city street capacity, is now possible.

"New tunneling techniques for transportation facilities are being developed, and the alternative concept of creating another level of streets for pedestrians and light vehicles on second-floor levels is being investigated."

—From remarks before the 48th annual convention of Associated General Contractors in San Diego, California, March 6, 1967.

On the problem of urban congestion and how to solve it:

Q. "What is the major problem you face as highway administrator?"

A. Urban congestion."

Q. "How do you solve this problem?"

A. "I think a combination of ways. In solving it there will be no point in time where all of the problems of urban congestion are solved, because as fast as solutions are found for particular problems, other problems will replace them.

"So a final solution to urban congestion — I don't expect to see it and I don't expect that it will ever occur—you know it's been with us since the days of the Roman Empire, and I don't know why that would change now."

Q. "Is the answer building wider freeways?"

A. "In some instances, yes. There will be a combination of things we can do.

"One, of course, is to build more high-quality highways; and when I talk about high-quality highways, I'm essentially talking about a freeway-type highway—one that is grade-separated — one in which the opposing traffic lanes are divided — one in which access is very strictly controlled.

"I think, however, that we should right now be building into our freeway-type highways exclusive lanes for public transportation. As far as I'm concerned, that can be buses. I think that we need, in a very few instances, to build rail rapid transit lines. I don't think there is an overwhelming need for these in most cities, but there are a few specialized places where they are needed."

—From recent interview published in the San Diego Union.

Town Created In Munich Square

The "Stachus" square in Munich, Germany, which is officially called Karlsplatz, is used every day by 170,000 vehicles and 500,000 pedestrians.

Confronted with the rapid traffic evolution in Munich, which is expected to increase even more during the Olympic Games of 1972, the municipality recently decided to build a small town of six floors with shops and garages under this square.

The first floor will contain the shops and will be reserved for pedestrians.

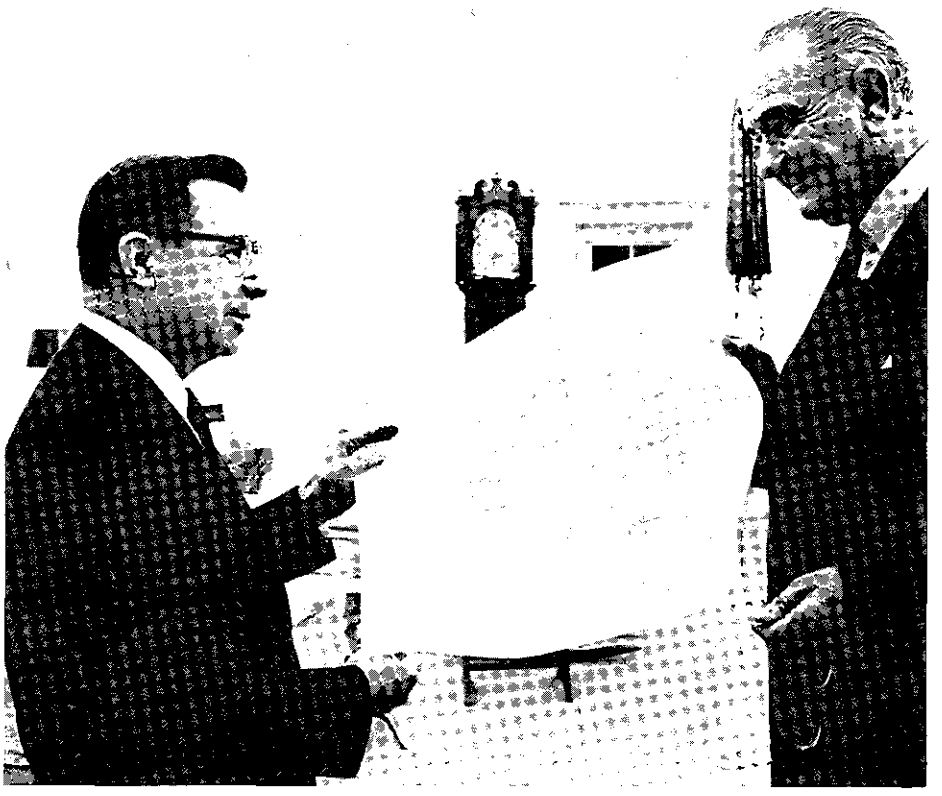
The second floor will contain the warehouses and the railway booking-offices.

The third floor will comprise railway stations and a certain number of garages, while the fourth floor will be transformed into a large garage with 800 parking places.

In the fourth floor the interchange between the railway and the underground will take place, the latter of which will utilize the fifth and sixth floors.

* * *

In January, a new motorway between Rome and Civitavecchia, Italy, was opened to traffic.



HAS PRAISE FOR IRF—Francis C. Turner, who became U. S. Director of Public Roads on February 24, 1967, says the International Road Federation is doing an outstanding job in promoting good roads around the world. He is shown here as he received his commission as Director of Public Roads from President Johnson.

Easing City Traffic Congestion Prime Goal of U.S. Roads Chief

The problems of heavily increasing auto traffic in urban areas may be an insoluble mess to some, but not to Francis C. Turner, recently named U. S. Director of Public Roads.

Mr. Turner has solutions both to ease the stranglehold of rush hour traffic and the headaches from dislocated homes and business establishments from new urban freeways.

The man who has made a lifetime career out of serving with the U. S. federal road program told a recent interviewer from World Highways that exciting progress is being made in solving urban highway problems.

The problem is what to do about the heavily increasing traffic that is choking the streets of the nation's major cities.

Building freeways is one of the solutions, but that brings attendant problems of what to do about the serious dislocations caused by the need for more space to build express highways.

Avoiding Dislocation Attacked

Although there is no easy answer, there are ways to reduce the cost of expanding urban highways and at the same time minimize the dislocation.

The U. S. Bureau of Public Roads has made an intensive study of the so-called "multiple use" or "joint development" concept. The study is beginning to pay off.

A part of this concept involves the willingness of expressway highway planners to acquire larger than usual rights of way. The economic theory behind this is that after the bare essential width is acquired for the freeway, it sometimes begins to cost relatively less to acquire title to adjoining property than to pay severance damages for the adjoining land.

Another part involves making use of the acquired land for more than just the highway.

Thus, often the freeway can either be elevated or depressed, and, underneath or overhead, or immediately adjoining, is space for apartments, community buildings, churches and business establishments.

Better Surroundings Provided

Thus, dislocation has given way to accommodation to the dispossessed, often in better surroundings and to more people.

With understandable pride, Public Roads Director Turner tells of the long negotiations that went into the recent approval by his bureau of an arrangement in downtown Washington, D. C., whereby a freeway will run for 1½ miles under a handsome community development, complete with churches, stores, apartments and parks.

Mr. Turner said the Bureau has given the green light to the District of Columbia to go ahead with the project. It will represent a milestone in U. S. highway development and is expected to be the foundation for many other such projects in urban areas in the future.

Building express highways in the heart of cities is not the only solution to urban traffic congestion.

(Continued on page 6)

CITY TRAFFIC . . .

(Continued from page 5)

TOPICS Launched By Bureau

Public Roads Chief Turner is also proud of what goes by the code name of TOPICS, short for Traffic Operations to Increase Capacity and Safety.

This is a program designed to speed the flow of traffic along presently available streets by increasing their carrying capability.

Mr. Turner singled out as an example of what might be done along this line by citing Connecticut Avenue in Washington, D. C., the famous arterial street from Washington's suburbs in the northwest to the heart of the city.

Connecticut Avenue, he explained, has a sufficiently wide pavement to enjoy the dimensions of a freeway. But because of the many cross streets and traffic lights, Connecticut Avenue becomes a traffic headache during the morning and evening rush hours.

But if, Mr. Turner suggested, Connecticut Avenue could be operated much as a freeway during the rush hours—with green lights on continually for its traffic and red lights the same for the cross traffic—the congestion for the arterial traffic on the famous avenue would be solved.

Adjustments Needed

He acknowledged that the solution is not as simple as that and that adjustments would have to be made for the traffic customarily crossing Connecticut Avenue.

But by considering the traffic pattern of the area as a whole and by such devices as occasional overhead bridges or tunnels at selected cross streets, Mr. Turner feels that an excellent solution of the Connecticut Avenue rush hour traffic congestion problem would be found.

He is speaking from considerable knowledge about the proposed TOPICS technique as his bureau has been thoroughly researching the subject in about a dozen cities with at least three reports ready to be made public.

Mr. Turner, who started his career with the U. S. Bureau of Public Roads in 1929 as a "Junior Highway Engineer," is now responsible for introducing many other junior highway engineers into the U. S. road program.

Each year his bureau selects 75 promising graduates of engineering schools to begin an intensive three-year in-service course of training. Twenty additional non-engineers are selected for training in the bureau's right-of-way, safety, management and administrative programs.

Bureau Has 500 Graduates

Since the in-training program was started after World War II, about 500 have been graduated and 90 per cent of these are fulfilling important functions with the U. S. road program, sometimes commanding as high as $25,000 a year salary.

Although the big emphasis of the U. S. Bureau of Public Roads is on the domestic program, Mr. Turner is well aware of highway progress around the world.

He mentioned Japan as an example where the "multiple-use" concept of building freeways has developed to such an extent that the cost of the freeways are often fully reimbursed through rental income from business establishments or apartments and housing set up above, below or adjacent to the freeway.

"The general improvement of highways around the world is truly remarkable," says the U. S. Public Roads Director. "Often I learn of projects abroad that are more advanced than what we are doing."

In the world development of highways, Mr. Turner has high praise for the work of the International Road Federation. In its fellowship student program and its exchange of the latest in highway development, the IRF lives up well to its goal of creating better roads for better living, he feels.

Turner Speeches Outline Progress Achieved In Half-Century of U. S. Highway Progress

In the half-century since the U. S. federal-aid highway program began, it has paid a "multitude of economic and social benefits to the American people, and has played an important role in our country's well-being."

So said Francis C. Turner, recently named U. S. Director of Public Roads, in a speech in Atlanta, Georgia in May, 1966, before the Southern Regional Highway Policy Committee of the Council of State Governments.

Mr. Turner added:

"I am thoroughly convinced this would not have been possible without the cooperative federal-state partnership which recognizes that each level of government has a vital stake in providing our country with the highway transportation it must have."

Herewith are other excerpts from that and other recent public remarks of U. S. Public Roads Director Turner:

On the safety of the 41,000-mile (65,983 km) U. S. Interstate System of highways:

"Because of its built-in safety features, the Interstate System is 2 to 2½ times safer than conventional highways. The mileage in use last year saved the lives of 3,800 persons who would have died on older roads, and this year is expected to save over 4,000 lives. When it is completed the system will be responsible for saving 8,000 lives a year. For every five miles of Interstate opened to traffic, a life is saved.

"Direct economic benefits to highway users are expected to total $11 billion a year after the Interstate is completed in lower operation, time, accident, and strain-of-driving costs. Last year alone, the benefits were about $3.5-billion. On all Federal-aid systems, the economic benefits are expected to reach $21-billion in 1973." —*Address before Southern Regional Highway Committee of Council of State Governments, Atlanta, Georgia, May 26, 1966.*

On highway beautification:

"Our reports show that the long range plans of the states call for the landscaping of about 109,000 miles of roadsides, the screening of almost 12,000 unsightly areas, and the development of nearly 6,400 rest and recreation areas. Both the Bureau and the State highway departments may take pride in this greatly expanded highway beautification effort."—*45th Annual Conference, Western Association of State Highway Officials, (WASHO), Sun Valley, Idaho, September 6, 1966.*

On the highway engineer's greatest challenge:

"In my opinion, the greatest challenge facing the highway engineer today is to build safety into the new highways and to remove the accident hazards which exist on the old ones. It has become a cliche to say that our traffic accident and death toll have become a national disgrace, a modern American tragedy of awesome dimensions. It is all of that and more too.

"While highway accidents and deaths stem from many causes, it is clearly our responsibility as highway engineers to provide the safest, most foolproof riding surface and roadway that is possible within our money availability. To do any less is an abdication of our responsibility."—*WASHO Speech, Sun Valley.*

On multiple-use development programs of highways in urban areas:

"The Bureau of Public Roads has developed a concept for the joint cooperative development of urban freeways simultaneously with provision for other needed urban accommodations.

"This is a program that could stimulate other local programs by which the city can meet some of its needs for better housing, parks, playgrounds, open space, and other improvements, and for business and commercial redevelopment; by combining them with a planned freeway improvement.

"Because of the advantages which can flow from joint development, several of these can be provided in less total space and at a lower total cost than would occur with separate development. In such a joint development, the concept is not merely one of thrusting a new highway through a built-up urban area, but rather it is one of making a plan which would improve an entire corridor having multiple and complementary uses."—*52d Annual Meeting of American Association of State Highway Officials, Wichita, Kansas, December 2, 1966.*

On the need to become "transportation conscious":

"I think we must all become still more 'transportation conscious' in addition to our being 'highway conscious.' This is not so much because of the new U.S. Department of transportation as because of the changing nature of our society—greater affluence, more leisure time, ever-increasing urbanization and many other factors—all of which place apparently limitless demands on the nation's transportation plant, including the highway network which can never be considered as a separate thing."—*58th Meeting, Mississippi Valley Conference of State Highway Departments (MCSHD), Chicago, Illinois, March 16, 1967.*

On what's ahead:

"The highway engineer and the highway administrator have faced some tough challenges in history—from getting the country out of the mud to planning and building the Interstate System and helping to plan and shape our urban areas.

"But I think the years ahead will probably bring to us an even larger number of greater challenges than ever before. But along with challenges go opportunities and let's think in those terms, as we continue our enviable record of leadership and accomplishment in our important chosen field of endeavor."—*MCSHD Speech, Chicago.*