



# Connecticut Department of Transportation

## Quarterly Performance Measures Summary

2014 Quarter 1 (January 1 to March 31)

**Legend**

- ▲ Performance is trending in positive direction
- Performance is relatively constant
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- Trend Line

Performance Measure	Result	Period	Target	Trend / Score	Analysis of Trend
Rate of Annual Highway Fatalities per 100 million vehicle miles traveled (VMT), CTDOT	0.84	CY12	0		In 2012, there were 248 reported fatal motor vehicle crashes in which 264 persons were killed. The 264 fatality total includes drivers, passengers, pedestrians and cyclists. The 2012 Connecticut fatality rate was 0.84 fatalities per 100 million vehicle miles traveled (VMT). The three year rolling average for the 2010-2012 time period was 0.86 fatalities per 100 million VMT. The 2012 national fatality rate was 1.13 fatalities per 100 million VMT. The Connecticut rate continues to be lower than the national rate.
Rate of Annual Highway Fatalities per 100,000 population	7.35	CY12	0		The population for Connecticut in 2012 was 3,590,347. The 2012 Connecticut fatality rate was 7.35 fatalities per 100,000 population. The 2012 national fatality rate was 10.69 fatalities per 100,000 population. The Connecticut rate continues to be lower than the national rate.
Percent of Seat Belt Usage	86.6%	CY13	90.0%		Seatbelt use has remained nearly unchanged since last year but remains close to the target of 90%. With the kickoff of the next Click-it-or-Ticket campaign, the trend for the rate of seatbelt use is expected to show a change in the positive direction.
Percent of State Maintained Roads with Acceptable or Better Ride Quality (NHS Only)	85.0%	CY13	Increase Percentage		The National Highway System (NHS) consists of roadways important to the nation's economy, defense, and mobility. Under federal legislation (MAP-21), the definition for NHS was expanded to include All Other Principal Arterials. In Connecticut there are now approximately 1392 state maintained NHS miles up from 963 miles under the previous definition, accordingly, all ride quality data for this performance measure have been retroactively recalculated according to the new definition. <a href="#">(For More information on Ride Quality in Connecticut Click Here)</a>
Percent of State Maintained Roads with Acceptable or Better Ride Quality (Entire Network)	78.5%	CY13	Increase Percentage		The large increase in this value reflects a combination of a more extensive pavement preservation program in 2012, and to a lesser degree, improvements in data collection procedures implemented in 2013. The entire roadway network in Connecticut consists of approximately 3734 state routes and roads miles and includes all NHS and non-NHS roadways maintained by the state. <a href="#">(For More information on Ride Quality in Connecticut Click Here)</a>
Percent of CTDOT Roadway Bridges in a State of Good Repair	91.4%	CY12	95.0%		The percent of bridges in a State of Good Repair (SGR) is on a slight downward trend declining one percent over the past 5 years. The Department is still seeing an additional annual increase of 9 to 12 more bridges becoming deficient each year due to Connecticut's aging infrastructure. To try to reverse this trend, the Department has allocated additional resources into bridge maintenance and preservation projects but it will take several more years for these additional projects to be completed, the bridge inspections to occur and the results reflected in the performance.



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Number of Bridge Work Items Completed	212	CY14-Q1	Maximize Completion of Work Items		<p>▲ Preferred Trend</p> <p>The number of bridge work items received has outnumbered the amount completed for the 1st quarter of 2014 because of the continued slowdown during the post-construction season due to weather constrictions.</p>
Number of Backlogged Bridge Work Items	4,080	CY14-Q1	Strive for Zero Growth in Backlog		<p>▲ Preferred Trend</p> <p>Backlogged bridge work items have increased by 3.75% since the 4th quarter of 2013 and are up 2% since the 1st quarter of 2013. Backlogged bridge work items are expected to begin to trend down through the 2nd quarter of 2014 as the constructions season gets underway.</p>
Percent of Funds Expended for Bicycle/Pedestrian Access	4.80%	FY13	1%		<p>▲ Preferred Trend</p> <p>Forty-six projects awarded in SFY 2013 include elements for pedestrians or bicyclists, such as sidewalks and ramps, pedestrian signals, push buttons, signs, and pedestrian/bicycle trails. The total dollars being expended for these items is approximately \$14.3 million, which is approximately 4.8% of the total funds awarded for the construction, maintenance and repair of roads in the state. The 1% target, established by Public Act No. 09-154 in 2009, has been achieved each year and the Department will continue to strive to exceed this target on an annual basis.</p>
Mean Distance Between Failures (Miles) - Locomotives	21,818	CY14-Q1	35,000		<p>▲ Preferred Trend</p> <p>MDBF for locomotives on the New Haven Line fell short of the target this quarter. With delays in the completion of the overhaul program for the P-32 locomotives, the trend has remained relatively neutral. When the project is completed at the end of 2014 or early 2015, a positive trend should result going forward.</p>
Mean Distance Between Failures (Miles) - Coaches	139,146	CY14-Q1	295,000		<p>▲ Preferred Trend</p> <p>MDBF for coaches on the New Haven Line was below the target this quarter. This trend remains in a positive direction and is a direct result of an overhaul program on Bombardier coaches completed in 2010, and is expected to continue.</p>
Mean Distance Between Failures (Miles) - Electric Multiple Unit (EMU) M2	26,312	CY14-Q1	60,000		<p>▲ Preferred Trend</p> <p>MDBF for the fleet of M2 EMU's on the New Haven Line fell short of the target this quarter. This trend is in a negative direction. A reduced number of M2 EMU coaches will continue to be used in revenue service through mid-2015 when the remaining coaches will be retired.</p>



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Mean Distance Between Failures (Miles) - Electric Multiple Unit (EMU) M4	23,281	CY14-Q1	60,000	<p>▲ Preferred Trend</p>	MDBF for the fleet of M4 EMU's on the New Haven Line fell short of the target this quarter. The overall trend is in a negative direction. A reduced number of M4 EMU coaches will continue to be used in revenue service through mid-2015 when the remaining coaches will be retired.
Mean Distance Between Failures (Miles) - Electric Multiple Unit (EMU) M6	23,867	CY14-Q1	60,000	<p>▲ Preferred Trend</p>	MDBF for the fleet of M6 EMU's on the New Haven Line fell below the target this quarter. The overall trend is in a negative direction. A reduced number of M6 EMU coaches will continue to be used in revenue service through mid-2015 when the remaining coaches will be retired.
Mean Distance Between Failures (Miles) - Electric Multiple Unit (EMU) M8	168,867	CY14-Q1	280,000	<p>▲ Preferred Trend</p>	Three hundred and forty-two (342) M8 rail cars have been delivered with 324 M8s tested, accepted and deployed in New Haven Line service (as of the end of March 2014). The remaining 38 M8s are anticipated to be delivered by the end of 2014. An additional 25 M8 Single Coaches will be delivered periodically through 2015. (Connecticut will own 274 of the M8 fleet). The investment program began in 2009 when 405 cars were ordered. Deliveries continue at the rate of about 10 cars per month. The MDBF for the M8 fleet did not meet the target for this quarter but continues to trend in a positive direction which is anticipated to continue with the expanding M8 fleet.
Percent of Rail On-Time Performance (OTP)-New Haven Line (NHL)	86.9%	CY14-Q1	93%	<p>▲ Preferred Trend</p>	This quarter the New Haven Line OTP fell short of the target. The trend over the last 5 years has been moving in the negative direction. Infrastructure issues, speed restrictions and track outages due to capital projects have caused a negative trend. The NHL remains one of the most reliable heavy-rail commuter services in the U.S.
Percent of Rail On-Time Performance (OTP)-Shore Line East (SLE)	92.5%	CY14-Q1	95%	<p>▲ Preferred Trend</p>	This quarter the OTP for the Shore Line East fell below the target of 95%. The trend over the last 5 years has been moving in the negative direction.
Number of Rail Passengers New Haven Line (NHL)	8,956,352	CY14-Q1	9,244,983	<p>▲ Preferred Trend</p>	Ridership on the New Haven Line this quarter did not meet the calculated target and the trend over the last 5 years is moving in the positive direction. This positive trend should continue with ongoing improvements to the economy..



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Number of Rail Passengers Shore Line East(SLE)	152,926	CY14-Q1	155,165	<p>▲ Preferred Trend</p>	Ridership on the Shore Line East this quarter did not meet the calculated target and the trend over the last 5 years is moving in the positive direction. Service improvements in the 2013 have helped to continue the ridership trend in the positive direction.
Average Miles Between Road Calls (Bus)	11,947	CY14-Q1	16,000	<p>▲ Preferred Trend</p>	A portion of CTTtransit bus service system failures have been reclassified based on the definition of "Major Mechanical System Failures" from the FTA's 2013 National Transit Database reporting manual. Therefore, a new target for Average Miles Between Road Calls (Bus) of 16,000 was established. This quarter the target has not been met, and the performance is trending in a negative direction.
Average Age of Bus Fleet (State)	0.0	CY12	6	<p>▼ Preferred Trend</p>	The expected life of heavy-duty transit buses is 12 years. The State's target is a fleet with an average in-service age of six years. Older buses tend to require a higher level of maintenance to keep them operating efficiently and reliably. Variability of procurement cycles will cause variances from the goal
Average Age of Bus Fleet (Transit Districts)	0.0	CY12	6	<p>▼ Preferred Trend</p>	The expected life of heavy-duty transit buses is 12 years. The State's target is a fleet with an average in-service age of six years. Older buses tend to require a higher level of maintenance to keep them operating efficiently and reliably. Variability of procurement cycles will cause variances from the goal.
Number of CTTtransit Passenger Trips	6,447,820	CY14-Q1	6,250,000	<p>▲ Preferred Trend</p>	Ridership continues to perform above the target and shows slight decrease compared to same quarter of 2013.
Percent of Agreements Executed in Under 60 Days	31.40%	FY14-Q3	100%	<p>▲ Preferred Trend</p>	Slight increase in percentage done in less than 60 days, due to the mix of agreements submitted. More simple format agreements were processed this quarter.



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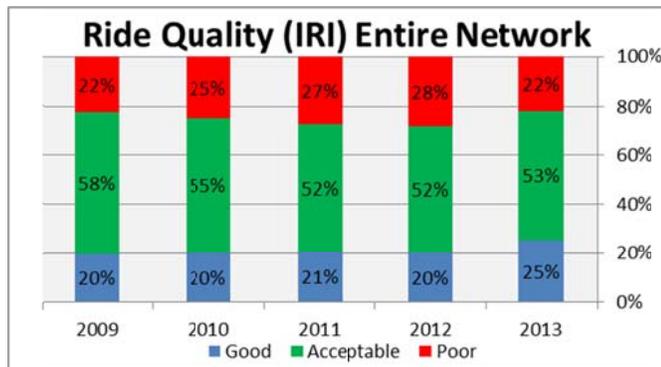
Performance Measure	Result	Period	Target	Trend / Score	Analysis of Trend
Percent of Construction Contracts Awarded within 60 Days of Bid Opening	87.5%	FY14-Q3	100%		<p>▲ Preferred Trend</p> <p>For the 1st quarter reporting period for CY 2014, 21 of 24 Construction Contracts were awarded within 60 days of bid opening. Timely execution of contracts is critical to ensure a safe and efficient infrastructure for the traveling public and quickly disbursing contract funds minimizes overall project costs. Current data indicates a positive trend to continue.</p>
Number of Project Closeouts (Qtr)	134	FY14-Q3	75		<p>▲ Preferred Trend</p> <p>The Department is moving forward and making significant progress with the Project Closeout and Final Voucher Initiative. In the third quarter of SFY 2014, 134 projects have been closed. For SFY 2014 the goal remains at 300 and we continue to decrease the backlog. We have 69 Final Vouchers proceeding through the closeout process from the 133 assigned for Final Voucher preparation.</p>
Percent of Construction Contracts Completed within Budget	49%	CY14-Q1	Increase Percentage		<p>▲ Preferred Trend</p> <p>In the 1st Quarter of CY 2014, 39 projects were completed, with a percentage of 49% being completed within budget. The target is to increase the percentage by minimizing cost overruns on contracts by being proactive in design phase reviews to address constructibility issues, and to encourage contractor's innovative ideas and value engineering.</p>
Percent of Construction Contracts Completed on Time	38%	CY14-Q1	Increase Percentage		<p>▲ Preferred Trend</p> <p>In the 1st Quarter of CY 2014, 39 projects were completed, with a percentage of 38% being completed on time. The target is to increase the percentage by reducing time overruns by improving coordination of contract activities, utility relocation efforts, and timely communication with various stakeholders; by closely monitoring construction activities schedules and addressing issues in a timely manner.</p>

# Ride Quality on Connecticut's Roads

Ride Quality is the measurement of the roughness (complement of smoothness) of pavement. The general public's perception of a good road is one that provides a smooth ride. Roughness is an important pavement characteristic because it affects not only ride quality but also fuel consumption and both vehicle and roadway maintenance costs. CTDOT uses a worldwide standard for measuring pavement smoothness called the International Roughness Index, or IRI. This index provides a consistent and comparable measure of pavement in terms of the number of vertical bump inches per mile driven. IRI is reported as inches per mile. Essentially, the lower the IRI number, the smoother the ride.

CTDOT is directly responsible for overseeing all design, construction, maintenance, and improvements for the 3,734.28 miles of State-maintained roadways consisting of State routes, stubs, bypasses, and ramps serving as the main line. This includes 1,392.00 miles of Interstate and other Enhanced National Highway System (NHS) roadways.

The condition of the entire state-maintained roadway network is presented below. The results indicate that in 2013, 78% of the entire state-owned network roadway miles have a good-or-acceptable ride quality.

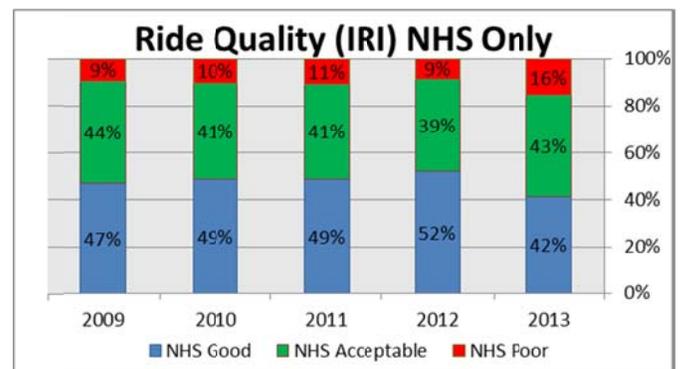


The significant increase in "Good" (and subsequent reduction in "Poor") ride quality from 2012 to 2013, reflects a combination of a) a more extensive pavement preservation program in 2012, and, to a lesser degree, b)

improvements in data collection procedures implemented in 2013.

The National Highway System (NHS) consists of roadways that have been designated as important to the nation's economy, defense, and mobility. Under current federal transportation legislation (MAP-21) the definition for NHS in Connecticut was expanded to include the roadway functional classification of "Other Principal Arterials". This added a approximately 435.8 miles to Connecticut's NHS, which was previously 956.2 miles.

NHS Roadways typically carry highway volumes of traffic and tend to be maintained at a higher priority level. Therefore, when you average in the additional miles of lower functional class into the calculation for the NHS, the result is a decrease in the overall ride quality. As seen below, in 2013 85% of Connecticut's NHS roadway miles have a good-or-acceptable ride quality.



Note: Under the previous definition for the NHS, the result for this period would have been 54.2% good, continuing to show the positive impact of the pavement preservation program.

The higher-functional-class roadways included in the NHS, such as interstates and expressways, are in somewhat better condition. This reflects the prioritization of preservation projects to favor roadways with higher traffic volumes.