



A little over three years ago the operating staff of the Union Pacific, Salt Lake City and west, were electrified almost to incredulity by a wire from Vice-President P. J. Lynch (operations) reading:

"Effective from Salt Lake City Thursday March 13 it will be arranged to handle livestock through to Los Angeles without stops for water and feed . . ."

The road's now well-known "DLS" (Day Light Stock) run was initiated as scheduled, and in the more than three years now passed has never missed a day of service over its difficult 784-mi. mountain-and-desert run, nor failed to get its valuable live load to Pacific Coast market yards before the 36-hour travel deadline. "DLS" has been popular with the trade, as indicated by the fact that it handled 9 per cent more cars of livestock in 1949 than it did in 1948, despite a decline in livestock loadings in the country as a whole in the same period. (Loadings of Class I roads as a whole in 1949 were 13 per cent under 1948.) The train handled 30 per cent more cars of livestock in the first three months of 1950 than in the corresponding period of 1948, and 11 per cent more than in the equivalent 1949 quarter.

Cuts Out Intermediate Feeding

The long-term aim behind the establishment of "DLS" was to cut the time of the trip so that livestock would arrive at destination in better shape. The immediate object was to overcome the physical problem posed by the growth of animal traffic beyond the

HOW INTERMEDIATE FEED IS CUT OUT

	Today's "DLS"	Best Former Stock Train
Lv. Salt Lake City	12:30 p.m.	8:00 p.m.
Arr. Las Vegas	1:00 a.m.	6:30 p.m. next day
Lv. Las Vegas	1:45 a.m.	4:30 a.m.
Arr. Los Angeles	3:30 p.m. next day	4:00 a.m. third day
Elapsed Time	27 hr.	56 hr.

Union Pacific Builds Up

capacity of Las Vegas (Nev.) pens to handle it for the intermediate rest stop and feeding necessary under former schedules of 57 to 60 hours for the Salt Lake City-Los Angeles run.

Livestock traffic westbound over the U. P. into the Los Angeles area has grown apace with the phenomenal increase in that section's population. Carloads of livestock handled at Las Vegas increased as follows:

1929	6,847
1939	10,087
1944	20,484
1946	24,000

The road was faced with the choice of expanding its role as innkeeper for cattle, sheep and swine by enlarging its handling facilities at Las Vegas or figuring out a way to highball the stock trains so fast that they would reach Los Angeles yards with a safe margin to spare before the 36-hour rest deadline.

It chose the latter alternative. On the first test run, stock had to be unloaded 67 miles short of the mark — at San Bernardino, Cal. The second run got the animals through to the Los Angeles yard before the 36 hours were up, but not in time to make all required track side deliveries. After that "DLS" turned in passenger-train performance on its schedule. The Las Vegas pens were closed down six weeks after the first through run was made and were torn down for good in the fall of 1947.

"DLS" — officially carded as No. 299, "Stock Special" — makes its 784-mi. journey in 27 hours, or at an average speed of 29 m.p.h., including an average of eight stops en route for inspection or pick-ups. Top speed is 60 m.p.h. It cuts the 56-hour transit time of the best comparable train run just prior to its inception — the so-called "Night Live Stock" — by more than half, as shown in the comparative condensed timetable herewith, and compares with 57 hours for the former best



FREIGHT TRAFFIC ISSUE

Traffic With a Fast Livestock Train

For more than three years, the 784-mi. desert run has been made at passenger-train speed, without feeding-stop delays

day stock run. Besides cutting out the intermediate stop-off, "DLS" has the advantage of getting the animals into the destination market early in the afternoon, with plenty of time for food and rest before the next day's "kill." Today's "DLS" stop for inspection at Las Vegas averages but 45 minutes, compared with 10 to 14 hours under the old arrangement. Actually, of course, "DLS" is a daylight train only at the extreme ends of its run. The majority of its running is done in the cool of the night, a fact of great importance to the welfare of the livestock it carries.

Three Foundation Stones

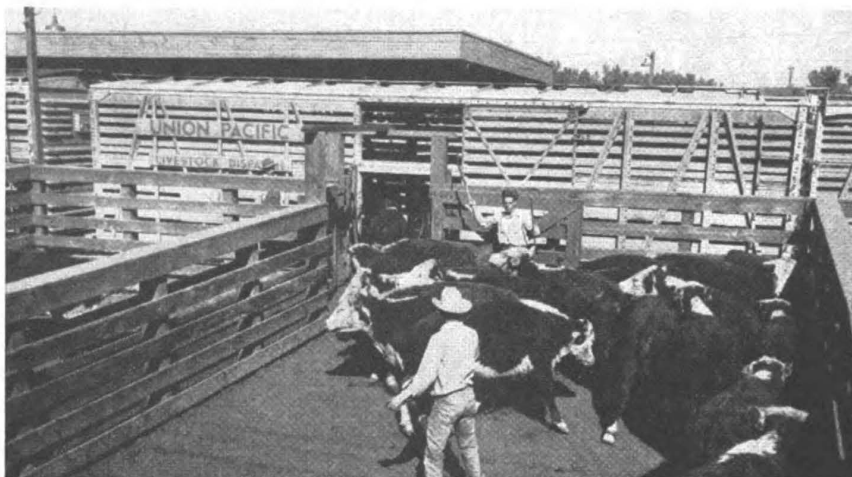
For about nine months of the year "DLS" usually runs solid livestock; the other three months it may be filled out with preferred loads such as automobile parts, dairy products and pool freight. It is limited to not over 85 cars, or from 3,000 to 3,500 tons; in the rush stock season (August-October) it is run in up to three sections. During its whole period of service, "DLS" has averaged 60 cars of livestock a day.

A solid train of modern stock cars in U. P.'s standard streamliner color scheme of canary yellow with bright red lettering, behind a three or four unit Diesel-electric locomotive, crossing the desert crowding 60 m.p.h. is an unusual sight. Equally unusual are the measures of physical improvement in railroad plant and equipment necessary to produce such a run. The

foundation for "DLS" service is three-legged: (1) fast reliable stock cars; (2) Diesel power and plenty of it; and (3) an open, uncluttered right-of-way.

Especially developed for "DLS" service (and confined to that run, except for some off-season range-to-range movements) are 877 "Livestock Dispatch" cars designed to stand up under a fast service, with plenty of utilization. These cars make a complete round-trip every five days. When the U.P. rebuilt them at its Denver shops, from older steel-underframe equipment, it started anew "from the frames up." To cushion shocks at high speeds, they are equipped with Waugh draft gear and vertical snubbers. Their journal boxes are fitted with Timken roller bearings. All-steel riveted roofs were applied to all units not previously so equipped.

They have other unusual features. The roofs and ends are painted in bright aluminum, which reduces absorption of the hot sun rays during the daylight portions of the runs. Of the total number of cars, approximately 400 are of a novel double-deck design, having a shallow upper level with its floor 19 inches higher than in ordinary two-deck cars, leaving a deep lower "berth" suitable for all livestock except horses and some dairy cattle. The "DLS" cars have an inside height of 9 ft. 2 in., compared with 7 ft. 10 in. in more conventional U. P. cars. They can be used with equal facility for two decks of swine or sheep; for cattle on the lower deck and swine or sheep on the upper; or



Roller bearing-equipped, shock-cushioned double-deck stock cars are an important ingredient of "DLS" service. They are bright canary-yellow and red, with aluminum-painted roofs and ends which reflect desert heat rays

for a single deck of cattle. Shippers say they prefer this type of car for even a single-deck load because the stock has less "bumping room." Door openings are 6 ft. wide, compared with an average of 5 ft. on conventional cars. The doors themselves are held shut with a new type of door fastener. Bull-boards are made of two boiler tubes welded together, for maximum protection of the livestock, and in other respects the cars are free of dangerous protruding parts.

The "Livestock Dispatch" cars already in service constitute about 16 per cent of the road's total fleet of stock equipment. Beginning in May, the U. P. expects to turn out additional new cars of a similar design with additional refinements, including all-welded sides and ends, at the rate of about four cars a week, at its Denver shops.

Diesels Do the Job

The second fundamental of "DLS" service is a fleet of Electro-Motive and American Locomotive-General Electric 1,500-hp. Diesel-electric units which now furnish power for most of the ton-miles on the U. P.'s Salt Lake City-Los Angeles line. The fast livestock run was handled by modern steam power for the first three months of its operation, with the exception of test runs with an E.M.D. Diesel, but it subsequently has been Diesel-hauled exclusively. The locomotives work through from terminal to terminal without change. The dynamic braking with which they are equipped to cope with heavy mountain grades has been a powerful factor in cutting down injuries to livestock.

The third foundation of "DLS" performance is good handling by the operating forces. No. 299 is treated like a passenger train. The U.P. says she'll run every day, even if the road gets only one car of stock to move — an unlikely eventuality. Dispatchers and train crews are greatly aided in getting "DLS" over the road by the fact that almost the entire route — 625 miles of it from Salt Lake City to Daggett, Cal. — is equipped with centralized traffic control, said to be

the longest continuous stretch of C.T.C. in the world. C.T.C. is also in operation between Riverside Jct. and Los Angeles, 58 miles, with double-track Daggett to Riverside Jct.

What kind of livestock does "DLS" carry? Anything on the hoof bound for the Los Angeles area from the east. Its customary cargo includes sheep from Idaho, feeder steers from Montana, horses (for dogmeat and the foreign aid program) from western Wyoming, feedlot-fattened heifers from Utah, hogs from Iowa and Nebraska, fat heifers from the Denver market and grassfat cows from the western slope of Colorado. The stock comes from as far east as Peoria, Ill., and Freeport, Sioux City, Iowa, and Des Moines, and Omaha, Neb. All of it is rest-stopped and fed at Ogden or Salt Lake City, without regard to the time of previous feeding. To pick up stock quartered at the Ogden yards, 36 miles north of Salt Lake City, a transfer run is made daily, with cars for "DLS" leaving Ogden yards two hours prior to No. 299's departure from North Yard in Salt Lake City. Animals are brought into the Ogden and Salt Lake City yards by fast trains from the east and north. Hogs, for example, may leave Kansas City, or Omaha one evening in "DLS"; reach Laramie, Wyo., the next to join the Denver-originated stock in "Advance D. P.", and rest the third night by the shores of the Great Salt Lake.

At origin "DLS" is fully "blocked" in advance for set-outs in the Pacific Coast area. Chief of the latter are: (1) Barstow for delivery to points in the San Joaquin Valley by the Santa Fe; (2) San Bernardino for movement by the A. T. & S. F. to San Diego; and (3) Colton for interchange with the Southern Pacific. In addition, five classifications are made for Los Angeles proper — four by subdistricts for U.P. delivery and one for the A.T.&S.F.

In 1949, the U.P. handled more cars of livestock than any other live-haul carrier in the country. The speed and versatility of its "Day Light Stock" were well indicated by Railroad Magazine, in its title, "Highballing the 'T'-Bones!"