public investment in infrastructure and safety facilities and private investment in operating equipment. A standard discount criterion could even be useful in determining the most economical surfacing to be used on a particular highway. This conceptually ideal situation must, of course, be visualized in terms of *relating* the appropriate discount rate to the development of the entire economy. The very existence of net new investment is incompatible with static assumptions about the economy; and, in particular, the existence of such net new investment in new forms of economic activity is likely to be accompanied by steadily increasing productivity.

In the rest of my statement, I will give some examples of this relationship of discount criteria to other dynamic investment criteria as well as of some of the problems created by the mixture of competition and complementarity prevalent among modes of transportation with different types of ownership and control.

I would like to give a summary of the present discounting practices of the operating administrations within the Department of Transportation.

First, the Bureau of Public Roads might be expected to have the most important decisions with respect to appropriate discount rates, because its annual investment budget greatly exceeds that of all the other model agencies in our Department combined.

But the Bureau's investment funds are derived from the highway trust fund, so that the inflow into the highway investment pool is immediately determined by the receipts of specified taxes and not by a showing with respect to discounted costs and benefits.

Moreover, the great majority of the Bureau's investment expenditures are distributed to individual States to be used according to set formulas along with State highway money. Neither the State-by-State distribution nor the percentage Federal share in each type of highway directly reflects costs, benefits, or discounts of future values to arrive at present values. State highway departments use discount rates ranging from 0 to 8 percent.

The Federal Highway Administration has also agreed to use standard rates for sensitivity analysis as provided by the Bureau of the Budget.

These standard rates are generally 7.5 percent, 10 percent, and 12.5 percent, as Mr. Hoffman indicated earlier.

The Federal Aviation Administration has based its discounting on Bureau of the Budget Circulars A–54 and A–76. Where it has employed discounting procedures, and this has not been in all of its projects, it has used interest rates which essentially reflect the cost of Government borrowing as reported by the Treasury Department. Over the past few years these rates have risen from 4.2 to 5.5 percent. Some recent sensitivity studies have used the same rates already mentioned for the Bureau of Public Roads; that is, 7.5, 10, and 12.5 percent.

Although the Urban Mass Transportation Administration has been active in providing capital grants for local transportation purposes, it has not engaged in direct investment activities. It has not established a discounting policy. Nor has discounting been utilized by either the Federal Railroad Administration or the St. Lawrence Seaway Development Corporation. The Coast Guard is just beginning to con-