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URBAN COMSTRUCTION WORK IN COMMUNIST CHINA

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# FOREWORD

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## URBAN CONSTRUCTION WORK IN COMMUNIST CHINA

/Following is a translation of selected articles from various issues of the Chinese-language periodical, Ch'eng-shih Chien-she (Urban Construction), Peiping. Date of issue, page, and author, if any, are given under individual article headings.7

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# COMPLETE THIS YEAR'S ASSIGNMENTS ABOVE NORM; EXERT EVERY EFFORT IN THE STRUGGLE FOR A CONTINUED

#### LEAP FORWARD NEXT, YEAR

No. 19, 14 November 1958 Pages 1-2 (excerpts) Yang Hslu-reng, Minister of Urban Construction

Comrades:

In the field of installation engineering, work completed in August was 18 percent above that for July and in September, 48.4 percent above August. There were new increases in October over September. By the end of September, units of the ministry had completed 76 percent of their year's installation plan which is an increase of 15.9 percent over the same period for 1958. Of the past years, this year more work than before was completed during the first three quarters. By the middle and latter part of October, over 50 installation enterprises will have completed their year's plan more than two months ahead of schedule. Because of the fast work done over broad areas in many places, the rate of work completion and handover has increased greatly. In mid-August, Peiping proposed a 50-day drive to complete the task of one million square meters of finishing work. But, by 30 September, the work was completed successfully 25 percent above norm. This is 70 percent above the total amount of construction surface completed during the seven previous months. On the eve of National Day, Tientsin began a 37-day drive and completed 500,000 square meters of work ahead of schedule. Shansi Province organized three battles for the purpose of completing and handing over work which resulted in handing over 1.5 million square meters of work. In regard to the quality of work, incomplete statistics from Hopei, Shansi, Liaoning, Kiangsu and Kwangsi show that of the 2,245 engineering projects handed over in September, 99 percent were rated as excellent. The productive efficiency of installation workers has improved greatly. It was 22 percent higher in August over July and 37 percent in September over August; rising to 50 percent in some cases. Construction costs have been dropping. In August, costs averaged 12 percent less and September, 15.6 percent. Of these units, directly administered engineering bureaus dropped 18.8 percent in August and 21.5 percent in September. There was a marked reduction in industrial accidents. Although there was a substantial increase in work in September, yet it reported the least accidents for the year. In regard to surveying and designing, according to statistics of only surveying and designing units subsidiary to the ministry, designs completed in September were 1.6 times above those for August and the the area designed was 1.4 times higher. During August and September, 99.2 percent of the drawings were rated excellent; thus wiping out inferior products. Due to the great increase in speed of surveying and designing, the year's assignment was completed two months ahead of schedule at the end of October; 16.7 percent above norm.

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The production of construction materials has risen rapidly. Cement production in August was 5.7 percent higher than that of July; September was 11.8 percent above August; and October, 6.7 percent above September. From a September average of 31,000 tons, the nation's large and medium size cement works increased production to 32,000 tons in October. By mid-October, production reached 35,000 to 36,000 tons. The production of "foreign" type cement plants throughout the nation increased even more quickly. By the end of September, Honan, Hunan, Peiping and Shanghai had completed their national plan for the year. The quality of the cement is rising continuously. The entire September production of large and medium cement plants was up to standard and was even 30 to 50 points above standard. Cement produced by "foreign" methods was all above 300 points. There were improvements in increasing the efficiency of labor and reducing production costs. The costs of production of "foreign" plants averaged over 20 percent less than costs for the first half of the year. Some have reduced their costs to almost the price of cement allocated by the government. By the end of October, lumber and glass industries had completed 87.8 percent of their year's plan and will greatly exceed their original plan for the year. Eightysix percent of their products averaged grade A. The Dairen glass works reached 99 percent or better. Fiberglass, asbestos, plaster and mica are variously 25 to 50 percent above the year's plan.

There were great achievements in urban planning and construction, In summing up, over 184 large and medium size cities and two-thirds of the country seats are working on designs of various degrees. Experimental designs are being prepared by 320 people's communes and the housing areas of 470 communes. In regard to municipal construction, the outstanding assignment for this year is solving the problem of urban water supplies. With a shortage of materials and equipment, the water supply situation will improve because of the leadership of the local party committee and the government, relaince on the masses, selfregeneration, building water supply facilities and promoting the increased production and economy movement. Because of the enthusiasm of the workers and the speed up of municipal engineering construction since August, work completed during the three months of August, September, and October is above the total for the past few months.

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II. NAMES OF ADVANCED GROUP REPRESENTATIVES AND ADVANCED WORKERS OF THE URBAN CONSTRUCTION SECTOR OF THE CONSTRUCTION

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SYSTEM ATTENDING THE ALL-CHINA LABOR HEROES CONFERENCE

No. 11, 14 November 1959 restored actuation and all carters and a state of the second Page 8 and the reaction from a literation

Representatives and their progressive units: est e lor charábó

P'ing Kuo-hsi--P'ing Kuo-hsi Unit, Municipal Company No. 1, a ragingātsē (gru Elect Peiping.

Chen Chan-ch'i-Chen Chan-ch'i Unit, Municipal Company No. 2, Peiping.

Ma Te-chih (Moslem) -- Ma Te-chih Unit, Municipal Company No. 3, Peiping.

Chao Tung-jih-T'ien-an Men Square designing and planning unit. Li Chu-hsien-Li Chu-hsien drafting unit, Building and Engineering Company, Real Estate Bureau, Peiping.

Li Wei-feng (female) -- Route 13, Public Bus Company, Peiping.

Pai Pac-ch'in-Crew No. 3011, Public Bus Company, Peiping.

No. 1, Bureau of Urban Construction, Peiping.

Chen Chih-liang-Chiang-ning Lu Control Office, Chiang-ning Ch'u Real Estate Company, Shanghai.

Lu Fu-Unit No. 2, maintenance shop No. 2, Public Bus Company, Tientsin.

Wang Wen-pin--Water supply boiler unit, Water Company, Tientsin,

Tuan Chieng-chiang-Tuan Chieng-chiang shock brigade, internal combustion engine repair and maintenance work section, Road and Bridge Company, Tientsin.

Chi Cheng-chih--Chi Cheng-shih shock brigade, Municipal Engineering Office, Bureau of Construction, Tientsin.

Wang Ch'ikuei-gravel unit, Water Supply and Drainage Company, 18 100 Tientsin.

Wei Lien-ch'eng-painting and plastering unit, Housing Control Bureau, Ho-p'ing Ch'u, Tientsin.

Wang Kuang-i---Unit No. 102, Municipal Engineering Company, T'ai-yuan.

Wang Hsing-ch'u--Finishing unit, Municipal Engineering Office, Lu-ta Shih.

Ts'ul Chu-hsien--worksite No. 3, Municipal Engineering Company, Fu-shun Shih.

Sui Chun--maintenance and repair shop, Public Bus Company, Ying-k'ou Shih.

Chao Yung-ch'ang (Manchurian) -- municipal building and engineering unit, Construction Bureau, Hu-ho-hao-te Shih.

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Lo Wen-yu-Huang Chieh-kuang youth shock brigade, Municipal Administration Company, Lan-chou.

Chao Ch'ai--settling unit, water pumping section, Water Supply Company, Canton.

Chang Tzu-liang--Chang Tzu-liang unit, paving section, Municipal Engineering Bureau, Ch'eng-tu.

Chang Ming-su--Hung-ku-ninag passenger transport crew, main station No. 1, Public Transportation Company, Chungking.

Wang Hsush-ch'in-Eight cubic meter simplified blast furnace No. 1, steel and iron works, Water Supply Company, Cheng-chou.

Star Barris Ma

Li Tzu-te---paving unit, worksite No. 1, Road Sewerage Engineering Company, Bureau of Construction, Sian.

List of activists:

Yao Feng-shan (female--foreman, Municipal Administration Company No. 1, Peiping.

Chang Chen-tsung-carpenter, Municipal Equipment Company, Peiping.

Chieng Hsien-chien--mechanic, Water Company, Peiping.

Pai Chung-yu--sanitation worker, sanitation unit, Tung-ch'eng Ch'u, Peiping.

Shih Ch'uan-hsiang--night soil cartman, sanitation unit, Ts'ung-wen Ch'u, Peiping.

Pleng Hou-chih--conductor, trackless trolley, Electric Car Company, Peiping.

Wang Hsi-yung (female)--real estate caretaker, Property Management Bureau, Peiping.

Kao Shu-jen--surveyor, office of surveying, Planning Bureau, Peiping.

Plan Chia-to-engineer, Municipal Engineering Planning Instituto, Peiping.

Li Jui-ti--conductor, Public Bus Station No. 1, Shanghai.

Chang Lien-hsi--driver, Trolley Car Station No. 1, Shanghai. Shen Hsine-lin--porter, pumping station, Yang-shu-p'u

(Yangtsepoo) water works, Public Water Company, Shanghai. Ho Ya-kuei--crew foreman, capital construction engineering

unit, water main maintenance office, Public Water Company, Shanghai. Yuan Ping-k'ang--technician and concurrently deputy chief of

the business office, Public Gas Company, Shanghai. Li Hsien-fang--maintenance worker, pedicab control suboffice

No. 1, Shanghai.

Chu Kuan-ti--horticulturist, Western Suburban Park, Shanghai. Chou Miao-fu--electrician, water and electricity installation engineering unit, Hsin-ch'eng ch'u House Maintenance and Construction Company, Shanghai.

Wang Shang-ch'ing-carpenter, central district public service office, Urban Construction Bureau, Shanghai.

Sun Huan--conductor, public trolley company, Tientsin-

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Li Wen-yu (Moslem)--technician, Public Water Supply Company, Mukden.

Shih Feng-hsia (female)--conductor, Public Trolley Company, Mukden.

Pien Li-cheng--chief, gas unit, Public Gas Company, Ta-lien. Fan Sui-ming--conductor, Public Trolley Company, Ta-lien.

Chiang P'ei-chen--worker, Public Gas Company, Mukden. Chang Hung-jung--electrician, Water Supply Company, Ch'ang-

ch'un.

Wan Hsiu-su (female) -- conductor, Public Bus Company, Harbin. Chu Tzu-an--horticulturist, Cho-cheng Gardens, Parks and Forests Office, Soochow.

Liao Ch'i-fa--driver, Public Bus Company, Nanking. Chou Yu-Lin--deputy chief, team No. 2; worksite No. 6, Municipal

Company No. 2, Wu-ch'ang. Teng Chin-lin--driver, Public Bus Company, Nan-ch'ang. Chu Ch'ai--driver, Public Bus Company, Canton.

#### III. UNDER POLITICAL LEADERSHIP, PROMOTE THE TECHNOLOGICAL

REVOLUTION AND COMPLETE 1959 PRODUCTION ASSIGNMENTS 123 DAYS

AHEAD OF SCHEDULE

No. 11, 14 November 1959 Pages 9-10

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Wang Hsing-ch'u, Representative of Municipal Engineering District No. 2 of the Lu-Ta Bureau of Construction.

Under the leadership and training of the party for the past several years, our unit has continuously improved its consciousness and has positively implemented the party's general line of quantity and speed with quality and economy in socialist construction. Between 1957-1959, our unit has been designated an advanced production unit, by offices and bureaus, in Lu-ta Shin and Liaoning Province.

During the bigger, better and more complete big leap forward of 1959, when there was a shortage of manpower, equipment and materials, and main engineering projects widely scattered, we increased our effort, we worked and devised with the spirit of 100 percent fulfillment of the target, 120 percent action and 240 percent enthusiasm for the continuing revolution, adopted thousands of strategems, mobilized the masses and their strength, overcame thousands of difficulties and were able to achieve record production daily and monthly and above quota production every quarter so that by the end of September 1959, we were able to complete the 1959 leap forward plan above quota and 123 days ahead of schedule. Total quantity of work was 31.31 percent above plan (the original plan called for 250,000 yuan but 328,300 yuan was actually produced); costs were lowered 12 percent; work norms actually completed, 155.5 percent; and value of daily production increased 29.46 percent (the original plan called for 33.16 yuan, but it reached 42.9 yuan. All of the engineering work was grade A and all work was done safely without any accidents.

Our unit was able to achieve the above results because we took the following steps:

1. Everyone placed politics first, understood their situation, grasped every opportunity and positively promoted the increased production and economy red flag movement. In the course of this movement, we followed in whichever direction the party turned. We were always in the forefront regardless of the difficulty of the circumstances. No matter how difficult the assignment was, we never retreated, we did not fear suffering or difficulties. From beginning to end, we completed the assignments given to us by the party without any change. During the important shock work of installing water conduits at Liu-chia-tien, the entire unit pledged their determination to the party and gave the battle cries: work with enthusiasm, fight against time, revolutionize technology, evercome difficulties, quality with safety and push production

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stant and so de gradet and promining fill and break for a subjective and upward. Under the motivation of these cries, and disregarding the bad working and living conditions, the unit went to work every day in mud and sand to install the conduits. Living conditions were very bad; some people had to sleep on the grass at night. But we did not complain because of this. On the contrary, we roused our enthusiasm and spirit and struggled to install conditts in running water so that we completed a 15-day assignment in five days, and were in a fille whether 2. We promoted technical changes and innovations and equipment reform. We continued to change our working methods. We produced with a correlation of unbounded enthusiasm and scientific analysis and dared to think and do. In order to promote the technological revolution, our unit organized two technological research units and one technological center. Everyone gave thought and acted to solve weak links and key problems in production so that by September, statistics showed that there were 89 innovations proposed (an average of 2.5 per person). Of these, 9 were adopted and 8 used in production; thus saving the country over 30,000 yuan. For example, a drill for quarrying rock was successful in improving the efficiency of labor in drilling by 30 . Else caroà tankons mé napor a ha percent.

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Under the glorious call of the eighth plenum of the eighth party congress, we have increased our enthusiasm. Every member of the unit worked especially hard during August and September. It succeeded in inventing a drilling machine, a controller, a conduit laying machine and other progressive mechanical equipment one item after another. This has not only greatly improved the efficiency of labor and improved working conditions, but has also opened the door to mechanical and semi-mechanical engineering in conduit installation work.

Besides all this, we have studied the special points of each engineering project and positively studied and promoted all effective progressive experiences. Work is scientifically organized according to the technical capabilities and physical condition of the individual. This has greatly promoted production. During 1959, all comrades adopted the sectional work system, the hole boring method, the speedy installation of water conduits in running water and method and use of revolving conduits and other progressive experiences. For example, by adopting the method of working speedily in running water, it is possible to increase productive efficiency 70 percent. Also, for example in installing 400 mm concrete conduits, it is possible to avoid digging 5,900 cubic meters of earth by adopting the boring method and thus save 25,450 yuan.

3. We broadly promoted up-stream red flag competitions which center around the technical revolution and promoted Communist cooperation. Both inside and outside of the team, we hold man to man, unit to unit and team to team competitions. We make the 10 comparisons of ideology, high production, quality, safety, activities, cooperation, study, etc. This has aroused every man's upstream and forward struggle for ref flag competitions. During competitions in the past, conditions

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were developed for catching up with progressives in addition to strengthening mutual solidarity and cooperation; thus pushing forth wave after wave of high production. For example, in September 1959, when our team completed all of its 1959 leap forward year plan 123 days ahead of schedule, it called for cooperation and mutual cooperation. Our call is: "with a spirit reaching to the skies, cooperate to overcome obstacles; complete National Day items early as gifts for National Day," Because of this, fraternal teams assigned to the three National Day railway bridge and culvert engineering projects completed their plans 24 September, six days ahead, with our all-out support, as a National Day gift.

4. In order to promote democracy, organize the masses for production, positively promote activities within the team and discuss production plans, activities meetings are held regularly and irregularly. Ideology and work are examined and criticism and self-criticism are given at activity meetings. At the same time, in order that everyone can take an interest in, and help organize, production, we also have a system of meeting daily before and after the work shift. Thus, we can uncover and solve problems in time and make plans for next day's work. Thus we can not only assure the next day's work, but also maintain order in production and increase solidarity. Because of all In all this, the 36 members of our team are united like one man. things, they are united and move quickly as one. Also, because of this, 30 of the 36 men are progressives which is 93.3 percent of the team, see the defined of the ALC: NO

5. With the attitude of the owner of the country, we sincerely implement the party's policy of building the nation with economy and doing everything with economy. In the course of the increased production and economy movement, we have tried in every way to save on the use of materials. For example, by adopting the proven methods of using local materials and substituting old for new materials, we have saved the nation all kinds of materials worth over 5,450 yuan.

For example, we have used chips from rock blasting for conduit beds, utilized old rattan for hemp ropes and stones for brick. This has not only resulted in saving materials, but, even more important, has solved labor and transport shortages of that time and avoided purchases from the markets.

6. We have carefully adhered to technical regulations to assure an over-all leap forward. For example in regard to quality, we adopted the "two systems" and "three quotas." "Two systems" are the systems of self and mutual inspection and the system of technological exchanges. The "three quotas" are the manpower, position, and quantity quotas with an assurance that the quality of all engineering work will be first grade.

For safety in production, a system of designated responsibility is adopted. Workers are designated to set and light explosives, work is contracted out in sections, individuals are made responsible for

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guard duty and the daily watch is rotated. At the same, before work is begun, the watch officer first examines ditches and troughs; therefore, during the entire construction project, there were no major or minor accidents.

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#### IV. STRUGGLE TO REALIZE A CONTINUED LEAP FORWARD

#### IN URBAN PUBLIC TRANSPORTATION WORK

No. 12, 14 December 1959 Pages 1, 6-7 (excerpts) Deputy Minister Hsu Hsih-ping of the Ministry of Building

I.

Urban public transportation is an important segment of urban construction and is a factor which cannot be omitted from the national economy. If the development of urban public transportation is not up to the demands of national economic development, it will not only affect the daily life and work production of the masses, but will directly and indirectly influence the development of the nation's economic construction.

For the past ten years, urban public transportation has made great progress under the leadership of the party. Achievements were especially great during the big leap forward in 1958 and the continued leap forward in 1959 because of the brilliant light of the main line, support of political leadership and promotion of mass movements and technical revolutions and reforms.

Urban public transportation made great achievements in capital construction. In 1949, only 26 cities had public transportation facilities. By 1959 this figure had grown to 109 which is an increase of four times. Of this number, only one city had trackless trolleys in 1949 but by 1959, this number had grown to 10. There is an increase of 3,6 times in the number of urban public transportation vehicles. While there were only 2,300 vehicles in 1949, by 1959 there were over 8,200 (of this number, there were 6,200 buses, 800 trackless trolleys, and 1,200 trolleys). In addition, there were 500 rental cars. In the past, many cities had no public transportation facilities or merely a few very short lines. At present, many cities have a public transportation network radiating in all directions. There has been a great increase in the number of passengers. In 1949 there were only 450 million man-trips but by 1959 this figure reached 4.5 billion man-trips which is an increase of 10 times. Thus, transportation has played an important role in relation to national economic construction as well as the needs of production and the people's livelihood.

Since the liberation, there has been an outstanding improvement in the administrative level of urban public transportation because of a series of reforms and the various political movements. For the past ten years, great efforts were made in new construction, reconstruction and expansion work. A system of enterprise management was set up as well as all kinds of regulations and quotas. This was especially true after the party reform movement in 1957 and the big leap forward in 1958. There was an improvement in the operating efficiency and standard of quality of most urban public transportation enterprises. As compared to 1957, accidents have dropped 98 percent; 100-kilometer fuel consumption, 25 percent; and 100-kilometer costs, 144 percent; while the rate for vehicles in good condition went up to 99 percent.

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In order to increase public transportation facilities systematically step by step and gradually fulfill the needs of urban passenger transportation, it is urgently necessary to strengthen capital construction in public transportation. For the purpose of carrying out capital construction in quantity and quality with speed and economy, the following suggestions are presented herewith:

A. The problem of planning the development of urban public transportation:

In order to carry out capital construction in urban public transportation systematically, there must be annual plans with due consideration for long-term development plans. A public transportation development plan calls for laying out an urban public transportation system economically and rationally and the adoption of the tactic of gradually modernizing urban public transportation facilities. This is very significant in systematically carrying out the building of public transportation facilities. At present, many cities have not made such plans. They must make them at once.

The public transportation development plan is a part of the general city plan. It is also an over-all plan for the periodic implementation of public transportation construction. While preparing the plan, it is necessary to base it on the general city plan and correlate it to the over-all conditions of urban development, the layout of the industrial, communication and road complexes as well as public service facilities, and transportation connections between the city and satellite towns and rural areas so that public transportation lines and public transportation facilities will be properly located.

In making a plan for urban public transportation development, it is important to first make a short-term plan. That is, a public transportation development plan for the next two or three years which must be practical and which correlates needs with feasibility and shortrange with long-range plans. At present, it is necessary to emphasize the short range with consideration for the long range and work from the short to the long and use the long range to guide the short range, the short range to revise the long range, and then the long range to guide the short range. In going round and round, we advance a step each time and the plan comes closer to feasibility.

In renovating or expanding facilities for new routes, vehicles and maintenance shops, there must be a certain economic standard. This is especially true of a city which has two types of transportation (trolleys and buses) in operation at the same time. It is necessary to make over-all plans, make uniform allocations and strive for economy and rationalization.

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Metropolitan cities, major industrial cities and cities with newly installed trackless trolleys must immediately prepare shortrange development plans in the light of long-range plans. Medium-size and small cities should consider short-range increases in vehicles and the development of new routes within the framework of the program and in the light of over-all conditions.

The public transportation development plan, the over-all city plan and urban road and bridge construction are all one entity and it is closely related to urban economic and cultural construction. Therefore, urban public transportation administrative organs must, under the leadership of local party authorities, make over-all plans and uniform allocations and work closely with related organizations in order to carry out the public transportation development plan properly.

2. The question of the trend of urban public transportation equipment:

a. The trend of urban public transportation equipment is toward mechanization and electrification. However, it must be borne in mind that the development of public transportation is determined by certain material considerations and cannot be realized in a short time. We must plan our public transportation program according to needs and capabilities, the size of the city, rate of passenger traffic, and economic and technological conditions. At present, the major cities and the larger industrial cities should use public buses and trolleys (ordinary and trackless) at the same time. Trackless trolleys could be suitably developed while trolleys should be fully utilized. If public transportation is necessary in medium-sized cities, buses should be used first.

b. In the selection of vehicle types, some cities prefer to choose mainly large vehicles. Naturally, in big cities where passenger traffic is heavy and peak hours are concentrated, there is need to use larger vehicles but medium and small auxiliary vehicles are also necessary. In medium-sized cities, it is basically better to use medium and small vehicles. In this way, costs can be lowered and the vehicles can be used efficiently. In the selection of vehicles by various areas, it is necessary to observe local conditions and make a selection of large, medium and small vehicles.

c. The situation where vehicles are insufficient to handle passenger traffic exists in many cities. It is necessary to utilize fully all types of vehicles and plan to renovate vehicles systematically in order to ease the crush of passenger traffic in urban public transportation. Therefore, some cities advocate removing trolley tracks in a short time. This problem is worth considering. It must be remembered that trolleys still have much use. In Tientsin and Mukden, trolleys handle 40-50 percent of the city's passenger traffic and in Lu-ta, 90 percent. This is an important means of transportation and should be better managed and improved.

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3. The problem of fitting and equipping vehicles: a. The present equipping capability of urban communication systems can equip a certain number of public buses and trackless trolleys annually. This work must be properly organized and managed. Equipment must be fully utilized in order to save on construction capital and improve quality and techniques.

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b. In the equipping of vehicles, important current problems are making the production plan and the supply of raw materials. These must be solved positively. Under present over-all conditions, there are three ways of proper approach: (1) strive to be included in the national production plan so that the government will uniformly make production assignments; (2) organize to cooperate with fraternal units so that they will contract for a part of the building work; (3) by adopting the local self-help method, solve the shortage of materials by building needed vehicles locally. Since building vehicles requires many kinds of materials, it is necessary to solve the source of supplies positively by seeking the support of the government so that some or all of the needed chassis and materials will be allocated. On the other hand, local activity and self-help should be promoted so that materials are secured locally, all potential supplies are used and substitute materials utilized.

3. Existing vehicle building enterprises should improve production management, improve the level of control and fully utilize the potential of existing facilities so that the number of vehicles built will continued to increase and the quality constantly improved. Following the needs of growing assignments, there should be planned expansion so that building work will be improved. When necessary, building may be integrated with repair work to serve maintenance needs of the enterprise.

4. In order to assure fulfillment of the need for vehicles, the planning potential of vehicles in widely scattered areas must be uniformly organized so that planning may be improved and technical problems which must be solved in planning everywhere, can be solved. Because of this:

a. Vehicle planning offices everywhere should improve their planning program. At the proper time, the ministry will call a national vehicle planning symposium in order to bring together the plans of various places and after study and discussion, select plans most needed in various areas and make it a reference document for vehicle building in 1960.

b. In order to improve planning work, the ministry will call a meeting of technicians from all areas when necessary to study the technique of planning vehicles for public transportation and improve planning. Techniques will be improved so that gradually a part of the equipment for these vehicles will be standardized. After this project is completed, the personnel will return to their original positions.

4. Strengthen the organization and leadership of urban public transportation capital construction.

a. Implement the annual capital construction plan properly. Preliminary allocation of quotas in capital construction for 1960 urban construction have been made. Investments for capital construction in urban public transportation is one time higher than last year (this is 11 percent of the entire allocation for urban construction). All provincial, and municipal urban construction public transportation authorities should strengthen their leadership of public transportation capital construction and properly implement this year's capital construction plan. While observing needs and capabilities and the local situation, construction work should be carried out with required enphasis and speed and with targets and order so that investments for 1960 capital construction will be even more appropriate.

b. Grasp the opportunity and so all construction preparation work well. Grasp firmly above plan construction work and the requisitioning, transfer and processing of materials and equipment. It is especially important to grasp firmly preparation work for the first quarter of next year. The work and its supervision must be quickly planned and the work parceled out. At the same time, workers should be trained (operators and maintenance and repair workers) and assigned in order to assure that, with the completion of building work, production can begin at once.

c. In regard to stretching overhead wires for trackless trolleys and the installation of other equipment, other than cities which now have technical capabilities and experience, most cities are inexperienced. In order to speed up the construction rate, and fully utilize working capabilities, the spirit of Communist cooperation should be brought into play and major cities should assist fraternal cities. Cities which plan to build new trackless trolleys should take the initiative in consulting large cities in order to have the work done sconer.

d. Materials and equipment required for public transportation capital construction should be used economically and substitute materials should be used. For example, in stretching wires for trackless trolleys, copper wires have always been used in the past. It is impossible to fulfill all requirements at present. The Tientsin Municipal Trolley Company has successfully experimented with the use of an aluminum-iron wire. Other areas can study their experience.

e. 1960 public transportation capital construction assignments are very heavy. There are many projects which require complex equipment and technical requirements are high. It is necessary to give full attention to the quality of the work. All areas should strengthen their supervision and give firm guidance to engineering work. The progress and quality of work must be assured. Construction costs should be lowered continuously and construction assignments should be completed in quantity and quality with speed and economy.

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## V. CHANGE THE HARMFUL TO THE HARMLESS: ACHIEVE FULL UTILIZATION BY POSITIVELY DEVELOPING SEWERAGE DISPOSAL WORK

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No. 1, 14 January 1960 Pages 1-2 (excerpts) Wang Ta-chun

During the past year, on-the-spot conferences in Tsinan and Peiping on the utilization of waste water for irrigating farmlands have proposed studies on the utilization of waste water for farmland irrigation, development of waste water resources, comprehensive utilization of mud and the disposal of industrial sewerage. Major achievements were made during the past year in the disposal of ordinary and industrial sewerage under the brilliant light of the party's main line of socialist construction because party and government leaders in all areas have given the work their attention and support, fully implemented the running with two legs policy of the government, mobilized the masses to correlate scientific research closely with production, combined scientific research activities of the masses with those of specialized industrial research organizations, integrated the three factors of administrative leadership, technical cadre and worker groups and correlated training, scientific research and production. Judging from the contents of the reports, materials submitted and exhibits at this conference, there is ample evidence that achievements of the past year were very great. They are seen mainly in the following areas: (1) Comprehensive use of waste water and mud: it is necessary to expand further the use of waste water for farm irrigation, to develop its comprehensive use, and to achieve more mature experiences. Year-round utilization of waste water has been realized in parts of certain cities. Cities which utilize sewerage increased in number from 28 last year to 42 and irrigated land surface, from over 200,000 to about 1,000,000 mou. The Ma-fang Shan area of Wuhan began experiments and research on the utilization of sewerage to supply water to vegetable gardens, fish and lotus ponds, and algae pools and for the control of mosquito breeding in order to achieve year-round utilization of sewerage, and to create more favorable conditions which will not only solve the disposal of waste water, but will also result in bumper harvests. Other places such as parts of Tsinan and Chu-chou are also gradually achieving year-round utilization. Ch'ang-sha utilizes wasta water for fish breeding. Scientific analyses have shown the results to be excellent.

There is a great future in the comprehensive use of mud. Positive results have been obtained from experimental and research work done by the few cities in 1959 which later expanded to 17 cities. Through "utilization," mud is not only disposed of, but useful materials are extracted from the mud which is transforming the harmful to the useful.

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Through the use of different techniques, the cities of Sian, Shanghai, Tientsin, Wuhan and Nanking have succeeded in extracting vitamin B-12, plastic materials and methane gas. The Wu-ch'ang iron and steel mills succeeded in compressing methane gas into a liquid which is a great achievement, but its preservation is still a problem which requires further research.

(2) Industrial sewerage: two years ago, nothing was done about the disposal of industrial sewerage. The task of studying the disposal of industrial sewerage was brought up only last year at any on-the-spot conference. Last year, various areas studied the dangers of industrial sewerage to production and did a great deal of research on the subject. At present, there are 42 organizations engaged in this research. Viewing the situation in the nation as a whole, such research is in the category of pure experiments and semi-productive experiments. There are already many achievements in research which have been applied to experimental production and have thus solved problems of production which were urgently in need of solution. For example, the Tsingtao Dyeing Plant re-used its water to solve a water shortage. The Wuhan Sleeper Preservation Plant and some factories in Heilungkiang found a way to recover and dispose of waste water impregnated with phenol and made a valuable scientific analysis.

At the same time, a great deal of investigation and research was done in many areas which assumulated a mass of material and created favorable conditions for developing the work of sewerage disposal. For example, a solution was found for poisonous industrial sewerage in Heilungkiang Province which gave a grasp of the nature and quantity of waste water and thus provided a basis for present and future studies.

In summary, because everyone had implemented the spirit of the on-the-spot conference of last year, there has been improvement in the depth of research work and the level of technology in the disposal of sewerage during the past year as well as an expansion in the sphere of research. Tasks were completed victoriously and the results of the work were outstanding. Naturally, work has only begun and there are still vague situations. Some organizations still lack emphasis and the results of their research lack conciseness. Organization work is weak. Hereafter, it will still be necessary to continue to exert every effort.

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#### SOME FOINTS ON THE NEWLY CONSTRUCTED GAS STORAGE AND VI.

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DISTRIBUTION STATION IN THE EASTERN SUBURBS OF PEIPING

No. 1, 14 January 1960 Page 36 (excerpt)

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Yang Po-feng

The Tung-chiao gas storage and distribution station of the Peiping municipal gas, heat and power company has been completely built and will supply gas to National Day building projects and a segment of industry and civilian users in the capital.

This gas storage and distribution station is located between the gas generating equipment and high, medium and low pressure pipelines. It acts as a hub and all gas being stored or moved must pass through it. The station consists of three important parts; a pressure generating room, a pressure control room and a gas tank area. The gas storage and distribution tanks are horizontal and made entirely of steel. The net weight of each tank is 23 tons with a capacity of 1,300 cubic meters. During the initial stage of construction, 67 tanks were built with a total capacity of 87,000 cubic meters.

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#### VII. SHORT-TERM CONSTRUCTION PLAN FOR

#### A NEW INDUSTRIAL AREA

No. 1, 14 January 1960 Pages 19-20 Kwangsi Work Team, Office of Plans, Institute of Urban Designs

# I. The Purpose and Significance of Preparing a Short-Term Construction Plan

During the second quarter of 1959, we assisted a certain town in preparing a short-term construction plan for a new industrial area. The designing work was done after the main plan for that town was determined and while over-all allocations of detailed plans were being made for this area.

After a general and detailed comprehensive consideration of the technical and economic problems of the short-term construction projects, size, construction layout and land required by the plan of this area, it is possible for this area to develop with order and clarity. Detailed designing can then be carried out according to plan so that urban construction offices can uniformly handle construction plans during the period of the Second Five-Year Plan and organize the working relations of various construction units and avoid any single unit building alone or urban construction offices only controlling the allocation of construction sites and ignoring the relations and working connections between various construction projects.

## II. Some Problems in Preparing Short-Term Construction Plans

(1) The determination of the size of short-term construction. The short-term construction plan of this industrial area calls for the new construction of a group of factories, power stations and water works. Correspondingly, a group of construction and installation enterprises will set up a base of operations here. The speed of construction of these important economic construction projects will determine the rate of increase in the population of this area. Because of the lack of a final decision on the size of a leading industrial enterprise, which has already been designated, and of another important industrial enterprise, the size of the power station and progress of development of construction and installation enterprises and the construction of a base of operations have been affected. This has resulted in this area having two possibilities; it can be either large or small. We are preparing plans for a relatively large scale development and have left room for a situation calling for a lesser scale of development and thus provide for revisions based on future decisions.

Since the nature and layout of the new industrial area is opposite to those of the old town, it is therefore possible to proceed independently in estimating the size of short-term population expansion. In this estimate, the basic population figure is supplied by the industrial development plan while service personnel is determined by various specialized industries. Population is determined by the family ratio established by various construction units. The various categories of population have been fixed at 40 percent for basic population, 10 percent for service personnel and 50 percent for dependent personnel. The size of population could possibly be 70,000 for the first category and 50,000 for the second.

Determination of the scale of housing (including dormitories) plays a leading role in this work. The scale of construction for new housing is determined by the growth in population and the number of houses.

With the concurrence of various important construction units, living space fixed uniformly for houses in the newly constructed ara area is 3 sqm per person for single persons and 4 sqm per person for dependents. The ratio of dependents for personnel in industrial enterprises is 6:4 and for construction enterprises, 8:2. Persons with families average four persons to a household. According to a recent count of all workers in various units, the figures show that in a short time, this area will need a total of 462,000 sqm of new housing and dormitory space (of this amount, housing is 336,000 sqm). In addition to some construction completed in 1959 (including temporary construction), it will be necessary to build 405,000 sqm of new housing and dormitories during the next four years. Multi-storied buildings will be used as a standard. Land requirements will be estimated according to the number of houses.

At present, the industrial construction plan for this area is still undetermined. Various units have not been able to submit standard for the quantity and quality of construction for each year so it is impossible to give an estimate of housing construction for a housing construction plan.

The items and sizes of construction for common use are presented by various administrative offices. The standards for such construction are close to those of the old town or slightly higher. By consolidating the plans submitted by various offices, this area will need in a short time to construct 100,000 sqm of space for public use which is an average of 1.5 sqm/per inhabitant. Of this construction, public construction at the town district level will be one-half. This construction will basically equal the consolidated standard requirements of the nation.

(2) Layout of short-term construction.

The layout of short-term construction is based on the scale of construction and its land requirements. These include housing construction, public buildings, parks, roads, industrial construction and construction mains and wire superstructures. We have made layouts based on the following principles:

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1. Layout for building houses:

(a) Accessibility to work should be given prime consideration so housing should be as close to work shops as possible. According to the industrial layout of this area, the short-term housing area should expand lengthwise along the western sector. Workers going to and returning from work can walk the short distance so that it is unnecessary to provide public transportation.

(b) Construction sites should be selected on the basis of broad limitations in order to reduce preparatory engineering work. All the land for housing should be selected at sites which were above the flood level for the past 20 years, in order to avoid flood prevention construction work. Since short-term housing will basically be located west of the flood zone, dangers of flood damage are avoided and much of the bridging, drainage and engineering earthworks can be eliminated.

(c) In order to provide a rational allocation of housing for various important production units, houses will be built closely along Ho-tso Lu on both sides so that roads will be economically utilized and housing and communications will have favorable conditions.

(d) Existing housing will be fully utilized by integrating it into the plan for short-term housing construction. Important construction in this area includes groups of one-storied houses in subareas two and three, and some two-storied houses in parts of subarea No. 1 which total several tens of thousands of square meters. Although some of this construction is of a temporary nature, still, the minimum is above four or five years. There is no need for short-term renovation and they could be fitted with service facilities which will improve their usability.

(e) Construction should adhere to the steps given in general and detailed layouts with allowances for scale and speed as required. Following industrial expansion, the general direction of housing development will be from north to south and east to west. Construction in the north-south directions should begin north of Kuang-hua Lu and then gradually expand to T'ien-hui Lu. East-west construction should be concentrated west of Ho-tso Lu.

2. Layout of public service buildings:

(a) For the convenience of local inhabitants, there should be an even dispersal of concentrations. Public service buildings for large service centers of a large radius should be concentrated in a single area while shops serving daily needs of the inhabitants should be dispersed as closely as possible in the midst of the housing area. (At the same time, due consideration should be given to needs for detached areas and the use of multistoried buildings.)

(b) Layouts must fulfill the specialized needs of specialized industries and be suited to the working requirements of various types of public service construction. For example, cultural and entertainment areas should be adjacent to parks. Commercial and service construction should be centrally located and easily accessible. Middle schools should be located near production centers in order to be compatible with the policy of coordinating education with production. Medical and health facilities should be located in guiet and convenient areas.

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(c) Consideration must be given to stage by stage completion of short-term consolidated layouts. There should be a central base to each stage of construction with several auxiliary points. This area should first complete the service center in the northern section of Ch'ang-ch'ien Ch'u and then develop southward along the residential area to create a center where Kuang-hua Lu and T'ien-hui Lu cross; thus avoiding the center from being left out of future expanding areas.

(d) Main service centers should service a radius of about 500 m while local service centers should serve a radius of about 200 m.
(e) Consideration should be given to the appearance of groups of public service buildings in streets and open spaces. This area has blended large scale public buildings in Ch'ang-ch'ien Ch'u to give a pleasing appearance to the street.

Arrow 3. the Layout of public parks: There are a second president

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(a) By utilizing natural contours, rocky hills, water surfaces and creeks which are unsuitable for construction, should be landscaped.

(b) By integrating short term construction of public buildings with housing construction, cultural rest centers and small parks could be completed sooner.

be completed sooner. (c) By cooperating with subareas, trees can be planted all over the area as well as forest shelter belts for health; thus landscaping the entire area.

the entire area. 4. Layout for industrial, warehouse and construction sites: Industrial and warehouse land will be laid out in accordance with the plans submitted by various units and on the basis of the master plat. Warehouses for civilian use will be located as closely as possible to the housing areas.

Construction sites may be temporary or permanent. Ordinarily, those of a temporary nature should be near the work sites while those of a permanent nature should be located with an eye to the sources of supply of raw materials and finished products as well as transportation conditions.

5. Planning of municipal engineering facilities:

With construction for a certain amount of new industrial enterprises and for large-scale building for civilian uses, the building of municipal engineering facilities must be closely integrated so that both industrial and housing areas will have an effective and economical water supply, sewerage disposal, power, telecommunication, road, and public transportation systems. This is an important problem in municipal construction. We have followed the following principles in our planning: (a) The work of short-term construction must first satisfy the

needs of industrial production and capital construction. At the same time, it should give some attention to the livelihood of the people and

at least provide the minimum requirements of municipal facilities. Since most of the important plants in this area have taken care of most of their non-operating engineering facilities /water, power, etc./, the short-term engineering construction plan calls mainly for taking care of municipal engineering facilities for the housing area while at the same time supplementing the non-operating engineering facilities of a part of the industrial area.

(b) The standard for municipal engineering facilities is determined by home building standards of the construction committee of the Kwangsi Chuang Autonomous Region as well as the standard of existing public service facilities in that city. Important points in the service standards of this area are: water will be supplied mainly from canters with some provision for supplies to individual houses. Water closets will be dry (with regular collections and cleanings). Rain and sewerage water will be disposed of by open drains following the contour of the land. Roads will be built in stages with low-grade surfacing. Landscaping will consist mainly of tree planting with primary emphasis on covering as much as possible first and then making improvements. Lower levels will be planted first and then upper levels. Naturally, thought must be given to a small number of houses where public service facilities of a high degree will be required right from the start.

(c) The potential use of temporary engineering facilities at capital construction sites as well as existing facilities should be fully utilized.

(d) In determining the standards for the short-term construction of engineering facilities, it is important to pay attention to economy in capital investment and the supply of building materials.

(3) The plat for short-term construction should be drawn on a scale of 1:50000. The plat should show existing construction, engineering mains and power lines and the layout of short-term construction projects (including industrial and housing areas). Long-range planning areas should be outlined with heavy lines and their details given in a supplementary plat.

(4) The production and supply of short-term construction materials.

An important condition for the realization of the short-term construction plan is whether the local production and supply of building materials can assure the needs of short-term construction. Calculated according to current standards, it is estimated that shortterm construction for housing, public service facilities and municipal engineering construction for this area will require over 110 million bricks, 8.9 million roofing tiles, 110,000 cubic meters of sand, 190,000 cubic meters of gravel and 9,600 tons of cement....

Under the principle of supplying materials for local construction locally, this area has, within the past few years, newly constructed a brick kiln with an annual capacity of 30 million bricks and a tile plant with an annual capacity of 10 million tiles. These are accessible by rcad, so the construction of brick and tile factories is solved. This area is filled with rockly hills which are easily quarried. Quarries are now in operation and cement is being manufactured. Sand can be obtained from spits in the river which are not far from this area. It is only necessary to move large quantities of sand during the low water season and store it along the banks. With preper transport organization, there is no question of supply. Building materials which are subject to national allocation must be cleared through uniform allocation by regional authorities.

(5) Estimating costs for short-term construction:

The probable capital investment by the government in this area in a short time is an important factor in determining the scale of short-term construction. Therefore, it is very significant in estimating the total cost of short-term construction.

According to current general lists of costs for the housing construction, public service facilities and municipal engineering facilities and their scale, it is estimated that the total capital outlays for short-term construction are:

Allowing a leeway of 10-12 percent, short-term construction in this area is estimated to require a total capital investment of 28 to 30 million yuan which works out to an average investment of 400-430 yuan per man and 137,000-150,000 yuan per hectare.

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Following the above investment estimates, we can review them to see if they are realistic in the light of our present economic level and planning:

a) The average annual investment of this area in short-term construction is 700 yuan which is not a small figure; but with continued increases in capital construction investment from now on, this is possible.

b) If in a short term, the government invests 400 yuan for each new inhabitant, this figure is not high.

c) The ratio of capital investment in short-term important construction is rational. Of this figure, the ratio of investments for municipal engineering may increase with the expansion in production and improvements in the livelihood of the people.

III. Some Points in Preparing a Short-Term Construction Plan

(1) There is a close relationship between production expansion during the second Five-Year Plan and the short-term construction plan and the economic level and the constant improvement in the standard of living of the people; therefore, it is necessary to firmly support political leadership, understand the current policy of party, rely closely on the leadership of the local party committee and work closely with authorities, construction organizations and designing offices.

(2) Short-term construction must be on a progressive and reliable basis. On the one hand, it must proceed according to the capital construction plan of various economic organizations included in the national economic plan. On the other hand, undefined and incomplete parts of the plan must be fully anticipated and a proper estimate be provided. Strive to take the initiative and leave room for adjustments.

(3) Documents for guiding short-term construction and building cannot merely determine the amount of short-term construction in a long range plan. They must contain over-all, detailed and comprehensive plans for industrial capital construction, public service construction, municipal engineering projects and landscaping.

(4) Short-term construction is not only the realization of the master plan by steps, but is also responsible for revisions of the master plan and for providing a basis for the detailed plan. Some people feel that short-term planning belongs to the stage of general planning while others feel that it is an independent step between the master plan and the detailed plan. The short-term plan for this area has adopted the technique of progressing and mutually supplementing and revising in juxtaposition with the detailed plan. This makes the contents of the short-term plan more detailed but does not clearly reveal to which stage of work it belongs. Therefore, it is necessary to go further into the contents, depth, techniques and stage limits of shortterm construction planning.

#### VIII. GRASP THE OPPORTUNITY TO EXPAND AREA

#### PLANNING WORK ENERGETICALLY

No. 2, 14 February 1960 Page 13 (excerpts) Unsigned

Area planning is the study of general and strategic steps for the expansion of economic construction of a certain area at a certain time. It is a continuation and broadening of the national economic plan as well as an important problem and a important part of national economic construction.

The urban planning symposium held in Tsingtao May 1958 by the Ministry of Construction looked on this work with great importance. Under the brilliant light of the party's general line of socialist construction and with the rapid expansion of the national economy, area planning work has made great advances during the past year and a half. Since 1956, 22 provinces, municipalities and autonomous regions throughout the country have made 47 plans of a local nature. Of these, 39 plans were made in 1958 and 1959 (the four provinces or autonomous regions of Szechwan, Kweichow, Hopei and Inner Mongolia are making area plans for the entire province). These plans will play an important role in the economic development of various areas. However, our work in this field is still not suited to the needs of current developments. Our national economy is growing at a rapid pace. All construction activities will have to be conducted on an even greater scale. Productive forces within the nation must be deployed systematically and rationally. Area planning is urgent and very significant work. Area planning work must be generally and broadly developed in 1960. Our task is a glorious and difficult one.

The bureau of Urban Planning of the Ministry of Building recently held a conference in Ch'ao-yang Shih, Liaoning Province, for the exchange of experiences in area planning. Delegates from the seven provinces and autonoumous regions of Liaoning, Kirin, Heilungkiang, Shansi, Hopei, Shantung and Inner Mongolia attended. The aim of the conference was to develop and improve the level of area planning work and create favorable working conditions.

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