The Size of the Job

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U.S. Department of Transportation
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The Size of the Job

In 1961, the Bureau of Public Roads issued a summary of what it would take to build "the greatest peacetime public works program in history." Referring to the 41,000-mile Interstate System as it was then designated and its completion date in the early 1970s, the summary offered comparisons that conveyed the size of the job:

U.S. Department of Commerce Bureau of Public Roads

The Interstate System: Size of the Job

Construction of the National System of Interstate and Defense Highways under the administration of the Bureau of Public Roads, U.S. Department of Commerce, is acknowledged to be the greatest peacetime public works program in history. Its 41,000 miles of superhighways, though comprising little more than 1 percent of the Nation's total road and street mileage, will carry more than 20 percent of the total traffic. By the time [the] Interstate is finished, there will be well over 100 million motor vehicles on the road, traveling more than a trillion vehicle-miles annually.

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More than 80 percent of the Interstate System mileage will be 4-lane divided highways; better than 10 percent will have 6 lanes or more. Over 20 percent of the mileage will have frontage or service roads on one or both sides.

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The total lane mileage in the 41,000-mile Interstate System and its frontage roads will be equivalent to 97,000 miles of 2-lane highway.

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If the total pavement area of the Interstate System were assembled into one gigantic parking lot it would be more than 20 miles square-big enough, allowing plenty of aisle space, to accommodate over two-thirds of all of the 75 million motor vehicles now registered in the United States.

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The bridges on the Interstate System, in aggregate, will be long enough to span the Rio Grande River, lengthwise. There will be over 50,000 of them, two-thirds for all railroads and highway grade separations, river and stream crossings, and frontage roads. The rest will be structures at highway interchanges, which will average about four miles apart.

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Almost 90 percent of the Interstate System will be in rural areas. Of the total mileage, about 80 percent is being built on new locations.

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The Interstate System, when completed, will have required the acquisition of new right-of-way totaling nearly 1½ million acres and involving 750,000 parcels, more than the area of the State of Delaware.

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Total excavation for the Interstate System calls for moving enough material to bury the whole State of Connecticut knee-deep in dirt. Scrapped up in one colossal pile, it would have a volume of 1¾ cubic miles.

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Aggregates-sand, gravel, crushed stone, and slag-needed for the Interstate System would supply material to build a wall 50 feet wide and 9 feet high completely around the world at the equator; enough to make 700 mounds the size of the largest Egyptian pyramids.

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The portland cement concrete that will be used in the Interstate System would build more than 80 monoliths the size of Hoover Dam. That much concrete would provide six sidewalks to the moon. The cement alone would fill three trains of cement hopper cars with their locomotives in New York City and their cabooses in San Francisco.

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The bitumens-tar and asphalt-to be used in pavements, bases, and shoulders of the Interstate System would provide enough material to build driveways for 35 million homes. Loaded in tank cars, the bitumen would require five trains each stretching from Chicago to New Orleans.

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The steel required for the Interstate System will take about 30 million tons of iron ore, 18 million tons of coal, and 6½ million tons of limestone. The total steel requirements are almost twice the annual steel consumption of the automotive industry. Each mile of the System will need the amount of steel, on the average, required for the nails in 1,700 frame houses.

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The structural steel alone required for the Interstate System would be enough to build 170 skyscrapers the size of the Empire State Building. Reinforcing steel needed would provide 16 railroad tracks across the United States.

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Form lumber and timber piling required for the Interstate System would take all of the trees in a forest of more than 500 square miles. The timber piling, laid end to end, would reach from Seattle to Buenos Aires and back again.

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The petroleum products to run the army of road-building machinery used in Interstate System construction would provide a million automobiles with a 6-year supply of gasoline, oil, and lubricants.

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Enough culvert and drain pipe will be needed for the Interstate System to equal combined water and sewer main systems of six cities the size of Chicago.

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The explosive needed to blast rock out of the way for the Interstate System will equal about one-third of a megaton.

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Compare a mile of the Interstate System, built not only for today but for 1975 [the design year at the time], with a mile of primary highway built some thirty years ago. The older road was a 2-lane highway with a narrow shoulder, often with a deep ditch just beyond. The new road is a 4-lane divided highway, with a broad median separating the two roadways, each flanked by a wide, safe shoulder. A generation ago a road shot straight across the land, up hill and down dale; today's superhighway is fitted appropriately into the terrain for easy driving and pleasing appearance. So, the new Interstate road needs a right-of-way width of 150 to 300 feet or more; a generation ago, roadbuilders could get by with 50 or 75 feet.

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A generation ago, highway lanes were built 9 or 10 feet wide. Those on the Interstate System today are 12 or 13 feet wide. Thus, the pavement of a modern 4-lane highway is not twice but two and three quarters times as wide as the old 2-lane road. It is thicker, too, to carry more and heavier loads.

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As roads were built a generation ago, every crossroad, driveway, and farm entrance cut into or across the main highway, often lurking behind a clump of trees or around a curve. The Interstate System has complete control of access, with carefully selected and planned traffic interchanges at reasonably frequent intervals.

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The Interstate System highway requires 9 times as much excavation work as the road of a generation ago; and 7 times as much in bitumens, 4½ times as much cement, 3½ times as much aggregate, 3½ times as much steel, and twice as much lumber.