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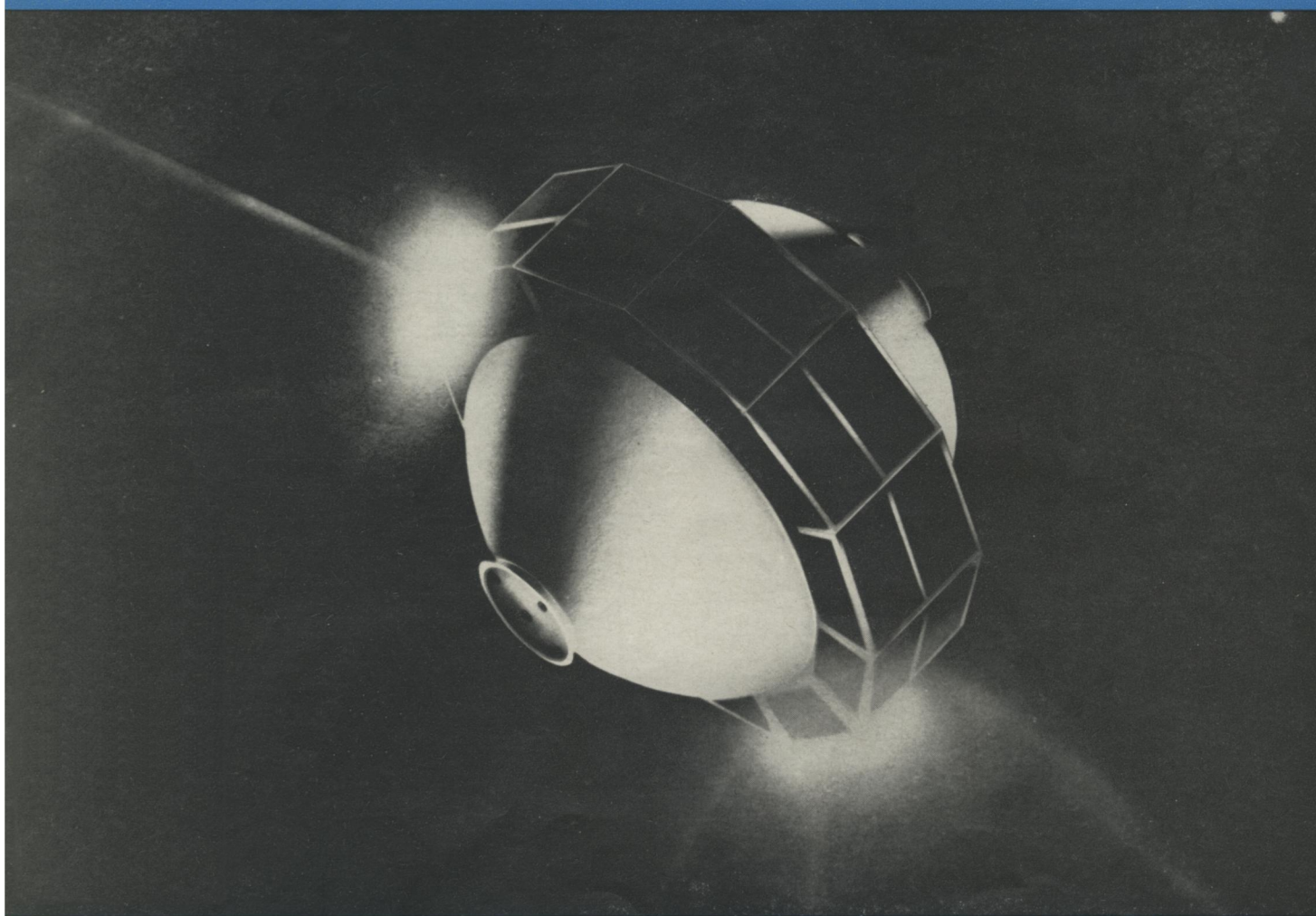
November 17, 1962

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# SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Department of Defense

Anna  
See Page 317

A SCIENCE SERVICE PUBLICATION

## At the Holland Tunnel, traffic is stopped to make it go: Why?

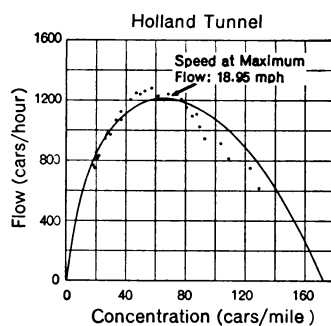
In their theoretical studies of traffic flow, scientists at the GM Research Laboratories have been developing mathematical models to describe how one car follows another. To check the validity of these models, mass flow experiments were conducted in the Holland Tunnel in close collaboration with The Port of New York Authority which is trying to relieve congestion at this vital traffic artery.

Observations indicated that the car-following models do give a highly consistent description of the steady-state stream of traffic. One interesting point: Both car-following theory and analysis of mass flow data showed that the optimum speed for maximum traffic flow in the tunnel is a surprisingly low 19 mph.

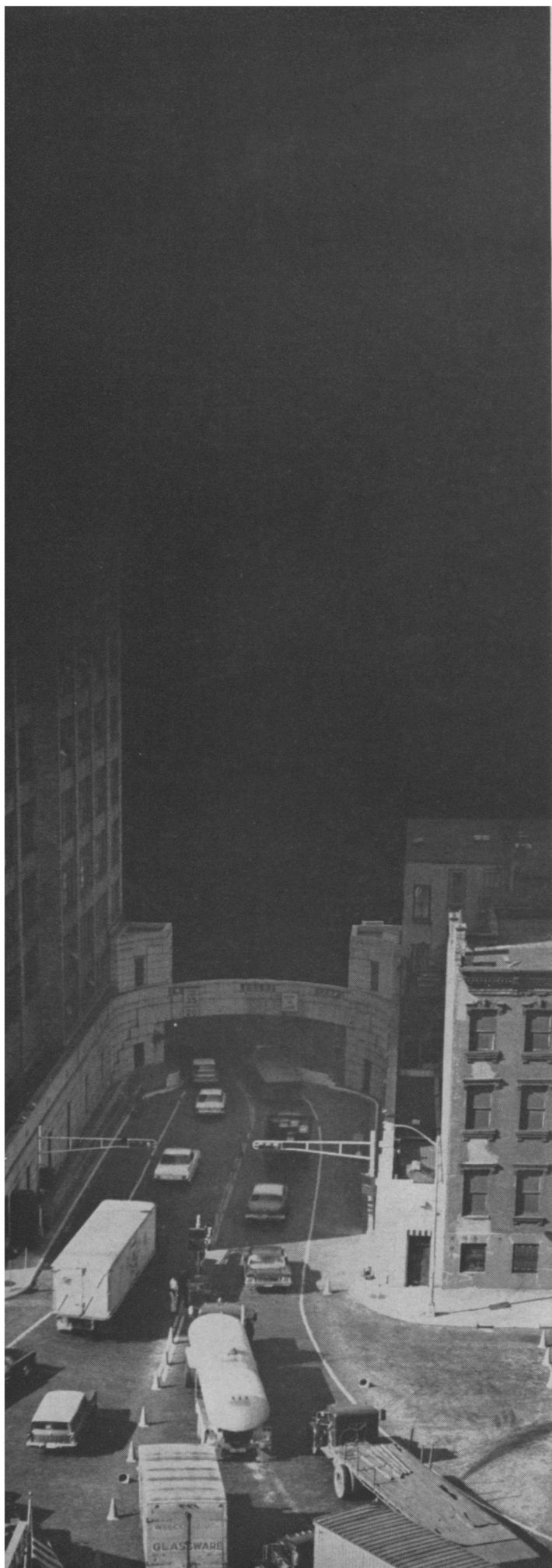
These cooperative studies are contributing significantly to the evolution of unique traffic control systems by the Port Authority for the Holland and Lincoln Tunnels. With the control system now being developed, the number of vehicles allowed to enter per minute is automatically adjusted as the speed and density of traffic in the tunnel changes. Test results to date show a significant reduction in congestion and increase in traffic volume during rush hours.

At General Motors, we believe information from such fundamental traffic studies may well have wide applications . . . for the cars, drivers, and perhaps, automatic highways of the future.

### General Motors Research Laboratories Warren, Michigan



Curve is a "least squares" fit of theoretical car-following model to mass flow data.



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- |                      |                    |                    |
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| Fungicides           | Iron Ore           | Rayon              |
| Sea Shell            | Modern Cotton      | Tin                |
| Color Vision         | Multi-Layer Wood   | Casein             |
| Nails                | Fingerprint        | Rubber Plant       |
| Paper Chromatography | Mineral Hardness   | Spices             |
| Glass Properties     | Kidskin            | Papermaking        |
| Petrology            | Humidity           | Steel              |
| Fertilizer Chemicals | Polaroid           | Coal By-Products   |
| Titanium             | Tea                | Nylon              |
| Computation          | Motion Picture     | Vinyl Resin Fibers |
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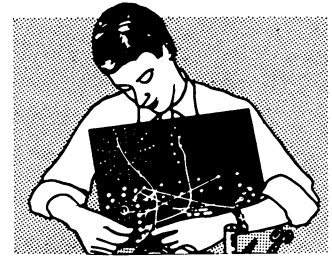
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