Preserving Connecticut's Bridges

THE CONDITION AND FUNDING NEEDS OF CONNECTICUT'S AGING BRIDGE SYSTEM

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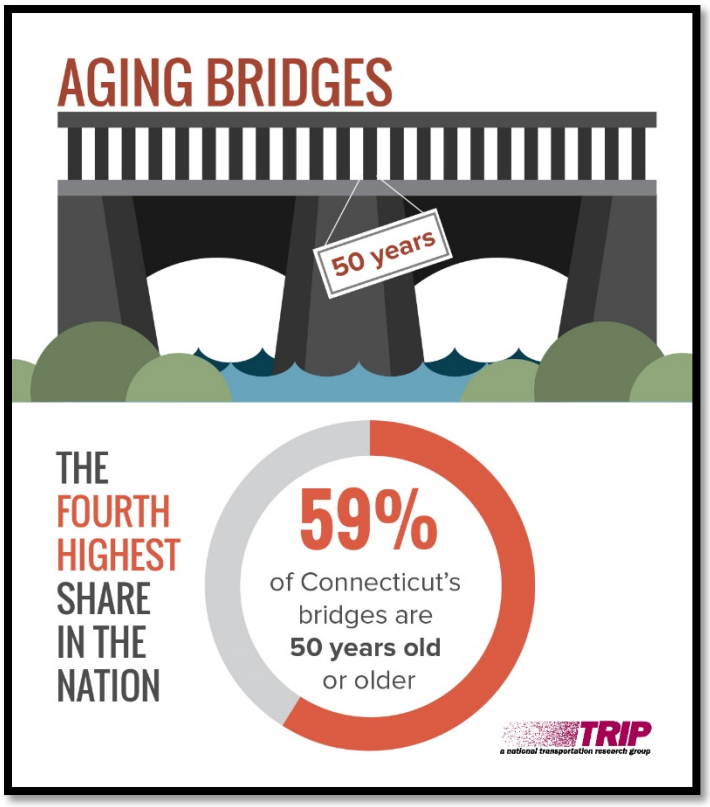
Executive Summary

Connecticut's bridges are a critical element of the state's transportation system, supporting commerce, economic vitality and personal mobility. As the backbone of the state's economy, Connecticut's transportation system enables the state's residents and visitors to travel to work and school, visit family and friends, and frequent tourist and recreation attractions, while providing its businesses with reliable access to customers, materials, suppliers and employees.

As vehicle travel increases, maintaining Connecticut's aging transportation network, including its bridges, will become more difficult. A significant number of Connecticut's bridges have surpassed or are approaching 50 years old, which is typically the initial intended design life for bridges of that age. In fact, 59 percent of the state's bridges are 50 years or older, the fourth highest rate in the nation. The average age of all Connecticut's bridges is 53 years, while the average age of the state's more than 300 structurally deficient bridges is 69 years. The cost of repairing and preserving bridges increases as they age and as they reach the end of their intended design life.



To retain businesses, accommodate population and economic growth, maintain economic competitiveness, and achieve further economic growth, Connecticut will need to maintain and modernize its bridges by repairing or replacing deficient bridges and providing needed maintenance on other bridges to ensure that they remain in good condition as long as possible. Making needed improvements to Connecticut's bridges will require increased and reliable funding from local, state and federal governments, which will also provide a significant boost to the state's economy by creating jobs in the short term and stimulating long term economic growth as a result of preserved and enhanced mobility and access.

POPULATION AND VEHICLE TRAVEL GROWTH

Increased demands on Connecticut's major roads, highways and bridges, leads to additional wear and tear on its transportation system.

- Connecticut's population reached approximately 3.6 million residents in 2017, a five percent increase since 2000. Connecticut had 2.6 million licensed drivers in 2016.

- Vehicle miles traveled (VMT) in Connecticut increased three percent from 2000 to 2016, from 30.8 million VMT to 31.6 million VMT. From 2013 to 2016 VMT increased two percent. By 2030, vehicle travel in Connecticut is projected to increase by ten percent.

- From 2000 to 2016, Connecticut's gross domestic product (GDP), a measure of the state's economic output, increased by nine percent, when adjusted for inflation. U.S. GDP increased by 30 percent from 2000 to 2016, when adjusted for inflation.

CONNECTICUT BRIDGE CONDITIONS

More than three hundred of locally and state-maintained bridges in Connecticut are structurally deficient, meaning there is significant deterioration to the major components of the bridge.

- There are a total of 4,254 bridges in Connecticut that are 20 feet or longer. These bridges are maintained by local and state agencies.

- Three hundred and eight of Connecticut's state-and locally maintained bridges are structurally deficient.

- Structurally deficient bridges in Connecticut are crossed daily by 4.3 million vehicles.

- Bridges that are structurally deficient may be posted for lower weight limits or closed if their condition warrants such action. Deteriorated bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid weight-restricted bridges. Redirected trips also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

- The condition of the bridge deck, substructure and superstructure are inspected typically every two years and rated on a score of 1-9. A bridge is deemed structurally deficient if at least one component receives a score of four or lower. The actual prioritization for repair or replacement of deficient bridges is at the discretion of state or local transportation agencies.

- A significant number of Connecticut's bridges have surpassed or are approaching 50 years old, which is typically the initial intended design life for bridges of that age. Fifty-nine percent of the state's bridges are 50 years or older. The average age of all Connecticut's bridges is 53 years, while the average age of the state's more than 300 structurally deficient bridges is 69 years. The cost of repairing and preserving bridges increases as they age and as they reach the end of their initial intended design life.

- The chart below details the number and share of structurally deficient bridges in each Connecticut county and statewide.

	Total Bridges	Number Structurally Deficient
FAIRFIELD	838	61
HARTFORD	901	65
LITCHFIELD	451	39
MIDDLESEX	303	22
NEW HAVEN	870	60
NEW LONDON	421	32
TOLLAND	204	12
WINDHAM	266	17
CONNECTICUT	**4,254**	**308**

- The list below details the 25 most heavily traveled structurally deficient bridges in Hartford County (carrying a minimum of 500 vehicles per day). ADT is average daily traffic. The report appendix includes each bridge's rating score for deck, superstructure and substructure.

Rank	County	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
HARTFORD COUNTY									
1	Hartford	Hartford	INTERSTATE-84	MARKET STREET & I-91 NB	EAST END I-91 & I-84 INT	1961	4	125,700	Open
2	Hartford	Hartford	INTERSTATE-84 WB	AMTRAK RR & LOCAL ROADS	.13 MI O/MYRTLE STREET	1964	5	88,900	Open
3	Hartford	Hartford	INTERSTATE-84 EB	AMTRAK RR & LOCAL ROADS	.86 W OF EXIT TO I-91 SB	1966	4	76,450	Open
4	Hartford	Hartford	INTERSTATE-84 EB	BROAD ST, I-84 RAMP 191	1.17 MI S OF JCT US 44 WB	1966	3	71,450	Open
5	Hartford	Hartford	INTERSTATE-84 EAST	NEW PARK AV,AMTRAK,SR504	NEW PARK AV,AMTRAK,SR504	1967	3	69,000	Open
6	Hartford	Hartford	INTERSTATE-84 EB	AMTRAK;LOCAL RDS;PARKING	EASTBOUND	1965	3	66,450	Open
7	Hartford	Hartford	INTERSTATE-84 WB	AMTRAK;LOCAL RDS;PARKING	.82 MI N OF JCT SR 504 SB	1965	4	66,150	Open
8	Hartford	South Windsor	I-291 & KING ST.	PODUNK RIVER	0.25 MILES WEST OF U.S. 5	1958	8	64,100	Open
9	Hartford	East Hartford	INTERSTATE-84 EB	ROUTE 15	1.36M E OF JCT US 44 EB	1987	3	51,950	Open
10	Hartford	Hartford	INTERSTATE-91 NB	PARK RIVER & CSO RR	AT EXIT 29A	1964	2	48,200	Open
11	Hartford	Hartford	I-91 SB & TR 835	CONNECTICUT SOUTHERN RR	AT EXIT 29A	1958	5	46,450	Open
12	Hartford	Farmington	INTERSTATE 84 EAST	US RTE 6 EB & SR 531 WB	AT EXIT 38	1969	4	40,700	Open
13	Hartford	Hartford	SR 530 -AIRPORT RD	ROUTE 15	422 FT E OF I-91	1964	5	27,200	Open
14	Hartford	Marlborough	ROUTE 2 WESTBOUND	WEST ROAD	2 MI W OF RT 66	1966	2	20,700	Open
15	Hartford	Bristol	MEMORIAL BLVD.	PEQUABUCK RIVER	AT EAST END OF BOULEVARD	1921	3	17,747	Open
16	Hartford	Hartford	SR 598 EASTBOUND	NO NOTABLE FEATURE	ACCESS TO I-91S FROM 598E	1964	3	17,400	Open
17	Hartford	Farmington	ROUTE 177	FARMINGTON RIVER	0.2 MI S FROM ROUTE 4 JCT	1939	2	16,500	Open
18	Hartford	East Hartford	I-84 TR 829	I-84 EB & I-84 TR 828	.20 MI E OF HARTFORD TL	1964	3	16,000	Open
19	Hartford	Hartford	I-84 TR 826	CONNECTICUT RIVER	EXIT 51 I-84 WB TO I-91NB	1964	1	15,100	Open
20	Hartford	Manchester	ROUTE 83	INTERSTATE-384	1.6 MILE N GLASTONBURY TL	1970	5	15,000	Open
21	Hartford	Hartford	I-91 TR 840	I-91 NB,US44 EB,RR,CT RV	ACCESS I-84EB FROM 1-91SB	1961	1	14,500	Open
22	Hartford	New Britain	ROUTE 71	HERALD SQ,COLUMUS BL, RR	NEAR LAQUINTA INN, POLICE	1971	6	13,900	Open
23	Hartford	Simsbury	ROUTE 10	HOP BROOK	0.1 MI SOUTH OF ROUTE 167	1957	2	13,056	Open
24	Hartford	Bloomfield	ROUTE 178	BEAMAN BROOK	1.2 MI EAST OF ROUTE 189	1915	2	12,000	Open
25	Hartford	Hartford	SIGOURNEY STREET	CAPITOL AVE & AMTRAK	U I-84 (BRG 3160A&B)	1964	6	11,130	Open

- The following 25 structurally deficient bridges in Hartford County (carrying a minimum of 500 vehicles per day) have the lowest individual score for either deck, substructure or superstructure. Each major component of a bridge is rated on a scale of zero to nine, with a score of four or below indicating poor condition. If a bridge receives a rating of four or below for its deck, substructure or superstructure, it is rated as structurally deficient. The report appendix includes each bridge's rating score for deck, superstructure and substructure.

Rank	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
Hartford County								
1	Bloomfield	ROUTE 189	WASH BROOK	0.4 MILE NORTH OF RTE 178	1916	2	9,800	Open
2	South Windsor	MAIN STREET	PODUNK RIVER	0.5 MILES SOUTH OF I-291	1907	2	1,510	Posted
3	Bloomfield	ROUTE 178	BEAMAN BROOK	1.2 MI EAST OF ROUTE 189	1915	2	12,000	Open
4	Bristol	MELLEN STREET	PEQUABUCK RIVER	300 FT SOUTH OF ROUTE 72	1956	2	2,920	Open
5	Southington	SPRING STREET	QUINNIPIAC RIVER	0.6 MI W. OF ROUTE 10	1960	2	3,866	Open
6	Hartford	INTERSTATE-84	MARKET STREET & I-91 NB	EAST END I-91 & I-84 INT	1961	4	125,700	Open
7	Hartford	INTERSTATE-84 EB	AMTRAK;LOCAL RDS;PARKING	EASTBOUND	1965	3	66,450	Open
8	Hartford	INTERSTATE-91 NB	PARK RIVER & CSO RR	AT EXIT 29A	1964	2	48,200	Open
9	New Britain	SR 555 (WEST MAIN	PAN AM SOUTHERN RAILROAD	0.4 MILE EAST OF RTE 372	1930	3	10,600	Open
10	West Hartford	NORTH MAIN STREET	WEST BRANCH TROUT BROOK	0.3 MILE NORTH OF FERN ST	1901	4	10,280	Open
11	Manchester	HARTFORD ROAD	SOUTH FORK HOCKANUM RIV	2000 FT EAST OF SR 502	1875	2	5,610	Open
12	Avon	OLD FARMS ROAD	FARMINGTON RIVER	500 FEET WEST OF ROUTE 10	1950	2	4,999	Open
13	Marlborough	JONES HOLLOW ROAD	BLACKLEDGE RIVER	3.6 MILES NORTH OF RTE 66	1929	2	1,255	Open
14	Enfield	SOUTH RIVER STREET	FRESHWATER BROOK	50 FT N OF ASNUNTUCK ST	1920	2	1,016	Open
15	Hartford	INTERSTATE-84 EB	BROAD ST, I-84 RAMP 191	1.17 MI S OF JCT US 44 WB	1966	3	71,450	Open
16	Hartford	INTERSTATE-84 EAST	NEW PARK AV,AMTRAK,SR504	NEW PARK AV,AMTRAK,SR504	1967	3	69,000	Open
17	Hartford	INTERSTATE-84 WB	AMTRAK;LOCAL RDS;PARKING	.82 MI N OF JCT SR 504 SB	1965	4	66,150	Open
18	Hartford	I-91 SB & TR 835	CONNECTICUT SOUTHERN RR	AT EXIT 29A	1958	5	46,450	Open
19	Hartford	SR 530 -AIRPORT RD	ROUTE 15	422 FT E OF I-91	1964	5	27,200	Open
20	Bristol	MEMORIAL BLVD.	PEQUABUCK RIVER	AT EAST END OF BOULEVARD	1921	3	17,747	Open
21	Hartford	SR 598 EASTBOUND	NO NOTABLE FEATURE	ACCESS TO I-91S FROM 598E	1964	3	17,400	Open
22	East Hartford	I-84 TR 829	I-84 EB & I-84 TR 828	.20 MI E OF HARTFORD TL	1964	3	16,000	Open
23	Hartford	I-84 TR 826	CONNECTICUT RIVER	EXIT 51 I-84 WB TO I-91NB	1964	1	15,100	Open
24	Hartford	I-91 TR 840	I-91 NB,US44 EB,RR,CT RV	ACCESS I-84EB FROM 1-91SB	1961	1	14,500	Open
25	New Britain	ROUTE 71	HERALD SQ,COLUMUS BL, RR	NEAR LAQUINTA INN, POLICE	1971	6	13,900	Open

- The chart below details the most heavily traveled structurally deficient bridges in Fairfield, Litchfield, Middlesex, New Haven, New London, Tolland and Windham Counties (carrying a minimum of 500 vehicles per day). ADT is average daily traffic. The report appendix includes each bridge's rating score for deck, superstructure and substructure.

Rank	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
FAIRFIELD COUNTY								
1	Norwalk	INTERSTATE-95	NORWALK RV,HENDRICKS AVE	BETWEEN EXITS 15 & 16	1957	8	145,000	Open
2	Greenwich	INTERSTATE-95	BYRAM RIVER,S WATER ST	I95 AT N Y STATE LINE	1958	6	131,600	Open
3	Westport	INTERSTATE-95	ROUTE 33	I-95 AT EXIT NO. 17	1957	8	129,900	Open
4	Stamford	I-95 & I-95 RAMPS	MNRR & LOCAL ROADS	0.2 MI EAST OF EXIT 8 NB	1958	7	127,300	Open
5	Westport	ROUTE 15	SAUGATUCK RIVER	BETWEEN EXIT 41 & EXIT 42	1938	4	69,900	Open
6	Shelton	ROUTE 8	HOUSATONIC RIVER, RT 110	ROUTE 8, EXIT 14	1951	6	64,640	Open
7	Newtown	INTERSTATE 84 EAST	HOUSATONIC RIVER	OVER HOUSATONIC RIVER	1953	2	36,650	Open
8	Newtown	I-84 WB	POLE BRIDGE BROOK	2.1 MI E OF ROUTE 34	1979	3	36,650	Open
9	Greenwich	INTERSTATE 684 NB	BYRAM RIVER	BET. EXIT 2 & 3	1968	3	33,750	Open
10	Bridgeport	US ROUTE 1	STILLMAN PD BRK&RR SP	0.6 MI N OF ROUTE 127	1910	3	26,900	Open
LITCHFIELD COUNTY								
1	New Milford	US 202 & RT. 67	HOUSATONIC RIVER	AT INT OF ROUTE 7 & 202	1953	2	30,800	Open
2	Thomaston	ROUTE 8 SOUTHBOUND	REYNOLDS BRIDGE ROAD	0.1 MI NORTH WATERTOWN TL	1964	2	16,500	Open
3	Thomaston	ROUTE 8 SOUTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH OF EXIT 38	1966	3	12,250	Open
4	Thomaston	ROUTE 8 NORTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH ROUTE 109	1966	3	12,250	Open
5	Litchfield	US ROUTE 202	BANTAM RIVER	.75 MI E OF JCT RTE 63	1931	2	7,900	Open
6	Winchester	BRIDGE STREET	MAD RIVER	INTERSECTION OF ROUTE 44	1956	2	5,098	Open
7	Torrington	NEWFIELD ROAD	E BR NAUGATUCK RIVER	2 MI NORTH OF ROUTE 8	1957	2	4,734	Open
8	Winchester	SR 800	MAD RIVER	100 FEET SOUTH OF U.S. 44	1928	2	4,200	Open
9	New Milford	WELLSVILLE AVENUE	EAST ASPETUCK RIVER	0.3 MI S OF PAPER MILL RD	1937	2	4,098	Posted
10	Winchester	HOLABIRD AVENUE	STILL RIVER	250 FT EAST OF ROUTE 8	1955	2	3,120	Closed

MIDDLESEX COUNTY								
1	Middletown	ROUTE 9	P&W RAILROAD & UNION ST	0.2 MI N OF ROUTE 17	1950	4	51,200	Open
2	Middletown	ROUTE 66	P&W RR RT9 CONN RIVER	0.25 MI W OF ROUTE 9	1938	4	34,400	Open
3	Durham	ROUTE 17	ALLYNS BROOK	0.6 MI N. OF ROUTE 79	1995	2	15,900	Open
4	Essex	ROUTE 9 NORTHBOUND	ROUTE 153 & ROUTE 154	3.1 MI S OF ROUTE 80	1966	2	10,850	Open
5	Middletown	MAIN STREET EXT.	SUMNER BROOK	430 FT N OF ROUTE 17	1935	2	9,890	Open
6	East Haddam	ROUTE 82	CONNECTICUT RIVER	0.1 MILE WEST OF RTE. 149	1913	2	9,517	Open
7	Haddam	ROUTE 154	ROARING BROOK	100 FT N OF ROUTE 82	1931	2	9,400	Open
8	Deep River	ROUTE 80	DEEP RIVER	1.1 MI W OF ROUTE 9	1916	2	6,200	Open
9	Old Saybrook	ROUTE 154	BACK RIVER	0.8 MI S OF US ROUTE 1	1935	2	4,600	Open
10	Middletown	WEST STREET	P & W RAILROAD	0.1 MI SOUTH OF ROUTE 157	1932	2	4,225	Posted
NEW HAVEN COUNTY								
1	West Haven	INTERSTATE-95	METRO NORTH	0.23 MI NORTH OF FIRST AV	1956	6	136,400	Open
2	New Haven	INTERSTATE 91	N FRONT ST & QUINN RIVER	2.3 MI N OF I-95	1964	8	133,900	Open
3	New Haven	INTERSTATE-91	AMTRAK RAILROAD	0.2 MI S OF ROUTE 17	1965	9	133,900	Open
4	Waterbury	INTERSTATE-84	MAD RIVER	.3 MILE EAST OF EXIT 23	1960	4	108,800	Open
5	Branford	INTERSTATE-95	US ROUTE 1	AT I-95 EXIT NO. 55	1958	4	85,300	Open
6	Waterbury	INTERSTATE-84 EB	I-84WB,RTE8,NAUGATUCK RV	I-84 EXIT 20	1967	2	65,750	Open
7	Waterbury	INTERSTATE-84 WB	RTE 8, NAUGATUCK RIVER	WATERBURY LOWER LEVEL	1967	3	65,750	Open
8	Orange	ROUTE 34	WEPAWAUG RIVER	0.3 MI E OF ROUTE 15	1855	4	34,400	Open
9	Waterbury	ROUTE 8 SOUTHBOUND	RIVERSIDE ST-SUNNYSIDE	ROUTE 8 SOUTH OF I-84	1966	2	30,850	Open
10	Southbury	INTERSTATE 84 WB	US RTE 6, RTE 67, STREAM	I-84 WB EXIT NO. 15	1963	2	30,600	Open
NEW LONDON COUNTY								
1	East Lyme	INTERSTATE-95	ROUTE 161	0.4 MI S OF US ROUTE 1	1958	5	67,500	Open
2	New London	INTERSTATE 95 NORT	THAMES RV,RR,LOCAL ROADS	1.04 MI S OF N JCT US1 EB	1943	5	58,300	Open
3	Norwich	INTERSTATE 395	RTE 97 & SHETUCKET RIVER	JCT of I-395 & ROUTE 97	1958	4	43,300	Open
4	Stonington	US ROUTE 1	PAWCATUCK RIVER	CT AND RI BORDER	1932	2	26,000	Open
5	Waterford	INTERSTATE-395	ROUTE 85	I-395 EXIT NO. 77	1958	4	24,500	Open
6	Groton	ROUTE 349 NB	AMTRAK RAILROAD	1 MILE S OF INTERSTATE-95	1966	3	11,350	Open
7	Groton	ROUTE 349 SB	AMTRAK	0.9 MI S OF I-95	1966	3	11,200	Open
8	Colchester	ROUTE 2 EASTBOUND	ROUTE 85	0.7 MI E OF ROUTE 16	1966	2	10,700	Open
9	Montville	NEW LONDON TPKE	TRADING COVE BROOK	0.2 MI N OF ROUTE 32	1965	2	8,008	Open
10	Griswold	ROUTE 138	INTERSTATE-395	0.3 MI EAST OF ROUTE 164	1958	2	8,000	Open
TOLLAND COUNTY								
1	Willington	ROUTE 32	SO BRANCH ROARING BROOK	0.2 MILE NORTH OF I-84	1914	2	8,900	Open
2	Stafford	LEONARD ROAD	FURNACE BROOK	130 FT FROM JCT ROUTE 19	1976	2	2,081	Open
3	Union	ROUTE 171	INTERSTATE-84	0.5 MI FR MASS STATE LINE	1954	2	1,800	Open
4	Willington	POTTER SCHOOL ROAD	INTERSTATE 84	.76 MI W OF ASHFORD TL.	1960	2	1,105	Open
5	Vernon	PLEASANTVIEW DRIVE	HOCKANUM RIVER	900 FT WEST OF ROUTE 83	1950	2	1,040	Open
6	Coventry	FLANDERS RIVER RD	HOP RIVER	300 FT NORTH OF RT 66	1910	2	725	Open
WINDHAM COUNTY								
1	Plainfield	INTERSTATE-395	MOOSUP RIVER & ROUTE 14	2.4 MI NORTH OF ROUTE 14A	1958	4	28,800	Open
2	Windham	ROUTE 66	PROVIDENCE&WORCESTER RR	RTE 66 0.4 MI W ROUTE 32	1937	2	7,900	Open
3	Windham	ROUTE 66	NEW ENGLAND CENTRAL RR	0.3 MI WEST OF JCT RTE 32	1938	2	7,900	Open
4	Windham	ROUTE 66	NATCHAUG RIVER	.5 MI EAST JCT 195 & 14	1931	2	7,500	Open
5	Windham	PLAINS ROAD	SHETUCKET RIVER	0.6 MILE EAST OF ROUTE 32	1947	2	2,290	Open
6	Sterling	ROUTE 14	MOOSUP RIVER	100' WEST OF MAIN STR.	1926	2	2,100	Open
7	Sterling	ROUTE 14A	CEDAR SWAMP BROOK	1.4 M EAST OF ROUTE 49 EB	1928	2	2,000	Open
8	Thompson	BUCKLEY HILL ROAD	FRENCH RIVER	0.1 MI SOUTH OF ROUTE 12	1937	2	1,545	Open
9	Putnam	WOODSTOCK AVE #1	LITTLE RIVER	1050'SOUTH OF ROUTE 171	1937	2	1,370	Open
10	Scotland	ROUTE 14	MERRICK BROOK	.1 MILE WEST OF ROUTE 97	1914	2	1,200	Open

- The chart below details structurally deficient bridges in Fairfield, Litchfield, Middlesex, New Haven, New London, Tolland and Windham Counties that have the lowest individual score for either deck, substructure or superstructure (carrying a minimum of 500 vehicles per day). Each major component of a bridge is rated on a scale of zero to nine, with a score of four or below indicating poor condition. If a bridge receives a rating of four or below for its deck, substructure or superstructure, it is rated as structurally deficient. The Appendix includes a list of bridges in each county (carrying a minimum of 500 vehicles per day) with the lowest average rating for deck, superstructure and substructure. The report appendix includes each bridge's rating score for deck, superstructure and substructure.

Rank	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
FAIRFIELD COUNTY								
1	Shelton	ROUTE 8	HOUSATONIC RIVER, RT 110	ROUTE 8, EXIT 14	1951	6	64,640	Open
2	Bridgeport	US ROUTE 1	STILLMAN PD BRK&RR SP	0.6 MI N OF ROUTE 127	1910	3	26,900	Open
3	New Canaan	JELLIFF MILL ROAD	NOROTON RIVER	1/4 MI WEST OF ROUTE 106	1950	1	1,800	Open
4	Stamford	WIRE MILL ROAD	HAVILAND BROOK	0.3 MI W OF ROUTE 137	1957	2	1,678	Posted
5	Westport	ROUTE 15	SAUGATUCK RIVER	BETWEEN EXIT 41 & EXIT 42	1938	4	69,900	Open
6	Bridgeport	STATE STREET EXTEN	ASH CREEK	0.2 MILES WEST OF I-95	1950	2	11,699	Open
7	Stamford	SR 790 (S. State St)	RIPPOWAM RIVER	NEAR EXIT 7 I-95 NB	1847	2	8,000	Open
8	Stamford	RIVER BANK ROAD	EAST BRANCH MIANUS RIVER	0.9 MI N OF ROUTE 15	1957	2	1,398	Posted
9	Greenwhich	INTERSTATE 684 NB	BYRAM RIVER	BET. EXIT 2 & 3	1968	3	33,750	Open
10	Fairfield	VALLEY ROAD	HORSE TAVERN BROOK	1000 FT EAST OF ROUTE 59	1930	2	1,166	Open
LITCHFIELD COUNTY								
1	New Milford	WELLSVILLE AVENUE	EAST ASPETUCK RIVER	0.3 MI S OF PAPER MILL RD	1937	2	4,098	Posted
2	Winchester	HOLABIRD AVENUE	STILL RIVER	250 FT EAST OF ROUTE 8	1955	2	3,120	Closed
3	Thomaston	ROUTE 8 SOUTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH OF EXIT 38	1966	3	12,250	Open
4	Thomaston	ROUTE 8 NORTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH ROUTE 109	1966	3	12,250	Open
5	New Milford	MERRYALL ROAD	WEST ASPETUCK RIVER	JCT OF W MEETINGHOUSE RD	1937	2	630	Open
6	Litchfield	US ROUTE 202	BANTAM RIVER	.75 MI E OF JCT RTE 63	1931	2	7,900	Open
7	Winchester	SR 800	MAD RIVER	100 FEET SOUTH OF U.S. 44	1928	2	4,200	Open
8	Morris	ROUTE 109	WIGWAM RESERVOIR	ON THOMASTON TOWN LINE	1938	2	2,700	Open
9	Torrington	FRANKLIN STREET	E BR NAUGATUCK RIVER	APPRX 750'SOUTH OF RT 202	1958	2	2,622	Open
10	Plymouth	NORTH MAIN STREET	POLAND RIVER	100 FT WEST OF RTE 72	1931	2	2,570	Closed
MIDDLESEX COUNTY								
1	Deep River	ROUTE 80	DEEP RIVER	1.1 MI W OF ROUTE 9	1916	2	6,200	Open
2	Middleton	ROUTE 66	P&W RR RT9 CONN RIVER	0.25 MI W OF ROUTE 9	1938	4	34,400	Open
3	Middleton	MAIN STREET EXT.	SUMNER BROOK	430 FT N OF ROUTE 17	1935	2	9,890	Open
4	Middleton	WEST STREET	P & W RAILROAD	0.1 MI SOUTH OF ROUTE 157	1932	2	4,225	Posted
5	East Haddam	ROUTE 82	CONNECTICUT RIVER	0.1 MILE WEST OF RTE. 149	1913	2	9,517	Open
6	Old Saybrook	ROUTE 154	BACK RIVER	0.8 MI S OF US ROUTE 1	1935	2	4,600	Open
7	Middleton	RUSSELL STREET	SUMNER BROOK	150 FT W OF E MAIN ST	1935	2	3,172	Open
8	Middleton	RIVER ROAD #1	SUMNER BROOK	75 FT E OF ROUTE 9	1920	2	2,698	Open
9	Westbrook	WILLARD AVENUE	INTERSTATE-95	2.0 MI N OF ROUTE 145	1958	2	2,360	Open
10	Clinton	PLEASANT VALLEY RD	MENUNKETESUCK RIVER	0.5 MI W. OF ROUTE 145	1930	2	884	Open
NEW HAVEN COUNTY								
1	Waterbury	ROUTE 8 NORTHBOUND	ROUTE 8 SB & LOCAL ROADS	ROUTE 8 SOUTH OF I-84	1966	2	25,450	Open
2	Meriden	ROUTE 71	SODOM BROOK	0.8 MILE SOUTH OF I-691	1930	2	14,600	Open
3	North Haven	SACKETT POINT ROAD	QUINNIPIAC RIVER	0.6 MI E OF US ROUTE 5	1936	2	13,936	Open
4	Hamden	WAITE STREET	LAKE WHITNEY	0.2 MI EAST OF MATHER ST	1935	2	3,122	Posted
5	Wallingford	NORTHFORD ROAD	MUDDY RIVER	0.5 MI S OF I-91	1938	2	2,354	Open
6	Meriden	COOPER STREET	HARBOR BROOK	430 FT E OF ROUTE 71	1892	2	1,082	Open
7	Beacon Falls	BEACON VALLEY ROAD	BEACON HILL BROOK	0.3 MI S OF ROUTE 8	1933	2	2,210	Open
8	Waterbury	INTERSTATE-84 EB	I-84WB,RTE8,NAUGATUCK RV	I-84 EXIT 20	1967	2	65,750	Open
9	Waterbury	INTERSTATE-84 WB	RTE 8, NAUGATUCK RIVER	WATERBURY LOWER LEVEL	1967	3	65,750	Open
10	Waterbury	I-84 TR 809	ROUTE 8 NB,RIVERSIDE ST	SB RTE 8 EXIT 31TO EB I84	1966	1	11,915	Open
NEW LONDON COUNTY								
1	Griswold	SHELDON ROAD	DOANVILLE POND	0.5 MI SOUTH OF ROUTE 138	1990	2	510	Closed
2	Norwich	SCOTLAND ROAD	INTERSTATE-395	1.6 MILES NORTH OF SR 642	1958	2	1,850	Open
3	Griswold	CAROL ROAD	PACHAUG RIVER	100' EAST OF SHELDON ROAD	1938	2	510	Open
4	Norwich	SHERMAN STREET	YANTIC RIVER	1 MILE WEST ROUTE 2	1920	2	5,025	Posted
5	Salem	ROUTE 82	EAST BR EIGHT MILE RIVER	0.8 MI W OF ROUTE 11	1924	2	3,100	Open
6	Stonington	STILLMAN AVENUE	PAWCATUCK RIVER	0.5 MI E OF ROUTE 2	1953	2	5,084	Posted
7	Montville	NEW LONDON TPKE	TRADING COVE BROOK	0.2 MI N OF ROUTE 32	1965	2	8,008	Open
8	Norwich	PLEASANT STREET	YANTIC RIVER	70FT N OTROBANDO AVENUE	1969	2	950	Open
9	Stonington	ROUTE 234	ANGUILLA BROOK	2.6 MI E OF I-95	1941	2	7,000	Open
10	New London	INTERSTATE 95 NORT	THAMES RV,RR,LOCAL ROADS	1.04 MI S OF N JCT US1 EB	1943	5	58,300	Open

TOLLAND COUNTY								
1	Stafford	LEONARD ROAD	FURNACE BROOK	130 FT FROM JCT ROUTE 19	1976	2	2,081	Open
2	Willington	ROUTE 32	SO BRANCH ROARING BROOK	0.2 MILE NORTH OF I-84	1914	2	8,900	Open
3	Union	ROUTE 171	INTERSTATE-84	0.5 MI FR MASS STATE LINE	1954	2	1,800	Open
4	Willington	POTTER SCHOOL ROAD	INTERSTATE 84	.76 MI W OF ASHFORD TL.	1960	2	1,105	Open
5	Coventry	FLANDERS RIVER RD	HOP RIVER	300 FT NORTH OF RT 66	1910	2	725	Open
6	Vernon	PLEASANTVIEW DRIVE	HOCKANUM RIVER	900 FT WEST OF ROUTE 83	1950	2	1,040	Open
WINDHAM COUNTY								
1	Windham	ROUTE 66	NATCHAUG RIVER	.5 MI EAST JCT 195 & 14	1931	2	7,500	Open
2	Putnam	WOODSTOCK AVE #1	LITTLE RIVER	1050'SOUTH OF ROUTE 171	1937	2	1,370	Open
3	Canterbury	WOODCHUCK HILL RD	LITTLE RIVER	50 FT E JCT HANOVER ROAD	1900	2	1,112	Open
4	Windham	ROUTE 66	PROVIDENCE&WORCESTER RR	RTE 66 0.4 MI W ROUTE 32	1937	2	7,900	Open
5	Windham	ROUTE 66	NEW ENGLAND CENTRAL RR	0.3 MI WEST OF JCT RTE 32	1938	2	7,900	Open
6	Sterling	ROUTE 14	MOOSUP RIVER	100' WEST OF MAIN STR.	1926	2	2,100	Open
7	Thompson	BUCKLEY HILL ROAD	FRENCH RIVER	0.1 MI SOUTH OF ROUTE 12	1937	2	1,545	Open
8	Scotland	ROUTE 14	MERRICK BROOK	.1 MILE WEST OF ROUTE 97	1914	2	1,200	Open
9	Windham	PLAINS ROAD	SHETUCKET RIVER	0.6 MILE EAST OF ROUTE 32	1947	2	2,290	Open
10	Sterling	ROUTE 14A	CEDAR SWAMP BROOK	1.4 M EAST OF ROUTE 49 EB	1928	2	2,000	Open

TRANSPORTATION FUNDING AND PRESERVING CONNECTICUT'S AGING BRIDGES

Maintaining aging bridges becomes more costly as they reach the limits of their design life, challenging state and local transportation agencies to take an asset management approach to bridge preservation that emphasizes enhanced maintenance techniques that keep infrastructure in good condition as long as possible, delaying the need for costly reconstruction or replacement.

- Repairing and replacing bridges in poor condition and preserving bridges in fair and good condition will require increased and reliable funding from local, state and federal governments.

- A recent survey of states by the U.S. General Accountability Office (GAO) found that more than half of states surveyed (14 out of 24) reported that inadequate funding was a challenge to their ability to maintain bridges in a state of good repair.

- Under pressure from fiscal constraints, aging bridges, and increased wear due to growing travel volume, particularly by large trucks, transportation agencies are adopting cost-effective strategies focused on keeping bridges in good condition as long as possible. While this strategy requires increased initial investment, it saves money over the long run by extending the lifespan of bridges.

- The GAO Report found that the increase in the number and size of bridges that are approaching the limits of their design life will likely place a greater demand on bridge owners in the near future, making it more difficult to mitigate issues in a cost-effective manner.

- A survey included in the GAO report found that more than half of states surveyed (13 out of 24) indicated that the advanced age of many bridges posed a challenge to their ability to maintain their bridges in a state of good repair.

- Bridge preservation may include washing, sealing deck joints, facilitating drainage, sealing concrete, painting steel, removing channel debris, and protecting against stream erosion.

- Rehabilitation involves all major work required to restore the structural integrity of a bridge and raise the bridge's ratings to better than "poor" condition. Rehabilitation may also include superstructure replacements and bridge widening, as well as work necessary to correct major safety defects.

- Replacement projects involve total replacement of a bridge to current standards.

- The need to repair or replace high priority bridges may create a funding cycle that makes it difficult to keep pace with the needed preservation activities.

TRANSPORTATION AND ECONOMIC GROWTH IN CONNECTICUT

The efficiency of Connecticut's transportation system, particularly its roads, highways and bridges, is critical to the health of the state's economy. Businesses rely on an efficient and dependable transportation system to move products and services. A key component in business efficiency and success is the level and ease of access to customers, markets, materials and workers.

- Annually, $489 billion in goods are shipped to and from sites in Connecticut, largely by truck.

- Businesses have responded to improved communications and greater competition by moving from a push-style distribution system, which relies on low-cost movement of bulk commodities and large-scale warehousing, to a pull-style distribution system, which relies on smaller, more strategic and time-sensitive movement of goods.

- Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system. Highway accessibility was ranked the number one site selection factor in a 2017 survey of corporate executives by Area Development Magazine. Labor costs and the availability of skilled labor, which are both impacted by a site's level of accessibility, were rated second and third, respectively.

- The design, construction and maintenance of transportation infrastructure in Connecticut supports 38,364 full-time jobs across all sectors of the state economy. These workers earn $1.9 billion annually. Approximately 731,000 full-time jobs in Connecticut in key industries like tourism, retail sales, agriculture and manufacturing are completely dependent on the state's transportation network.

Sources of information for this report include the Connecticut Department of Transportation (CTDOT), the Federal Highway Administration (FHWA), the National Bridge Inventory (NBI), the Bureau of Transportation Statistics (BTS), the American Road and Transportation Builders Association (ARTBA), and the U.S. Census Bureau.

INTRODUCTION

Connecticut's transportation system provides links for the state's residents, visitors and businesses, providing daily access to homes, jobs, shopping, natural resources and recreation. Modernizing Connecticut's transportation system, including its bridges, is critical to fostering quality of life and economic competitiveness in the Constitution State.

Maintaining Connecticut's aging network of bridges is becoming more challenging as the bridges age. A significant number of Connecticut's bridges have surpassed or are approaching 50 years old, which is typically the intended design life for bridges of that age. Fifty-nine percent of the state's bridges are 50 years or older, the fourth highest rate in the U.S. The average age of all Connecticut bridges is 53 years, while the average age of the state's 308 structurally deficient bridges is 69 years. The cost of repairing and preserving bridges increases as they age and as they reach the end of their intended design life.

The preservation and modernization of Connecticut's transportation system plays an important role in retaining Connecticut's economic competitiveness and improving its economic well-being by providing critically needed jobs in the short term and by improving the productivity and competitiveness of the state's businesses in the long term.

As Connecticut faces the challenge of preserving and modernizing its bridges, the future level of federal, state and local transportation funding will be a critical factor in whether the state's residents and visitors continue to enjoy access to a safe and efficient transportation network.

This report examines the condition and use of Connecticut's bridges. Sources of information for this report include the Federal Highway Administration (FHWA), the National Bridge Inventory (NBI), the U.S. Census Bureau, and the Bureau of Transportation Statistics (BTS), the American Road and Transportation Builders Association (ARTBA) and the Connecticut Department of Transportation (CDOT).

POPULATION, TRAVEL AND ECONOMIC TRENDS IN CONNECTICUT

Connecticut residents and businesses require a high level of personal and commercial mobility. To foster quality of life and spur economic growth in Connecticut, it will be critical that the state provide a safe and modern transportation system that can accommodate future growth in population, tourism, recreation and vehicle travel.

Connecticut's population grew to approximately 3.6 million residents in 2017, a five percent increase since 2000.[1] Connecticut had approximately 2.6 million licensed drivers in 2016.[2]

Vehicle miles traveled (VMT) in Connecticut increased three percent from 2000 to 2016, from 30.8 billion VMT to 31.6 billion VMT in 2016.[3] From 2013 to 2016 VMT in Connecticut increased two percent.[4] Based on population and other lifestyle trends, TRIP estimates that travel on Connecticut's roads and highways will increase by ten percent by 2030.[5]

From 2000 to 2016, Connecticut's gross domestic product (GDP), a measure of the state's economic output, increased by nine percent, when adjusted for inflation.[6] U.S. GDP increased by 30 percent from 2000 to 2016, when adjusted for inflation.[7]

BRIDGE CONDITIONS IN CONNECTICUT

Connecticut's bridges form key links in the state's highway system, providing communities and individuals access to employment, schools, shopping and medical facilities, and facilitating commerce and access for emergency vehicles.

Seven percent (308 of 4,254) of Connecticut's locally and state-maintained bridges (20 feet or longer) are rated as structurally deficient.[8] Structurally deficient bridges in Connecticut are crossed daily by approximately 4.3 million vehicles.[9] A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Bridges that are structurally deficient may be posted for lower weight limits or closed if their condition warrants such action. The condition of the bridge deck, substructure and superstructure are inspected typically every two years and rated on a score of 0-9. A bridge is deemed structurally deficient if at least one component receives a score of four or lower. The actual prioritization for repair or replacement of deficient bridges is at the discretion of state or local transportation agencies.

Deteriorated bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid weight-restricted bridges. Redirected trips also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

The chart below details the total number of bridges and the number of structurally deficient bridges in each Connecticut county and statewide.

Chart 1. Connecticut bridge conditions.

	Total Bridges	Number Structurally Deficient
FAIRFIELD	838	61
HARTFORD	901	65
LITCHFIELD	451	39
MIDDLESEX	303	22
NEW HAVEN	870	60
NEW LONDON	421	32
TOLLAND	204	12
WINDHAM	266	17
CONNECTICUT	**4,254**	**308**

Source: Federal Highway Administration National Bridge Inventory, 2017.

The list below details the 25 most heavily traveled structurally deficient bridges in Hartford County (carrying a minimum of 500 vehicles per day). ADT is average daily traffic. The report appendix includes each bridge's rating score for deck, superstructure and substructure.

Chart 2. Hartford County structurally deficient bridges with highest average daily traffic.

Rank	County	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
HARTFORD COUNTY									
1	Hartford	Hartford	INTERSTATE-84	MARKET STREET & I-91 NB	EAST END I-91 & I-84 INT	1961	4	125,700	Open
2	Hartford	Hartford	INTERSTATE-84 WB	AMTRAK RR & LOCAL ROADS	.13 MI O/MYRTLE STREET	1964	5	88,900	Open
3	Hartford	Hartford	INTERSTATE-84 EB	AMTRAK RR & LOCAL ROADS	.86 W OF EXIT TO I-91 SB	1966	4	76,450	Open
4	Hartford	Hartford	INTERSTATE-84 EB	BROAD ST, I-84 RAMP 191	1.17 MI S OF JCT US 44 WB	1966	3	71,450	Open
5	Hartford	Hartford	INTERSTATE-84 EAST	NEW PARK AV,AMTRAK,SR504	NEW PARK AV,AMTRAK,SR504	1967	3	69,000	Open
6	Hartford	Hartford	INTERSTATE-84 EB	AMTRAK;LOCAL RDS;PARKING	EASTBOUND	1965	3	66,450	Open
7	Hartford	Hartford	INTERSTATE-84 WB	AMTRAK;LOCAL RDS;PARKING	.82 MI N OF JCT SR 504 SB	1965	4	66,150	Open
8	Hartford	South Windsor	I-291 & KING ST.	PODUNK RIVER	0.25 MILES WEST OF U.S. 5	1958	8	64,100	Open
9	Hartford	East Hartford	INTERSTATE-84 EB	ROUTE 15	1.36M E OF JCT US 44 EB	1987	3	51,950	Open
10	Hartford	Hartford	INTERSTATE-91 NB	PARK RIVER & CSO RR	AT EXIT 29A	1964	2	48,200	Open
11	Hartford	Hartford	I-91 SB & TR 835	CONNECTICUT SOUTHERN RR	AT EXIT 29A	1958	5	46,450	Open
12	Hartford	Farmington	INTERSTATE 84 EAST	US RTE 6 EB & SR 531 WB	AT EXIT 38	1969	4	40,700	Open
13	Hartford	Hartford	SR 530 -AIRPORT RD	ROUTE 15	422 FT E OF I-91	1964	5	27,200	Open
14	Hartford	Marlborough	ROUTE 2 WESTBOUND	WEST ROAD	2 MI W OF RT 66	1966	2	20,700	Open
15	Hartford	Bristol	MEMORIAL BLVD.	PEQUABUCK RIVER	AT EAST END OF BOULEVARD	1921	3	17,747	Open
16	Hartford	Hartford	SR 598 EASTBOUND	NO NOTABLE FEATURE	ACCESS TO I-91S FROM 598E	1964	3	17,400	Open
17	Hartford	Farmington	ROUTE 177	FARMINGTON RIVER	0.2 MI S FROM ROUTE 4 JCT	1939	2	16,500	Open
18	Hartford	East Hartford	I-84 TR 829	I-84 EB & I-84 TR 828	.20 MI E OF HARTFORD TL	1964	3	16,000	Open
19	Hartford	Hartford	I-84 TR 826	CONNECTICUT RIVER	EXIT 51 I-84 WB TO I-91NB	1964	1	15,100	Open
20	Hartford	Manchester	ROUTE 83	INTERSTATE-384	1.6 MILE N GLASTONBURY TL	1970	5	15,000	Open
21	Hartford	Hartford	I-91 TR 840	I-91 NB,US44 EB,RR,CT RV	ACCESS I-84EB FROM 1-91SB	1961	1	14,500	Open
22	Hartford	New Britain	ROUTE 71	HERALD SQ,COLUMUS BL, RR	NEAR LAQUINTA INN, POLICE	1971	6	13,900	Open
23	Hartford	Simsbury	ROUTE 10	HOP BROOK	0.1 MI SOUTH OF ROUTE 167	1957	2	13,056	Open
24	Hartford	Bloomfield	ROUTE 178	BEAMAN BROOK	1.2 MI EAST OF ROUTE 189	1915	2	12,000	Open
25	Hartford	Hartford	SIGOURNEY STREET	CAPITOL AVE & AMTRAK	U I-84 (BRG 3160A&B)	1964	6	11,130	Open

Source: TRIP Analysis of Connecticut Department of Transportation data, 2018.

The following 25 structurally deficient bridges in Hartford County (carrying a minimum of 500 vehicles per day) have the lowest individual score for either deck, substructure or superstructure. Each major component of a bridge is rated on a scale of zero to nine, with a score of four or below indicating

poor condition. If a bridge receives a rating of four or below for its deck, substructure or superstructure, it is rated as structurally deficient. The report's appendix includes each bridge's rating score for deck, superstructure and substructure.

Chart 3. Hartford County bridges with lowest individual score for deck, substructure or superstructure.

Rank	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
Hartford County								
1	Bloomfield	ROUTE 189	WASH BROOK	0.4 MILE NORTH OF RTE 178	1916	2	9,800	Open
2	South Windsor	MAIN STREET	PODUNK RIVER	0.5 MILES SOUTH OF I-291	1907	2	1,510	Posted
3	Bloomfield	ROUTE 178	BEAMAN BROOK	1.2 MI EAST OF ROUTE 189	1915	2	12,000	Open
4	Bristol	MELLEN STREET	PEQUABUCK RIVER	300 FT SOUTH OF ROUTE 72	1956	2	2,920	Open
5	Southington	SPRING STREET	QUINNIPIAC RIVER	0.6 MI W. OF ROUTE 10	1960	2	3,866	Open
6	Hartford	INTERSTATE-84	MARKET STREET & I-91 NB	EAST END I-91 & I-84 INT	1961	4	125,700	Open
7	Hartford	INTERSTATE-84 EB	AMTRAK;LOCAL RDS;PARKING	EASTBOUND	1965	3	66,450	Open
8	Hartford	INTERSTATE-91 NB	PARK RIVER & CSO RR	AT EXIT 29A	1964	2	48,200	Open
9	New Britain	SR 555 (WEST MAIN	PAN AM SOUTHERN RAILROAD	0.4 MILE EAST OF RTE 372	1930	3	10,600	Open
10	West Hartford	NORTH MAIN STREET	WEST BRANCH TROUT BROOK	0.3 MILE NORTH OF FERN ST	1901	4	10,280	Open
11	Manchester	HARTFORD ROAD	SOUTH FORK HOCKANUM RIV	2000 FT EAST OF SR 502	1875	2	5,610	Open
12	Avon	OLD FARMS ROAD	FARMINGTON RIVER	500 FEET WEST OF ROUTE 10	1950	2	4,999	Open
13	Marlborough	JONES HOLLOW ROAD	BLACKLEDGE RIVER	3.6 MILES NORTH OF RTE 66	1929	2	1,255	Open
14	Enfield	SOUTH RIVER STREET	FRESHWATER BROOK	50 FT N OF ASNUNTUCK ST	1920	2	1,016	Open
15	Hartford	INTERSTATE-84 EB	BROAD ST, I-84 RAMP 191	1.17 MI S OF JCT US 44 WB	1966	3	71,450	Open
16	Hartford	INTERSTATE-84 EAST	NEW PARK AV,AMTRAK,SR504	NEW PARK AV,AMTRAK,SR504	1967	3	69,000	Open
17	Hartford	INTERSTATE-84 WB	AMTRAK;LOCAL RDS;PARKING	.82 MI N OF JCT SR 504 SB	1965	4	66,150	Open
18	Hartford	I-91 SB & TR 835	CONNECTICUT SOUTHERN RR	AT EXIT 29A	1958	5	46,450	Open
19	Hartford	SR 530 -AIRPORT RD	ROUTE 15	422 FT E OF I-91	1964	5	27,200	Open
20	Bristol	MEMORIAL BLVD.	PEQUABUCK RIVER	AT EAST END OF BOULEVARD	1921	3	17,747	Open
21	Hartford	SR 598 EASTBOUND	NO NOTABLE FEATURE	ACCESS TO I-91S FROM 598E	1964	3	17,400	Open
22	East Hartford	I-84 TR 829	I-84 EB & I-84 TR 828	.20 MI E OF HARTFORD TL	1964	3	16,000	Open
23	Hartford	I-84 TR 826	CONNECTICUT RIVER	EXIT 51 I-84 WB TO I-91NB	1964	1	15,100	Open
24	Hartford	I-91 TR 840	I-91 NB,US44 EB,RR,CT RV	ACCESS I-84EB FROM 1-91SB	1961	1	14,500	Open
25	New Britain	ROUTE 71	HERALD SQ,COLUMUS BL, RR	NEAR LAQUINTA INN, POLICE	1971	6	13,900	Open

Source: TRIP Analysis of Connecticut Department of Transportation Data, 2018.

The list below details the most heavily traveled structurally deficient bridges in Fairfield, Litchfield, Middlesex, New Haven, New London, Tolland and Windham Counties. The Appendix includes a list of up the most heavily traveled structurally deficient bridges in each county (carrying a minimum of 500 vehicles per day) and includes each bridge's rating score for deck, superstructure and substructure.

Chart 4. Structurally deficient bridges in Fairfield, Litchfield, Middlesex, New Haven, New London, Tolland and Windham Counties (carrying a minimum of 500 vehicles per day) with highest average daily traffic.

Rank	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
FAIRFIELD COUNTY								
1	Norwalk	INTERSTATE-95	NORWALK RV,HENDRICKS AVE	BETWEEN EXITS 15 & 16	1957	8	145,000	Open
2	Greenwich	INTERSTATE-95	BYRAM RIVER,S WATER ST	I95 AT N Y STATE LINE	1958	6	131,600	Open
3	Westport	INTERSTATE-95	ROUTE 33	I-95 AT EXIT NO. 17	1957	8	129,900	Open
4	Stamford	I-95 & I-95 RAMPS	MNRR & LOCAL ROADS	0.2 MI EAST OF EXIT 8 NB	1958	7	127,300	Open
5	Westport	ROUTE 15	SAUGATUCK RIVER	BETWEEN EXIT 41 & EXIT 42	1938	4	69,900	Open
6	Shelton	ROUTE 8	HOUSATONIC RIVER, RT 110	ROUTE 8, EXIT 14	1951	6	64,640	Open
7	Newtown	INTERSTATE 84 EAST	HOUSATONIC RIVER	OVER HOUSATONIC RIVER	1953	2	36,650	Open
8	Newtown	I-84 WB	POLE BRIDGE BROOK	2.1 MI E OF ROUTE 34	1979	3	36,650	Open
9	Greenwich	INTERSTATE 684 NB	BYRAM RIVER	BET. EXIT 2 & 3	1968	3	33,750	Open
10	Bridgeport	US ROUTE 1	STILLMAN PD BRK&RR SP	0.6 MI N OF ROUTE 127	1910	3	26,900	Open
LITCHFIELD COUNTY								
1	New Milford	US 202 & RT. 67	HOUSATONIC RIVER	AT INT OF ROUTE 7 & 202	1953	2	30,800	Open
2	Thomaston	ROUTE 8 SOUTHBOUND	REYNOLDS BRIDGE ROAD	0.1 MI NORTH WATERTOWN TL	1964	2	16,500	Open
3	Thomaston	ROUTE 8 SOUTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH OF EXIT 38	1966	3	12,250	Open
4	Thomaston	ROUTE 8 NORTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH ROUTE 109	1966	3	12,250	Open
5	Litchfield	US ROUTE 202	BANTAM RIVER	.75 MI E OF JCT RTE 63	1931	2	7,900	Open
6	Winchester	BRIDGE STREET	MAD RIVER	INTERSECTION OF ROUTE 44	1956	2	5,098	Open
7	Torrington	NEWFIELD ROAD	E BR NAUGATUCK RIVER	2 MI NORTH OF ROUTE 8	1957	2	4,734	Open
8	Winchester	SR 800	MAD RIVER	100 FEET SOUTH OF U.S. 44	1928	2	4,200	Open
9	New Milford	WELLSVILLE AVENUE	EAST ASPETUCK RIVER	0.3 MI S OF PAPER MILL RD	1937	2	4,098	Posted
10	Winchester	HOLABIRD AVENUE	STILL RIVER	250 FT EAST OF ROUTE 8	1955	2	3,120	Closed
MIDDLESEX COUNTY								
1	Middletown	ROUTE 9	P&W RAILROAD & UNION ST	0.2 MI N OF ROUTE 17	1950	4	51,200	Open
2	Middletown	ROUTE 66	P&W RR RT9 CONN RIVER	0.25 MI W OF ROUTE 9	1938	4	34,400	Open
3	Durham	ROUTE 17	ALLYNS BROOK	0.6 MI N. OF ROUTE 79	1995	2	15,900	Open
4	Essex	ROUTE 9 NORTHBOUND	ROUTE 153 & ROUTE 154	3.1 MI S OF ROUTE 80	1966	2	10,850	Open
5	Middletown	MAIN STREET EXT.	SUMNER BROOK	430 FT N OF ROUTE 17	1935	2	9,890	Open
6	East Haddam	ROUTE 82	CONNECTICUT RIVER	0.1 MILE WEST OF RTE. 149	1913	2	9,517	Open
7	Haddam	ROUTE 154	ROARING BROOK	100 FT N OF ROUTE 82	1931	2	9,400	Open
8	Deep River	ROUTE 80	DEEP RIVER	1.1 MI W OF ROUTE 9	1916	2	6,200	Open
9	Old Saybrook	ROUTE 154	BACK RIVER	0.8 MI S OF US ROUTE 1	1935	2	4,600	Open
10	Middletown	WEST STREET	P & W RAILROAD	0.1 MI SOUTH OF ROUTE 157	1932	2	4,225	Posted
NEW HAVEN COUNTY								
1	West Haven	INTERSTATE-95	METRO NORTH	0.23 MI NORTH OF FIRST AV	1956	6	136,400	Open
2	New Haven	INTERSTATE 91	N FRONT ST & QUINN RIVER	2.3 MI N OF I-95	1964	8	133,900	Open
3	New Haven	INTERSTATE-91	AMTRAK RAILROAD	0.2 MI S OF ROUTE 17	1965	9	133,900	Open
4	Waterbury	INTERSTATE-84	MAD RIVER	.3 MILE EAST OF EXIT 23	1960	4	108,800	Open
5	Branford	INTERSTATE-95	US ROUTE 1	AT I-95 EXIT NO. 55	1958	4	85,300	Open
6	Waterbury	INTERSTATE-84 EB	I-84WB,RTE8,NAUGATUCK RV	I-84 EXIT 20	1967	2	65,750	Open
7	Waterbury	INTERSTATE-84 WB	RTE 8, NAUGATUCK RIVER	WATERBURY LOWER LEVEL	1967	3	65,750	Open
8	Orange	ROUTE 34	WEPAWAUG RIVER	0.3 MI E OF ROUTE 15	1855	4	34,400	Open
9	Waterbury	ROUTE 8 SOUTHBOUND	RIVERSIDE ST-SUNNYSIDE	ROUTE 8 SOUTH OF I-84	1966	2	30,850	Open
10	Southbury	INTERSTATE 84 WB	US RTE 6, RTE 67, STREAM	I-84 WB EXIT NO. 15	1963	2	30,600	Open

NEW LONDON COUNTY								
1	East Lyme	INTERSTATE-95	ROUTE 161	0.4 MI S OF US ROUTE 1	1958	5	67,500	Open
2	New London	INTERSTATE 95 NORT	THAMES RV,RR,LOCAL ROADS	1.04 MI S OF N JCT US1 EB	1943	5	58,300	Open
3	Norwich	INTERSTATE 395	RTE 97 & SHETUCKET RIVER	JCT of I-395 & ROUTE 97	1958	4	43,300	Open
4	Stonington	US ROUTE 1	PAWCATUCK RIVER	CT AND RI BORDER	1932	2	26,000	Open
5	Waterford	INTERSTATE-395	ROUTE 85	I-395 EXIT NO. 77	1958	4	24,500	Open
6	Groton	ROUTE 349 NB	AMTRAK RAILROAD	1 MILE S OF INTERSTATE-95	1966	3	11,350	Open
7	Groton	ROUTE 349 SB	AMTRAK	0.9 MI S OF I-95	1966	3	11,200	Open
8	Colchester	ROUTE 2 EASTBOUND	ROUTE 85	0.7 MI E OF ROUTE 16	1966	2	10,700	Open
9	Montville	NEW LONDON TPKE	TRADING COVE BROOK	0.2 MI N OF ROUTE 32	1965	2	8,008	Open
10	Griswold	ROUTE 138	INTERSTATE-395	0.3 MI EAST OF ROUTE 164	1958	2	8,000	Open
TOLLAND COUNTY								
1	Willington	ROUTE 32	SO BRANCH ROARING BROOK	0.2 MILE NORTH OF I-84	1914	2	8,900	Open
2	Stafford	LEONARD ROAD	FURNACE BROOK	130 FT FROM JCT ROUTE 19	1976	2	2,081	Open
3	Union	ROUTE 171	INTERSTATE-84	0.5 MI FR MASS STATE LINE	1954	2	1,800	Open
4	Willington	POTTER SCHOOL ROAD	INTERSTATE 84	.76 MI W OF ASHFORD TL.	1960	2	1,105	Open
5	Vernon	PLEASANTVIEW DRIVE	HOCKANUM RIVER	900 FT WEST OF ROUTE 83	1950	2	1,040	Open
6	Coventry	FLANDERS RIVER RD	HOP RIVER	300 FT NORTH OF RT 66	1910	2	725	Open
WINDHAM COUNTY								
1	Plainfield	INTERSTATE-395	MOOSUP RIVER & ROUTE 14	2.4 MI NORTH OF ROUTE 14A	1958	4	28,800	Open
2	Windham	ROUTE 66	PROVIDENCE&WORCESTER RR	RTE 66 0.4 MI W ROUTE 32	1937	2	7,900	Open
3	Windham	ROUTE 66	NEW ENGLAND CENTRAL RR	0.3 MI WEST OF JCT RTE 32	1938	2	7,900	Open
4	Windham	ROUTE 66	NATCHAUG RIVER	.5 MI EAST JCT 195 & 14	1931	2	7,500	Open
5	Windham	PLAINS ROAD	SHETUCKET RIVER	0.6 MILE EAST OF ROUTE 32	1947	2	2,290	Open
6	Sterling	ROUTE 14	MOOSUP RIVER	100' WEST OF MAIN STR.	1926	2	2,100	Open
7	Sterling	ROUTE 14A	CEDAR SWAMP BROOK	1.4 M EAST OF ROUTE 49 EB	1928	2	2,000	Open
8	Thompson	BUCKLEY HILL ROAD	FRENCH RIVER	0.1 MI SOUTH OF ROUTE 12	1937	2	1,545	Open
9	Putnam	WOODSTOCK AVE #1	LITTLE RIVER	1050'SOUTH OF ROUTE 171	1937	2	1,370	Open
10	Scotland	ROUTE 14	MERRICK BROOK	.1 MILE WEST OF ROUTE 97	1914	2	1,200	Open

Source: TRIP Analysis of Connecticut Department of Transportation Data, 2018.

The following structurally deficient bridges in Fairfield, Litchfield, Middlesex, New Haven, New London, Tolland and Windham Counties (carrying a minimum of 500 vehicles per day) have the lowest individual score for either deck, substructure or superstructure. Each major component of a bridge is rated on a scale of zero to nine, with a score of four or below indicating structurally deficient condition. If a bridge receives a rating of four or below for its deck, substructure or superstructure, it is rated as structurally deficient. The Appendix includes a list of bridges in each county (carrying a minimum of 500 vehicles per day) with the lowest average rating for deck, superstructure and substructure and includes the score for each component.

Chart 5. Fairfield, Litchfield, Middlesex, New Haven, New London, Tolland and Windham County bridges (carrying a minimum of 500 vehicles per day) with lowest individual score for deck, substructure or superstructure.

Rank	Town	Facility Carried	Features Intersected	Location	Year Built	Lanes	ADT	Open/Posted/ Closed
FAIRFIELD COUNTY								
1	Shelton	ROUTE 8	HOUSATONIC RIVER, RT 110	ROUTE 8, EXIT 14	1951	6	64,640	Open
2	Bridgeport	US ROUTE 1	STILLMAN PD BRK&RR SP	0.6 MI N OF ROUTE 127	1910	3	26,900	Open
3	New Canaan	JELLIFF MILL ROAD	NOROTON RIVER	1/4 MI WEST OF ROUTE 106	1950	1	1,800	Open
4	Stamford	WIRE MILL ROAD	HAVILAND BROOK	0.3 MI W OF ROUTE 137	1957	2	1,678	Posted
5	Westport	ROUTE 15	SAUGATUCK RIVER	BETWEEN EXIT 41 & EXIT 42	1938	4	69,900	Open
6	Bridgeport	STATE STREET EXTEN	ASH CREEK	0.2 MILES WEST OF I-95	1950	2	11,699	Open
7	Stamford	SR 790 (S. State St)	RIPPOWAM RIVER	NEAR EXIT 7 I-95 NB	1847	2	8,000	Open
8	Stamford	RIVER BANK ROAD	EAST BRANCH MIANUS RIVER	0.9 MI N OF ROUTE 15	1957	2	1,398	Posted
9	Greenwhich	INTERSTATE 684 NB	BYRAM RIVER	BET. EXIT 2 & 3	1968	3	33,750	Open
10	Fairfield	VALLEY ROAD	HORSE TAVERN BROOK	1000 FT EAST OF ROUTE 59	1930	2	1,166	Open
LITCHFIELD COUNTY								
1	New Milford	WELLSVILLE AVENUE	EAST ASPETUCK RIVER	0.3 MI S OF PAPER MILL RD	1937	2	4,098	Posted
2	Winchester	HOLABIRD AVENUE	STILL RIVER	250 FT EAST OF ROUTE 8	1955	2	3,120	Closed
3	Thomaston	ROUTE 8 SOUTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH OF EXIT 38	1966	3	12,250	Open
4	Thomaston	ROUTE 8 NORTHBOUND	NAUGATUCK RIVER & R.R.	.1 MI NORTH ROUTE 109	1966	3	12,250	Open
5	New Milford	MERRYALL ROAD	WEST ASPETUCK RIVER	JCT OF W MEETINGHOUSE RD	1937	2	630	Open
6	Litchfield	US ROUTE 202	BANTAM RIVER	.75 MI E OF JCT RTE 63	1931	2	7,900	Open
7	Winchester	SR 800	MAD RIVER	100 FEET SOUTH OF U.S. 44	1928	2	4,200	Open
8	Morris	ROUTE 109	WIGWAM RESERVOIR	ON THOMASTON TOWN LINE	1938	2	2,700	Open
9	Torrington	FRANKLIN STREET	E BR NAUGATUCK RIVER	APPRX 750'SOUTH OF RT 202	1958	2	2,622	Open
10	Plymouth	NORTH MAIN STREET	POLAND RIVER	100 FT WEST OF RTE 72	1931	2	2,570	Closed
MIDDLESEX COUNTY								
1	Deep River	ROUTE 80	DEEP RIVER	1.1 MI W OF ROUTE 9	1916	2	6,200	Open
2	Middleton	ROUTE 66	P&W RR RT9 CONN RIVER	0.25 MI W OF ROUTE 9	1938	4	34,400	Open
3	Middleton	MAIN STREET EXT.	SUMNER BROOK	430 FT N OF ROUTE 17	1935	2	9,890	Open
4	Middleton	WEST STREET	P & W RAILROAD	0.1 MI SOUTH OF ROUTE 157	1932	2	4,225	Posted
5	East Haddam	ROUTE 82	CONNECTICUT RIVER	0.1 MILE WEST OF RTE. 149	1913	2	9,517	Open
6	Old Saybrook	ROUTE 154	BACK RIVER	0.8 MI S OF US ROUTE 1	1935	2	4,600	Open
7	Middleton	RUSSELL STREET	SUMNER BROOK	150 FT W OF E MAIN ST	1935	2	3,172	Open
8	Middleton	RIVER ROAD #1	SUMNER BROOK	75 FT E OF ROUTE 9	1920	2	2,698	Open
9	Westbrook	WILLARD AVENUE	INTERSTATE-95	2.0 MI N OF ROUTE 145	1958	2	2,360	Open
10	Clinton	PLEASANT VALLEY RD	MENUNKETESUCK RIVER	0.5 MI W. OF ROUTE 145	1930	2	884	Open
NEW HAVEN COUNTY								
1	Waterbury	ROUTE 8 NORTHBOUND	ROUTE 8 SB & LOCAL ROADS	ROUTE 8 SOUTH OF I-84	1966	2	25,450	Open
2	Meriden	ROUTE 71	SODOM BROOK	0.8 MILE SOUTH OF I-691	1930	2	14,600	Open
3	North Haven	SACKETT POINT ROAD	QUINNIPIAC RIVER	0.6 MI E OF US ROUTE 5	1936	2	13,936	Open
4	Hamden	WAITE STREET	LAKE WHITNEY	0.2 MI EAST OF MATHER ST	1935	2	3,122	Posted
5	Wallingford	NORTHFORD ROAD	MUDDY RIVER	0.5 MI S OF I-91	1938	2	2,354	Open
6	Meriden	COOPER STREET	HARBOR BROOK	430 FT E OF ROUTE 71	1892	2	1,082	Open
7	Beacon Falls	BEACON VALLEY ROAD	BEACON HILL BROOK	0.3 MI S OF ROUTE 8	1933	2	2,210	Open
8	Waterbury	INTERSTATE-84 EB	I-84WB,RTE8,NAUGATUCK RV	I-84 EXIT 20	1967	2	65,750	Open
9	Waterbury	INTERSTATE-84 WB	RTE 8, NAUGATUCK RIVER	WATERBURY LOWER LEVEL	1967	3	65,750	Open
10	Waterbury	I-84 TR 809	ROUTE 8 NB,RIVERSIDE ST	SB RTE 8 EXIT 31TO EB I84	1966	1	11,915	Open
NEW LONDON COUNTY								
1	Griswold	SHELDON ROAD	DOANVILLE POND	0.5 MI SOUTH OF ROUTE 138	1990	2	510	Closed
2	Norwich	SCOTLAND ROAD	INTERSTATE-395	1.6 MILES NORTH OF SR 642	1958	2	1,850	Open
3	Griswold	CAROL ROAD	PACHAUG RIVER	100' EAST OF SHELDON ROAD	1938	2	510	Open
4	Norwich	SHERMAN STREET	YANTIC RIVER	1 MILE WEST ROUTE 2	1920	2	5,025	Posted
5	Salem	ROUTE 82	EAST BR EIGHT MILE RIVER	0.8 MI W OF ROUTE 11	1924	2	3,100	Open
6	Stonington	STILLMAN AVENUE	PAWCATUCK RIVER	0.5 MI E OF ROUTE 2	1953	2	5,084	Posted
7	Montville	NEW LONDON TPKE	TRADING COVE BROOK	0.2 MI N OF ROUTE 32	1965	2	8,008	Open
8	Norwich	PLEASANT STREET	YANTIC RIVER	70FT N OTROBANDO AVENUE	1969	2	950	Open
9	Stonington	ROUTE 234	ANGUILLA BROOK	2.6 MI E OF I-95	1941	2	7,000	Open
10	New London	INTERSTATE 95 NORT	THAMES RV,RR,LOCAL ROADS	1.04 MI S OF N JCT US1 EB	1943	5	58,300	Open

TOLLAND COUNTY								
1	Stafford	LEONARD ROAD	FURNACE BROOK	130 FT FROM JCT ROUTE 19	1976	2	2,081	Open
2	Willington	ROUTE 32	SO BRANCH ROARING BROOK	0.2 MILE NORTH OF I-84	1914	2	8,900	Open
3	Union	ROUTE 171	INTERSTATE-84	0.5 MI FR MASS STATE LINE	1954	2	1,800	Open
4	Willington	POTTER SCHOOL ROAD	INTERSTATE 84	.76 MI W OF ASHFORD TL.	1960	2	1,105	Open
5	Coventry	FLANDERS RIVER RD	HOP RIVER	300 FT NORTH OF RT 66	1910	2	725	Open
6	Vernon	PLEASANTVIEW DRIVE	HOCKANUM RIVER	900 FT WEST OF ROUTE 83	1950	2	1,040	Open
WINDHAM COUNTY								
1	Windham	ROUTE 66	NATCHAUG RIVER	.5 MI EAST JCT 195 & 14	1931	2	7,500	Open
2	Putnam	WOODSTOCK AVE #1	LITTLE RIVER	1050'SOUTH OF ROUTE 171	1937	2	1,370	Open
3	Canterbury	WOODCHUCK HILL RD	LITTLE RIVER	50 FT E JCT HANOVER ROAD	1900	2	1,112	Open
4	Windham	ROUTE 66	PROVIDENCE&WORCESTER RR	RTE 66 0.4 MI W ROUTE 32	1937	2	7,900	Open
5	Windham	ROUTE 66	NEW ENGLAND CENTRAL RR	0.3 MI WEST OF JCT RTE 32	1938	2	7,900	Open
6	Sterling	ROUTE 14	MOOSUP RIVER	100' WEST OF MAIN STR.	1926	2	2,100	Open
7	Thompson	BUCKLEY HILL ROAD	FRENCH RIVER	0.1 MI SOUTH OF ROUTE 12	1937	2	1,545	Open
8	Scotland	ROUTE 14	MERRICK BROOK	.1 MILE WEST OF ROUTE 97	1914	2	1,200	Open
9	Windham	PLAINS ROAD	SHETUCKET RIVER	0.6 MILE EAST OF ROUTE 32	1947	2	2,290	Open
10	Sterling	ROUTE 14A	CEDAR SWAMP BROOK	1.4 M EAST OF ROUTE 49 EB	1928	2	2,000	Open

Source: TRIP Analysis of Connecticut Department of Transportation data, 2018.

TRANSPORTATION FUNDING AND PRESERVING CONNECTICUT'S BRIDGES

Investment in Connecticut's roads, highways and bridges is funded by local, state and federal governments. A lack of sufficient funding at all levels will make it difficult to adequately maintain and improve the state's bridges.

A recent survey conducted for a report by the US. General Accountability Office (GAO) found that more than half of states surveyed (14 out of 24) indicated that inadequate funding was a challenge to their ability to maintain their bridges in a state of good repair. The GAO report found that the increase in the number and size of bridges that are approaching the limits of their design life will likely place a greater demand on bridge owners in the near future, making it more difficult to mitigate issues in a cost-effective manner.[10]

The design life of most bridges is 50 years, though bridges have life spans that are dependent on factors such as materials, environment, level of use, and level of maintenance. The average age of all Connecticut bridges is 53 years, while the state's structurally deficient bridges have an average age of 69 years. Current design guidelines and construction materials may raise the expected service life of new bridges to 75 years or longer.[11] The GAO report found that more than half of states surveyed (13 out of 24) indicated that aging bridges were a challenge to their ability to maintain their bridges in a state of good repair.[12]

State and local transportation agencies are increasingly taking an asset management approach to bridge preservation that emphasizes enhanced maintenance techniques, delaying the need for costly reconstruction or replacement. [13]

Under pressure from fiscal constraints, aging bridges, and increased wear due to growing travel volume, particularly by large trucks, transportation agencies are adopting cost-effective strategies focused on keeping bridges in good condition as long as possible.[14] While this strategy requires increased initial investment, it saves money over the long run by extending the lifespan of bridges.

With limited funding available to address bridge deficiencies, transportation agencies need to extend the life of a bridge to defer higher replacement costs as long as possible. Bridge preservation is essentially any work that preserves or extends the useful life of a bridge and is part of achieving the 75-year design life target. Preservation may include washing, sealing deck joints, facilitating drainage, sealing concrete, painting steel, removing channel debris, and protecting against stream erosion. This work keeps a bridge from prematurely deteriorating and extends the years before a bridge needs to be replaced.

Rehabilitation involves all major work required to restore the structural integrity of a bridge and raise the bridge's ratings to better than "poor" condition. Rehabilitation may also include superstructure replacements and bridge widening, as well as work necessary to correct major safety defects. Replacement projects involve total replacement of a bridge to current standards. When a bridge deteriorates to the point that it is rated structurally deficient, the cost to restore the bridge to good condition increases significantly. The need to repair or replace high priority bridges tends to create a funding cycle that makes it difficult to keep pace with the needed preservation activities.

IMPORTANCE OF TRANSPORTATION TO ECONOMIC GROWTH

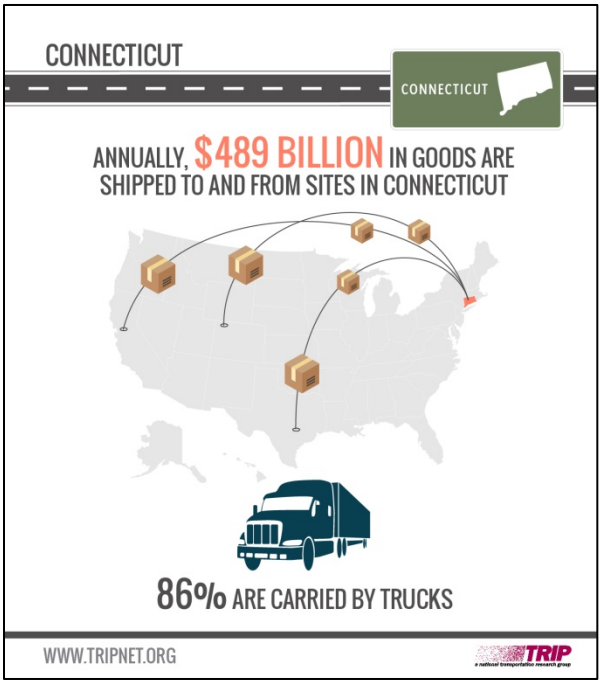
Today's culture of business demands that an area have well-maintained and efficient roads, highways and bridges if it is to remain economically competitive. Global communications and the impact of free trade in North America and elsewhere have resulted in a significant increase in freight movement, making the quality of a region's transportation system a key component in a business' ability to compete locally, nationally and internationally.

Businesses have responded to improved communications and the need to cut costs with a variety of innovations including just-in-time delivery, increased small package delivery, demand-side inventory management and e-commerce. The result of these changes has been a significant improvement in logistics efficiency as firms move from a push-style distribution system, which relies on large-scale warehousing of materials, to a pull-style distribution system, which relies on smaller, more strategic movement of goods. These improvements have made mobile inventories the norm, resulting in the nation's trucks literally becoming rolling warehouses.

The design, construction and maintenance of transportation infrastructure in Connecticut play a critical role in the state's economy, supporting the equivalent of 38,364 full-time jobs across all sectors of the state economy, earning these workers approximately $1.9 billion annually.[15] These jobs include 19,111 full-time jobs directly involved in transportation infrastructure construction and related activities as well as 19,252 full-time jobs as a result of spending by employees and companies in the transportation design and construction industry.[16]

Transportation construction in Connecticut annually contributes an estimated $352.3 million in state and local income, corporate and unemployment insurance taxes and the federal payroll tax.

Approximately 731,000 full-time jobs in Connecticut in key industries like tourism, retail sales, agriculture and manufacturing are dependent on the quality, safety and reliability of the state's transportation infrastructure network. These workers earn $34.8 billion in wages and contribute an estimated $6.3 billion in state and local income, corporate and unemployment insurance taxes and the federal payroll tax.[17]



Bridges are vitally important to continued economic development in Connecticut, particularly to the state's manufacturing, agricultural, forestry, fishing and tourism industries. As the economy expands, creating more jobs and increasing consumer confidence, the demand for consumer and business products grows. In turn, manufacturers ship

greater quantities of goods to meet this demand, a process that adds to truck traffic on the state's highways, bridges and major arterial roads. Annually, $489 billion in goods are shipped to and from sites in Connecticut.[18] Eighty-six percent of the goods shipped annually to and from sites in Connecticut are carried by trucks and another 11 percent are carried by courier services or multiple-mode deliveries, which include trucking.[19]

The cost of road and bridge improvements are more than offset by the reduction of user costs associated with driving on rough roads, the improvement in business productivity, the reduction in delays and the improvement in traffic safety

Local, regional and state economic performance is improved when a region's surface transportation system is expanded or repaired. This improvement comes as a result of the initial job creation and increased employment created over the long-term because of improved access, reduced transport costs and improved safety.

Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system. Highway accessibility was ranked the number one site selection factor in a 2017 survey of corporate executives by Area Development Magazine. Labor costs and the availability of skilled labor, which are both impacted by a site's level of accessibility, were rated second and third, respectively.[20]

CONCLUSION

As Connecticut works to build and enhance a thriving, growing and dynamic state, it will be critical that it is able to provide a 21st century network of roads, highways and bridges that can accommodate the mobility demands of a modern society.

The state will need to modernize its transportation system by improving the physical condition of its bridges, which will enhance the system's ability to provide efficient and reliable mobility for motorists and businesses. Making needed improvements to Connecticut's bridges could provide a significant boost to the state's economy by creating jobs in the short term and stimulating long-term economic growth as a result of enhanced mobility and access.

Without a substantial boost in federal, state and local funding, numerous projects to improve and preserve Connecticut's bridges will not be able to proceed, hampering the state's ability to improve the condition of its transportation system and to support economic development opportunities in the state.

# # #

ENDNOTES

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[4] Ibid.
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[19] Ibid.
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