

2017 Delaware Statewide Freight Plan Addendum

A FAST Act Compliancy Update
to the 2015 Delmarva Freight Plan

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Prepared for:

Delaware Department of Transportation

In Collaboration with:

Maryland Department of Transportation

Wilmington Area Planning Council

Dover/Kent County Metropolitan Planning Organization

Salisbury/Wicomico Metropolitan Planning Organization

University of Delaware, Institute for Public Administration

Compiled by:

Whitman, Requardt & Associates, LLP

Contents

Executive Summary	ES-1
Introduction	1
Requirement 1 – Freight System Trends, Needs, and Issues.....	4
Requirement 2 – Freight Policies, Strategies, and Performance Measures	7
Requirement 3 – Freight Network Facilities.....	10
Requirement 4 – National Freight Policy/Program Support	17
Requirement 5 – Innovative Technology Considerations.....	20
Requirement 6 – Roadway Deterioration and Mitigation Strategies	23
Requirement 7 – Freight Mobility Issues and Mitigation Strategies	26
Requirement 8 – Freight Induced Congestion and Mitigation Strategies.....	29
Requirement 9 – Freight Investment Plan	31
Requirement 10 – State Freight Advisory Committee Consultation	35
Summary and Next Steps.....	36
References	37

List of Exhibits

Exhibit ES-1: FAST Act Freight Planning Requirements and Delaware Compliance	ES-2
Exhibit ES-2: Delaware Freight Investment Plan for National Highway Freight Program (Z460) Funding	ES-3
Exhibit 1: 2015 Delmarva Freight Planning Area	1
Exhibit 2: 2015 Delmarva Freight Areas of Concern or Opportunity (Stakeholder-Based).....	4
Exhibit 3: Delmarva Central Railroad Network	5
Exhibit 4: 2015 Delmarva Freight Policy Perspectives	7
Exhibit 5: Federal Transportation Performance Management (TPM) Implementation Schedule.....	8
Exhibit 6: Delaware Federal Highway Freight Networks (NHFN and CUFC/CRFC Routes)	11
Exhibit 7: Delaware Critical Urban Freight Corridor (CUFC) Segment Details	12
Exhibit 8: Delaware Critical Rural Freight Corridor (CRFC) Segment Details.....	13
Exhibit 9: Delaware Interim Multimodal Freight Network.....	15
Exhibit 10: Delaware Statewide Freight Hierarchy	16
Exhibit 11: Delaware CTP Funding by Category	17
Exhibit 12: Delaware Potential Road/Bridge Impacts under 1.5 meter Sea Level Rise Scenario.....	19
Exhibit 13: Delaware Statewide Signal Retiming Corridors.....	21
Exhibit 14: Truck Trip Generation by TAZ	24
Exhibit 15: Projected Roadway Congestion on the Delmarva Peninsula (2040 PM Peak Period)	26
Exhibit 16: Sussex County Sample TOMP Mapping	27
Exhibit 17: Projected Truck Volumes on the Delmarva Peninsula (2045 AADTT).....	29
Exhibit 18: Delaware Freight Investment Plan for National Highway Freight Program (Z460) Funding	34

List of Appendices

Appendix A: FAST Act Reference Material	A-1
Appendix A1: Criteria for Critical Urban Freight Corridors	
Appendix A2: Criteria for Critical Rural Freight Corridors	
Appendix A3: Criteria for Multimodal Critical Rural Freight Facilities	
Appendix A4: National Multimodal Freight Policy Goals	
Appendix A5: National Highway Freight Program Goals	
Appendix A6: National Highway Freight Program Project Eligibility Guidelines	
Appendix A7: State Freight Advisory Committee Roles	
Appendix B: Delaware Senate Resolution 10 (SR 41, SR 48, and SR 7 Truck/Freight Study Committee).....	B-1
Appendix C: FHWA Freight Reliability Measure Fact Sheet.....	C-1
Appendix D: Delaware Freight Hierarchy and Final Mile Facility Prioritization Methodology	D-1
Appendix E: Railroad Rehabilitation and Improvement Financing (RRIF) Fact Sheet	E-1

Executive Summary

The *2017 Delaware Statewide Freight Plan Addendum* (2017 Addendum) is a FAST Act¹ compliancy update to the *2015 Delmarva Freight Plan* (2015 Plan) that was previously certified by Federal Highway Administration (FHWA) as a MAP-21² compliant freight plan for the State of Delaware. Within two months of the 2015 Plan's certification, the FAST Act introduced a new/refined set of freight planning requirements; and within the two years since, Delaware Department of Transportation (DelDOT) and its state/regional planning partners have continued to proactively monitor and engage on freight planning efforts amidst the region's evolving freight needs and interests. This 2017 Addendum does not replace DelDOT's 2015 Plan; rather it is specifically targeted as an addendum to supplement the previous plan's content in a manner that (1) fulfills any new or refined FAST Act criteria and (2) provides an update of the most recent freight planning efforts or issues relevant to the state of Delaware.

Current FAST Act guidance addresses ten overall requirements/topics to be addressed by statewide freight plans. These requirements are listed in [Exhibit ES-1](#), alongside cross-references to relevant chapters in the 2015 Plan, as well as page number references in this 2017 Addendum. The addendum is organized by requirement, with sections on each of the ten requirements highlighting the latest FAST Act language, cross-references and pertinent summaries from the 2015 Plan, updated supplemental details for new freight issues/interests since 2015, and expectations for other ongoing or anticipated future freight planning efforts. While most of the FAST Act freight planning requirements are direct carry-overs or minor refinements of corresponding criteria from MAP-21, major changes or additions for FAST Act compliancy include the following:

- *CRFC/CUFC Routes*: Critical rural freight corridors (CRFC) and critical urban freight corridors (CUFC) must be designated by the State and MPOs per 23 U.S.C. 167. This effort has been completed in Delaware and includes approximately 75 miles of CUFC routes and 150 miles of CRFC routes along various route segments of US Routes 9, 13, 40, 113, and 202; as well as Delaware State Routes 1 and 896. FHWA approved the State/MPO-designated networks in Delaware effective August 17, 2017.
- *Multimodal Freight*: Multimodal critical rural freight facilities and corridors must be designated by the State per 49 U.S.C. 70103. Beyond the current CRFC routes, DelDOT has not included specific multimodal additions under this provision, but will continue to monitor needs/interests into the future. Beyond any formal designations, both the 2015 Plan and the 2017 Addendum are inherently multimodal-focused from the very outset of their development, encompassing key freight planning details relevant to the Delmarva Peninsula's truck, Class I rail, shortline rail, air, barge, and regional/international port assets.
- *Freight Investment Plan*: A fiscally constrained freight investment plan must be included as part of the State's freight plan, specifically related to projects that will use the new formula-based National Highway Freight Program (NHFP) funds provided under the FAST Act. DelDOT is allocated just over \$26 million in total NHFP funds for use in FY 2016-2020. Based on eligible project identification and prioritization efforts by DelDOT's Planning and Finance Divisions, five projects have been proposed to receive existing and/or future NHFP funds as summarized in [Exhibit ES-2](#).

Per this 2017 Addendum and in line with FAST Act guidance, the modification/revision process of amending Delaware's previously-certified MAP-21 compliant freight plan to become FAST Act compliant effectively restarts the required five-year cycle for updating the State Freight Plan. Subsequent to this 2017 Addendum, the next comprehensive update of the Delaware Statewide Freight Plan will be required by no later than 2022.

¹ Fixing America's Surface Transportation System (FAST) Act, signed into law in December 2015.

² Moving Ahead for Progress in the 21st Century (MAP-21) Act, active from July 2012 through December 2015.

Exhibit ES-1: FAST Act Freight Planning Requirements and Delaware Compliance

FAST Act Requirements (49 USC 70202)	2015 Delmarva Freight Plan Reference									2017 Delaware Statewide Freight Plan Addendum (Page Reference)
	Chapter 1 Introduction	Chapter 2 Existing Economic Context	Chapter 3 Existing Commodity Flows	Chapter 4 Existing Freight Transportation System	Chapter 5 Freight Planning Resources	Chapter 6 Freight Trends, Needs and Issues	Chapter 7 Future Freight Planning Scenarios	Chapter 8 Freight Project Guidance	Chapter 9 Freight Policy Guidance and Beyond	
Requirement 1 Freight System Trends, Needs, and Issues		✓	✓			✓				Pg. 4-6
Requirement 2 Freight Policies, Strategies, and Performance Measures	✓								✓	Pg. 7-9
Requirement 3 Freight Network Facilities				✓		✓				Pg. 10-16
Requirement 4 National Freight Policy/Program Support	✓				✓		✓		✓	Pg. 17-19
Requirement 5 Innovative Technology Considerations				✓		✓				Pg. 20-22
Requirement 6 Roadway Deterioration and Mitigation Strategies			✓			✓				Pg. 23-25
Requirement 7 Freight Mobility Issues and Mitigation Strategies				✓		✓	✓			Pg. 26-28
Requirement 8 Freight Induced Congestion and Mitigation Strategies						✓	✓			Pg. 29-30
Requirement 9 Freight Investment Plan					✓			✓		Pg. 31-34
Requirement 10 State Freight Advisory Committee Consultation	✓				✓					Pg. 35

Exhibit ES-2: Delaware Freight Investment Plan for National Highway Freight Program (Z460) Funding

Project #	Project	Phase	Ratio	FY	Federal NHFP Funding	Non-Federal Funding	TOTAL Expenditures
T201012001	SR 299, SR 1 to Catherine St	PE	100/0	2016	-	-	-
				2017	1,975	-	1,975
		Project Sub-Total			1,975	-	1,975
T201407404	Rehabilitation of I-95 from I-495 to North of Brandywine River Bridge	PE	80/20	2017	484,424	121,106	605,530
				2018	1,314,976	328,744	1,643,720
				2019	480,000	120,000	600,000
		CON	80/20	2019	-	-	-
				2020	8,000,000	2,000,000	10,000,000
				2021	10,400,000	2,600,000	13,000,000
		Project Sub-Total			20,679,400	5,169,850	25,849,250
T201707406	Rehabilitation of I-95 from I-495 to Wilmington Viaduct	CON	80/20	2020	-	-	-
				2021	3,100,000	775,000	3,875,000
		Project Sub-Total			3,100,000	775,000	3,875,000
T200601102	SR 72 McCoy Road to SR 71	CON	80/20	2020	6,208,971	1,552,243	7,761,214
		Project Sub-Total			6,208,971	1,552,243	7,761,214
T200410301	SR 4, Christina Parkway from SR 2, Elkton Rd to SR 896, S College Ave, Newark	CON	80/20	2022	400,000	100,000	500,000
				2023	4,800,000	1,200,000	6,000,000
				2024	8,000,000	2,000,000	10,000,000
				2025	-	-	-
		Project Sub-Total			13,200,000	3,300,000	16,500,000

KEY: Advanced Construction (AC) Deferred

KEY: Assumed Continuation of NHFP Funding

Funding Summary (All Projects)	FY	Federal NHFP Funding	Non-Federal Funding	TOTAL Expenditures
FY 2016-2020	2016	-	-	-
	2017	486,399	121,106	607,504
	2018	1,314,976	328,744	1,643,720
	2019	480,000	120,000	600,000
	2020	14,208,971	3,552,243	17,761,214
	FY 2016-2020 Sub-Total	16,490,346	4,122,093	20,612,439
FY 2021-2025	2021	13,500,000	3,375,000	16,875,000
	2022	400,000	100,000	500,000
	2023	4,800,000	1,200,000	6,000,000
	2024	8,000,000	2,000,000	10,000,000
	2025	-	-	-
	FY 2021-2025 Sub-Total	26,700,000	6,675,000	33,375,000
Overall 2016-2025		43,190,346	10,797,093	53,987,439

Annual NHFP Apportionments	Unused NHFP Balance at End of FY
4,816,567	4,816,567
4,319,629	8,649,797
5,001,893	12,336,714
5,769,623	17,626,337
6,410,692	9,828,058
26,318,404	9,828,058
6,410,692	2,738,750
6,410,692	8,749,442
6,410,692	10,360,134
6,410,692	8,770,826
6,410,692	15,181,518
32,053,460	15,181,518
58,371,864	15,181,518

Introduction

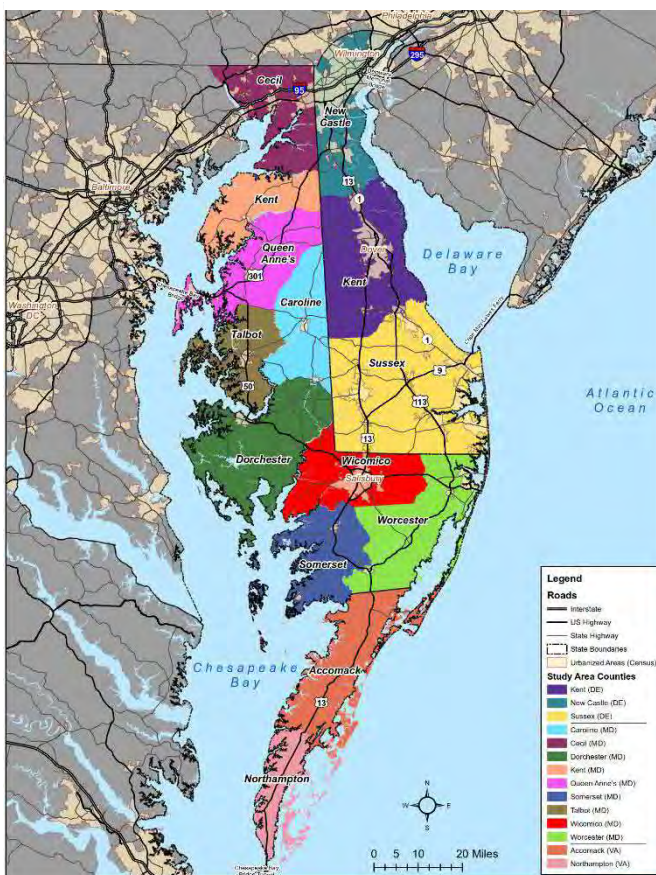
The Fixing America's Surface Transportation (FAST) Act was signed into law on December 4, 2015. The FAST Act refined and expanded key transportation and freight planning provisions introduced by its predecessor legislation, Moving Ahead for Progress in the 21st Century (MAP-21). In May 2015 and in fulfillment of MAP-21 freight planning requirements, the Delaware Department of Transportation (DelDOT) completed the *Delmarva Freight Plan: The Delaware Freight Plan with Regional Coordination* (2015 Plan), which was subsequently certified by the Federal Highway Administration (FHWA) as a MAP-21 compliant state freight plan in October 2015. Within two months of the 2015 Plan's certification, the FAST Act introduced a new/refined set of planning requirements; and within the two years since, DelDOT and its state/regional planning partners have continued to proactively monitor and engage on freight planning efforts amidst the region's evolving freight needs and interests. In response to these changes and to highlight more recent planning efforts, this document compiles the *2017 Delaware Statewide Freight Plan Addendum: A FAST Act Compliancy Update to the 2015 Delmarva Freight Plan* (2017 Addendum).

Addendum Scope/Purpose

This 2017 Addendum does not replace DelDOT's 2015 Plan; rather it is specifically targeted as an addendum to supplement the previous plan's content in a manner that (1) fulfills any new or refined FAST Act criteria and (2) provides an update of the most recent freight planning efforts or issues relevant to the state of Delaware. DelDOT's 2015 Plan was developed using a regional/multi-state approach that was commended by FHWA for collaboration with the Maryland Department of Transportation (MDOT), Virginia Department of Transportation (VDOT), and regional metropolitan planning organizations (MPO) at Wilmington Area Planning Council (WILMAPCO), Dover/Kent County MPO, and Salisbury/Wicomico MPO. The 2015 Plan encompassed freight insights from all 3 states and 14 counties across the Delmarva Peninsula (*Exhibit 1*) and included a depth of multimodal freight emphases, detailed commodity flow modeling, and performance-based scenario-planning to help inform future decision-making, freight infrastructure investments, and related policy guidance. Such insights and tools are largely still current and remain a valuable and relevant resource.

This 2017 Addendum focuses on supplementing that content to confirm FAST Act compliancy of Delaware's Statewide Freight Plan, and to prepare for the ongoing freight planning activities and investments by DelDOT and their regional planning partners within Delaware's three-county area in New Castle, Kent, and Sussex Counties.

Exhibit 1: 2015 Delmarva Freight Planning Area



FAST Act Freight Planning Requirements

Summary freight planning requirements under the FAST Act (per 29 U.S.C. 70202) indicate that State Freight Plans must address the following ten topics for each of the transportation modes:

1. Freight System Trends, Needs, and Issues
2. Freight Policies, Strategies, and Performance Measures
3. Freight Network Facilities
4. National Freight Policy/Program Support
5. Innovative Technology Considerations
6. Roadway Deterioration Issues and Mitigation Strategies
7. Freight Mobility Issues and Mitigation Strategies
8. Freight Induced Congestion and Mitigation Strategies
9. Freight Investment Plan
10. State Freight Advisory Committee Consultation

While most of the above requirements are direct carry-overs or refinements from MAP-21, key guidance and additional specific criteria relative to FAST Act compliancy include, at a minimum, adding or enhancing the following:

- A fiscally constrained freight investment plan.
- Critical rural freight corridors (CRFC) and critical urban freight corridors (CUFC) designated by the State and MPOs under 23 U.S.C. 167.
- Multimodal critical rural freight facilities and corridors that the State designates under 49 U.S.C. 70103.

Provisions under the FAST Act also provide a new dedicated source of Federal funding – including both formula and discretionary grant programs – for critical transportation projects that would benefit freight movements, including multimodal freight projects. Key among these are the formula-based National Highway Freight Program (NHFP) funds and the Infrastructure for Rebuilding America (INFRA) Grant program (formerly the FASTLANE Grant program). The NHFP funds specifically require the inclusion of a fiscally-constrained freight investment plan. Moreover, current guidance requires that effective beginning December 4, 2017 (i.e. two years after the date of the enactment of the FAST Act), each state that plans to obligate funds apportioned to the State under the NHFP must have developed a State Freight Plan in accordance with 49 U.S.C. 70202 (as it relates to highways; the multimodal components of the Plan may continue to be developed). It is DelDOT's intention to utilize NHFP funding for project programming, and this addendum aims to fulfill the necessary requirements for that purpose.

The 2017 Addendum will also serve as an interim update to the 2015 Plan to address overall freight insights and anticipated strategies prior to any subsequent comprehensive freight plan updates that may be completed by DelDOT in the future. Current FAST Act guidance indicates that the modification/revision process of amending a previously-approved MAP-21 compliant freight plan would restart the clock for submitting an updated State Freight Plan, which must be updated at least once every five years. Per these criteria, Delaware's 2015 MAP-21 compliant freight plan aims, via this addendum, to become a 2017 FAST Act compliant freight plan, which would then require approval of its next update by no later than 2022. The guidance does, however, provide flexibility in the timing of updates, indicating that a state may wish to update their State Freight Plan on the same cycle that they update their Long-Range Statewide Transportation Plan; but they are permitted to follow whatever frequency is most suitable for them, provided the update cycle does not exceed five years.

Addendum Format

This document frames the 2017 Addendum around the ten latest FAST Act freight planning topics listed on the previous page, including a concise presentation of the relevant updates or supplemental freight planning details under each topic. Within each section, discussions by topic summarize the following:

- *Requirements Language*: that highlights the latest FAST Act requirement per 29 U.S.C. 70202
- *2015 Plan References*: that point to applicable sections of the comprehensive 2015 *Delmarva Freight Plan*
- *2017 Supplemental Details*: that summarize relevant new or updated freight planning information
- *Future Expectations*: that highlight ongoing or anticipated future freight planning efforts

For quick access relative to ongoing planning/programming reference, [Appendix A](#) of this addendum also compiles a variety of excerpts pertaining to key FAST Act guidance or criteria, including the following:

- Appendix A1: Criteria for Critical Urban Freight Corridors
- Appendix A2: Criteria for Critical Rural Freight Corridors
- Appendix A3: Criteria for Multimodal Critical Rural Freight Facilities
- Appendix A4: National Multimodal Freight Policy Goals
- Appendix A5: National Highway Freight Program Goals
- Appendix A6: National Highway Freight Program Project Eligibility Guidelines
- Appendix A7: State Freight Advisory Committee Roles

Requirement 1 – Freight System Trends, Needs, and Issues

29 U.S.C. 70202: State Freight Plans must address for each of the transportation modes... (1) An identification of significant freight system trends, needs, and issues with respect to the State.

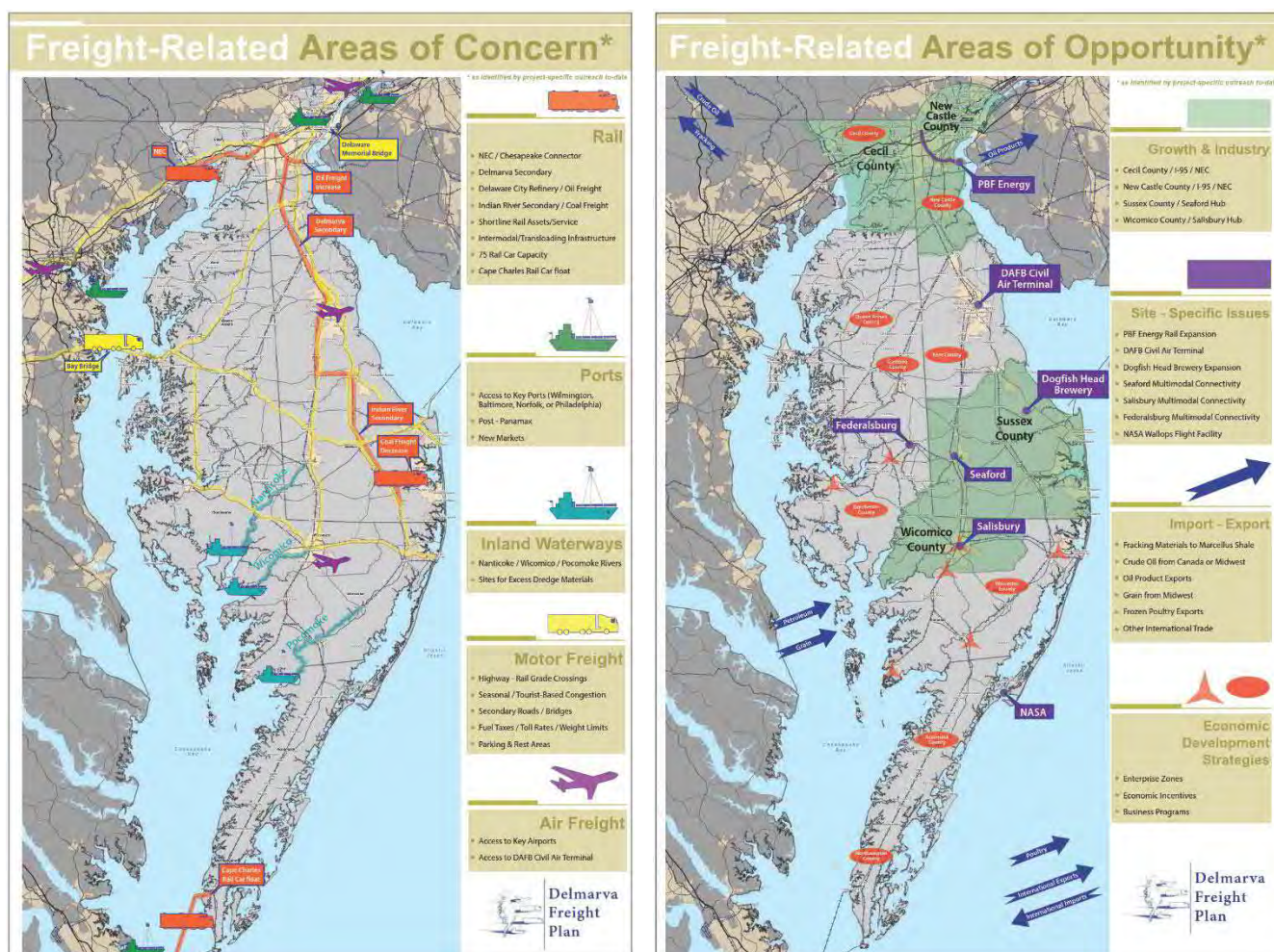
2015 Plan References

See 2015 Plan: Chapter 2 (Existing Economic Context)

See 2015 Plan: Chapter 6 (Freight Trends, Needs & Issues); including Exhibits 6.1, 6.2, 6.9, and 6.10

FAST Act Requirement 1 carries over previous provisions from MAP-21 Section 1118. Topics in the 2015 Plan highlighted key industries on the Delmarva Peninsula, including interests in the energy, agriculture, food products, chemical products, and mixed retail supply chains; as well as construction, transportation equipment, and miscellaneous manufacturing. Stakeholder-based areas of concern and opportunity were identified ([Exhibit 2](#)); and background planning efforts investigated a variety of unique issues pertinent to the Delmarva Peninsula, grouped by focus areas covering Economic Vitality; Freight Connectivity, Mobility, and Accessibility; Safety and Security; System Management, Operations, and Maintenance; and Sustainability and Environmental Stewardship.

Exhibit 2: 2015 Delmarva Freight Areas of Concern or Opportunity (Stakeholder-Based)



2017 Supplemental Details

Supply Chain and Industry Insights:

The continued development of supply chain perspectives – an outgrowth of the overall 2015 Plan – has helped to inform planning insights in the Delmarva region based on reviews of key industries and related trends, forecasts, opportunities for growth, and possible threats that may affect their existing footprint in the region. For instance, detailed Chemical and Agriculture supply chain reports have been completed within the past two years, and each report provided valuable insights into the transportation dynamics that these industries rely on to maintain their business. The reports shed light on how to proactively respond to changing conditions within the industries – be it policy, environmental, or regulatory driven – and the impacts these actions could have on the transportation system.

In addition to formal supply chain analyses, collaborative discussions focusing on industry spotlights have also become a topic of interest in the region. The summer 2017 Delmarva Freight Summit, for example, highlighted the freight and logistics dimensions of brewers, distillers, and winemakers on the Delmarva Peninsula, thus exposing a broader audience to potential infrastructure and economic development planning practices that could enhance the competitiveness of regional freight delivery and craft beverage businesses. The approach of bringing transportation, economic, industry, and other non-traditional partners together for such discussions appeared to be a well-received, interesting, and effective means to foster enhanced collaboration opportunities that could yield a variety of benefits in the realm of freight and goods movement.

Regional/Shortline Rail Opportunities:

Regional and shortline rail operations continue to be an important topic for freight access and transportation on the Peninsula. One major shift since completion of the 2015 Plan has included Norfolk Southern (NS) leasing the Delmarva Secondary lines to shortline operator Carload Express. This arrangement adds the Delmarva Central Railroad Company (DCR) as the Peninsula's newest shortline, encompassing 162 miles of rail line from near Porter, Delaware to Pocomoke City, Maryland; and from Harrington, Delaware to Franklin, Delaware (*Exhibit 3*). DCR interchanges with NS as well as several shortlines on the Peninsula including Bay Coast Railroad (BCR), Delaware Coast Line Railroad (DCLR), and Maryland & Delaware Railroad (MDDE).

Based on insights from the June 2017 Delmarva Freight Summit, DCR's initial operations have been widely successful, including expansion to 47 active rail customers and enhanced rail flexibility with an increase from only 2-3 days of service weekly to 5 days of availability. Potential growth strategies for DCR as well as other shortline rail opportunities on the Peninsula include:

- Aggressive marketing to non-rail users located along the existing rail lines.
- Service/customer expansion via the strategic location of new Transload facilities.
- Identification of new/niche markets by providing more flexible and responsive rail service on the Peninsula.
- Intra-Peninsula rail service opportunities in partnership with all shortline operators on the Peninsula.

Exhibit 3: Delmarva Central Railroad Network



Community Freight Impact Monitoring:

Ongoing monitoring, coordination, and planning efforts related to the potential impacts of freight traffic on Delaware's communities remain a critical focus area for the state. Past efforts have included completion of the 2014 Port of Wilmington Truck Parking Study. Ongoing emphases include a study of truck traffic along SR 41, SR 48, and SR 7 in New Castle County – a high-profile effort that per Delaware Senate Resolution 10 ([Appendix B](#)) involves a formal Special Committee effort with findings and recommendations anticipated by January 2018.

Future Expectations

Other future tracking, monitoring, and/or planning efforts at the state and/or MPO levels relative to potential freight system trends, needs, or issues may consider activities such as the following:

- *Additional Supply Chain Studies* – including plans to dedicate the next round of study to inland waterway freight supply chains, which is doubly relevant in terms of potential issues pertaining to multimodal freight reliability, resiliency, and state of good repair; as well as understanding the potential impacts of heavy truck traffic on local/regional roadway connections. Future study options may also include detailed reviews of Secondary Traffic (e.g. truck/warehouse related distribution of retail and/or commercial goods) or Port(s) of Wilmington truck traffic supply chains.
- *Port Activity Interests* – including future expansion or development possibilities related to the Port of Wilmington (e.g. additional berths, gate capacity, or other port revitalization). Interests also pertain to possible container shipping expansion as related to the Port of Wilmington's February 2017 purchase of the 112-acre Chemours Edgemore manufacturing site on the Delaware River.³ The Edgemore site, located approximately three miles (or 20 minutes steaming time) north of the existing Port facility, is intended as a container terminal; and efforts to identify public/private partnerships and investor/developer/operator interests are ongoing.⁴
- *Climate Change Impacts* – including a continued look in the next update of Delaware's Sea-level Rise Vulnerability Assessment at how climate change could impact the state's freight transportation networks.

³ <http://www.delawarebusinesstimes.com/port-wilmington-completes-purchase-chemours-site/>

⁴ Port of Wilmington. Presentation to WILMAPCO – Special Committee to Study Traffic on SR 41/SR 48/SR 7. August 9, 2017.

Requirement 2 – Freight Policies, Strategies, and Performance Measures

29 U.S.C. 70202: *State Freight Plans must address for each of the transportation modes... (2) A description of the freight policies, strategies, and performance measures that will guide the freight-related transportation investment decisions of the State.*

2015 Plan References

See 2015 Plan: Chapter 9 (Freight Policy Guidance and Beyond); including Exhibits 9.1 and 9.2

FAST Act Requirement 2 carries over previous provisions from MAP-21 Section 1118. Results of the 2015 Plan included a high-level set of guiding principles that remain valid today – namely that freight planning on the peninsula should align with strategic freight goals, enhance peninsula-specific freight focus areas, integrate freight-related project planning insights, and foster multi-jurisdictional freight coordination. This guidance was paired with general policy perspectives (*Exhibit 4*) that were customized to the peninsula’s freight needs and issues, as well as early concepts for freight system performance measurements, strategic implementation actions, and future freight planning enhancement options.

Exhibit 4: 2015 Delmarva Freight Policy Perspectives

Economic Vitality	
Focus on regional supply chain positioning	Support trade and market expansion opportunities
Enhance regional port access and opportunities	Consider area-specific strategies and opportunities
Discuss land use issues and implications	Reflect market access and logistics trends or needs
Freight Connectivity, Mobility, and Accessibility	
Detail the peninsula’s freight network	Formalize the peninsula’s roadway freight network
Enhance multimodal/intermodal connections	Manage traffic congestion and access
Minimize freight/passenger conflicts	
Safety and Security	
Integrate freight interests throughout safety planning activities	Integrate freight interests throughout emergency planning activities
Focus on overweight and hazardous materials	Support Homeland Security efforts related to freight
System Management, Operations, and Maintenance	
Strengthen jurisdictional relationships and collaboration	Review and monitor truck policies and peninsula-wide implications
Consider truck traffic needs or impacts during roadway maintenance and construction activities	Expand the use of technologies in freight system management and operations
Explore long-term solutions to waterway dredging needs	
Sustainability and Environmental Stewardship	
Implement strategies to reduce freight’s impact on air quality	Support efforts to research and manage freight’s relationship with water resources
Continue to investigate freight issues relative to Sea-Level Rise (SLR) adaptation planning	Balance freight operations and key community, land use, or quality of life issues

2017 Supplemental Details

Policy/Program Support:

Many of the freight-related activities of the past two years have aligned directly with the 2015 Plan guidance and related general freight policy perspectives. Examples include ongoing multi-jurisdictional coordination, continued advisory committee efforts of the Delmarva Freight Working Group, completion of various supply chain studies, or integration of freight interests alongside safety planning. Such support is expected to continue alongside the latest policy/program interests of the FAST Act (see discussions under [Requirement 4](#)).

Interregional Collaboration:

Collaborative freight discussions and planning efforts continue to be of critical importance given the interplay of freight flows and activities between Delaware and their adjacent state and regional planning jurisdictions. Collaborative opportunities include activities such as the 2017 Delmarva Freight Summit; ongoing modeling/planning discussions between WILMAPCO, DeIDOT, and MDOT; and direct interagency coordination such as DeIDOT and WILMAPCO's participation on DVRPC's executive committee for their freight task force.

Federal Transportation Performance Management Framework

In the period since the 2015 Plan, FHWA has finalized six interrelated performance rulemakings to implement the Transportation Performance Management (TPM) framework commenced under MAP-21 and continued into the FAST Act ([Exhibit 5](#)). Activities at both the state and MPO levels are ongoing to comprehensively address these requirements, including details regarding the new Freight Reliability Measure in terms of a Truck Travel Time Reliability (TTTR) Index ([Appendix C](#)). It is anticipated that Delaware and their MPO planning partners will support tracking various TPM metrics not just on statewide routes, but also on key freight routes, which will provide an additional tier of insights relevant to statewide and regional freight planning that affects Delaware.

Exhibit 5: Federal Transportation Performance Management (TPM) Implementation Schedule

Performance Areas	Notice of Proposed Rulemaking (NPRM)	Final Rule
Safety Performance Measures	March 11, 2014	Published March 16, 2016
Highway Safety Improvement Program	March 28, 2014	Published March 16, 2016
Statewide and Metro Planning; Non-Metro Planning	June 2, 2014	Published May 27, 2016
Pavement and Bridge Condition Measures	January 5, 2015	Published January 18, 2017
Highway Asset Management Plan	February 20, 2015	Published October 24, 2016
System Performance Measures	April 22, 2016	Published January 18, 2017

Annual Travel Time Reliability Reporting:

Coupled with state/MPO advances toward the overall federal TPM metrics, ongoing performance measurement activities in Delaware include the use of Bluetooth devices to develop an annual statewide system reliability assessment (i.e. a Statewide Congestion Management System that mirrors current WILMAPCO reports/templates). While not directly freight-related, the scale of this effort does cover all NHS, CUFC, and CRFC routes, so the results will provide an additional avenue (i.e. supplemental to any insights that may be derived from the National Performance Management Research Data Set, or NPMRDS) for reviewing/monitoring performance data through a freight-centric lens.

Future Expectations

Additional opportunities to refine, expand, or enhance freight policies, strategies, and/or performance measure interests with broader aspects of freight planning on the peninsula may consider future efforts such as the following:

- *Performance Targets/Updates* – are expected to be established in the future in coordination with the federal TPM final rulings.
- *Delaware Freight Hierarchy* – reference and applications related to the establishment of a Delaware Freight Hierarchy (see details under [Requirement 3](#)) will continue to be explored relative to supporting additional corridor-specific details, performance monitoring, and/or project prioritization efforts that may apply under Requirement 2.
- *Supplemental Freight Performance Monitoring* – Separate from federal TPM metrics and related state/MPO data collection and tracking, future consideration may be given to the development of a freight-specific “report card” for enhanced tracking and/or as an educational/informational component. Details could encompass a broader, independent set of multimodal metrics such as those explored by Exhibit 9.2 of the 2015 Plan.
- *Peninsula Model Maintenance and Development* – future refinements of existing planning/modeling tools and supporting data are expected (e.g. DelDOT’s Peninsula Travel Demand Model, Cube Cargo Model, or freight data updates including Federal Analysis Framework [FAF] data, Transearch data, or other sources). Future maintenance or updates related to any such tools may consider enhancing overall capabilities or flexibilities in terms supporting/exploring specific types of freight questions or interests on the peninsula, or potentially expanding model coverage or application opportunities based on active coordination between DelDOT, MDOT, WILMAPCO, and/or DVRPC.
- *Constraints due to State Law* – future efforts may be undertaken to determine if there are potential constraints driven by Delaware state law that could affect key freight-related investments and/or policies relevant to the peninsula. No such constraints are known currently.

Requirement 3 – Freight Network Facilities

49 U.S.C. 70202: *State Freight Plans must address for each of the transportation modes... (3) When applicable, a listing of (a) multimodal critical rural freight facilities and corridors designated within the State under section 70103 of title 49 (National Multimodal Freight Network); and (b) critical rural and urban freight corridors designated within the State under section 167 of title 23 (National Highway Freight Program).*

2015 Plan References

See 2015 Plan: Chapter 4 (Existing Freight Transportation System)

See 2015 Plan: Chapter 6.3 (Freight Connectivity, Mobility, and Accessibility)

FAST Act Requirement 3 is a new/expanded component that supersedes the draft Primary Freight Network considerations and optional CRFC references that were previously in-play under MAP-21. The 2015 Plan included an inventory of existing multimodal freight transportation systems and facilities on the Peninsula, and it compiled a limited review of potential CRFC candidates based only on truck percentages along rural principal arterials. However, no formally-designated multimodal networks or rural/urban routes were proposed under the 2015 Plan.

2017 Supplemental Details

Freight network updates under the FAST Act include (1) a refinement of the National Highway Freight Network (NHFN) and its subsystems, and (2) the establishment of an Interim National Multimodal Freight Network (NMFN). This 2017 Addendum compiles all freight network updates as follows:

National Highway Freight Network (NHFN):

Current freight networks include federally-designated and state/MPO-designated components of the NHFN as follows:

- *Primary Highway Freight System (PHFS) Routes:* include all of I-95, I-295, and I-495 within Delaware state boundaries, encompassing 40.85 total miles of interstate.
- *PHFS Intermodal Connectors:* include one designated connector route (Facility ID DE2P) encompassing 0.49 miles along Terminal Avenue between the Port of Wilmington and I-495.
- *Non-PHFS Interstate:* does not apply, as all interstate mileage in Delaware is captured by the PHFS.
- *Critical Urban Freight Corridors (CUFC):* are intended as public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities. FAST Act CUFC eligibility/designation criteria are detailed in [Appendix A1](#), and Delaware is allotted 75.00 maximum allowable CUFC miles to be identified by MPOs, in consultation with the state. Delaware's initial CUFC designations were approved by FHWA effective August 17, 2017, and include the routes summarized in [Exhibit 6](#) and [Exhibit 7](#).
- *Critical Rural Freight Corridors (CRFC):* are intended as public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities. FAST Act CRFC eligibility/designation criteria are detailed in [Appendix A2](#), and Delaware is allotted 150.00 maximum allowable CRFC miles to be identified by the state, in consultation with MPOs. Delaware's initial CRFC designations were approved by FHWA effective August 17, 2017, and include the routes summarized in [Exhibit 6](#) and [Exhibit 8](#).

Exhibit 6: Delaware Federal Highway Freight Networks (NHSN and CUFC/CRFC Routes)

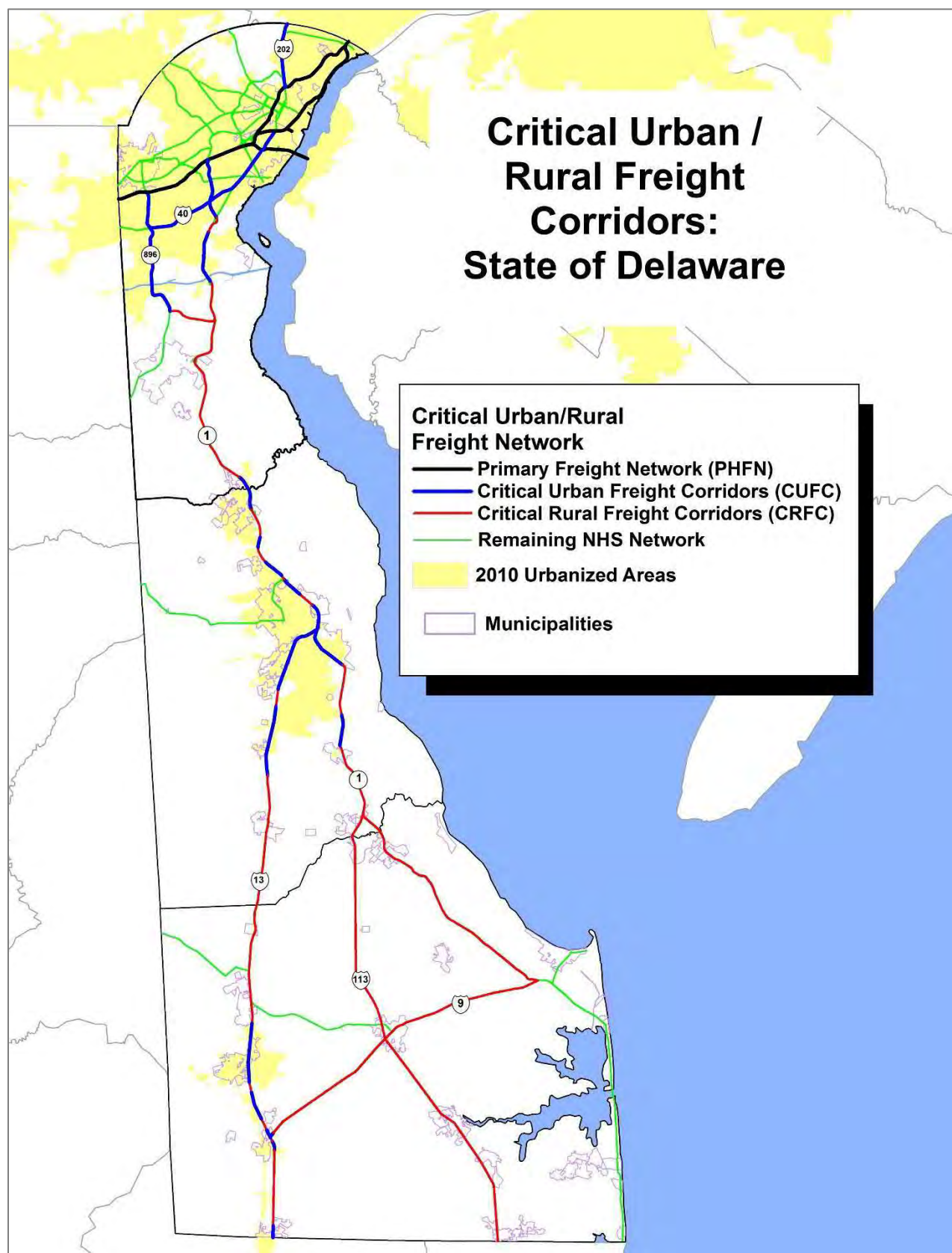


Exhibit 7: Delaware Critical Urban Freight Corridor (CUFC) Segment Details

ID	County	Route No.	Start Point	End Point	Length	Criteria ¹
1	New Castle	US 202	DE/PA Line	I-95 Interchange	5.09	K
2	New Castle	US 13	I-495 Interchange	I-295 Interchange	1.81	I, J
3	New Castle	US 40	I-295 Interchange	SR 896	11.16	K, I
4	New Castle	DE 896	I-95 Interchange	Churchtown Rd. / Boyd's Corner Intersection	10.46	J, K
5	New Castle	SR 1 (Segment A)	I-95 Interchange	US 13 Overpass (Urban boundary)	4.77	H, K
6	New Castle	SR 1 (Segment B)	Former Gov. Lea Rd. Crossover	Lorewood Grove Rd. (Exit 148)	4.12	H, K
7	Kent	SR 1 (Segment C)	Paddock Rd. Overpass	S. Smyrna Exit (Ex. 114)	2.82	H, K
8	Kent	SR 1 (Segment D)	Twin Willows Rd. Overpass	Leipsic River Crossing	0.82	H, K
9	Kent	SR 1 (Segment E)	Emergency Access Ramp	Dyke Branch Rd.	1.62	H, K
10	Kent	SR 1 (Segment F)	Exit 104 Ramps	0.35 mi. S. of Leipsic Rd. Overpass	1.70	H, K
11	Kent	SR 1 (Segment G)	White Oak Rd. Overpass	SR 9 Interchange (Exit 91)	5.90	H, K
12	Kent	SR 1 (Segment H)	Mulberrie Point Rd.	SR 12 Interchange	2.45	H, K
13	Kent	US 13 (Segment A)	Puncheon Run (Exit 97)	Longacre Dr.	6.43	H, K
14	Kent	US 13 (Segment B)	N. of Barnie Jenkins Rd.	S. of Killens Pond Rd.	5.52	H, K
15	Sussex	US 13 (Segment C)	Cannon Rd.	N. of Delmarva RV Center	4.66	H, K
16	Sussex	US 13 (Segment D)	Airport Rd.	Boyce Rd.	2.23	H, K
17	Sussex	US 13 (Segment E)	N. of Discount Land Rd.	Kurtz Rd.	0.66	H, K
18	Sussex	US 13 (Segment F)	Sycamore Rd	Laurel Rd.	0.74	H, K
19	Sussex	US 13 (Segment G)	Near US 13 Dragway	DE/MD Line	0.93	H, K
20	Sussex	US 9	US 13	0.41 miles East of US 13	0.41	K
Total CUFC Mileage =					74.30	

¹ CUFC Criteria Legend:

- H:** Connects an intermodal facility to the PHFS, the Interstate System, or an intermodal freight facility
- I:** Located within a corridor of a route on the PHFS and provides an alternative highway option important to goods movement
- J:** Serves a major freight generator, logistic center, or manufacturing and warehouse industrial land
- K:** Corridor that is important to the movement of freight within the region, as determined by the MPO or the State

Exhibit 8: Delaware Critical Rural Freight Corridor (CRFC) Segment Details

ID	County	Route No.	Start Point	End Point	Length	Criteria ¹
21	New Castle	SR 1 (Segment I)	US 13 Overpass (Urban boundary)	Former Gov. Lea Rd. Crossover	1.45	F, G
22	New Castle	SR 1 (Segment J)	Lorewood Rd.	Paddock Rd.	17.76	F, G
23	New Castle	DE 896	Churchtown Rd. / Boyd's Corner Intersection	SR 1 Interchange (Exit 142)	3.72	F, G
24	Kent	SR 1 (Segment K)	S. Smyrna Exit (Ex. 114)	Twin Willows Rd. Overpass	2.38	F, G
25	Kent	SR 1 (Segment L)	Leipsic River Crossing	Emergency Access Ramp	1.33	F, G
26	Kent	SR 1 (Segment M)	Dyke Branch Rd.	Exit 104 Ramps	0.37	F, G
27	Kent	SR 1 (Segment N)	0.35 mi. S. of Leipsic Rd. Overpass	White Oak Rd. Overpass	1.27	F, G
28	Kent	SR 1 (Segment O)	SR 9 Interchange (Exit 91)	Mulberrie Point Rd.	4.07	F, G
29	Kent/Sussex	SR 1 (Segment P)	SR 12 Interchange	US 9, Lewes	26.07	F, G
30	Kent	US 13 (Segment H)	Longacre Dr.	N. of Barnie Jenkins Rd.	1.38	F, G
31	Kent	US 13 (Segment I)	S. of Killens Pond Rd.	Cannon Rd.	19.72	F, G
32	Sussex	US 13 (Segment J)	N. of Delmarva RV Center	Airport Rd.	0.81	F, G
33	Sussex	US 13 (Segment K)	Boyce Rd.	N. of Discount Land Rd.	1.00	F, G
34	Sussex	US 13 (Segment L)	Kurtz Rd.	Sycamore Rd	0.30	F, G
35	Sussex	US 13 (Segment M)	Laurel Rd.	Near US 13 Dragway	5.95	F, G
36	Sussex	US 9	0.41 miles East of US 13	SR 1, Lewes	24.59	D, G
37	Kent/Sussex	US 113	SR 1/ US 113 Split	DE/MD Line	37.29	D, G
Total CRFC Mileage =					149.46	

¹ CRFC Criteria Legend:

- A:** Rural principal arterial roadway with a minimum of 25 percent of the annual average daily traffic of the road measured in passenger vehicle equivalent units from trucks
- B:** Provides access to energy exploration, development, installation, or production areas
- C:** Connects the PHFS or the Interstate System to facilities that handle more than: 50,000 20-foot equivalent units per year; or 500,000 tons per year of bulk commodities
- D:** Provides access to a grain elevator, an agricultural facility, a mining facility, a forestry facility, or an intermodal facility
- E:** Connect to an international port of entry
- F:** Provides access to significant air, rail, water, or other freight facilities
- G:** Corridor that is vital to improving the efficient movement of freight of importance to the economy of the State.

National Multimodal Freight Network (NMFN):

The latest interim version of the federally-designated NMFN ([Exhibit 9](#)) includes all NMFN roadways listed above, plus the following additional multimodal connections:

- 188 route miles of multimodal rail freight network
- Port of Wilmington
- Port of New Castle
- Delaware Bay/River
- Chesapeake & Delaware Canal
- M-95 Marine Highway, which includes the Atlantic Ocean coastal waters, Atlantic Intracoastal Waterway, and connecting commercial navigation channels, ports, and harbors. It stretches from Miami, FL to Portland, ME and spans 15 states, including connections to the M-87 Connector and M-90 Corridor near New York City; and the M-64 Connector at Norfolk, VA.

Multimodal Critical Rural Freight Facilities (CRFF):

In a manner similar to the highway-based CRFC additions, FAST Act criteria also allow States the flexibility to designate additional multimodal CRFF under a separate set of eligibility/designation criteria detailed in [Appendix A3](#). To date, no Delaware CRFF additions (separate from the CRFC) have been proposed.

Delaware Freight Hierarchy:

Building onto the federal and multimodal freight networks noted above, DelDOT and their MPO planning partners have also actively pursued the development of a Delaware Freight Hierarchy to encompass a more comprehensive picture of important freight transportation routes on the peninsula ([Exhibit 10](#)). The Hierarchy identifies additional route tiers that include Secondary Routes (i.e. the remainder of the National Highway System [NHS] that is not captured by the federal networks), as well as important Tertiary, Final Mile, and Restricted route segments. Final Mile segments that are proposed for inclusion on the Hierarchy were assessed and prioritized based on a draft rating methodology that considers Delaware state spending strategies, truck trip generation, truck traffic volumes and percentages, and pavement conditions ([Appendix D](#)).

Potential applications of the Delaware Freight Hierarchy are still being explored, but are expected to span a number of different perspective relevant to current FAST Act freight planning topics. Potential examples include supporting corridor-specific strategies or supplemental performance monitoring details (see [Requirement 2](#)), broader freight program emphasis (see [Requirement 4](#)), final mile freight details and mitigation of related roadway deterioration (see [Requirement 6](#)), or potential roles tied directly to project prioritization (see [Requirement 9](#)).

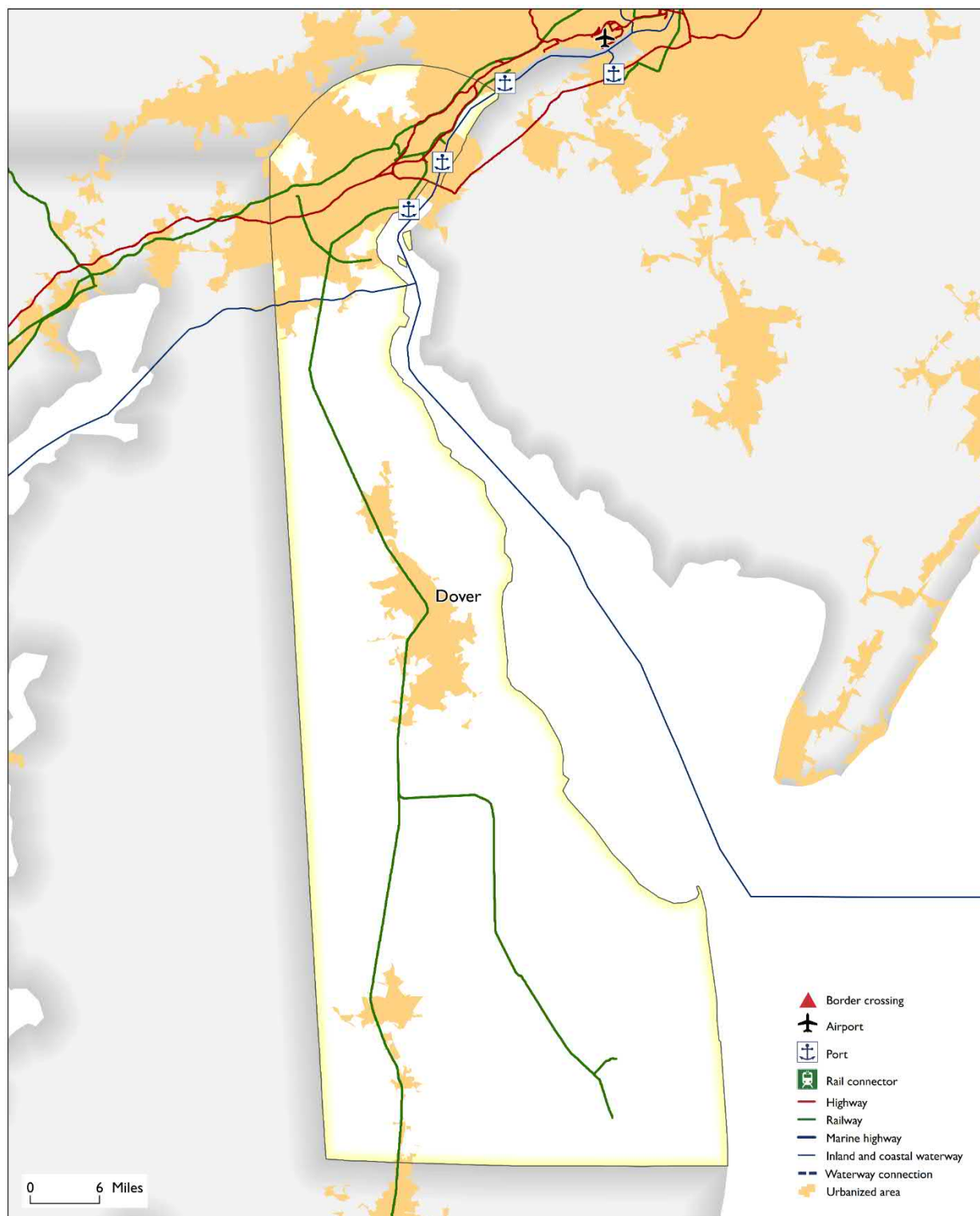
Multi-Jurisdictional Collaboration:

It is important to note from a regional collaborative/cooperative perspective that DelDOT has also actively worked with their adjacent state and regional/MPO planning partners as part of the freight network designation process. Specific examples include discussions with MDOT regarding urban corridor recommendations in Cecil County, Maryland; and with the Delaware Valley Regional Planning Commission (DVRPC) regarding urban corridor interests north into Pennsylvania. Such efforts are anticipated to continue.

Future Expectations

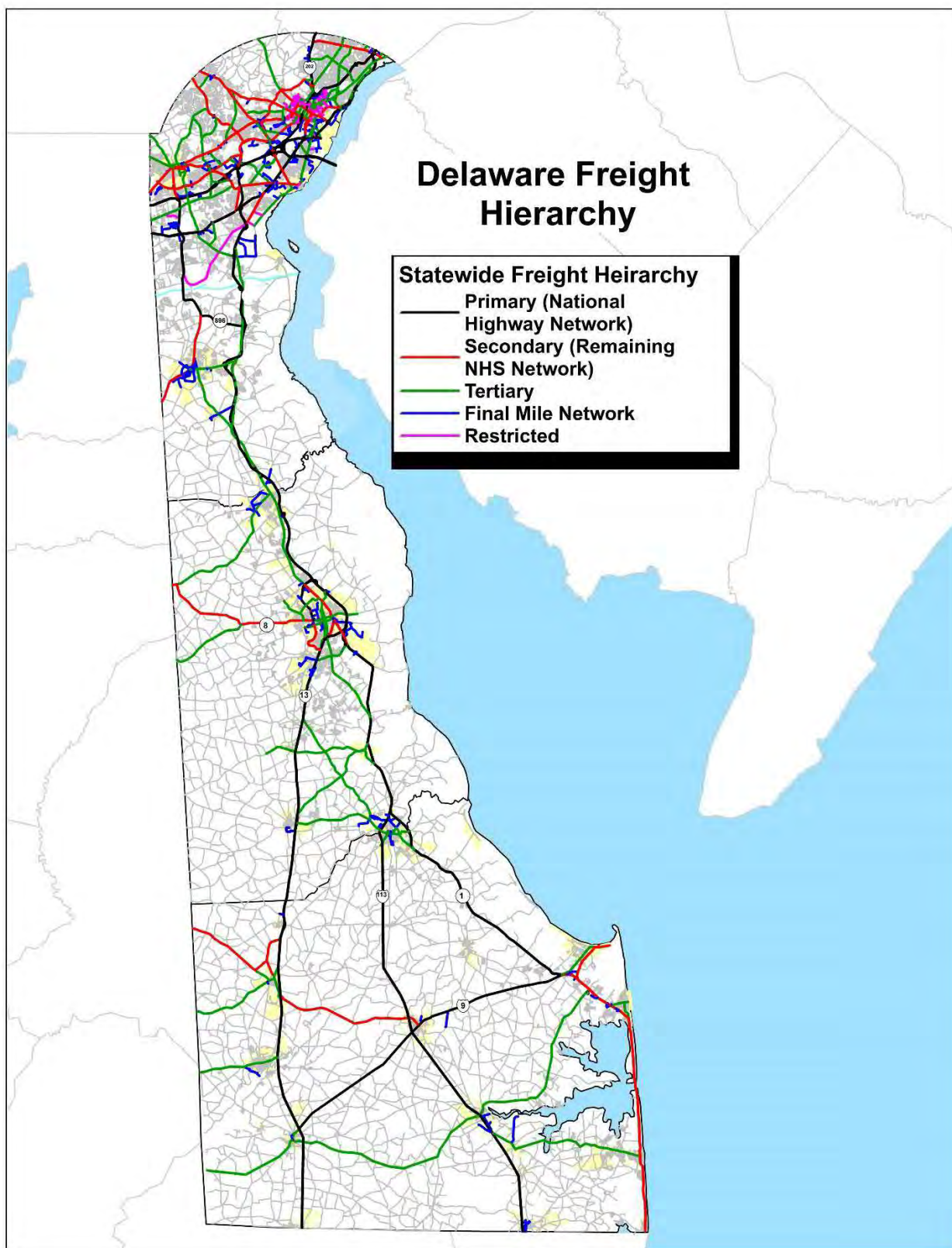
Beyond the existing freight network designations, DelDOT and their state/regional planning partners anticipate continuing to foster a collaborative/cooperative multi-jurisdictional discussion to help manage/monitor key roadway and multimodal freight facility, corridor, and network needs throughout the region.

Exhibit 9: Delaware Interim Multimodal Freight Network



Note: For information on methodology used for feature selection in this map, please see U. S. Department of Transportation, Establishment of Interim National Multimodal Freight Network, Docket Number: DOT-OST-2016-0053.

Exhibit 10: Delaware Statewide Freight Hierarchy



Requirement 4 – National Freight Policy/Program Support

49 U.S.C. 70202: *State Freight Plans must address for each of the transportation modes... (4) A description of how the plan will improve the ability of the State to meet the national multimodal freight policy goals described in section 70101(b) of title 49, United States Code and the national highway freight program goals described in section 167 of title 23.*

2015 Plan References

See 2015 Plan: Chapter 1.5 (Strategic Goals)

See 2015 Plan: Chapter 7 (Future Freight Planning Scenarios)

See 2015 Plan: Chapter 9 (Freight Policy Guidance and Beyond)

FAST Act Requirement 4 refines/expands national freight policy goals established under MAP-21 Section 1118 and introduces separate sets of national multimodal freight policy goals and national highway freight program goals (*Appendices A4, A5*). Though the multimodal emphasis is new in the FAST Act, Delaware's 2015 Plan included a strong connection to multimodal interests from the very outset of its development. Strategic goals and overall planning efforts were aligned with MAP-21 provisions, but also meshed with broader multimodal goals established in the various long range transportation plans for Delaware, Maryland, and Virginia. The plan covered general inventories, insights, and action items involving truck and multimodal rail, waterborne, and airborne freight; and it incorporated detailed scenario planning efforts with quantitative/qualitative model-based insights to help inform future multimodal freight discussions. Specifically included among the plan's primary scenarios were a variety of multimodal infrastructure constraint, multimodal infrastructure enhancement, and industry-driven growth details aimed at helping to explore the influence and importance of key multimodal assets or influences around the peninsula including, for example, shifts in the peninsula's rail or barge transportation networks, Port of Wilmington freight activity, oil & gas industry activity, or East Coast port/shipping patterns (e.g. Post-Panamax possibilities).

2017 Supplemental Details

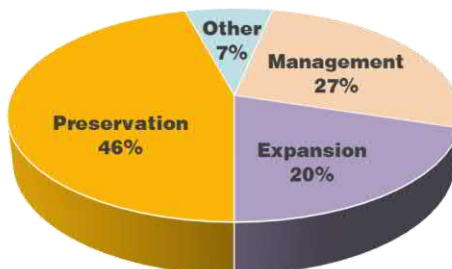
Content and insights from the 2015 Plan's multimodal emphasis and related strategic goals continue to align in a supportive manner with the latest national freight policies and programs. With reference to the specific current national goals and considering some of the latest freight interests/activities in Delaware, areas that the State could highlight as most important and/or merit the largest focus include the following:

State of Good Repair:

Goal 3 of the national multimodal freight policy focuses on achieving and maintaining a state of good repair on the NMFN. Currently, the State of Delaware dedicates approximately 40% of its funds toward the preservation of the existing transportation system (*Exhibit 11*).

Exhibit 11: Delaware CTP Funding by Category

FUNDING BY CATEGORY	Approved 3/2017 FY 2018-21	Draft 7/2017 FY 2018-21	Draft % Mode	Percent Change
Preservation	1,001,029	1,106,572	46%	10%
Other	166,469	179,954	7%	7%
Management	554,103	641,796	27%	14%
Expansion	464,052	486,982	20%	5%
Total (\$s x 1000)	2,185,653	2,415,304	100%	10%



Innovation and Advanced Technology:

Goal 4 of the national multimodal freight policy focuses on using innovation and advanced technology to improve the safety, efficiency, and reliability of the NMFN. DelDOT has started an effort as part of the Innovative Technology Deployment (ITD) – formerly the Commercial Vehicle Information Systems Network (CVISN) – to enhance safety information sharing and workzone/incident notification systems. (See also [Requirement 5](#)).

Economic Efficiency and Productivity:

Goal 5 of the national multimodal freight policy focuses on improving the economic efficiency and productivity of the NMFN. The State of Delaware in coordination with the MPOs plans to continue to develop detailed supply chain analyses for specific industries within the State. These efforts help to better understand and provide for the specific transportation needs of Delaware’s key industries to maintain and potentially expand their footprint in the region.

Reliability:

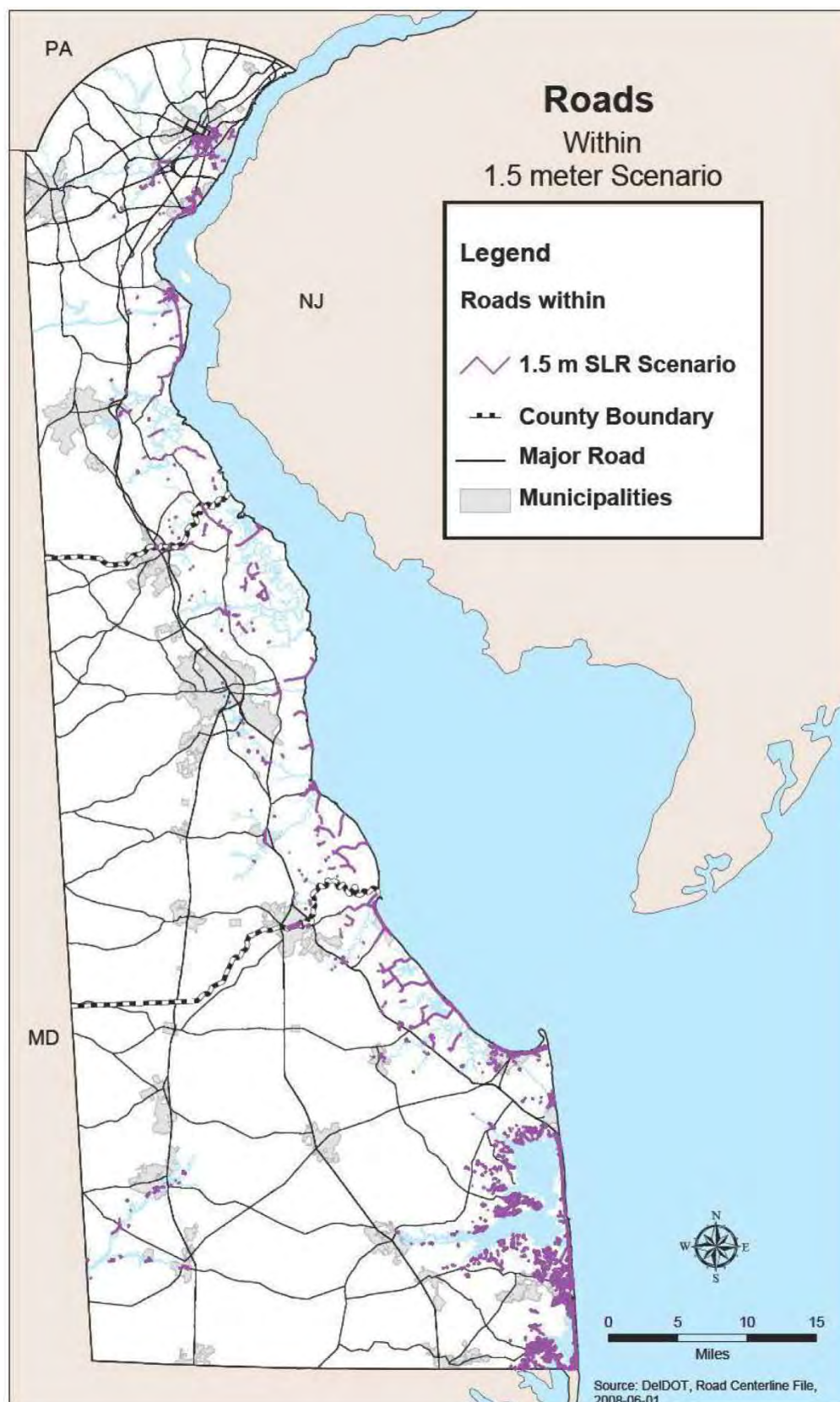
Goal 6 of the national multimodal freight policy focuses on improving the reliability of freight transportation. As part of the State’s project prioritization process, the recently completed Delaware Freight Hierarchy (see [Requirement 3](#), including [Exhibit 10](#)) and the use of travel time reliability measurements will be included among the factors that help the State prioritize projects for the CTP. Such efforts will support the location of strategic infrastructure improvements (and their corresponding improvements to freight reliability) in areas where they are most beneficial.

Future Expectations

Other future tracking, monitoring, and/or planning efforts at the state and/or MPO levels relative to supporting national freight policies/programs may consider activities such as the following:

- *Inland Waterway Freight Supply Chain Studies* – may also be considered to further explore high-level and/or site-specific issues pertaining to multimodal freight reliability, resiliency, and state of good repair.
- *Freight and Climate Change Perspectives* – will continue to be considered in terms of the safety, reliability, and resiliency of the freight transportation system based on re-assessments of potential impact areas in conjunction with future updates of Delaware’s 2012 Sea Level Rise Vulnerability Assessment ([Exhibit 12](#)).
- *Freight and Community Impacts* – will continue to be monitored/assessed where relevant in terms of future community interests. Recent examples include the SR 9 Corridor Study, Glasgow Avenue “Main Street”, and the SR 141 20-year Transportation Plan where the potential impacts of freight on the local communities were discussed in detail. Lessons-learned through these efforts, coupled with the proactive development of the Delaware Freight Hierarchy, will assist planners in being better prepared to support future projects or studies that could have an increased awareness of freight. Similarly, adopting some of the potential outcomes from the ongoing Special Committee truck study along the SR 41, SR 48, and SR 7 ([Appendix B](#)) can serve as a blueprint for managing a balance between economic growth while minimizing community and quality of life impacts.
- *Environmental Justice Relationships* – Future freight planning efforts may also consider using existing methodologies to identify high concentrations of minority and low income environmental justice communities to assess their potential relationships to freight-related corridors or projects identified by freight planning and/or CTP efforts.

Exhibit 12: Delaware Potential Road/Bridge Impacts under 1.5 meter Sea Level Rise Scenario



Requirement 5 – Innovative Technology Considerations

49 U.S.C. 70202: *State Freight Plans must address for each of the transportation modes... (5) A description of how innovative technologies and operational strategies, including freight intelligent transportation systems, that improve the safety and efficiency of the freight movement, were considered.*

2015 Plan References

See 2015 Plan: Chapter 4.2 (Freight Logistics Nodes and Support Facilities)

See 2015 Plan: Chapter 6.4 (Safety and Security)

See 2015 Plan: Chapter 6.5 (System Management, Operations and Maintenance)

FAST Act Requirement 5 carries over previous provisions from MAP-21 Section 1118. Largely under the realm of system management, operations, and maintenance, the 2015 Plan included specific innovative technology discussions pertaining to Intelligent Transportation Systems (ITS) for freight activity, safety, and security monitoring; weight and safety enforcement; All Electronic Tolling (AET); and Traffic Responsive Signalization (TRS) systems.

2017 Supplemental Details

Transportation Management Program Overlap:

At a broad level, general emphasis on technology and operations continues to involve the active and ongoing roles of Delaware's overall Transportation Management Program, including safety information sharing, workzone/incident notification systems, permitting systems, and similar efforts through the following:

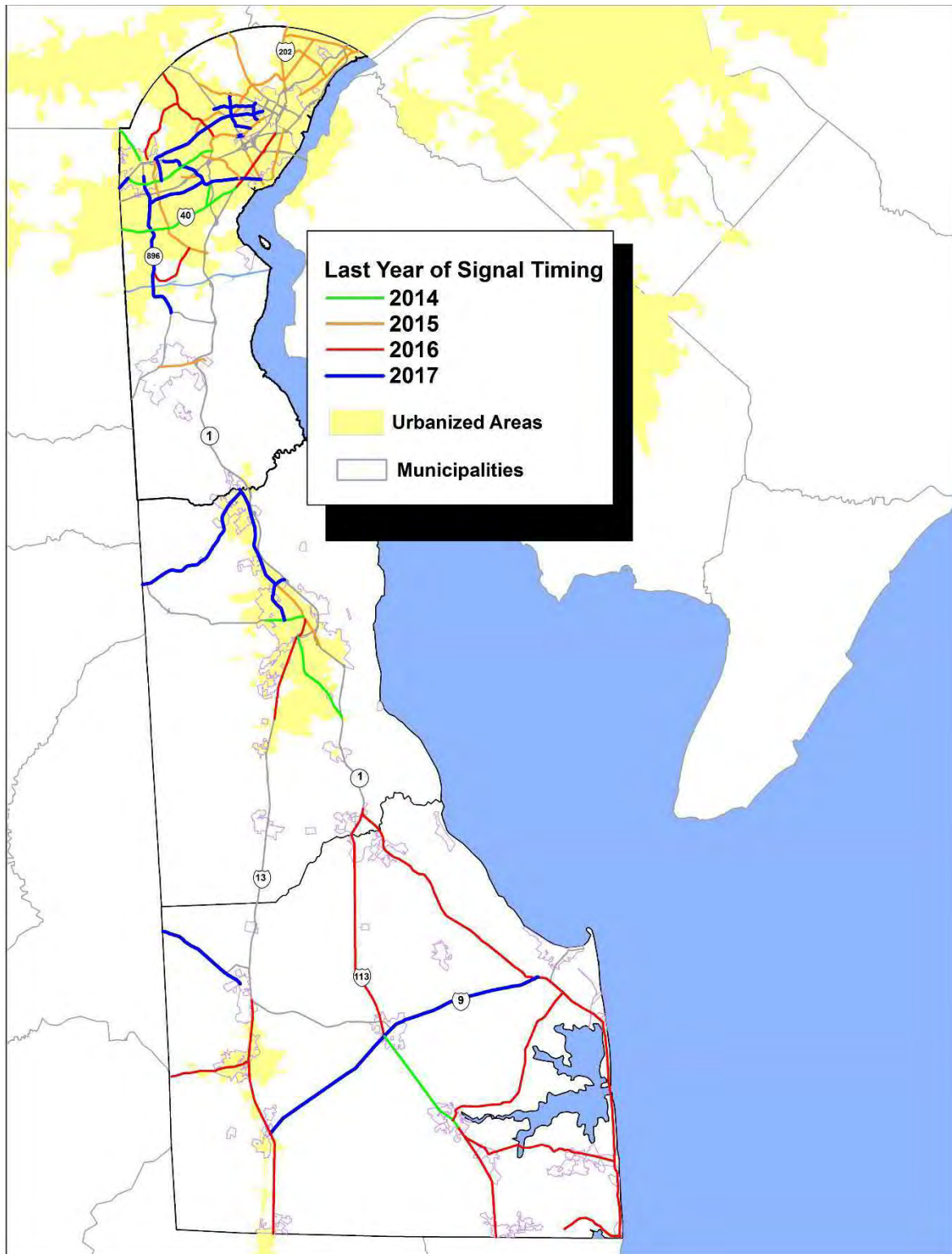
- DeIDOT Transportation Management Center (TMC)
- DeIDOT Integrated Transportation Management System (DeITRAC)
- DeIDOT Oversize/Overweight Permit System (OOPS)
- Delaware Innovative Technology Deployment (ITD) (formerly CVISN)

Congestion Management System Overlap:

Spanning State and MPO levels, interests and coordination efforts also include WILMAPCO's focus on adding a stronger connection between freight and existing Congestion Management System (CMS) efforts. Program focus areas, particularly with an expanded emphasis on travel time reliability, will continue to overlap and merge. Overall travel time and congestion monitoring in the State includes continually expanding deployments of Bluetooth, Wavetrax, and other data collection technologies to support those programs, and logical extensions include direct applications or relationships with freight management.

Traffic signal re-timing and optimization also continues to be an active effort with CMS and freight cross-over benefits, as well as additional air quality benefits – particularly along heavily-used freight corridors – as a result of optimizing corridor traffic flows. Many of Delaware's recent corridor signal re-timing priorities ([Exhibit 13](#)) have included key freight routes.

Exhibit 13: Delaware Statewide Signal Retiming Corridors



Future Expectations

Other future efforts at the state and/or MPO levels relative to innovative technology considerations may include:

- *Wavetronix Approval Request (Ongoing)* – emphasizing the need for federal approval of DeIDOT's Wavetronix length-based classification program to incorporate data details into various systems and their relevant applications for overall and freight-related performance measurement/management.
- *Continued Signal Optimization Efforts* – including emphasis on signal re-timing, as well as possible policy discussions/considerations relative to setting criteria for periodic signal re-timing/optimization at regular intervals along identified key corridors. Sample criteria/language could include the following, referenced from an existing Minnesota example:

TRAFFIC SIGNAL TIMING OPTIMIZATION:

(a) A road authority that has ownership of a traffic signal on a principal arterial roadway or roadway with an average daily traffic greater than 20,000 vehicles per day must complete an inventory of all traffic signals under its ownership and submit it to the Department of Transportation district engineer. The inventory must include age of all signals, control equipment, communications, detection type, timing plans in operation, and date of last timing optimization.

(b) Based on the information from the inventory, a road authority subject to paragraph (a) must develop and implement a traffic signal system optimization plan, which must include re-evaluation of traffic signal timing at least once every five years. Each road authority with a traffic signal optimization plan must annually certify compliance with its plan and submit the certification as part of its annual maintenance expenditure report.

Requirement 6 – Roadway Deterioration and Mitigation Strategies

49 U.S.C. 70202: *State Freight Plans must address for each of the transportation modes... (6) In the case of roadways on which travel by heavy vehicles (including mining, agricultural, energy cargo or equipment, and timber vehicles) is projected to substantially deteriorate the condition of the roadways, a description of improvements that may be required to reduce or impede the deterioration.*

2015 Plan References

See 2015 Plan: Chapter 3.3 (Supply Chain Perspectives)

See 2015 Plan: Chapter 6.5 (System Management, Operations and Maintenance)

FAST Act Requirement 6 carries over previous provisions from MAP-21 Section 1118. Relevant sections of the 2015 Plan included various discussions related to supply chain perspectives and “Natural Resource Access”, which highlighted notable freight interests on the Peninsula in terms of energy and agricultural activities. Management, operations, and maintenance insights also included discussions specific to pavement management programs, resilience and system impacts, and usage of recycled materials.



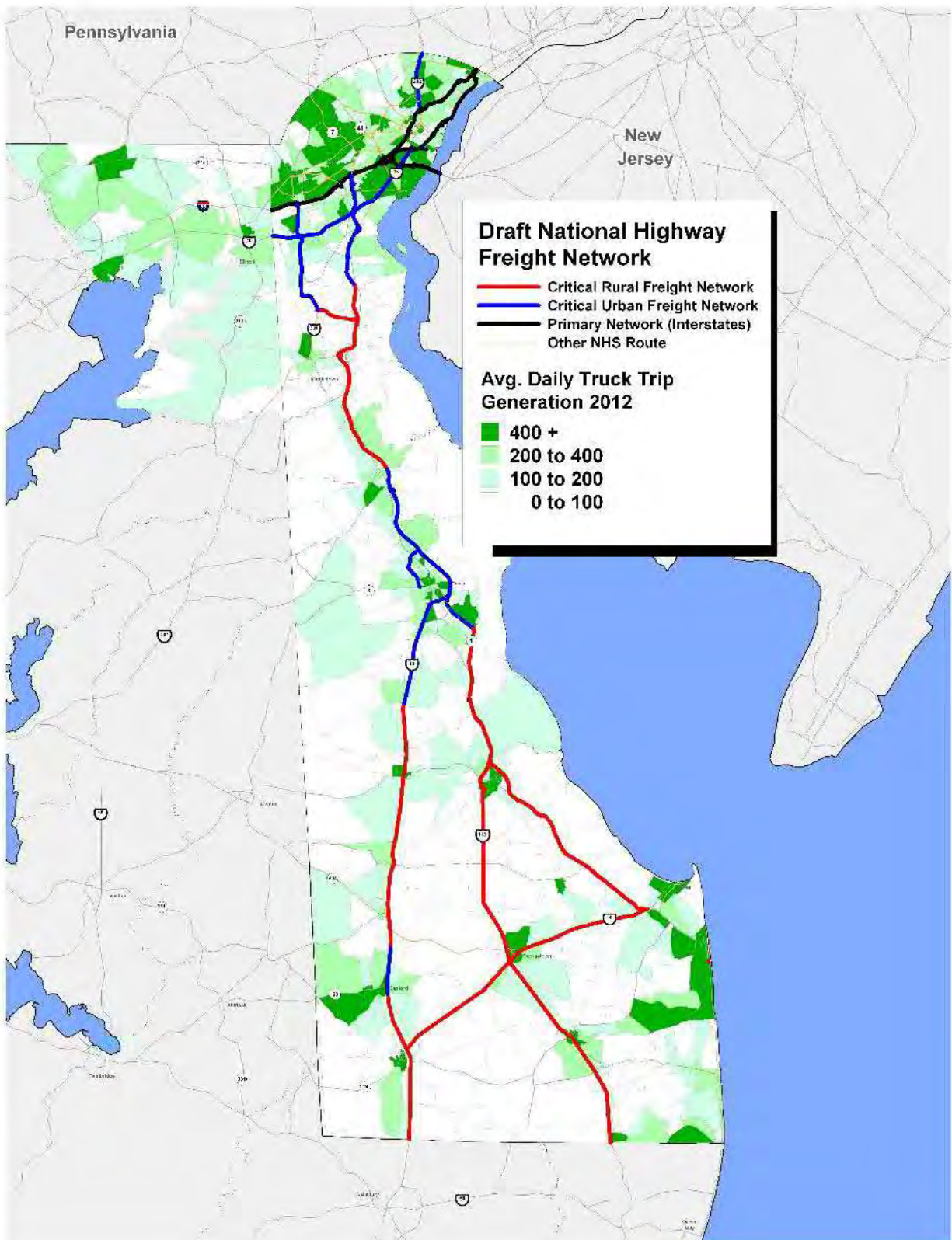
2017 Supplemental Details

Program Coordination:

General transportation and freight management interests relevant to monitoring and/or mitigating roadway deterioration caused by freight overlap a variety of existing program efforts at the State and MPO level. Ongoing and future efforts will continue to explore opportunities to enhance coordination/collaboration within or across various programs. Sample opportunities may include:

- Ongoing coordination of freight needs or influences with general paving and rehabilitation programs.
- Ongoing planning/coordination involving overall transportation management systems, DeIDOT TMC, oversized loads, OOPS permitting (see [Requirement 5](#)), or similar activities that foster support for overall congestion and regional/local freight monitoring.
- Ongoing coordination with public and private stakeholders related to heavy freight and/or special routing needs, particularly related to Delaware’s Class I or shortline rail facilities; barge access points for the peninsula’s Nanticoke, Wicomico, or Pocomoke Rivers; or specialty shipments to/from the Port of Wilmington (e.g. wind turbine blades, oversized generators, rocket booster modules, brewery tanks).
- Refinement of previously-developed freight planning tools to help further an understanding of local freight origin/destination insights, local freight routing, and Final Mile needs. Specific examples may include additional commodity flow data analysis, enhanced Cube Cargo Model network assignments or applications, or expansion of Cube Cargo truck trip tables to reflect commodity-specific details.
- Continued expansion of freight data/visualization capabilities to broaden freight-related insights pertinent to roadway management efforts. Examples include continued monitoring or estimation of heavy truck trip generation sites based on current/future land use, population/employment projections, or direct industry outreach. Past efforts by WILMAPCO have tracked truck trip generation by Traffic Analysis Zone (TAZ) ([Exhibit 14](#)); future efforts may explore automated tracking via Cube Cargo model enhancements.

Exhibit 14: Truck Trip Generation by TAZ



Final Mile Facility Prioritization:

Included in the development of the proposed Delaware Freight Hierarchy (see [Requirement 3](#), including [Exhibit 10](#)) are initial efforts toward the identification of Final Mile freight facilities that provide important localized freight access and connectivity for freight activity areas throughout the State. Initial Final Mile identification/prioritization efforts account for a variety of factors (see [Requirement 3](#) and [Appendix D](#)) and have also engaged the broader trucking community to solicit direct input on whether the appropriate Final Mile facilities are being identified. Many of the Final Mile segments overlap local or collector routes, and thus may not be eligible for federal aid. The focus for addressing any needs along such routes may, therefore, fall to State or some level of economic development organization; similar to past commitments by Delaware to support funding for infrastructure improvements that help to attract/expand business and economic development activities.

Future Expectations

Many of the efforts listed above are either ongoing or under consideration for future general planning, operations and maintenance, or freight interests that may be pertinent to tracking roadway deterioration/mitigations specific to freight travel. In addition to continuing such efforts, other relevant future activities may include:

- *Final Mile Facilities* – including continuation and refinement of current proposed methods and segments, as well as expanded program applications/coordination.
- *Inland Waterway Freight Supply Chain Studies* – as noted previously under Requirement 4 in terms of multimodal program support, but also relevant here in terms of furthering an understanding of the potential impacts of heavy truck traffic on specific local/regional roadway connections.
- *Final Mile Connection Points* – including potential studies of key truck and/or modal transfer points such as barge terminals, rail sidings, and existing or proposed Transload facilities.

Requirement 7 – Freight Mobility Issues and Mitigation Strategies

49 U.S.C. 70202: State Freight Plans must address for each of the transportation modes... (7) An inventory of facilities with freight mobility issues, such as bottlenecks, within the State, and for those facilities that are State owned or operated, a description of the strategies the State is employing to address those freight mobility issues.

2015 Plan References

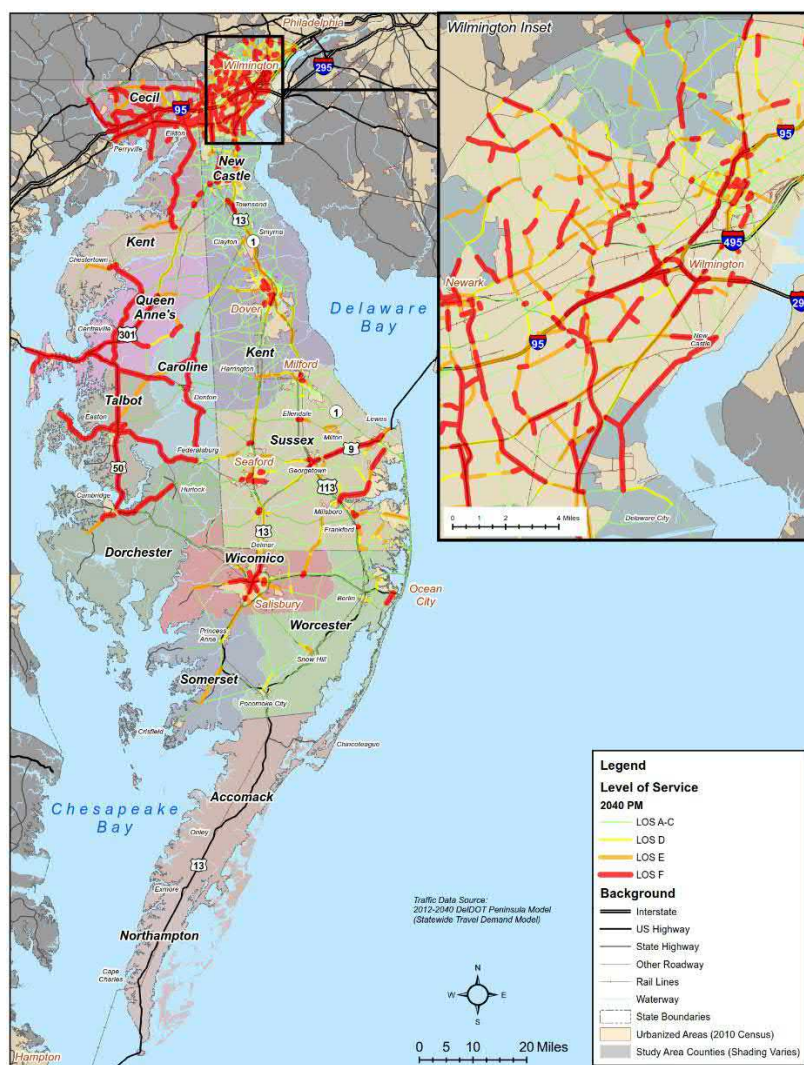
See 2015 Plan: Chapter 4 (Existing Freight Transportation System), including Exhibits 4.5-4.12

See 2015 Plan: Chapter 6 (Freight Trends, Needs & Issues), including Exhibits 6.1 and 6.5

See 2015 Plan: Chapter 7 (Future Freight Planning Scenarios), including Exhibit 7.19

FAST Act Requirement 7 carries over previous provisions from MAP-21 Section 1118. Details from the 2015 Plan included inventories of roadway traffic and truck volumes, operational levels-of-service (LOS) for Base and Future year conditions (*Exhibit 15*), performance summaries of truck operations using 3D-GIS mapping, and a stakeholder-based inventory of multimodal areas of concern across the Peninsula.

Exhibit 15: Projected Roadway Congestion on the Delmarva Peninsula (2040 PM Peak Period)



2017 Supplemental Details

Ongoing or anticipated efforts related to freight mobility issues and mitigation strategies overlap a variety of programs and related details noted in previous requirements. For example:

- Discussions regarding the Delaware Freight Hierarchy (*Exhibit 10*) and Final Mile facility prioritization (*Appendix D*) could easily be tailored to help support the identification of any significant intermodal connector or first/last mile mobility issues.
- Ongoing multi-state coordination/collaboration efforts with MDOT and DVRPC will support tracking and consideration of potential corridor or bottleneck issues affecting freight transportation across multiple states.
- Potential supply chain studies (e.g. inland waterway freight, pipeline movements, port activities, etc.) will support a better understand of industry-specific freight growth, constraint, or mobility issues.

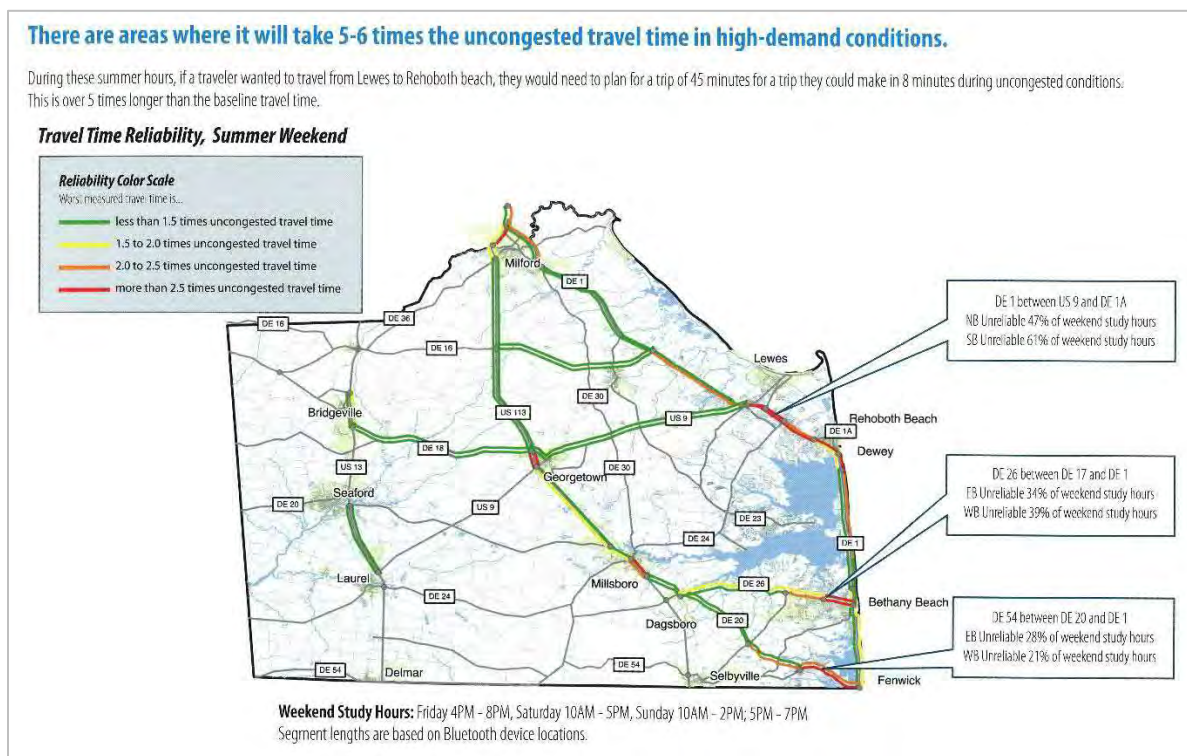
Beyond these previously-mentioned topics, additional details pertaining to freight mobility issues and mitigation strategies include the following:

Traffic Operations Management Planning:

The Sussex County Traffic Operations Management Plan (TOMP) may be referenced as a successful program example relative to using travel time reliability to help fully understand mobility issues. Using data collected over an extended period of time (i.e. over the course of an entire year) it enables planning partners to:

- Study specific areas, times and durations of recurring congestion
- Understand seasonal variations and changes in demands on the transportation system
- Understand the frequency of “non-recurring” congestion along a given corridor

Exhibit 16: Sussex County Sample TOMP Mapping



Bluetooth Data Collection:

Statewide coverage of Bluetooth data collection devices will continue to give Delaware the ability to identify and focus on the State's high truck traffic areas, which will allow for a more detailed study of the reliability of the network in these areas to determine whether these mobility issues are incorporated into the potential mitigation strategies of the CMP. Bluetooth data allows for study hours covering all times-of-day and, in combination with targeted hourly truck volume data, can pinpoint whether strategies such as off-peak deliveries and other policy-based mitigation strategies would be appropriate for certain areas.

CMS Coordination:

Freight-specific congestion solutions are expected to be added to existing CMS matrices. Identified CMS corridors that also experience high truck traffic volumes can likewise include a listing of these strategies. Ongoing data collection coverage/expansion will also continue to provide better data on the number of trucks and/or bottlenecks along identified CMS corridors, which will provide further details to consider relative to future improvement strategies and/or priorities.

Future Expectations

Ongoing program activities such as those noted above (e.g. expanded data collection coverage, CMP integration of additional freight details, continued bottleneck monitoring) will continue to be enhanced and/or cross-referenced to further track and manage potential freight mobility issues and mitigation strategies. Where applicable, continued multi-state/multi-jurisdictional collaboration will also support a more comprehensive assessment of key freight corridors and potential mobility/congestion issues.

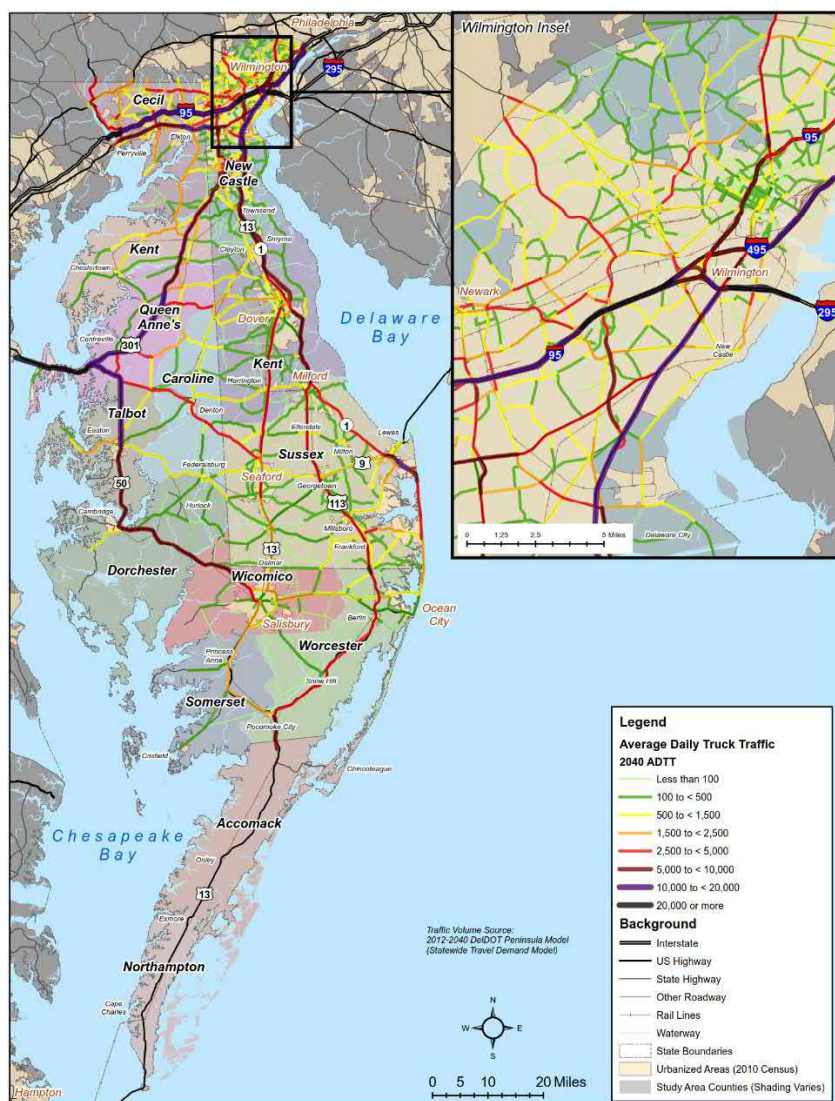
Requirement 8 – Freight Induced Congestion and Mitigation Strategies

49 U.S.C. 70202: State Freight Plans must address for each of the transportation modes... (8) Consideration of any significant congestion or delay caused by freight movements and any strategies to mitigate that congestion or delay

2015 Plan References

FAST Act Requirement 8 expands on the previous provisions under MAP-21 Section 1118 by specifically detailing congestion or delay caused by freight movements (as opposed to a more general inventory of freight mobility issues), which would build upon any congestion or delay insights detailed under Requirement 7. In general, recurring freight-induced congestion was not highlighted as an issue in the 2015 Plan, and is not perceived by DelDOT to be a critical issue in the State today – i.e., most recurring freight congestion is associated with general traffic congestion, including along the State's high-volume truck corridors (*Exhibit 17*).

Exhibit 17: Projected Truck Volumes on the Delmarva Peninsula (2045 AADTT)



2017 Supplemental Details

Delaware City Rail Traffic:

Crude oil deliveries and related rail traffic to PBF Energy's Delaware City refinery continue to be an important issue to monitor, though the frequency of deliveries and number of trains vary substantially based on market conditions. Oil supply and pricing changes tend to influence shifts that favor waterborne imports over rail, or vice versa. Under higher rail demand levels, trains blockages of at-grade rail crossings increase concerns and impacts related to traffic access, diverted traffic, or emergency response planning. In response to these issues, partnerships through DeIDOT TMC have successfully developed/implemented a mobile phone application for use by emergency service providers to monitor gates-up/gates-down status in the Newark area (including along SR 4, SR 13, and SR 7) to enhance real-time information sharing and proactive emergency response planning when/where applicable.

SR 7, SR 41, SR 48 Corridors:

As noted under Requirement 1, current/ongoing emphases related to potential freight impacts on local communities include a Special Committee study ([Appendix B](#)) of truck traffic along SR 41, SR 48, and SR 7 in New Castle County with findings/recommendations anticipated by January 2018.

Program Coordination:

As noted under previous requirements, ongoing MPO interests/activities through WILMAPCO include making a significant effort to further incorporate freight into the CMP. Since the CMP covers routes down to the Minor Arterial network, many of the existing congested locations overlap with heavy truck traffic locations. Efforts to further investigate freight influences or activities as part of the broader CMP process could include the following:

- Compare high truck traffic generating areas with locations/segments that are found to have poor travel times and/or travel time reliability based on Bluetooth data analysis, then identify possible correlations between these two measures.
- Include enhanced freight linkages in future CMP reports for identified corridors (based on CMP performance measures) that are also on the NHFN, CUFC, or CRFC networks, or part of the Delaware Freight Hierarchy.

Future Expectations

Ongoing monitoring of the types of issues detailed above is expected to continue. Other options/activities that may be considered relative to freight-induced congestion or mitigation may also include the following:

- *Broad Solution Options* – Consider the overall network effects of mitigating actions and, where possible, look at a variety of solutions such as adding multimodal capacity, improving ITS, incentivizing off-peak delivery times, or pursuing regulatory changes to eliminate impediments.
- *Cube Cargo Refinements* – Consider refining DeIDOT's Cube Cargo model and related data, analysis tools, or post-processing methodologies to enhance the level of detail that may be automated or derived for freight delay assessments.

Requirement 9 – Freight Investment Plan

49 U.S.C. 70202: *State Freight Plans must address for each of the transportation modes... (9) A freight investment plan that, subject to 49 U.S.C. 70202(c), includes a list of priority projects and describes how funds made available to carry out 23 U.S.C. 167 would be invested and matched.*

2015 Plan References

See 2015 Plan: Chapter 8 (Freight Project Guidance)

FAST Act Requirement 9 is a new/expanded component that was not explicitly required under MAP-21. The introduction of a fiscally-constrained Freight Investment Plan is directly tied to the FAST Act's introduction of dedicated freight funding associated with the National Highway Freight Program per 23 U.S.C. 167.

Notable components from the 2015 Plan include project candidate inventories and informal screening/prioritization insights that attempted to view project relevance through a freight-centric lens (i.e., different from formal prioritization methods that may be in use by DelDOT as part of overall comprehensive transportation planning efforts). These insights were compiled with the intent of providing relevant project guidance for consideration alongside broader programming efforts outside of the freight plan. While this guidance stopped short of direct project selection or fiscal programming (deferring such efforts to the realm of CTP programming), the related insights serve as a valuable resource from which to view potential infrastructure investment options that would provide freight benefits.

2017 Supplemental Details

FAST Act Freight Investment Guidance:

Current FAST Act guidance indicates that the linkage between State Freight Plans and prioritization of freight transportation investments has been reinforced. Prioritization of freight projects is now mandatory and State Freight Plans must specifically describe how funds made available to carry out the NHFP would be invested and matched by other funding sources (49 U.S.C. 70202(b)(9)).

While prioritization, programming, and other longer-term planning efforts may be beneficial and extend to a variety of sources, FAST Act guidance notes that “the only projects that must be included in the freight investment plan of the State Freight Plan (as of December 4, 2017) are those that would use NHFP funding.” It also notes, as an exception, that “the multimodal elements of the plan, which the FAST Act allows, may be incomplete before an obligation is made”. Project eligibility guidelines for NHFP funding are summarized in [Appendix A6](#).

NHFP authorization levels currently run through FY 2020, and funds are available for obligation for up to four years (three years after the last day of the fiscal year for which the funds are authorized) (23 U.S.C. 118 and 23 U.S.C. 167). The NHFP's federal share is generally up to 80%, with exceptions that may allow for increases up to 90% (e.g. along the Interstate system) or 100% (e.g. certain types of predominately safety improvements).

Development and incorporation of the Freight Investment Plan is a key component of the FAST Act Addendum and considers the following key points:

- In the State Freight Plan, the term “fiscally-constrained” has the same meaning as is applied to the Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP).
- Freight investment plans should be carefully aligned with the TIP and STIP documents for the respective State.

- States may opt to extend the period of their Freight Investment Plan to longer intervals, including 20-year periods that correspond to the Statewide and metropolitan long-range plans.
- States may coordinate multi-state projects with the States involved, to ensure the project is accurately and consistently reflected in each State Freight Plan.
- States may consider the results of economic analyses when determining which projects are included in their investment plan.

Delaware Freight Investment Plan:

To identify projects eligible for FAST Act designated freight funding, an analysis was conducted using a source list of projects contained within the DelDOT FY 2019-2024 Capital Transportation Program (CTP). DelDOT develops/manages the CTP using the DelDOT Enhanced Prioritization Process – a Decision Lens based project rating/ranking process based on a formal set of prioritization criteria and weightings that include the following:

- Safety (33%) – project in a safety plan or addresses DE SHSP
- System Operating Effectiveness (24.8%) – LOS and CMS corridors
- Multi-Modal Mobility (15.6%)
- Revenue Generation/Jobs & Commerce (7.9%) – Project on freight corridor
- Impact on Social/Economic Justice (7.2%)
- Environmental Stewardship (6.5%)
- System Preservation (5%)

The analysis to extract NHFP eligible projects from the overall CTP involved the following steps:

- Develop and acquire a GIS layer of the FY 2019 CTP projects geocoded to DelDOT’s centerline roadway file. The GIS layer was extracted from DelDOT Finance’s Primavera project management system, and dynamically segmented to the centerline file. Relevant data fields included project name, Primavera number (“T” number), project limits, project type, fiscal information by CTP year, etc.
- Acquire GIS map layers of NHS roadways, NHS freight routes, CUFC, and CRFC routes (provided by WILMAPCO).
- Perform a buffer analysis to select FY 2019 CTP projects “within” or “on” designated freight routes in Delaware, and select/compile eligible designated projects by project number.

The eligible projects list was coordinated between DelDOT’s Division of Planning and Division of Finance, and five projects/segments were selected for fiscally-constrained NHFP funding ([Exhibit 18](#)) as follows:

- *Rehabilitation of I-95* is DelDOT’s overall priority, which includes two related project segments that are proposed to receive approximately \$23.9M (about 90%) of the \$26.3M in NHFP funding allotted to Delaware for FY 2016-2020. This priority is based on the corridor’s high regional freight significance, the high number of truck trips on the route, and the high relative importance of the segments in providing regional connectivity to the Philadelphia metropolitan area and the I-295 Delaware Memorial Bridge.
- Three additional freight-related project priorities include:
 - *SR 72 (McCoy Road to SR 71)*, which overlaps key project priorities from the 2015 Plan (project ID “CS 52”) that aimed to support broader freight activities associated with the 2015 Plan’s US13/US113/SR1 Coastal Freight Corridor.

- *SR 4, Christina Parkway (SR 2, Elkton Road to SR 896, South College Ave)*, which overlaps key project priorities from the 2015 Plan (project ID “MT 75”) that aimed to support broader freight activities associated with the 2015 Plan’s I-95 Metro Freight Corridor.
- *SR 299 (SR 1 to Catherine Street)*, which overlaps key project priorities from the 2015 Plan (project ID “BY 50”) that aimed to support broader freight activities associated with the 2015 Plan’s US 301 Bay Freight Corridor.
- Portions of the projected funding allocations (after FY 2020) for the selections above assume continuation of federal freight funding subsequent to the FAST Act. With this assumption, and pending future refinements to freight project prioritization processes, the listed allocations and project priorities may be subject to change with future planning/programming updates.

Future Expectations

DelDOT will continue to manage proposed project priorities and pursue additional project funding/implementation opportunities based on broader freight planning interests throughout Delaware. Supporting efforts that may also be considered in this path could include the following:

- *Alternative Funding Sources* – including consideration of potential project applications for other key freight funding options such as:
 - Infrastructure for Rebuilding America (INFRA) Grant Program
 - Advanced Transportation and Congestion Management Technologies Deployment Program
 - Transportation Infrastructure Finance and Innovation Act (TIFIA)
 - Railroad Rehabilitation and Improvement Financing (RRIF) Programs ([Appendix E](#))
- *Stakeholder Outreach* – including a discussion of potential grant candidates/opportunities in conjunction with stakeholder/committee input at a future (e.g. 2017 Winter) Delmarva Freight Advisory Committee Meeting.
- *Long-Term Planning* – including ongoing refinement of a longer-term (two decades or more) forecast of project priorities, aspirations, and/or multimodal perspectives/lists/discussion beyond the current fiscally-constrained NHFP project list.

Exhibit 18: Delaware Freight Investment Plan for National Highway Freight Program (Z460) Funding

Project #	Project	Phase	Ratio	FY	Federal NHFP Funding	Non-Federal Funding	TOTAL Expenditures
T201012001	SR 299, SR 1 to Catherine St	PE	100/0	2016	-	-	-
				2017	1,975	-	1,975
		Project Sub-Total			1,975	-	1,975
T201407404	Rehabilitation of I-95 from I-495 to North of Brandywine River Bridge	PE	80/20	2017	484,424	121,106	605,530
				2018	1,314,976	328,744	1,643,720
				2019	480,000	120,000	600,000
		CON	80/20	2019	-	-	-
				2020	8,000,000	2,000,000	10,000,000
				2021	10,400,000	2,600,000	13,000,000
		Project Sub-Total			20,679,400	5,169,850	25,849,250
T201707406	Rehabilitation of I-95 from I-495 to Wilmington Viaduct	CON	80/20	2020	-	-	-
				2021	3,100,000	775,000	3,875,000
		Project Sub-Total			3,100,000	775,000	3,875,000
T200601102	SR 72 McCoy Road to SR 71	CON	80/20	2020	6,208,971	1,552,243	7,761,214
		Project Sub-Total			6,208,971	1,552,243	7,761,214
T200410301	SR 4, Christina Parkway from SR 2, Elkton Rd to SR 896, S College Ave, Newark	CON	80/20	2022	400,000	100,000	500,000
				2023	4,800,000	1,200,000	6,000,000
				2024	8,000,000	2,000,000	10,000,000
				2025	-	-	-
		Project Sub-Total			13,200,000	3,300,000	16,500,000

KEY: Advanced Construction (AC) Deferred

KEY: Assumed Continuation of NHFP Funding

Funding Summary (All Projects)	FY	Federal NHFP Funding	Non-Federal Funding	TOTAL Expenditures
FY 2016-2020	2016	-	-	-
	2017	486,399	121,106	607,504
	2018	1,314,976	328,744	1,643,720
	2019	480,000	120,000	600,000
	2020	14,208,971	3,552,243	17,761,214
	FY 2016-2020 Sub-Total	16,490,346	4,122,093	20,612,439
FY 2021-2025	2021	13,500,000	3,375,000	16,875,000
	2022	400,000	100,000	500,000
	2023	4,800,000	1,200,000	6,000,000
	2024	8,000,000	2,000,000	10,000,000
	2025	-	-	-
	FY 2021-2025 Sub-Total	26,700,000	6,675,000	33,375,000
Overall 2016-2025		43,190,346	10,797,093	53,987,439

Annual NHFP Apportionments	Unused NHFP Balance at End of FY
4,816,567	4,816,567
4,319,629	8,649,797
5,001,893	12,336,714
5,769,623	17,626,337
6,410,692	9,828,058
26,318,404	9,828,058
6,410,692	2,738,750
6,410,692	8,749,442
6,410,692	10,360,134
6,410,692	8,770,826
6,410,692	15,181,518
32,053,460	15,181,518
58,371,864	15,181,518

Requirement 10 – State Freight Advisory Committee Consultation

49 U.S.C. 70202: *State Freight Plans must address for each of the transportation modes... (10) Consultation with the State Freight Advisory Committee, if applicable.*

2015 Plan References

See 2015 Plan: Chapter 5.2 (Coordination Activities)

FAST Act Requirement 10 carries over and slightly refines previous provisions from MAP-21 Section 1118, with specific guidance regarding State Freight Advisory Committee roles being moved from Title 23 (Highways) to Title 49 (Multimodal Freight Transportation). In both cases, the USDOT strongly promotes (but does not statutorily require) the establishment of State Freight Advisory Committees to support effective overall freight planning.

The 2015 Plan was developed in collaboration with the Delmarva Freight & Goods Movement Working Group, with additional input coinciding with a summer-series Delmarva Freight Summit focusing on the needs and interests of the peninsula. Both groups/activities and related bi-annual meetings continue today.

2017 Supplemental Details

FAST Act guidance specifies that the USDOT “strongly encourages all States to establish State Freight Advisory Committees” and explicitly requires that “if a State establishes a State Freight Advisory Committee, the State must consult with its respective advisory committee while developing or updating its State Freight Plan.” The guidance does, however, also emphasize that the “the establishment of State Freight Advisory Committees is not required by statute or by DOT” and “each state has the option of establishing a State Freight Advisory Committee at its own convenience and subject to its own conditions, though pursuant to 49 U.S.C. 70201, the role of each committee shall include at a minimum the items listed in section 70201(b).” These roles are summarized in [Appendix A7](#).

Within this context and subsequent to completion of the 2015 Plan, recent coordination/collaboration efforts involving the Delmarva Freight & Goods Movement Working Group have included the following:

- *Summer 2015 Delmarva Freight Summit* – including discussions regarding alternative fuel vehicles, the NASA/Wallops Research Park, agricultural supply chains, shortline rail, and MPO planning activities.
- *Winter 2015 Working Group Meetings* – including discussions regarding Dover Air Force Base, agricultural supply chain updates, implementation of the 2015 Plan, and natural gas transmission/distribution.
- *Winter 2016 Working Group Meetings* – including discussions regarding human trafficking awareness, FAST Act updates, freight and logistics business spotlights, global and private sector freight trends, and agricultural supply chain resilience.
- *Summer 2017 Delmarva Freight Summit* – including discussions regarding Carload Express and the new Delmarva Central Railroad, Delmarva freight rail dynamics, final mile prioritization, and freight/industry perspectives with a spotlight on the peninsula’s craft beverage businesses.

Future Expectations

Ongoing coordination/collaboration with the Delmarva Freight & Goods Movement is expected to continue. Planning/scheduling of the upcoming Winter 2017 Working Group meetings is currently underway.

Summary and Next Steps

Guidance indicates that the modification/revision process of amending a previously-certified MAP-21 compliant freight plan would “restart the clock for submitting an updated State Freight Plan, which must be updated at least once every 5 years.” By this criteria, Delaware’s 2015 MAP-21 compliant freight plan aims, via this addendum, to become a 2017 FAST Act compliant freight plan, which would then require certification of its next update by no later than 2022. The guidance does, however, provide flexibility in the timing of updates, indicating that “States may wish to update their State Freight Plans on the same cycle that they update their Long-Range Statewide Transportation Plan, but States are allowed to update their State Freight Plans at whatever frequency is most suitable for them, provided this cycle does not exceed 5 years.”

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Appendix A:

FAST Act Reference Material

Appendix A1:

Criteria for Critical Urban Freight Corridors

Content excerpts from **23 U.S.C. §167(f)**

<https://www.gpo.gov/fdsys/pkg/USCODE-2015-title23/html/USCODE-2015-title23.htm>

(f) Critical Urban Freight Corridors. –

(1) Urbanized area with population of 500,000 or more. – In an urbanized area with a population of 500,000 or more individuals, the representative metropolitan planning organization, in consultation with the State, may designate a public road within the borders of that area of the State as a critical urban freight corridor.

(2) Urbanized area with a population less than 500,000. – In an urbanized area with a population of less than 500,000 individuals, the State, in consultation with the representative metropolitan planning organization, may designate a public road within the borders of that area of the State as a critical urban freight corridor.

(3) Requirements for designation. – A designation may be made under paragraph (1) or (2) if the public road – (A) is in an urbanized area, regardless of population; and (B):

(i) connects an intermodal facility to –

(I) the primary highway freight system;

(II) the Interstate System; or

(III) an intermodal freight facility;

(ii) is located within a corridor of a route on the primary highway freight system and provides an alternative highway option important to goods movement;

(iii) serves a major freight generator, logistic center, or manufacturing and warehouse industrial land; or

(iv) is important to the movement of freight within the region, as determined by the metropolitan planning organization or the State.

(4) Limitation. – For each State, a maximum of 75 miles of highway or 10 percent of the primary highway freight system mileage in the State, whichever is greater, may be designated as a critical urban freight corridor under paragraphs (1) and (2).

Appendix A2:

Criteria for Critical Rural Freight Corridors

Content excerpts from **23 U.S.C. §167(e)**

<https://www.gpo.gov/fdsys/pkg/USCODE-2015-title23/html/USCODE-2015-title23.htm>

(e) Critical Rural Freight Corridors. –

(1) In general. – A State may designate a public road within the borders of the State as a critical rural freight corridor if the public road is not in an urbanized area and –

(A) is a rural principal arterial roadway and has a minimum of 25 percent of the annual average daily traffic of the road measured in passenger vehicle equivalent units from trucks (Federal Highway Administration vehicle class 8 to 13);

(B) provides access to energy exploration, development, installation, or production areas;

(C) connects the primary highway freight system, a roadway described in subparagraph (A) or (B), or the Interstate System to facilities that handle more than –

(i) 50,000 20-foot equivalent units per year; or

(ii) 500,000 tons per year of bulk commodities;

(D) provides access to—

(i) a grain elevator;

(ii) an agricultural facility;

(iii) a mining facility;

(iv) a forestry facility; or

(v) an intermodal facility;

(E) connects to an international port of entry;

(F) provides access to significant air, rail, water, or other freight facilities in the State; or

(G) is, in the determination of the State, vital to improving the efficient movement of freight of importance to the economy of the State.

(2) Limitation. – A State may designate as critical rural freight corridors a maximum of 150 miles of highway or 20 percent of the primary highway freight system mileage in the State, whichever is greater.

Appendix A3:

Criteria for Multimodal Critical Rural Freight Facilities

Content excerpts from **49 U.S.C. §70103(c)(4)(B)**

<https://www.gpo.gov/fdsys/pkg/USCODE-2015-title49/html/USCODE-2015-title49.htm>

(B) Critical rural freight facilities and corridors. – As part of the designations under subparagraph (A), a State may designate a freight facility or corridor within the borders of the State as a critical rural freight facility or corridor if the facility or corridor –

- (i) is a rural principal arterial;
- (ii) provides access or service to energy exploration, development, installation, or production areas;
- (iii) provides access or service to –
 - (I) a grain elevator;
 - (II) an agricultural facility;
 - (III) a mining facility;
 - (IV) a forestry facility; or
 - (V) an intermodal facility;
- (iv) connects to an international port of entry;
- (v) provides access to a significant air, rail, water, or other freight facility in the State; or
- (vi) has been determined by the State to be vital to improving the efficient movement of freight of importance to the economy of the State.

Appendix A4:

National Multimodal Freight Policy Goals

Content excerpts from **49 U.S.C. §70101(b)**

<https://www.gpo.gov/fdsys/pkg/USCODE-2015-title49/html/USCODE-2015-title49.htm>

(b) Goals. – The goals of the national multimodal freight policy are –

- (1) to identify infrastructure improvements, policies, and operational innovations that –
 - (A) strengthen the contribution of the National Multimodal Freight Network to the economic competitiveness of the United States;
 - (B) reduce congestion and eliminate bottlenecks on the National Multimodal Freight Network; and
 - (C) increase productivity, particularly for domestic industries and businesses that create high-value jobs;
- (2) to improve the safety, security, efficiency, and resiliency of multimodal freight transportation;
- (3) to achieve and maintain a state of good repair on the National Multimodal Freight Network;
- (4) to use innovation and advanced technology to improve the safety, efficiency, and reliability of the National Multimodal Freight Network;
- (5) to improve the economic efficiency and productivity of the National Multimodal Freight Network;
- (6) to improve the reliability of freight transportation;
- (7) to improve the short- and long-distance movement of goods that—
 - (A) travel across rural areas between population centers;
 - (B) travel between rural areas and population centers; and
 - (C) travel from the Nation's ports, airports, and gateways to the National Multimodal Freight Network;
- (8) to improve the flexibility of States to support multi-State corridor planning and the creation of multi-State organizations to increase the ability of States to address multimodal freight connectivity;
- (9) to reduce the adverse environmental impacts of freight movement on the National Multimodal Freight Network; and
- (10) to pursue the goals described in this subsection in a manner that is not burdensome to State and local governments.

Appendix A5:

National Highway Freight Program Goals

Content excerpts from **23 U.S.C. §167(b)**

<https://www.gpo.gov/fdsys/pkg/USCODE-2015-title23/html/USCODE-2015-title23.htm>

(b) Goals. – The goals of the national highway freight program are –

(1) to invest in infrastructure improvements and to implement operational improvements on the highways of the United States that –

(A) strengthen the contribution of the National Highway Freight Network to the economic competitiveness of the United States;

(B) reduce congestion and bottlenecks on the National Highway Freight Network;

(C) reduce the cost of freight transportation;

(D) improve the year-round reliability of freight transportation; and

(E) increase productivity, particularly for domestic industries and businesses that create high-value jobs;

(2) to improve the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas;

(3) to improve the state of good repair of the National Highway Freight Network;

(4) to use innovation and advanced technology to improve the safety, efficiency, and reliability of the National Highway Freight Network;

(5) to improve the efficiency and productivity of the National Highway Freight Network;

(6) to improve the flexibility of States to support multi-State corridor planning and the creation of multi-State organizations to increase the ability of States to address highway freight connectivity; and

(7) to reduce the environmental impacts of freight movement on the National Highway Freight Network.

Appendix A6:

National Highway Freight Program Project Eligibility Guidelines

Content excerpts from **23 U.S.C. §167(i)**

<https://www.gpo.gov/fdsys/pkg/USCODE-2015-title23/html/USCODE-2015-title23.htm>

(5) Eligibility. –

(A) In general. – Except as provided in this subsection, for a project to be eligible for funding under this section the project shall –

- (i) contribute to the efficient movement of freight on the National Highway Freight Network; and
- (ii) be identified in a freight investment plan included in a freight plan of the State that is in effect.

(B) Other projects. – For each fiscal year, a State may obligate not more than 10 percent of the total apportionment of the State under section 104(b)(5) for freight intermodal or freight rail projects, including projects –

- (i) within the boundaries of public or private freight rail or water facilities (including ports); and
- (ii) that provide surface transportation infrastructure necessary to facilitate direct intermodal interchange, transfer, and access into or out of the facility.

(C) Eligible projects. – Funds apportioned to the State under section 104(b)(5) for the national highway freight program may be obligated to carry out 1 or more of the following:

- (i) Development phase activities, including planning, feasibility analysis, revenue forecasting, environmental review, preliminary engineering and design work, and other preconstruction activities.
- (ii) Construction, reconstruction, rehabilitation, acquisition of real property (including land relating to the project and improvements to land), construction contingencies, acquisition of equipment, and operational improvements directly relating to improving system performance.
- (iii) Intelligent transportation systems and other technology to improve the flow of freight, including intelligent freight transportation systems.
- (iv) Efforts to reduce the environmental impacts of freight movement.
- (v) Environmental and community mitigation for freight movement.
- (vi) Railway-highway grade separation.
- (vii) Geometric improvements to interchanges and ramps.
- (viii) Truck-only lanes.
- (ix) Climbing and runaway truck lanes.
- (x) Adding or widening of shoulders.
- (xi) Truck parking facilities eligible for funding under section 1401 of MAP–21 (23 U.S.C. 137 note).
- (xii) Real-time traffic, truck parking, roadway condition, and multimodal transportation information systems.

- (xiii) Electronic screening and credentialing systems for vehicles, including weigh-in-motion truck inspection technologies.
- (xiv) Traffic signal optimization, including synchronized and adaptive signals.
- (xv) Work zone management and information systems.
- (xvi) Highway ramp metering.
- (xvii) Electronic cargo and border security technologies that improve truck freight movement.
- (xviii) Intelligent transportation systems that would increase truck freight efficiencies inside the boundaries of intermodal facilities.
- (xix) Additional road capacity to address highway freight bottlenecks.
- (xx) Physical separation of passenger vehicles from commercial motor freight.
- (xxi) Enhancement of the resiliency of critical highway infrastructure, including highway infrastructure that supports national energy security, to improve the flow of freight.
- (xxii) A highway or bridge project, other than a project described in clauses (i) through (xxi), to improve the flow of freight on the National Highway Freight Network.
- (xxiii) Any other surface transportation project to improve the flow of freight into and out of a facility described in subparagraph (B).

(6) Other eligible costs.—In addition to the eligible projects identified in paragraph (5), a State may use funds apportioned under section 104(b)(5) for –

(A) carrying out diesel retrofit or alternative fuel projects under section 149 for class 8 vehicles; and

(B) the necessary costs of –

- (i) conducting analyses and data collection related to the national highway freight program;
- (ii) developing and updating performance targets to carry out this section; and
- (iii) reporting to the Administrator to comply with the freight performance target under section 150.

(7) Applicability of planning requirements. – Programming and expenditure of funds for projects under this section shall be consistent with the requirements of sections 134 and 135.

Appendix A7: State Freight Advisory Committee Roles

Content excerpts from **49 U.S.C. §70201**

<https://www.gpo.gov/fdsys/pkg/USCODE-2015-title49/html/USCODE-2015-title49.htm>

(a) In General. – The Secretary of Transportation shall encourage each State to establish a freight advisory committee consisting of a representative cross-section of public and private sector freight stakeholders, including representatives of ports, freight railroads, shippers, carriers, freight-related associations, third-party logistics providers, the freight industry workforce, the transportation department of the State, and local governments.

(b) Role of Committee. – A freight advisory committee of a State described in subsection (a) shall –

- (1) advise the State on freight-related priorities, issues, projects, and funding needs;
- (2) serve as a forum for discussion for State transportation decisions affecting freight mobility;
- (3) communicate and coordinate regional priorities with other organizations;
- (4) promote the sharing of information between the private and public sectors on freight issues; and
- (5) participate in the development of the freight plan of the State described in section 70202.

Appendix B:

Delaware Senate Resolution 10

(SR 41, SR 48, and SR 7 Truck/Freight Study Committee)





SPONSOR: Sen. Delcollo & Sen. Lavelle

DELAWARE STATE SENATE
149th GENERAL ASSEMBLY

SENATE RESOLUTION NO. 10

ESTABLISHING A SPECIAL COMMITTEE TO STUDY AND MAKE RECOMMENDATIONS REGARDING TRUCK TRAFFIC AND FREIGHT MOVEMENTS ALONG SR 41, SR 48, AND SR 7 IN NEW CASTLE COUNTY.

1 WHEREAS, there is a significant number of heavy and light duty trucks that travel along the corridors of SR 41,
2 SR 48, and SR 7; and

3 WHEREAS, the residents along SR 41 and SR 48 have expressed concern about their safety and quality of life;
4 and

5 WHEREAS, the number of trucks entering into Delaware for economic development purposes is only going to
6 increase; and

7 WHEREAS, it is important to examine the freight movement along these corridors to identify ways to improve the
8 quality of life for the residents, while still promoting economic development; and

9 WHEREAS, it is also important that there be an equitable and jointly agreed upon solution that does not
10 overburden any one corridor over another.

11 NOW, THEREFORE:

12 BE IT RESOLVED by the Senate of the 149th General Assembly of the State of Delaware, that a Special
13 Committee be formed to study and make recommendations to the Department of Transportation regarding the truck traffic
14 and freight movement along SR 41, SR 48, and SR 7 in New Castle County;

15 BE IT FURTHER RESOLVED that the Special Committee shall study and make recommendations regarding;

16 1. How to reduce the number of trucks traveling along these roadways; and

17 2. Any improvements in engineering, infrastructure, education and enforcement that can improve the quality of life
18 for those that live along these roadways.

19 BE IT FURTHER RESOLVED that the Special Committee shall be comprised of the following members:

20 1. The executive Director of the Wilmington Area Planning Council (WILMAPCO), of the Executive Director's
21 designee;

22 2. A representative from the Diamond State Port Corporation Board of Directors appointed by the Governor;

23 3. Two representatives from the SR 41 area, one appointed by the President Pro Tempore of the Senate and one
24 appointed by the Senate Minority Leader;

25 4. Two representatives from the SR 48 area, one appointed by the President Pro Tempore of the Senate and one
26 appointed by the Senate Minority Leader;

27 5. Two representatives from the SR 7 area, one appointed by the President Pro Tempore of the Senate and one
28 appointed by the Senate Minority Leader;

29 6. A representative from the Delaware State Police Truck Enforcement Unit appointed by the Superintendent of
30 the State Police;

31 7. The Secretary of the Department of Transportation or the Secretary's designee;

32 8. The Chief Traffic Engineer of the Delaware Department of Transportation.

33 BE IT FURTHER RESOLVED that the Special Committee shall be chaired by the Executive Director of
34 WILMAPCO or designee, and the Delaware Department of Transportation will provide administrative staff support.

35 BE IT FURTHER RESOLVED that the Special Committee shall submit its findings and recommendations to the
36 Delaware Department of Transportation and the General Assembly by January 12, 2018.

SYNOPSIS

This Senate Resolution creates a Special Committee to study and make recommendations regarding truck traffic movement along SR 41, SR 48, and SR 7.

Author: Senator Delcollo

Appendix C:

FHWA Freight Reliability Measure Fact Sheet



TRANSPORTATION PERFORMANCE MANAGEMENT



The Federal Highway Administration (FHWA) has finalized six interrelated performance rulemakings to implement the TPM framework established by the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act.

Collectively, the rules address challenges facing the U.S. transportation system, including:

- improving safety
- maintaining infrastructure condition
- reducing traffic congestion
- improving efficiency of the system and freight movement
- protecting the environment and
- reducing delays in project delivery.

The rules establish national performance measures; State Departments of Transportation (DOTs)



and metropolitan planning organizations (MPOs) will establish targets for applicable measures. New and existing plans will document the strategies and investments used to achieve the targets; progress toward the targets will be reported through new and existing mechanisms.

Learn more at the FHWA TPM web site:

<http://www.fhwa.dot.gov/tpm/>



U.S. Department of Transportation
Federal Highway Administration

Freight Reliability Measure



WHAT: Measurement of travel time reliability on the Interstate System (Truck Travel Time Reliability (TTTR) Index). Read the final rule in the [Federal Register](#) [82 FR 5970 (January 18, 2017)].

WHO: State DOTs and MPOs.

WHY: Through MAP-21, Congress required FHWA to establish measures to assess performance in 12 areas, including freight movement on the Interstate. The measure considers factors that are unique to this industry, such as the use of the system during all hours of the day and the need to consider more extreme impacts to the system in planning for on-time arrivals. [23 CFR 490.607]

WHEN: State DOTs must establish 2- and 4-year targets by **May 20, 2018**. Those targets will be reported in the State's baseline performance period report due by **October 1, 2018**. The State DOTs have the option to adjust 4-year targets in their mid performance period progress report, due **October 1, 2020**.

MPOs must either support the State target or establish their own quantifiable 4-year targets within 180 days of the State target establishment.

HOW: Freight movement will be assessed by the TTTR Index. Reporting is divided into five periods: morning peak (6-10 a.m.), midday (10 a.m.-4 p.m.) and afternoon peak (4-8 p.m.) Mondays through Fridays; weekends (6 a.m.-8 p.m.); and overnights for all days (8 p.m.-6 a.m.). The TTTR ratio will be generated by dividing the 95th percentile time by the normal time (50th percentile) for each segment. The TTTR Index will be generated by multiplying each segment's largest ratio of the five periods by its length, then dividing the sum of all length-weighted segments by the total length of Interstate.

State DOTs and MPOs will have the data they need in FHWA's National Performance Management Research Data Set (NPMRDS) as data set includes truck travel times for the full Interstate System. State DOTs and MPOs may use an equivalent data set if they prefer.

Note: The FHWA is preparing guidance on how all rules should be implemented.



Appendix D:

Delaware Freight Hierarchy and Final Mile Facility Prioritization Methodology



Prioritizing Final Mile Facilities

Proposed Criteria: Equal weighting of the following:

Criteria #1: DE State Strategies

Located within (or adjacent to) and Level 1 Area: 4 points
 Located within (or adjacent to) and Level 2 Area: 3 points
 Located within (or adjacent to) and Level 3 Area: 2 points
 All others (Levels 4 & 5): 0 points

Criteria #2: High Truck Trip Generation Area Using TAZ Employment by NAICS Sector

Located within (or adjacent to) 400+ trips/day: 4 points
 Located within (or adjacent to) 200 to 400 trips/day: 3 points
 Located within (or adjacent to) 100-200 trips/day: 2 points

Criteria #3: Truck Percentages from Peninsula Model

Located along segment with 16% +: 4 points
 Located along segment with 12 to 16% +: 3 points
 Located along segment with 8 to 12% +: 2 points
 Under 8%: 0 points

Criteria #4: Pavement Conditions

Located along segment in "very good" from PSR/ISI : 4 points
 Located along segment in "good" from PSR/ISI : 3 points
 Located along segment in "fair" from PSR/ISI : 2 points
 All others (Mediocre/Poor): 0 points

Other information to collect:

Functional Classification: For purposes of potential funding sources/responsibilities
 Public/Private road: Some final mile routes may not be maintained by the state,
 Bridge weights & structural condition issues?



Generation Variable (Employment or Households)	Four-Tire Trucks	Single Unit Trucks (6+ Tires)	Combination Trucks
Agriculture, Mining, and Construction, Manufacturing, Transportation/Communications/Utilities, and Wholesale	1.110	0.289	0.174
Retail Trade	0.938	0.242	0.104
Office and Services	0.888	0.253	0.065
Households	0.437	0.068	0.009
	0.251	0.099	0.038

AND/OR

Criteria #3a: Truck AADT from Peninsula Model

Located along segment with 2,000 Trucks +: 4 points
 Located along segment with 1,000-2,000 Trucks: 3 points
 Located along segment with 500-1,000 Trucks: 2 points
 Under 500 Trucks: 0 points

AND/OR

Criteria #3b: Truck AADT from Peninsula Model

HIGH: Truck Volumes 2,000+ and Percentage over 16% - 4 pts.
 MODERATE: Truck Volumes between 1,000-2,000 and percentage between 12-16% - 3 pts.
 LOW: Truck Volumes 500-1,000 and Percentage between 8-12% - 2pts
 MINIMAL: Truck Volumes under 500 and Percentage below 8% - 1pt.

Truck Volume vs. Truck Percentage: What's more important???

Both create different “policy” maps. Which one has a greater impact on:

- Pavement wear and tear impacts
- Freight Policy: One favors rural/suburban areas. Possible “Hybrid Score”???
- Model Accuracy? Small collector local road data availability

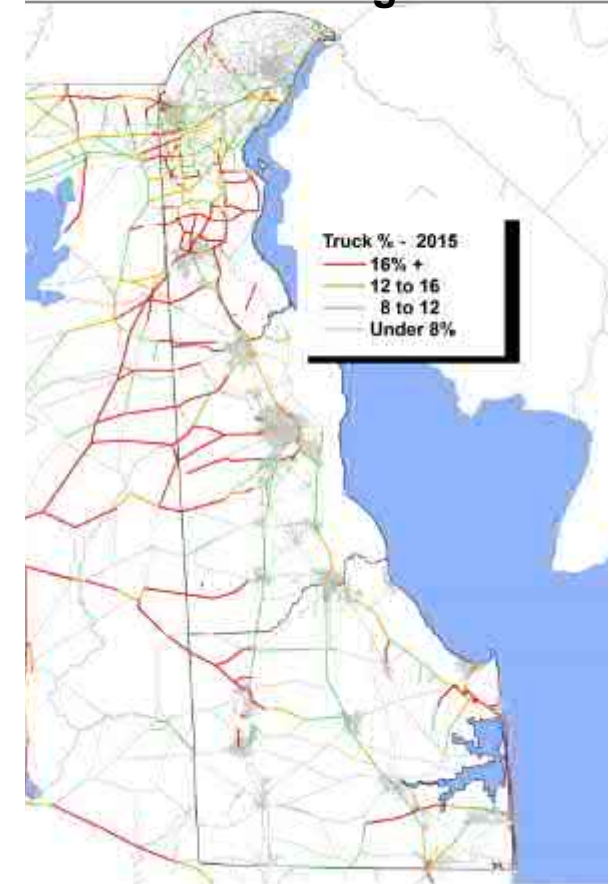
AADT



“Hybrid” Scoring Based on Volume and Percentage



Percentage



Appendix E:

Railroad Rehabilitation and Improvement Financing (RRIF) Fact Sheet

