planning.org/planning/2019/nov/freightcantwait/.