

POPULAR SCIENCE



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Firsthand performance report on
OUR DEADLIEST BOMBER

**Who Are America's
Worst Car Drivers?**

McCall

Riding the Santa Fe's Split-Level Train



TWO FEET TALLER than the conventional train it's passing here, the "hi-level" El Capitan seats its

passengers way up—four feet, three inches, higher over the rails than most other trains.

By Wesley S. Griswold



This is the second of two POPULAR SCIENCE reports on the new coach trains with which the railroads are battling to hold passenger traffic against the competition of airlines and buses. The first, last month, described New York Central's light, low-level Xplorer. In contrast, Santa Fe's new El Capitan—described here—uses the highest, heaviest and most expensive cars ever built for coach-train service.

"THIS is the way to travel," said the man from Massachusetts, who lay nearly flat on his back on a train seat that could be tilted more ways than a Link Trainer. Hitching on one elbow, he waved his cigar at the bold expanse of Mojave Desert gliding soundlessly by 10 feet below us.

"You can have your rail-hugging trains of tomorrow," he expanded. "I'll take this high-level Santa Fe job. It's as good as flying, without the noise."

The man from Massachusetts was being swept off his feet by his first ride in a \$2,400,000 penthouse train—the Santa Fe's newly re-equipped Chicago-Los Angeles flyer, El Capitan.

As a fellow El Capitan rider, I shared his enthusiasm for the most luxurious all-coach mainliner on the rails today. I, too, had sampled Aero-Trains, Talgos and Train X's; low-slung, low-cost featherweights that are much touted these days as the only answer to ever-mounting passenger-train losses.

Yet here was the new El Capitan, looking down from its skyscraper height of 15½ feet (that's two feet higher than a conventional coach and almost 5½ feet higher than some new underslung trains) and chuckling softly at the lightweight competition.

The El Capitan coach I was riding in from Los Angeles to Barstow, Calif., was

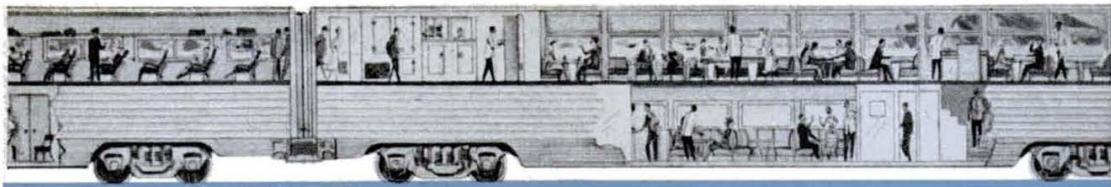


"SKY LOUNGE" offers almost as full a view as a dome car; Kochina room, below it, has picture windows. Lighting here is indirect fluorescent; slotted paneling delivers warm or cool air.



ONE SHORT STEP puts this passenger on the lower level of an El Capitan coach. Its outside height is 15½ feet, just clearing the roof over the loading platform at the Los Angeles terminal.

the double-decker cars work. The lounge car seats 86 on two levels,



unbelievably elegant and spacious. It weighed a third again as much as its standard-weight predecessor on this run, and from four to five times as much as a low-center-of-gravity car. It had cost the Santa Fe more than \$1.60 a pound. That's only 40 cents less than the going per-pound price of America's most expensive automobile, the Mark II Continental.

Had the usually smart Santa Fe gone off its handcar rocker by offering this de luxe deal to the lowly coach traveler?

When I put the question to the Santa official who had been assigned to fill me in on facts and figures on the trip, he bristled with indignation.

"Coach travelers aren't lowly on the Santa Fe," he said. "They're the life-blood of this or any other railroad's passenger business."

"Sorry," I mumbled, and his manner softened.

"Nevertheless, I'll admit that you've put your finger on a curious problem for the Santa Fe. We haul our average passenger 565 miles, or eight times as far as the national average. This means that we must offer more attractive and roomy accommodations than a short-haul railroad, if we want to keep our patrons. At the same time, it's obvious that the more revenue seats we can build into a coach the better chance we have to show a profit.

"To solve this dilemma, we've borrowed the old carpenters' axiom that the cheapest way to build a house—or a coach, in our case—is up. You get more floor space for your dollar."

Looking down the long expanse of "hi-level" coach deck, with its 72 widely spaced seats extending from car-end to car-end, I began to get the idea. By

moving entrance and exit vestibules, washrooms, and equipment and storage lockers downstairs, El Capitan coaches offer half again as much revenue space as an ordinary car. Its seven coaches are doing the work of nearly eleven.

"Put it this way," said my Santa Fe guide. "Each of these new cars weighs 80 tons, or 20 tons more than the old El Cap coaches. Yet in all they represent a saving of nearly 100 tons in train weight."

As he spoke, the muffled melody of a dinner gong floated in upon our conversation, and a baritone voice boomed cheerfully: "First call for dinner, folks."

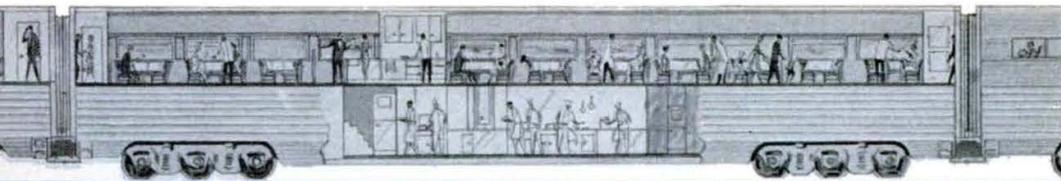
Heading toward the diner, the guide at my side, I felt my brogans sink into rich, springy carpeting that extended unbroken, except for two doors, into El Capitan's hi-level dining car. There, he tossed me another statistic.

"We use four more sets of El Capitan equipment identical to this, plus a couple of standby coaches, to maintain daily service east and west. If all of the carpeting in our 47 El Capitan cars had been woven into one rug it would cover two-thirds of a football field."

Like our coach, the diner impressed me at once with an unusual dividend of this hi-level equipment. That was the almost complete sense of detachment from the rails. As the man from Massachusetts had put it, this was like flying without the noise. We were streaking across the desert, not at El Capitan's top speed of 90 miles per hour, but at a respectable 80. Yet the sound-dampening extra four feet below the floor absorbed every trace of track noise, giving full play to the nuances of soft dinner music.

"Two magnetic tape recorders are

the diner 80. The old El Capitan had two diners to feed 72.



installed in the lounge car," my guide informed me. "Both of them work continuously, one dishing out popular music, the other semi-classical. The stuff is piped all over the train, with push-button selectors in every car. El Capitan passengers get what they ask for—radio reception, too, although it's a bit tricky. We generally save the radio for sports and news coverage."

As we settled down to an appetizing meal, I was conscious that the chatter of wheels on rails was not the only thing that was missing. There was no dancing of water in the tumblers, no fidgety silverware, jingling like a distant ensemble of Swiss bellringers. Vibrations, it appeared, leveled out by the time they reached the top deck.

But my guide had gone back to his favorite subject—train weight.

"There are 80 seats in this car," he told me. "El Capitan used to carry two conventional diners with a combined capacity of only 72. So, here again, we're saving 60 tons. Even with this diner, an 80-ton lounge car, a crew dormitory car and a mail-and-baggage car thrown in for good measure, the total train weight of the new El Capitan shrinks to only 3,628 pounds per passenger. That's nearly a ton less than the per-passenger weight of the equipment that it replaced.

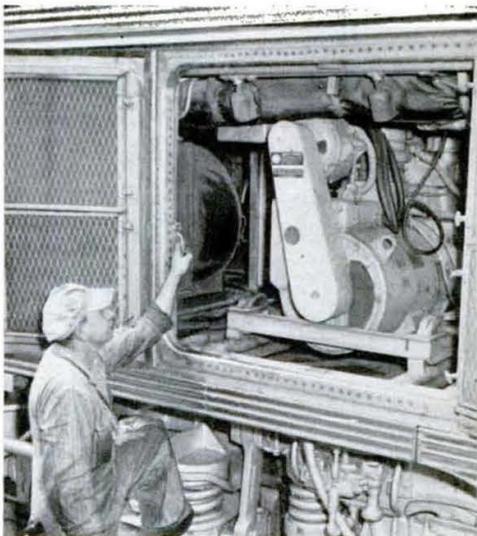
"What's more surprising: If one of the track-skimming lightweight cars on a Talgo or a Train X were fitted out with comparably wide-spaced seats, it would weigh only seven pounds less, per passenger, than an El Capitan coach."

Our meal finished, we went down a flight of stairs to the below-deck, all-electric kitchen.

"There are enough steps inside this



ALL-ELECTRIC, air-conditioned kitchen has three ovens, four hotplates. It also has refrigerators and an electric dishwasher. Electric dumbwaiters carry food up to the dining level.



TWENTY-TON REFRIGERATION UNIT air-conditions the El Capitan's two-level lounge car. It's the same type used in the diner. Lounge has one 60-kw. diesel generator; diner has two.

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train to take you to the top of a nine-story office building," said my guide. "Yet once you board El Capitan one step above platform level, you climb only one short flight and that can be it for the whole of your trip if you like. We've provided upstairs washrooms for infirm and elderly guests."

"I haven't seen any waiters racing upstairs and down with heavy trays," I commented. "How come?"

He grinned, shoved open a door, and beckoned me into the kitchen.

A 36-foot galley, agleam with stainless steel, met my eyes. It was savory with cooking odors and filled with the rushing sound of blowers carrying off scents and smoke.

It was as well staffed as a couple of hotel kitchens—one chef, two second cooks, one third cook, two fourth cooks, three pantrymen—but still no waiters.

My guide pointed to a couple of miniature elevators. "Subveyers," he called them. One was just passing out of view with a tray of spotless glasses; the other was coming down with trays stacked with dirty dishes.

"Where do you get the juice for all of those electric stoves? They look as if they'd drag a lot of kilowatts."

"The current comes from two 60-kilowatt, diesel-driven generators tucked over the dining car's trucks," the chef said. "Those generators could provide electric power for 25 five-room houses."

"How much food did you start off with today?"

My guide whipped a list from his pocket. "Twenty-five pounds of chicken, 50 pounds of turkey, 180 pounds of beef. Thirty-five club steaks, 100 pounds of assorted hams—"

"Thirty dozen eggs," inserted the chef.

"One hundred pounds of potatoes, crates of fresh leafy vegetables—"

"Three hundred individual bottles of milk, 160 servings of ice cream, and 24 quarts of cream . . ."

"Of course," the chef added apologetically, "we take on additional fresh dairy

supplies at Gallup, Albuquerque and Kansas City."

Aware that we were making life difficult for him, and knowing, too, that the blunt vermilion snout of El Capitan's four-unit diesel would soon be nosing into Barstow, I asked to see the showpiece of all showpieces aboard the train. This was the "sky lounge" car.

Back upstairs we went and into this cloud-scraping heavyweight. Here, a capacity throng of 60 passengers was savoring predinner refreshments on leather-upholstered divans and easy chairs.

"Note that double row of windows arcing overhead," said my guide. "Except for a solid center panel, you can see as much as you could from a regular dome car—"

"And without the hothouse glare," commented a passenger who had overheard him.

My guide now had his watch in hand. "I'd like to show you the Kochina room right below us, but we haven't time. It's named for an Indian doll. Seats another 26 passengers. Has a snack bar, open from five a.m. to 11 p.m. Serves sandwiches, coffee, soft drinks—"

A diesel horn bleated softly in the distance. El Capitan was slowing down. Reluctantly, we hurried into an adjoining coach and down its stairway to a vestibule lined with well-filled luggage racks.

The Santa Fe man nodded approvingly at all of this cowhide, took a deep breath, and let go with his final statistic.

"Reservations for El Capitan are up 47 percent since this hi-level equipment went into service."

Why shouldn't they be, I thought to myself as I stood on the Barstow platform minutes later and watched the lordly monarch of all coach trains disappear downtrack. Any railroad that's resourceful enough to make a profitable lightweight train out of heavyweight luxury equipment is entitled to a waiting line at its ticket window. END