



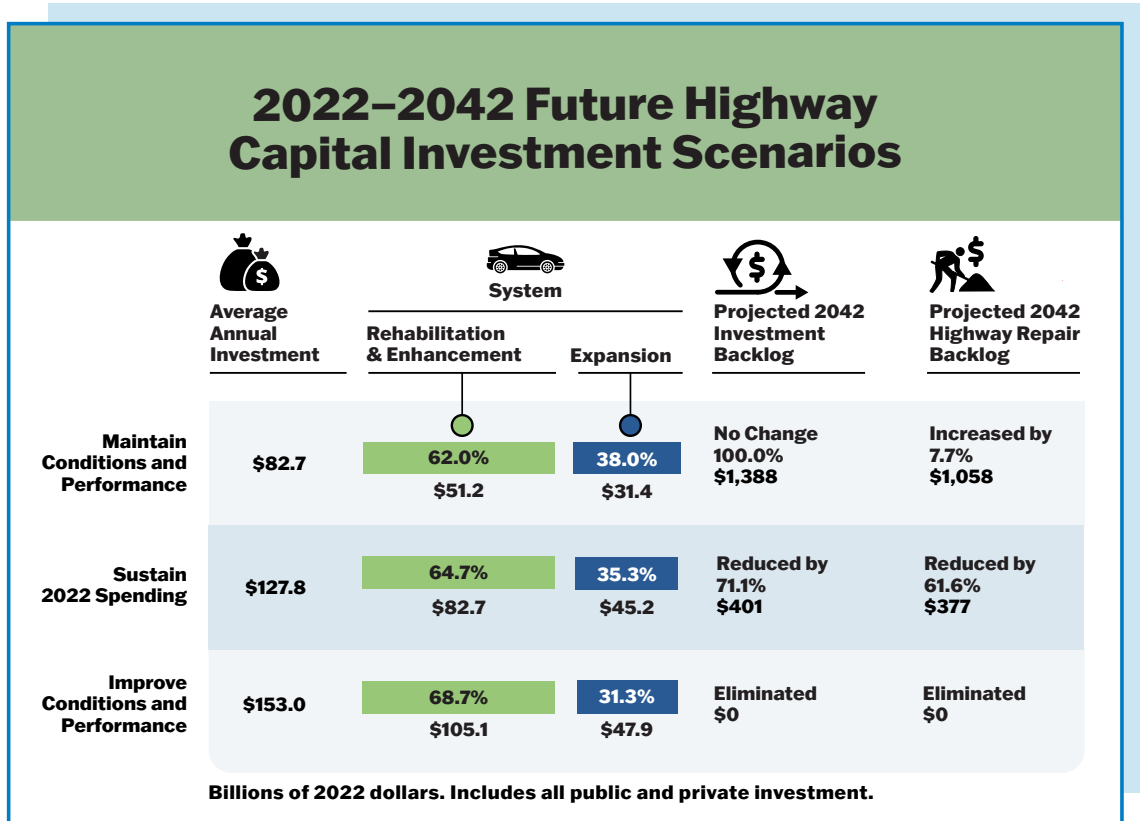
U.S. Department
of Transportation

**Federal Highway
Administration**

2022-2042 Highway Capital Investment Scenarios

Overview of FHWA’s Highway Capital Investment Scenarios

Using 2022 data as the baseline, the Federal Highway Administration conducted an analysis to estimate future highway and bridge capital investment needs by all levels of government. To do so, FHWA developed three highway capital investment scenarios that represent current spending levels as well as the minimum and maximum fiscally responsible investment levels. The focus of this analysis is on capital expenditures, including the costs required to rehabilitate (or resurface) existing roadways; reconstruct existing bridges; enhance existing roadway and bridge safety and operations; and expand the system to construct new lanes, roadways, and bridges.



The analysis includes an understanding of all unmet needs that would be cost-beneficial to implement at the start of the base year. Those unmet needs are referred to as the Investment Backlog. For the base year 2022, FHWA estimated the Investment Backlog was \$1.4 trillion. A subset of the Investment Backlog, the \$1.05 trillion Highway Repair Backlog, represents the investment needed to repair and enhance existing highway and bridge assets, omitting new construction or expansion.

Source: FHWA, Office of Transportation Policy Studies.
Contact us at PolicyStudiesFeedback@dot.gov.



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The Maintain Conditions and Performance Scenario

The Maintain Conditions and Performance scenario estimates the investment required to keep the 2042 Investment Backlog at 2022 levels, representing an investment floor. Spending below this amount would result in deteriorating system conditions. FHWA estimates that an annual average investment of \$82.7 billion is required to keep the 2042 Investment Backlog at 2022 levels. Given that this value is below current 2022 spending, the results suggest that 2022 spending levels are sufficient to prevent deterioration over time.

The Sustain 2022 Spending Scenario

In 2022, all levels of government spent a combined \$127.8 billion on highway capital spending. The Sustain 2022 Spending scenario identifies the impact on condition and performance should capital spending remain constant (adjusted for inflation) at this level over the 20-year analysis period. Under the Sustain 2022 Spending scenario, the total 2022 Investment Backlog of \$1.4 trillion decreases by 71.1 percent to \$401 billion in 2042.

The Improve Conditions and Performance Scenario

The Improve Conditions and Performance scenario estimates the investment needed to eliminate the 2042 Investment Backlog by delivering all cost-beneficial projects. It represents an investment ceiling beyond which further investment would not be economically efficient. Discharging this backlog requires \$153 billion annually, 19.7 percent more than the Sustain 2022 Spending scenario.

Investment Scenario Modeling

The future investment needs of roadways and bridges conducted by FHWA are based on analyses using the Highway Economic Requirements System and the National Bridge Investment Analysis System models to identify capital investment levels required to achieve the stated performance goals of the three future 20-year scenarios. These analyses are influenced by the underlying assumptions built into the tools. Moreover, the three scenarios are illustrative in nature; therefore, comparing the relative investment levels and resulting condition and performance outcomes across the different scenarios is more meaningful than focusing on the projections for an individual scenario. **The Federal Highway Administration does not endorse any of the three scenarios as a target level of investment.**

Source: FHWA, Office of Transportation Policy Studies.
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*Under the Maintain Conditions and Performance (C&P) Scenario, an average annual investment of **\$82.7 billion** is required to keep the 2042 Investment Backlog at 2022 levels (\$1.4 trillion). Given that the estimated Maintain C&P investment need level is below the 2022 investment level (\$127.8 billion), results suggest that current funding levels are sufficient to prevent deterioration over time.*

*In 2022, all levels of government spent a combined **\$127.8 billion** on highway capital spending. Under the Sustain 2022 Spending scenario, the total 2022 investment backlog of \$1.4 trillion decreases by 71.1 percent to \$401 billion in 2042.*

*To eliminate the 2042 Investment Backlog, an annual average investment of **\$153 billion** is required.*