2022 Delaware Freight Emphasis Area Summary: Asset Preservation and Improvement

D.2.1 Bridge Conditions

Based on FHWA's National Bridge Inventory (NBI), Delaware's transportation network in 2022 includes a total of 872 bridges with 341 located along the NHS.[4] Tracking and managing bridge conditions is an important element of the National Highway Performance Program (NHPP) and related Transportation Performance Management (TPM) requirements that include a focus on bridge conditions on the NHS.[5] Maintaining Delaware's bridges in a state-of-good repair, particularly along the NHS, supports several broad transportation goals, including direct benefits for freight traffic and economic vitality. DelDOT regularly manages bridge condition reporting and related target comparisons through their TPM reporting processes to track the percentage of bridges on the NHS in poor or good conditions. Based on trend data and measurements, NHS bridge conditions in Delaware are generally improving and meeting or exceeding the current TPM targets (**Exhibit D-4** and **Exhibit D-5**).

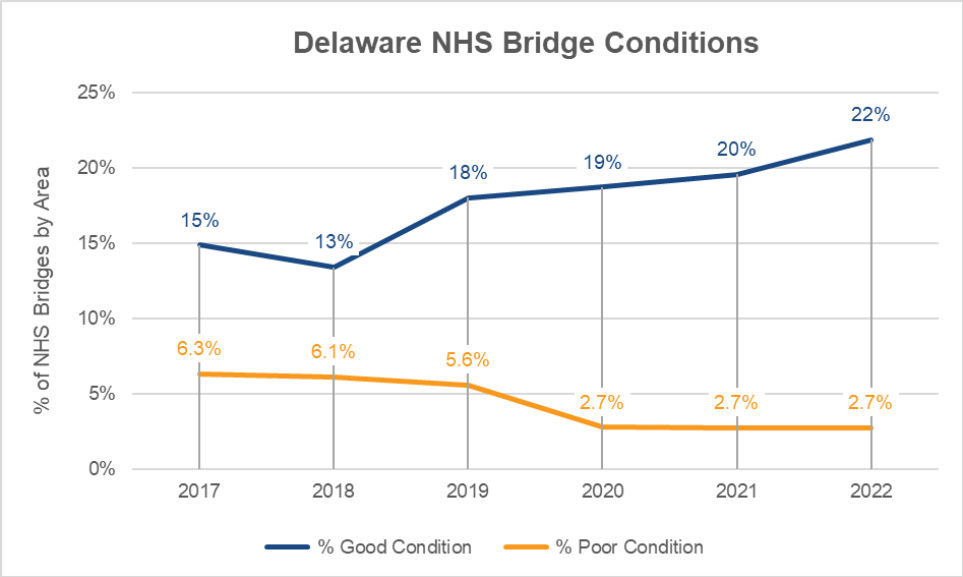
D.2.2 Pavement Conditions

Similar to the requirements for bridge conditions, DelDOT is also required to regularly manage pavement conditions reporting and related target comparisons through their TPM reporting processes. Based on FHWA TPM requirements, pavement conditions track the percentage of the interstate system and, separately, the non-interstate NHS having pavement in poor or good conditions. Based on trend data and measurements, interstate pavement conditions in Delaware are generally improving and meeting or exceeding the TPM targets (**Exhibit D-6**). Non-interstate NHS pavements in poor condition are also generally improving and meeting or exceeding the TPM targets; however, the most recent (2021) measurement of non-interstate NHS pavements in good condition are slightly below the desired 50% target. Ongoing investments through DelDOT's overall transportation planning and programming resources will continue to address improvements throughout the state as needed.

[4] FHWA, National Bridge Inventory, https://www.fhwa.dot.gov/bridge/nbi/condition.cfm.

[5] See FHWA TPM Rulemakings: Pavement and Bridge Condition Performance Measures Final Rule, 2017, https://www.fhwa.dot.gov/tpm/rule.cfm.

Exhibit D-4: Delaware NHS Bridge Conditions per FHWA National Bridge Inventory



Data Source: FHWA, National Bridge Inventory, https://www.fhwa.dot.gov/bridge/nbi/condition.cfm.

Exhibit D-5: Delaware NHS Bridge Conditions and Targets per DelDOT Reporting

Bridge Condition	Base Year (2017)	2018 (Measured)	2019 (2-year Target)	2021 (4-year Target)
GOOD	17.0%	25.7%	15.0%	15.0%
POOR	1.0%	1.8%	5.0%	5.0%

Data Source: DelDOT, Transportation Solutions Division

Exhibit D-6: Delaware Pavement Conditions (2017-2021)

Pavement Condition	Base Year (2017)	2019 (Measured)	2019 (2-year Target)	2020 (Measured)	2021 (Measured)	2021 (4-year Target)
Interstate Pavements						
GOOD	54.7%	55.6%	-	61.8%	60.7%	50.0%
POOR	0.8%	0.2%	-	0.6%	0.3%	2.0%
Non-Interstate NHS Pavements						
GOOD	59.7%	55.5%	50.0%	55.9%	42.4%	50.0%
POOR	1.2%	1.1%	2.0%	1.1%	0.8%	2.0%

Data Source: DelDOT, Transportation Solutions Division

D.2.3 First/Final Mile Network Shoulders

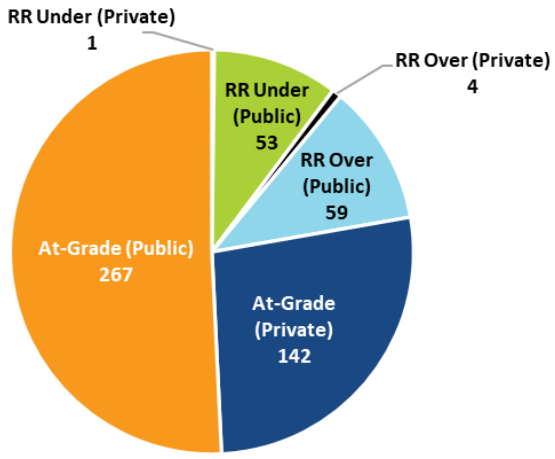
Beyond the federally required TPM details for bridges and pavements, data is available within Delaware to potentially explore conditions along the state's First/Final Mile Network. Specifically, the presence of shoulders along first/final mile connections can provide a notable benefit for general truck travel and safety for CMV's that must use specific routes to access their freight pick-up or delivery sites. Based on data compilations available through WILMAPCO, nearly 9% of Delaware's first/final mile connections have existing shoulder widths of up to 1', while 70% has shoulders of 4' or greater. Such details may be referenced to support first/final mile network improvements (e.g., to identify potential areas for shoulder widening) as part of ongoing state, regional, and local freight planning efforts throughout Delaware.

D.2.4 Highway-Rail Crossings

The Federal Railroad Administration (FRA) crossing inventory identifies 526 highway-rail crossings within Delaware (**Exhibit D-7**).[6] Of these crossings, 142 (27%) are located along Class I rail lines, and 384 (73%) are located along Class III rail lines. Most crossings are publicly owned (72%), and most crossings also occur at-grade (78%) as opposed to grade-separated railroad over or under passes. Over half of the state's highway-rail crossings are located in New Castle County (272 or 52%), followed by Sussex County (180 or 34%), and Kent County (74 or 14%).

As noted in Chapters 4 and 5 of the Delaware State Freight Plan, highway-rail crossing locations are reflected among the state's broader freight planning needs, and annual improvement opportunities are available and managed (contingent on program resources) as part of DelDOT's Highway-Rail Grade Crossing Safety Program (HRGX) or other project funding opportunities.

Exhibit D-7: Delaware Highway-Rail Crossing Inventory



6 Federal Railroad Administration, Safety Data and Reporting – Crossing and Inventory Data, including data compiled for Delaware, https://railroads.dot.gov/safety-data/crossing-and-inventory-data/crossing-inventory-dashboards-data-downloads.

D.2.5 Roadway Deterioration due to Heavy Vehicles/Cargo

Federal freight planning requirements specifically note that freight plans must include a description of improvements that may be required to reduce or impede deterioration along roadways on which travel by heavy vehicles (including mining, agricultural, energy cargo or equipment, and timber vehicles) is projected to substantially deteriorate roadway conditions. DelDOT generally views this requirement as being captured or managed as part of broader bridge and pavement condition tracking (per Sections D.2.1 and D.2.2), in which conditions are generally improving and meeting or exceeding targets. At this time, no route deterioration has been identified that is specifically or exclusively attributable to heavy vehicles related to mining, agricultural, energy cargo/equipment, or timber.

Beyond the major freight network routes, the most likely areas to be impacted by potential roadway deterioration due to heavy vehicles will more often relate to the state's first/final mile freight network. Identifying specific needs and locations where future targeted improvements may be required will, therefore, involve ongoing collaboration with the state's MPOs, municipalities, and local planning partners. Avenues and resources through which this collaboration can occur overlap several elements discussed throughout this plan, including the following:

- DelDOT support through annual Municipal Freight Planning efforts to assist towns with determining routes that are appropriate for heavy vehicles.
- Identifying and compiling needs through usage of Delaware's Freight Planning Considerations Checklist (see **Section 6.2.2** and **Exhibit 6-4**).
- Coordination with system management, operations, and maintenance strategies, including specific emphasis on freight infrastructure maintenance (see **Section 6.2.4**).
- Coordination with shoulder improvements along first/final mile network routes (see **Section D.2.3**).
- Coordination with agricultural industry partners and commercial port partners via the Delmarva Freight Working Group, Delmarva Freight Summits, or similar opportunities (see **Section 1.2**)
- Reference to areas where energy cargo/equipment are likely to occur based on Delaware's Power Generating sites (see Exhibit 3.10) and energy resources (see **Section D.10.3** and **Exhibit D-25**).