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IMPORTANT HEAVY VEHICLE ISSUES IN THE UNITED STATES

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Introduction and Background

The United States is rapidly nearing several critical crossroads in truck transportation.

The future of the Interstate Highway System construction program, after its scheduled completion in 1991, is in doubt. Thousands of miles of both the Interstate and other highways and roads, not to mention 200,000 bridges, need rehabilitation or replacing at a cost of billions of dollars.

Trucks, largely because of urban congestion, are beginning to be subjected to new operating restraints. And at the same time, efforts are being made by the industry to operate over routes now off limits and to permit larger trucks even as trucking safety continues to be a matter of intense public concern.

To give you some perspective, let me give you some statistics before exploring each of those issues. Then, I would like to touch on a few areas in which research is underway or policies are being critically examined.

The first statistic surprised me when I first learned it. It would be a good candidate for a Ripley's "Believe It Or Not." It is this: We have 162 million licensed drivers. But, we have 180 million registered automobiles and trucks. In other words, if every single licensed driver were driving at one time, 18 million

vehicles would be parked. To accommodate all those vehicles--which do not include another 5 million motorcycles, by the way--the United States has almost 4 million miles of roads and streets. In terms of travel, 81 percent is on federally aided mileage. And while the 42,000-mile multi-lane, limited-access Interstate and Defense Highway System consists of just 1.2 percent of the total highway mileage it carries 22 percent of the traffic volume.

The total highway system handles 75 percent of the value of all goods and services produced by the economy. Forty percent of all domestic intercity tonnage goes by truck. In fact, over 90 percent of all travel in the United States takes place on the highway system. We certainly have a symbiosis with the internal combustion engine.

But with all that heavy use, roads deteriorate and require never-ending rehabilitation and some replacement to maintain an adequate level of serviceability. We have begun to win that struggle, however, as a result of an increase in Federal highway user fees provided for in the Surface Transportation Assistance Act of 1982.

On the other hand, congestion continues to increase inexorably, resulting in more and longer crush hours--certainly not rush hours any more. At the same time, highway safety conditions have improved, but even though steadily lower fatality rates are expected to continue the absolute number of fatalities will probably grow due to increased levels of traffic.

With the 42,000-mile Interstate System now almost completed and the Federal-aid construction program due by legislation to expire in 1991, the overriding question is what of the future? What role will the Federal government play in expanding or maintaining the highway investment? In light of that determination, what role will the States play? What will happen to the highway user tax structure? Those are questions that motorists and truckers and legislators and bureaucrats alike will be riveting on over the next year and a half.

These drew mention in a recent Federal Highway interim report titled "America's Challenge for Highway Transportation in the 21st Century." And they are certain to be included in an ambitious endeavor that you may have heard is the top priority of our new Secretary of Transportation, Samuel Skinner. That is to formulate what the United States has never had--a national transportation policy. Interestingly from our standpoint, the person President Bush has nominated to be the new Federal Highway Administrator, Thomas Larson, is the co-chair of the steering committee, which has already established six working groups including one on international transportation.

The trucking industry in the United States does have problems, proposals for solving them, and numerous other ongoing studies.

Leaving aside here any discussion of the various types and levels of taxation of the trucking industry--a whole symposium subject in themselves--the largest potential trouble spot on the horizon could be implementation and spread of the so-called Los Angeles plan. There, confronted with hordes of motorists displeased at increasingly lengthy commuting times and air pollution, the mayor has devised a plan to ban 70 percent of large trucks from operating on city streets during the six peak hours of the daily commuting crush. In effect, that would require that many pickups and deliveries would have to be rescheduled for nights and early mornings, maybe even on weekends.

The ramifications, if the idea spreads, are ominous for truckers, and shippers and receivers, too. Wage scales might have to undergo broad changes with a lot of the work having to be done in the traditional off-hours. Highway scheduling and dispatching would have to be drastically revised to make sure trucks did not inadvertently get in city traffic at forbidden times at the risk of heavy fines. Shippers and receivers, too, would have to alter their practices and stay in operation longer, no doubt bringing increased costs of their products. The list could go on, but I believe you have the message.

Truck Safety

Then there is the broad issue of truck safety. If you were unaware that it is a truly big emotional issue in the United

States, consider that Congress has enacted five major pieces of truck safety legislation so far in the 1980s. I say "so far" because there is currently pending still another one, tentatively titled the Motor Carrier Safety Act of 1989.

Over those same years, our agency has initiated a number of far-reaching and comprehensive commercial motor vehicle safety programs.

One is the commercial driver's license, whereby every truck and bus driver must have no more than one license. All the required personal information to get licenses will be stored in a central computer accessible to every State licensing and law enforcement agency. This will end the subterfuge some drivers used in order to spread violations among several licenses and thus avoid fines or disqualification. Also, drivers are now required to take and pass tests demonstrating both their knowledge of highway safety and their truck driving ability. These are being phased in, State by State, through the final deadline of April 1, 1992. (Our host nation, Canada, is a full partner in the safety effort with the United States. Reflecting that our safety regulations are compatible, we recently signed an agreement by which the licenses of our truck and bus drivers are accepted on both sides of the border.)

We have promulgated tough rules, ranging all the way to possible disqualification, against alcohol and drug use by commercial drivers.

Habitual violators of traffic laws will be ruled not qualified to drive trucks for various lengths of time depending on the violations. Soon we will have on the books definitions and penalties for "serious" driving violations.

Our most visible initiative is the Motor Carrier Safety Assistance Program. Here, we provide funds to assist the States in conducting widespread roadside commercial vehicle inspections--some 1.2 million nationwide in the latest fiscal year. Those resulted, for your information, in 450,000 vehicles and 77,000 drivers being put out of service for various safety violations. Or, as we like to think of it, that many potential accidents prevented. And here, too, we and Canada are as one. Just last month, in fact, we joined in a massive 72-hour roadside inspection exercise we called the International Commercial Vehicle Safety Check.

We have greatly increased our Federal staff in the field offices in order to conduct greater numbers of safety compliance reviews at the offices of carriers (there are about 185,000 trucking companies under our jurisdiction) to assess their safety management controls.

These efforts, plus many others too numerous to go into, seem to be paying off. From 1984 to 1987 the rate of fatal accidents involving combination trucks fell from 5.05 per 100 million miles traveled to 4.3. The fatality rate dropped from 5.93 to 5.1. Overall, the accident rate for all trucks over 10,000 pounds was about 250 per 100 million miles, compared with about 350 for all vehicles.

With all that as general background, let me report on some other current activities and studies that will affect the vehicle weight and dimension picture in the United States.

Size and Weight Limits

The Federal government has been involved with the regulation of size and weight since 1956, mainly at first to protect the huge Federal investment and more recently to improve trucking productivity and promote more efficient commerce.

The size and weight regulations, all having evolved with numerous changes, have three distinct components. The current requirements are:

(1) Weight. States must allow vehicles with a maximum of 20,000 pounds per single axle, 34,000 pounds per tandem axle, and 80,000 pounds of gross weight to operate on the Interstate System. The allowed weights may not exceed the maximum allowable under our

(4) And treatment of specialized hauling vehicles like cement mixers and dump trucks that have difficulty complying with the current bridge formula.

The bridge formula is intended to limit truck weights to those that can safely be carried on our bridges. Some trucking interests contend, however, that the formula is overly cautious and that productivity could be improved by allowing heavier vehicles without a significant adverse effect on bridges.

The study is being carried out in five areas--freight productivity, pavements, bridges, safety and traffic operations, and enforcement--and should be completed by March of 1990.

Vehicle Configurations and Highway Design

This study, which the TRB is to complete by next March, is evaluating a proposal for a new approach to the regulation of the sizes and weights of trucks using U.S. roads. This is the so-called Turner proposal, first presented in 1984 by former Federal Highway Administrator Francis C. Turner. Basically, truckers would gain productivity through higher allowable gross weights but with the addition of extra axles to reduce the load carried by each.

The study is concentrating on bridge impacts, vehicle handling and stability, effects on pavements, safety, and industry acceptance and freight cost implications.

Longer Combination Vehicle Studies

The Federal Highway Administration has done two congressionally directed studies on the safety of longer combination vehicles. The most typical configurations are:

(1) Rocky Mountain doubles, which consist of a tractor and two trailing units, one up to 48 feet long and the other up to 28.

(2) Triples, which consist of a tractor and three trailing units each up to 28 feet in length.

(3) And turnpike doubles, which are twin trailer combinations with each trailing unit up to 48 feet.

The evidence suggests that on most rural Interstate highways, turnpike doubles and Rocky Mountain doubles are safe when operated by experienced drivers. Triples are less stable because of their multiple short trailers and the more articulation points, making them prone to rollovers and encroachment into other traffic lanes.

There is no question that a given amount of highway travel by longer combination vehicles could move more freight than the same

amount of travel by conventional vehicles, and thus accidents per ton-mile could be reduced if current accident rates of longer vehicles did not worsen.

Intelligent Vehicle-Highway Systems

Finally, as in western Europe and Japan, the United States is embarked on research into "smart vehicle" or "smart highway" technology.

We see great potential for operating benefits in the commercial sector of highway travel. The growing trend to on-time delivery of goods places a higher premium on efficient trucking operations. With the "smart" technology, we see improvements in pickup and delivery schedules, which could help ease urban congestion that is exacerbated by trucks. Intelligent vehicle technology could perhaps counter those moves I mentioned earlier to ban truck traffic at certain times in and around cities.

At present, the Federal Highway Administration program includes some activities looking into selected issues related to deployment and operation of in-vehicle motorist information and navigation systems. Working with General Motors and the California Department of Transportation, Federal Highway is conducting a field evaluation called PATHFINDER. The experiment is being performed in the Los Angeles area with 25 vehicles equipped with electronic navigation systems.

As another example, there is a multi-State consortium supporting the HELP program--that's Heavy Vehicle Licenses Plate. Testing is under way to determine whether heavy trucks operating in a major corridor are able to use transponders to communicate with regulatory and law enforcement officials to eliminate the delay caused by manual verification of regulatory compliance.

And while not directly intelligent systems programs, there are other Federal projects that are relevant to that technology. For example, the U.S. Bureau of the Census has developed the TIGER system (that's for Topologically Integrated Geographic Encoding and Referencing). It is a digital map base that automates the mapping and related geographic activities required to support the census and survey program. TIGER provides coordinate-based digital cartographic information for the entire United States, including roads, railroads, rivers, and other geographic features.

Issues on the Horizon

So, where might everything be leading? I might offer a few predictions--not a wish list, but just predictions.

As for size and weight, the grandfather provisions for weight on the Interstate System and for trailer lengths on the designated network may be eliminated to rationalize conflicting State

regulations and enhance productivity. So, too, might the 80,000-pound Federal weight cap, brought about in no small degree by the expanding truck transportation of international shipping containers that often exceed 80,000 pounds. This would leave weight restrictions to be governed by axle load limits and bridge overstress criteria or a new bridge formula.

Our safety program also requires constant examination. An example is the 50-year-old hours-of-service regulations for drivers and their relation to fatigue in light of greatly improved operating conditions and new scientific knowledge. Responding, we are in the process of initiating a multi-year research program looking at the correlation between driver fatigue, hours of service, and safety.

Enforcement of our regulations, including size and weight, will be enhanced as we continue to develop, implement, and improve the capabilities of our computer-based information bases. Not only are we setting up the commercial driver's license bank of data on individuals but we will be able to share data on carrier operations, accidents involving commercial vehicles, safety and weight violations, and roadside inspections. Ultimately, we will be able to access data from remote roadside inspection sites in order to screen drivers and vehicles for more detailed inspections and to verify, for example, that a previously identified vehicle safety defect was repaired.

More standardization of Federal and State regulations and some welcome streamlining will result. Although our Federal regulations generally apply to interstate and foreign carriers only, their impact has spread throughout the States. This is because of the Motor Carrier Safety Assistance Program--the roadside inspection effort--which prescribes that the States adopt the Federal or compatible safety regulations in order to receive funding. The States also will be conducting an ever-increasing number of the on-site safety reviews at carrier offices.

The highway program itself, along with the Motor Carrier Safety Assistance Program, is the subject of some conjecture since current legislative authorization expires in 1991, as I noted at the outset. With little new Interstate mileage in anyone's plans, what are the future objectives?

One consideration with any proposed Federal-aid program might be separating truck traffic from general traffic in densely traveled corridors for capacity or safety reasons. The addition of separate automobile lanes could provide similar benefits.

A separate bridge program might be proposed by those who believe that States or local governments could not meet bridge needs were Federal funding to cease.

Then there is safety. If it is considered necessary for the Federal government to play a major oversight role, then

continuation of separate safety programs would seem desirable. MCSAP would still be the centerpiece of the Federal Highway Administration's motor carrier transportation program. If the program funding continues to increase, other issues that might be considered could include a determination of whether to include weight enforcement. Since most of the State-conducted roadside inspections are actually at weigh station locations, enforcement could be heightened if weight regulation were to become an eligible cost under MCSAP.

Wrap Up

To summarize, the trucking industry is entirely correct in pointing out that large economic benefits could accrue from increased vehicle weight, length, and multi-trailers. The other side of the coin is the question of what those would mean in additional costs associated with pavement and structures and the impact on public safety.

Our long-range forecasts show truck traffic growth will continue in the United States. With other traffic also increasing and with little potential for increasing highway mileage, there will be policy implications as to whether to permit heavier gross weights, longer trailers or larger combinations. Considering that the world's supply of petroleum is not infinite, the longer-term solutions would seem to rest on technology. In fact, new technology is essential if we are to provide a system of highways

that is durable and safe and that will meet capacity demands. The objectives of our future program must be one of enhanced safety and economic vitality.

But let me leave you with an intriguing observation attributed to one of our futurists. He said that by the year 2050 we would be using only 1 percent of the technology we are using today. That sounds like another candidate for Ripley--60 years from now, that is.

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