Plan goes on shelf

The objectives of the private and public sectors differ and hence their planning and plans will likely differ. The public sector may strive for the greatest public benefit for the least cost, while the private sector wishes to maximize profits. The public sector participants may strive for organizational survival, while the private sector may be geared to growth.

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Remarks of George T. Lathrop
Assistant Director
Department of Transportation
City of Charlotte, North Carolina

I was invited to assume a leadership role at the comprehensive transportation agency in Charlotte and was challenged to help focus that group on key activities. Based on that experience, I conclude:

(1) strategic planning only works if there is a clear and demonstrable commitment to strategic planning by upper management--in my case by service. town council, legislature, etc.

(2) strategic planning must be willing to view a broad range of scenarios--generally broader than is viewed today.

(3) the mission statement is the most important part of the whole planning process.

(4) a lack of information, statistics, and data makes planning difficult. Without it, it is difficult to assess where you are, to make decisions, to monitor actions, etc.

Remarks of Phillip C. Anderson
Colorado Department of Highways

Based on my experience in deriving a mission statement regarding economic development for the Colorado Department of Highways, I offer the following observations:

1. a staff member identified all past policy directives that had been issued.

2. one author developed a draft: build and maintain a system to support economic development where appropriate.

3. the statement was reviewed in comparison to actual experience. Contrasts with perspectives of private development were noted and required significant amounts of energy to resolve.

Plan goes into implementation

The purpose of the plan produced is to educate people and to help them in carrying out its objective. The production of the plan implies a commitment to the plan. It is a communication device which drives the budget, implies teamwork, and gives the entity multiyear consistency.

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4. the group received the support of top management for a revised version.

5. finally, the group formulated an early warning and issue analysis unit to consider, for example, the impact of various new federalism initiatives.

The value of the process was that it focused on scenario development and on asking the key question; how shall we allocate scarce resources?

DEFENSE NEEDS FOR STRATEGIC TRANSPORTATION Networks

by Robert Dienes
Deputy Special Assistant for
Transportation Engineering
Military Traffic Management Command (MTMC)
U.S. Department of Defense

In reviewing the agenda for yesterday's program, I noticed that "strategic planning" was a key item. In the present deregulated environment, I have no doubts that strategic planning is essential in the transportation world. More than ever, an acute awareness of shipper needs, traffic patterns, and the like is necessary to achieve our common objective--efficient service for the shipper and profitable operations for the carriers.

I'd like to approach the strategic planning issue from another perspective--defense needs--and our requirements for efficient multimodal strategic transportation networks in the event of mobilization or war. The DOD relies heavily on commercial transportation for peacetime and wartime moves; hence, I believe our strategic planning dovetails well with that being done in the private sector.

We've established six programs (highways, ports, railroads, pipelines, inland waterways, and Continental U.S. Air) each having the same general purpose-identify the defense-important transportation infrastructure; tell the owners and operators about our need; and keep the infrastructure in a condition ready for war.

In managing our transportation programs for national defense, we interface daily with operating directorates within MTMC and with public and private sector transportation agencies, particularly, the modal administrations of the U.S. Department of Transportation. For example, in our highways for national defense program, we interface with the Federal Highway Administration and the American Association of State Highway and Transportation Officials. Likewise, our Inland Waterways Program works with the U.S. Army Corps

of Engineers and with the Coast Guard.

As I begin my discussion of defense needs for strategic transportation networks, I'd like to emphasize the common objective of all the networks we've developed. If we consider the major combat units in the United States and their ports of embarkation and add to these locations, if you will, the ammunition plants, storage depots, major defense contractors and sources of strategic materials and petroleum, we can envision our logistical network. Men, equipment, ammunition, fuel, and resupply items--all must move to seaports or airports of embarkation.

This is a driving force in establishing our strategic transportation networks. As I discuss each of the modal programs for national defense, you will notice that each has developed an associated strategic network for planning purposes.

I'd like to begin by explaining highways for national defense and its five elements. In highway systems, we promote defense highway systems needs on a macro level. For example, we've established a 54,500-mile strategic highway corridor network (STRAHNET). We work with state and local highway authorities to ensure military needs are met under regular public highway programs just as they would be for any user. However, our defense access roads program provides a means for defense agencies to pay their "fair share" of the cost to improve or construct highways when they cause; unusual impacts such as a major expansion or road closure.

Emergency highway operations requires that we work closely with the FHWA -- as well as state highway departments and police--to ensure that military needs are met during national emergencies when civil authorities might have to regulate traffic on public highways for priority personnel and materials.

In traffic engineering we participate in the planning and analysis of traffic operations. Our traffic engineers regularly visit defense installations to solve traffic problems.

Finally, there is special defense use of the highways. Military movements on public highways, bridges, and tunnels must not exceed legal limits without prior permission from state and local authorities. Permits often must be obtained for oversize, overweight or special military movements. In some cases, DOD can certify a movement as being essential to the national defense, in which case many states will relax their permit requirements.

As I mentioned, when we speak of highway systems, we are referring to defense needs on a macro-scale. For example, we work with the FHWA and the states to promote completion of the Interstate Highway System and its maintenance standards. On the legislative front in response to Congress and the Surface Transportation Assistance Act of 1982, we worked with FHWA to establish military population as criteria for apportioning 4R (Resurfacing, Restoration, Rehabilitation, and Reconstruction) money.

In continuing my discussion of highway systems, I'd like to tell a brief story of how our interstate highway system came about.

General "Black Jack" Pershing developed a map in 1922 and presented it to the Secretary of War. It showed prioritized defense highway routes that he felt were needed. In June 1956, President Eisenhower signed the Federal-Aid Highway Act of 1956, giving birth to the national system of interstate and defense highways, one of the most massive projects this country has ever known. The system looked remarkably like that presented by General Pershing some thirty-four years earlier!

Using the Interstate System as a basis, we've added about 12,000 additional miles of defense-important routes and developed the 54,500-mile strategic highway corridor network (STRAHNET). This is the highway network we'll need to support mobilization and deployment, the industrial base, and possibly, land defense of our nation.

First, we studied the completion status of the system and focused on those uncompleted "gaps" in relation to their defense-importance and vulnerability to being deleted from the Interstate System. We found that about three-fourths of the gaps were defense-important and we worked directly with the states involved to ascertain their completion status and emphasize their priority. Interstate completion has risen from 94% in 1981 when we completed our study to 98+% today.

When the Interstate System was designed, we participated in developing defense-related criteria for its design. For example, we favor a 16-foot vertical clearance system-wide to accommodate our larger vehicles and equipment. But--as one would expect--many existing structures with inadequate clearance became part of interstate routes to avoid costly reconstruction.

Many of these inadequate structures are concentrated in urban areas, particularly in the northeast. Fortunately, alternate routes are usually available to by-pass low clearance points.

Our vertical clearance study will identify those critical "choke points" where structures should be brought up to 16-foot standards when scheduled for replacement or major reconstruction.

We have acquired an extensive multi-mode data base and have worked with military units, state highway departments, and port officials to select the best deployment routes from the installation to its designated seaport. Our STRAHNET connector evaluation focuses in on this level of detail.

Emergency highway operations is another aspect of our Highways for National Defense Program. When large volumes of military moves are occurring simultaneous with evacuation of population centers, competition for roadway space will result. Along these lines, we've established defense movement coordinators in each state to work with his civil counterparts to ensure military moves flow smoothly. The movement coordinators will plan for the flow of convoys within their state and coordinate with their counterparts in neighboring states. We recently completed a successful three-state test of this Mobilization Movement Control (MOBCON) concept and looked at three possible places for locating the coordinators. It was found that the state area

command was the best choice. These "STARCS", as they are called, are cadres of national guard members who are usually located in state capitols and work with active and reserve units during periods of mobilization.

While the MOBCON concept helps solve the military side of the question, our HEP (Highway Emergency Preparedness) task force ensured that our needs are conveyed to state officials and implemented within their emergency programs.

In addition to surveying the nationwide status of highway emergency preparedness programs, the task force was instrumental in releasing some $1.8 million through FHWA to the states to purchase much needed radio communication equipment.

Earlier in the presentation I mentioned that DOD is prepared to pay for public highway construction or improvements when defense creates an unusual impact that public highway authorities would not be expected to fund under their normal programs. For example, the opening of a new base or the major expansion of an existing one might qualify for defense access roads funding.

Major General Small, the Commander of the Military Traffic Management Command, acts for the Secretary of Defense in certifying such projects as important to the national defense.

In essence, the process works this way. The installation identifies a need for highway construction or improvement to MTMC, and the FHWA determines the validity of the need, often by field survey, and the estimated construction cost. Our Commander will certify the project as important to national defense based on our recommendations. This action releases military construction funds to the state highway departments who perform the actual construction and periodic maintenance.

A typical example is the access road serving Ft. Irwin, CA. Ft. Irwin is located in the Mojave Desert and was selected as the National Training Center. Combat units and their equipment are regularly rotated into and out of Ft. Irwin for desert warfare training. Traffic demands on the connector road to Interstate 15 was increased greatly (a doubling is our normal criterion for access road funding eligibility). Irwin Road was certified as being important to the national defense and DOD has funded approximately $9.8 million for its widening, straightening, and various safety improvements.

A rather unique element of the defense access roads program is our involvement with the Minuteman system. The Minuteman is located in 7 north central states, and the missile is periodically removed from its silo for maintenance. It is transported to the operating base over public roads by a very large transporter. We certified the Minuteman access road network as important to national defense and continue to fund about $4-5 million per year for extraordinary maintenace, regraveling, and snow removal.

We'll continue to do the same for the MX program. As you know, the current basing plan calls for installing MX in existing Minuteman silos. The heavier MX will require upgrading and parrying of Minuteman routes and we're already in touch with FHWA, the Air Force, and the highway departments of Wyoming and Nebraska to develop acceptable options for roadway improvements.

When moving oversize or overweight equipment over public highways, the military is obligated to obtain permission from the states involved. We often work directly with state DOT's to obtain permits for movements considered essential to the national defense.

In cooperation with the American Association of State Highway and Transportation Officials, we've established an AASHTO National Policy allowing a road march of tracked vehicles in the event of a defense emergency. We'll save about two days in reaching deployment seaports and conserve heavy truck assets that would otherwise be required.

The final element of highways for national defense that I'd like to discuss is traffic engineering. Our engineers regularly visit DOD installations worldwide to evaluate on-base roadway design, signalization, signing, and related matters. We've found that traffic engineering studies of on-base roadway networks to be a critical part of strategic planning, since each installation is a "node" if you will - in our strategic network models.

I'd like to discuss next our railroads for National Defense Program. As I mentioned earlier, each of our programs for National Defense has identified a defense--important network. STRACNET is a 32,500-mile strategic rail corridor network serving about 216 defense installations requiring rail service for their missions. We, the MTMC, selected the corridors and the Federal Railroad Administration selected the most viable mainlines to serve each corridor. About 5,000 miles of connector lines link up the installations to the "arterials." It is the connector lines that pose the potential problem.

The Staggers Act gave rail carriers much more flexibility in establishing rates and route structures. Consequently, many carriers chose to reduce their networks to smaller, more viable systems. The problem from a defense standpoint were those "low-density" connector lines that serve installations that have relatively low shipping volumes in peacetime but could have a large requirement in wartime. For example, heavy armor units and ammunition plants and depots.

From 1976 to 1981, the railroads filed and the ICC granted about 100 abandonments per year. In 1982 the number approached 400. The large jump in 1982 was due primarily to the expedited abandonment procedures authorized to Conrail by law and to a lesser degree by the abandonments generated by the Staggers Act. Applications filed in 1983 approached 200 and grants approximated 125.

We feel that abandonment mileage granted by the ICC has peaked and as carriers achieve higher levels of economic viability, the rate will continue to decrease. In some years miles granted exceeded miles requested. This simply reflects a carry-over of prior year requests to the ICC.

An example of how we negotiate favorable settlement of abandonments would be the Chicago

and North Western Railroad's proposal to abandon a 160-mile segment, thus cutting off Ellsworth AFB from the nearest STRACNET line. We negotiated with the carrier and obtained a two-year delay in their filing for abandonment. In addition, we asked the state to consider using state rail planning money to save the line or to pass legislation toward that same end. Eventually, the ICC denied the abandonment primarily because the carrier had failed to demonstrate that adequate truck service was available to transport grain from farms and storage areas.

The interaction of DOD with the civil sector is a matrix of negotiated preventative measures. While a low-density rail line proceeds toward abandonment through civil processes there are concurrent preventative actions that DOD can take along the way. When the potential abandonment proceeds toward reality, the DOD can employ various options.

Often, our first option i.e., explaining defense needs to the carrier, often results in their withdrawing or postponing the abandonment. Following that, the options generally result in increasing cost to DOD. The options of last resort, so to speak, are those involving direct financial assistance in the form of contracting for continued service with the abandoning carrier or a "short line" carrier, or to lease or purchase the line.

Our installation outloading capability studies are a major element of our strategic planning effort. We are examining in detail the individual installations--the "nodes" in our strategic networks. We are comparing reception and outloading capabilities to peacetime and wartime requirements. Reception is the assembling of military units from other locations, including National Guard and Reserve Units. Outloading is the shipping of units with all their equipment and supplies.

We are applying industrial engineering and operations research techniques to assure that on-installation movements of raw materials, sub-assemblies, and finished products, are being efficiently conducted.

In our strategic transportation planning, ports are the critical "end nodes" in the system. In a miitary deployment, the major portion of heavy combat equipment will move by sea, as will follow-on resupply of combat forces. Our program consists of predesignated berths, a unit deployment report, a Unit Basic Load (UBL) initiative, and port dredging.

We've predesignated berths at 24 cities, in conjunction with the Maritime Administration, for priority use by the military. Our unit deployment report,gives the full characteristics of each port for use by unit commanders and military planners. Our UBL initiative has placed approved ammunition permits at critical ports to allow certain tactical units to process through with their ammunition without delay. We have presented our port needs to the U.S. Army Corps of Engineers to ensure channels are dredged regularly and maintained in a ready status.

I'd like to next present more details on some of these initiatives.

There are the 24 ports where berth types (Break-Bulk, Roll on-Roll off, (Ro-Ro), container) have been predesignated for use in long-term resupply. The ports of Boston, New York, Philadelphia, Baltimore, Norfolk, Wilmington (N.C.), Charleston, Savannah, Jacksonville, New Orleans, Beaumont, Galveston, and Tacoma are those through which key combat units must rapidly deploy; hence, these are the ports where our Coast Guard approved ammunition loading permits have been placed. The actual units that will utilize these ports are classified, but I can say that a unit can have several deployment port options to utilize, depending on the geographic location of the contingency destination.

We've published a comprehensive report describing the facilities at all ports utilized for unit deployments. This information is used by unit commanders and military planners in developing their deployment plans and operating procedures upon arrival at the port. The type of ship that will be used will vary with commercial availability at the time of crisis; hence, we must be prepared to utilize appropriate port facilities at a moment's notice.

In addition to the movement of combat equipment, our strategic planning must take into account the movement of fuels to military installations, particularly Air Force and Navy bases. We established, for that reason, a Pipelines for National Defense Program.

The strategic pipeline network is called STRAPNET. Over 100 DOD installations are connected and about 15,000 miles of the total U.S. pipelines system are considered important to national defense.

Our pipelines report is essentially an inventory of services specifically available at each defense installation having a pipeline capability. Using this report, it is a simple matter to research fuel pipeline capacity and source, storage capacity and alternative modes of delivery at any defense installation. I might add that fuel service is an excellent example of an intermodal, systems approach to transportation--an approach that we're embracing in all our defense programs. Fuel deliveries, for example, could arrive by ship, be piped to an inland installation or storage point and delivered to the user by tank truck or railcar.

Our inland waterways program focuses on a little recognized, yet uniquely important element of strategic transportation planning--the movement of bulk strategic materials and fuels.

About 4,000 miles of our 115,000 mile national waterway network are important to national defense. We don't envision extensive use of the waterways to deploy troops and equipment for two resons. First, we feel that rail, truck, and air assets are adequate for that purpose. Secondly, most deployment movements tend to flow east to west (or vice versa), whereas the waterway network generally flows north to south. But the waterway network is vitally needed to transport defense fuels and strategic bulk materials. Consequently, work with the U.S. Army Corps of Engineers to assure continued maintenance and readiness of the system.

We're currently updating the entire program

and will reevaluate the strategic network. Our major thrusts will be to identify critical access channels and to evaluate use of inland ports as backups to coastal deep-water ports. We'll also be evaluating the adequacy of Department of Interior procedures for giving priority allocation of waterways, if necessary, to defense shippers.

The last program I'd like to discuss is our Conus (U.S. Continental Air) for National Defense Program. As you may know, military troops will deploy primarily by air, often by commercial charter service. In this effort, we've identified the critical airports to be used by active and reserve units and described the facilities at those airports for handling troops and servicing the aircraft that may be used. We've also explored integrating our airport emergency use plans with others that may be concurrently in effect. For example, certain commercial aircraft, such as those in the Civil Reserve Air Fleet (CRAF), and military aircraft are dispersed to "safer" airports in the event of escalating international tension to preclude mass losses of aircraft in a nuclear exchange. We want to ensure that our use of airports used for troop deployments does not result in competition for airport facilities being used for other emergency purposes at the same time.

As we've done for all programs, we've established a critical network (STARNET) which, for air transportation, consists of 289 city pairs needed to accommodate military moves during mobilization.

In addition to establishing a strategic air route network, we've found that scheduled commercial air service significantly exceeds our defense requirements--good news, indeed! However, we did find limited availability of ground support equipment for wide-body aircraft at "off-line", smaller cities that might be used as mobilization departure points for active or reserve units.

I'd like to conclude with a look to the future. At this time, the networks I've described are being consolidated into a transportation engineering data base that will allow it to perform network modeling and automated traffic management in peace and war. We're using traffic density models to select alternate routings, when necessary. For example, suppose two deploying units need to reach the same port. Because the density distribution along the shortest paths shows an overload, one unit may elect to use another route and split part of its traffic to another acceptable seaport.

As I've summarized today, strategic planning for transportation is a vital element of our national defense posture. The network models that we are constructing will enable us to get the most from our transportation dollar in peacetime while providing the means to identify and avoid choke points in mobilization and wartime, as well.

Our military readiness depends heavily on commercial transportation and we're taking the steps to integrate our strategic plans with those of our fellow team members!

## STRATEGIC PLANNING BY OECD

By Claude Morin, Administrator
Road Transport Research Program
Organization for Economic Co-operation
and Development (OECD)

The Road Transport Research Programme was established in 1968 involoving the participation of 21 countries in North America, Europe, and Scandinavia, as well as Australia and Japan.

The Programme centers on road and road transport research, while taking into account the impacts of intermodal aspects on the road transport system as a whole. It is geared towards a technico-economic approach to solving key road transport issues identified by member countries.

By providing scientific and technical support for national and international decisions on roads and road transport, the Programme is geared towards OECD's mission to promote economic and social progress in member countries. As policy priorities have evolved throughout the OECD community, the Programme continuously adjusted its scientific and technical activities accordingly to cover a broader range of road transport problems and to address the broadening context in which member countries approach road transport.

In addition, the Programme includes the information and documentation programme (IRRD-International Road Research Documentation), a cooperative scheme that provides a mechanism for the systematic world-wide exchange of information on scientific literature and current research programmes.

In the framework of the objectives of the Committee the following scientific and technical activities have been introduced to the participants:

1. The impacts of heavy freight vehicles. The study focused on the concerns that governments have when evaluating legal limits on truck size and weights, including; protection of large public investments in highways and bridges; efficient traffic management and high network serviceability; safety; energy efficiency; environmental protection; and reduced costs for vehicles and infrastructure. The aim was to develop a technical and economic systems analysis of the impacts of heavy trucks.

   By pointing to convergent findings in member countries and indentifying important areas needing further study, this analysis narrowed the range of technical controversies. In doing so, it should help to build a political consensus and support efforts aimed at international harmonization and standardization. The study is considered by many to be one of the most important accomplishments of the Programme drawing on the whole range of expertise and scientific knowledge available in member countries. The report was published in 1983.

2. Technico-economic analysis of the role of road freight transportation. The objective of the study is to assess to a