Major Highway Reconstruction in the United States: What's Ahead

LESTER P. LAMM
HIGHWAY USERS FEDERATION FOR SAFETY AND MOBILITY

There are some facts we all know: Mobility is essential to America's social and economic life. Transportation investments should improve mobility for persons and goods, and consequently yield safety, convenience, dependability, and affordability, combined with efficiency, speed, and comfort. Transportation systems should allow the individual the greatest possible freedom of choice.

If these are the desired attributes of transportation systems, some mammoth tasks lie ahead, because by the year 2000, these systems will be faced with an additional 34 million residents, at least another 14 million cars, and a still-growing fleet of larger and heavier trucks.

This adds up to an enormous increase in travel. Today, Americans log nearly 1.8 trillion vehicle-miles of travel per year. Federal Highway Administration's May 1985 report, *Status of the Nation's Highways 1985*, predicted that between now and the year 2000, traffic will grow from 2.50 percent to 2.75 percent annually. It actually grew by 4.40 percent between June 1985 and June 1986. Even at the more conservative rate, travel will increase 40 percent by the year 2000. A more realistic estimate is 60 percent, with some metropolitan areas and entire states incurring a doubling of today's traffic by the turn of the century.

Even before this travel increase, a tremendous backlog of highway needs has built up. FHWA reports that just maintaining the 1983 level of service on major highways would cost $18 billion annually up to the year 2000. Eliminating all deficiencies on major highways, except where right-of-way acquisition is particularly expensive, would cost about $26.7 billion annually, and eliminating deficiencies in these more difficult cases would cost another $7.3 billion per year.

In addition, almost one in four (23.6 percent) of the nation's bridges is structurally deficient, and one in five (18.8 percent) is functionally obsolete. An estimated $30.4 billion is needed to replace and rehabilitate bridges on federal-aid systems, and another $20.4 billion to do the same for off-system bridges.

Obviously, these are very large numbers, and even larger ones may be found in other reports on infrastructure needs.

The major implication for this conference is that the national highway program is clearly entering a new era, one that will focus more and more on the need to reconstruct many of our aging and traffic-saturated urban highways.

Although this conference is not about work zone safety, many of the past concerns about work zone safety are the very factors to consider when thinking about major reconstruction projects. The main difference is that the broader concepts of corridor traffic management that will be discussed at this conference generally go well beyond those of work zone safety. I will briefly review some common concepts.

Work zone safety is an old concern. But reconstructing a busy urban highway while trying to maintain today's traffic is much more difficult than building a new highway. Greater emphasis than ever should be put on preconstruction plans and procedures for work zone safety practices. And once these plans have been made, project sponsors should stress additional monitoring to assure that the desired practices are properly carried out at each work zone site.

There is no single answer to the problems of work zone safety, but many practices will help.

Sensitizing contractor and state highway agency personnel to the special needs of work zone safety planning and control is clearly very important. Effective traffic barriers, impact attentuation devices, and lane delineation are also vital. Appropriate signing and warning devices, driver information services, and nighttime lighting are all key.

Users are continually confounded by signs either inappropriately placed for warning purposes or left too long after construction is completed. Sometimes the sheer number of signs, on what has become an unprecedented number of reconstruction sites operating under traffic conditions, adds to the highway users' perceptions that work crews are out merely to inhibit traffic flow!

This misperception has to be corrected. Drivers must realize that they cannot simply disregard work zone safety warnings. They must drive more carefully and patiently, not only for their own safety, but out of respect for the safety of construction crews and other drivers. To help them do so, highway departments must improve the way they advise drivers about construction activities and how they are expected to drive in work zones.

The Highway Users Federation is developing some audiovisual programs on these aspects of driver behavior, which will be made available to the more than 7,000 automotive dealers who belong to their affiliated Dealers Safety and Mobility Council and will be loaned to social and civic groups and to schools at the community level.

Most highway departments must also start emphasizing the benefits derived from highway construction and reconstruction. A lot of people think there's an answer other than building and rebuilding highways. I don't think so. Nothing is going to modify America's dependence on the highway system. It is simply not realistic to believe that any majority of people will switch their dependency to transit. Nor is it likely that everyone will work at home computers and never use their cars.

Of course, the private sector can help alleviate urban traffic problems—particularly those that go along with major reconstruction projects—in a variety of ways. Companies can, for example, stagger work hours, promote carpooling and vanpooling, use shuttle buses or charter bus services to move large numbers of employees between work sites and/or remote parking lots, and similar practices.

Although the private sector has already made important contributions to many urban transportation improvements, its role can and will expand over the coming years. Those of you who are responsible for planning major reconstruction projects ought to be knocking on the private sector's door every day.

One of the best things that can happen is that developers face facts and start limiting the traffic-generating potential of their new super-scale developments to the capacity of the highway and transit systems trying to accommodate all the added

travel. Developers have always provided for utilities, sewage, and other services for their new properties. People are as important as sewage.

Such limitations are coming. I just hope we last long enough to see it; we've all talked about it enough!

The public sector is obviously already much involved in traffic management. A few actions of particular importance are:

- *Ramp metering*—With metering, 2,000 vehicles an hour can move in every freeway lane; without it, as many as 10,000 freeway users may be delayed at a time, rather than perhaps several dozen drivers who might have to wait briefly at a few ramps.
- *High-occupancy-vehicle (HOV) lanes*—Many more miles of HOV lanes are needed in congested, high-density urban areas. The time has come to discourage single-occupant commuting by every means possible; the lure of free-flow HOV lanes is probably still greater than any deterrent we can use.
- *Incident control management*—Better ways are needed to deal with freeway incidents, whether caused by a jack-knifed trailer with a spilled load or one person with a flat tire who can clog a whole freeway for an hour at a time. One- or two-hour delays, and sometimes much longer, are becoming common.
- *Traffic surveillance*—Transportation planners need to make more widespread use of known freeway surveillance techniques, to get the best out of the systems; freeway capacity is too precious and costly to waste by simple inattention to system performance. Many highway departments must realize that building and maintaining freeways isn't enough; they must also actively manage their operation.
- *Parking regulations*—Cities need to do a much better job of developing and enforcing citywide parking policies, programs, and regulations. The old saw is still true: Streets are much too expensive to be used as parking lots.

Now, clearly, although all of these so-called "low-cost solutions" will help ease urban traffic congestion, they are not the answer to the 40 to 60 percent increase in traffic expected by the year 2000.

Increased capital will be necessary at all levels of government to meet current and future highway needs. Everyone, meaning both the public and the private sectors, must get involved in the money solution, because better highways are among the most effective investments any metropolitan area can make.

Here at this conference on corridor traffic management for major highway reconstruction, attention is properly turned toward many of the planning and engineering questions involved in that effort. I recognize that they are formidable. So are questions about highway finance.

But somehow, I'm confident that we'll all find the answers to these questions and keep moving forward together toward our common goal of better transportation.