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REFLECTIONS OF THE PLANNING OF
OLD AND NEW CITIES IN THE USSR

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"Reflections of the Planning of Old and New Cities in the USSR"

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The views in this paper reflect the views of the author and not necessarily those of the U.S. Department of Housing and Urban Development.

REFLECTIONS ON THE PLANNING OF OLD AND NEW CITIES IN THE U.S.S.R.

I have just returned from my sixth and last trip to the USSR under the new towns portion of the US-USSR Agreement on Housing and Other Construction. The agreement is part of a total strategy of reducing tensions with the USSR.

From a personal and professional viewpoint this has been extraordinary experience that one might expect to have only once in a life-time.

In the spring, upon final agreement to complete a second joint publication with the Soviets, the new towns section of the agreement will be terminated, its objectives having been achieved. Other sections of the agreement will continue for a second five year period, since the agreement was just renewed.

This is a good time for reflection, now that our efforts have been largely completed. In this paper, I only hope to draw a few conclusions and hypotheses, not duplicate the large body of technical information in my book Soviet New Towns, Housing and National Urban Growth Policy and a variation on that book in a Chapter in Gideon Golany's book International Urban Growth Policies: New Towns Contribution.

I will briefly attempt to outline the following:

1. What we have experienced.
2. What I think we have learned.
3. What we haven't learned.
4. Where should we go from here?

I should emphasize that my reflections are my own and do not necessarily represent the conclusions or policies of HUD or the U.S.

What We Have Experienced

During the past five years, our new towns group has seen and had briefings on: (a) the planning of existing large cities, (b) development of new cities, (c) historic restoration, (d) regional planning, (e) national planning, (f) national standards, and (g) new town management.

Among the existing large cities we have seen are Yerevan, Armenia; Tibilisi, Georgia; Irkutsk, near lake Baikal; Leningrad; Tashkent, Uzbekistan; Donetsk, and Kiev in the Ukraine; Novosibirsk, in western Siberia; Riga in Latvia; and Minsk in the Byelorussian Republic.

We have seen a whole range of new towns, varied by both function and geographical location:

- A resort town Sochi, on the Black Sea.
- Academic and scientific new towns--Dubna, north of Moscow and Akadengorodok, near Navosibirsk.
- Coal towns Mezhdyrichinsk and Novokuznetsk in western Siberia in the Kuznetsk coal basin.
- A desert town -- Navoi in Uzbekistan.
- Large industrial towns--Togliatti on the Volga River and Naberezhniye Chel'ni in the Urals.
- A town built around a hydroelectric station--Bratsk north of Irkutsk.
- An agricultural new town--Salaspils, near Riga.
- Satellite or large industrial complexes near existing urban centers --Lazdinai near Vilnius and Rustavi near Tibilisi; and Shelekhev near Irkutsk.
- Dormitory suburbs--near Moscow, Kiev, and Yerevan.

Among the historic areas of special note have been Samarkand in Uzbekistan; the restoration of Leningrad and environs; and the integration of old and new development in central Vilnius in Lithuania. (See Map 1)

We have received information on the concepts and principles underlying national distribution of new towns and industry, as well as standards for

housing and other construction. We have translated into English two books by I.M. Smoliar on Soviet new towns and one set of national construction regulations. Much information has been conveyed and translated into English in the form of the Soviet portion of the forthcoming joint publications on new town planning and management. In addition, the Soviets have transmitted a considerable body of publications in Russian which are waiting to be tapped by American scholars.

What Have We Learned?

We should have modest expectations about learning in the context of quick trips to the USSR by delegations composed of specialists in U.S. new towns and community development, not specialists in Soviet affairs. However, five trips (or six by the time of this meeting), a considerable amount of reading and many direct and candid conversations with Soviets do permit a few generalizations or hypotheses about planning of old and new cities in the USSR.

1. Perhaps the most important conclusion has little to do with the technical subject: The officials and ordinary people with whom we have dealt all over the Soviet Union appear to have a deep yearning for peace and better relationships with the West. They take the agreement and detente very seriously. I find it personally encouraging that, regardless of the up's and down's of Soviet foreign policy, there is an underlying popular sentiment of good will which can form the basis for better relations in the future.

Although the 1000 Americans and Soviets to be exchanged during a given year under these many agreements may not have as much to do with peace as the SALT agreement, they certainly have the potential to play a modest role toward relaxation of tensions.

2. A second conclusion relates directly to new town and city planning. I believe that a central feature of Soviet town planning is to minimize costs and expenditure of scarce resources in the civil sector.

This is manifested by the use of national standards for maximum housing space permitted, by standards for community facilities, and by mandated high housing densities.

Currently Soviets consider the least-cost construction to be nine-stories and up. This takes into account cost of construction of the building; costs of water, sewer and roads; minimization of transportation costs; and an "opportunity cost" for land, although the state owns all the land and does not have to buy it. It also includes curbing of the destruction of agricultural land by urbanization, a critical consideration. Often I have been told that five story buildings in many cities were a mistake, and that they will be torn down and replaced by highest density development which is more efficient.

A combination of high density compact settlements, low automobile production, and subsidized rapid transit, makes for high transit ridership in the USSR. The number of passenger trips in the USSR in-city mass transportation in 1970 was 36.8 billion, compared to only 1.3 billion for individual passenger cars. By 1975, mass transit carried 10 billion more

(46.1 million), compared to 4.4 billion for individual cars. By contrast, the single family low density development in the U.S. and high automobile ownership made transit ridership difficult.

The limitation on the growth of large cities and decentralization into new towns (typically less than 30,000 population) should also result in considerably reduced journeys--to work, since there are 40 million people living in the Soviet new towns and employment and housing are close.

Decentralization and creation of compact settlements also reduces the material and labor requirements. There is lower cost labor in small cities and shorter water and sewer lines and roads in compact settlements.

The national housing space standards of around 100 to 120 square feet per person (excluding bathroom, kitchen and hall) also have a tremendous impact on reducing costs in the civil sector. According to one source, the average number of square meters in 1976 per unit in the USSR is among the lowest in Europe: 49 square meters, compared to 82 for France, 95 for Western Germany, 70 for England, 109 for Sweden, and 120 for the U.S.. Similarly, the late start of the USSR into serious and high level housing production means that it has one of the lowest numbers of units per 1000 population among European countries. It has been estimated that the number of units per 1000 was only 230 for the USSR in 1976 compared to 399 for France, 383 for West Germany, 368 for England, 394 for Sweden, 397 for Denmark, 329 for Italy, and 330 for the USA.

The high use of pre-cast concrete panels for housing in the USSR also saves scarce manpower--which is a critical limiting factor in the construction industry.

A further cost minimization approach is to tie the new towns in with the railroads. Typically, new towns are either concentrated into clusters or linear form along the major railroads.

The future development of national urban growth in the USSR also follows for the most part, this linear or cluster path of development. Map 3 shows future thrust of development in the USSR along the BAM line from Lake Baikal to Amur Railroad, as well along the Transiberian Railroad to the South. It also shows a strengthening of the existing regional clusters outside of Europe: the Ural cluster; the central Asian cluster centered around Tashkent; the Kazakhstan cluster centered around Karaganda; the great western Siberia cluster around Novosibirsk and Novokuznetsk; the Krasnoyarsk cluster; the Bratsk--Irkutsk cluster near Lake Baikal; the Komsomolsk and Nakhodka clusters in the far east.

The main exceptions to this linear and clustered pattern are the freestanding centers of Surgut in the great Samotlar oil fields; Norilsk in the north center Siberia; Yakutsk in the far east and Magadan on the Eastern coast of the USSR. These latter centers are the main centers not connected with the national rail network.

What implications does this striving for economic efficiency have in planning? I believe that it has enormous implications for current and future strength of the USSR vis a vis the USA, Western Europe and Japan. From 1950 to 1968, U.S. per capita consumption of energy increased from 225 million BTU's per person to 300 million units. By contrast, in Eastern Europe and the USSR, per capita consumption increased from less than 50 million BTU's in 1950 to 125 million in 1968, less than half than that of the U.S.. At the same time, this was higher than the 1968 world average of only 54.5 million BTU's per capita.

Domestically, this means that the USSR can stretch its energy budget. It is not currently subject to blackmail by third world countries, unlike the vulnerable Japan, Western Europe and the USA.

In its relation to the third world, the USSR may not cause the same bitterness and jealousy as does the USA, because of our more rapid waste of the world resources. In 1976, I attended a UN conference on standards for community development. The African nations represented at the conferences expressed great resentment over the American waste of resources. Most developing countries viewed the use of national standards in the same way as viewed by the USSR: a way to constrain consumption in non-essential sectors of the economy to free resources for industrialization.

A third effect of restraining consumer and housing expenditures is to free resources for defense and industrialization spending. On the one hand, it allows a surplus of capital to go into military and industrial expenditures without inflation; on the other hand, the modest standard of living of the industrial workers and military permits the USSR to stretch its money making it much cheaper than US or western expenditures for a given missile or tank or industrial good.

Although the USSR may save energy, materials and manpower by stringent national standards, which tend to make more efficient and less costly buildings and communities, it is less efficient than the West in the use of manpower in other sectors of the economy. Roughly one third of the Soviet workforce is engaged in agriculture compared to an average of only 4 percent of the U.S. workforce, although Soviets only have 80% of the U.S. agriculture output. In the governmental sector, Steven Rapawy of the Department of Commerce has estimated that there are roughly 8 million more workers (by U.S.

classification) in the USSR performing roughly the same functions as are performed in comparable U.S. Federal, State and local agencies.

3. A third major conclusion is that the Soviets have constructed a phenomenal amount of housing in the past years, perhaps unequaled in history in a short period. They have also undertaken about 1000 new towns containing about 40 million people in the most massive planned settlement ever undertaken.

4. A fourth major conclusion (which should hardly be a surprise to anyone) is that Soviet city planning mechanisms are highly centralized. We have translated the Construction Norms and Regulations published by Gosstroy in 1976. They apply to the whole country and set the detailed standards for housing and construction. Among other things, the norms specify that normally in the large cities (over 250,000) buildings shall be nine stories or more, with partial use of five story buildings. Normally, five story buildings will be built in other settlements. Further, one and two story buildings will be built in large cities primarily in suburban zones or on special plots designed for this purpose. Single family homes are generally not built within large cities.

In addition to the centrally required norms and standards, there are informal guidelines and prototype approaches to planning which are typically used throughout the USSR. For example, the building block of Soviet city planning is the "micro-raion" or superblock with high density housing surrounded by through-traffic arteries and centered around schools and neighborhood shopping facilities. The consistency with which this approach has been applied in the USSR is striking.

A further centralization is the required use of certain industrialized housing series. However, each year progress is made on better and better series to allow more space and amenities.

A combination of central standards, standard industrialized housing prototypes, and guidelines on planning practice, there is a remarkable degree of similarity among towns in the USSR built for the same purpose during the same period of time. The industrial towns of Bratsk, Togliatti, Rustavi, Navoi, and suburban areas of Moscow, Leningrad, and Kiev, etc. look very similar.

Centralization and standardization, along with efficiency as a goal, has produced cities that are convenient and functional, but lacking the diversity, beauty, and individuality of many new areas in the U.S. and Western Europe., (Those areas are not entirely immune from standardization and uniformity, either.)

There are exceptions to the general rule of uniformity in Soviet town planning. One set of exceptions is for academic new towns. Akademgorodok and Dubna are perhaps the most attractive and human scale new towns which I have seen in the USSR. They have an abundance of open space, recreation facilities and even some diversity in housing types. Also in the Baltic republics there is a very high level of planning and design: the new town of Lazdinai outside of Vilnius, and the agriculture small town of Salaspils are some examples, as well as the architecture and historic restoration in Vilnius.

5. Another characteristic of Soviet city planning is a respect for the architectural monuments of the past. The rich fabric of history is preserved in Leningrad, Vilnius, Samarkand and other cities. It is these old developments in the Soviet Union with their rich historic tapestries that inspire love and affection. Much less loved are the new developments

which are often composed of uninteresting rows of utilitarian housing, lacking in individuality and character.

6. A related characteristic of Soviet housing and planning, currently recognized by the Soviets, are problems of aesthetics, poor construction quality and, inadequate maintenance and landscaping. For this reason, Soviet architects often turn to war memorials and cultural buildings to earn extra money and have an outlet for their creative energies.

7. This is closely related to another characteristic of Soviet town planning: the continued emphasis on memories of World War II. In every old town we visited the most moving and revered moments were spent before the war memorials.

The memory of World War II and actions taken to escape the invading Germans has had a profound impact on national settlement system. The factories began to be moved to the Urals before and during World War II to make them less vulnerable to invasion of the Soviet heartland. Although the mass movement of new towns into Siberia is not officially justified on grounds of geo-politics, none-the-less it appears to be a strong factor.

The other side of the geo-political coin is the desire to occupy the vast and rich land of Siberia to counter what is perceived to be a threat from China. One of the possible justifications for the BAM line is to reduce vulnerability of the Transiberia Railroad which runs along the long Chinese border past Lake Baikal.

8. Geo-political motivations are not the only ones for developing the hinterlands. One important motivation for placing new towns in Siberia is exploitation of natural resources.

Siberia--a vast area fitting all of the U.S. plus half of Canada-- may be the land of "death and chains" as the home of the slave labor camps was called by Maxime Gorky. But it also holds promise for future Soviet power. It holds 3/4 of all of the timber in the Soviet Union (22% of the remaining reserves of the world) most of which are virtually untapped; and 80% of its water power. If its rivers were linked they would circle the globe 25 times. It has 2/3's of the natural gas, 36 times the known reserves in 1964; 63% of the coal (or 50% of the world supply); 75 to 150 million tons of oil, 30% of the USSR total; plus (as if this were not enough) lead, zinc, tungsten, molybdenum, copper, nickel, gold and diamonds. Map II shows the oil reserves, natural gas, coal, iron and hydroelectric power reserves. The clusters of development in Siberia are centered around these reserves.

Siberia also has another not so desirable asset: difficult weather, at least in northern and Eastern Siberia. Southwest Siberia is not that extreme. The climatic zones are also shown in Map II. In spite of the fact that pay and vacations are much higher in Siberia, they have a problem attracting and maintaining skilled workforce. Transportation in Siberia is a large cost.

Symbolic of the development of Siberian resources and the immense potential and difficulties faced by the BAM line, running from Ust-Kut to the Amur River when completed. It will cost an estimated \$9 billion at an average wage of 350 rubles a month. By the time that it is finished, BAM will have moved 3.5 million cubic feet of earth; built 3700 bridges of culverts; constructed 16 miles of tunnels; constructed 54 million square feet of work

space for workers; and 2500 miles of railroad superstructure will have been laid. It will open up the Udokan copper deposits with an estimated 1.2 billion tons of ore, as well as 1.5 billions total of iron ore deposits. Also asbestos, apelite, Magnesium, gold, potassium and 586 billion cubic feet of timber will be made accessible.

Difficulties along this route are unbelievable: permafrost covers 2/3 of the route, often as deep as 975 feet; areas must be transversed with earthquakes of up to 8 on the Richter scale; there are landslides and avalanches; and, as if this were not enough, there are disease carrying insects such as ticks and mosquitoes. Yet many youth volunteer for duty on the BAM line and there appears to be a national spirit of adventure.

9. Social relations in the new towns are a key issue. There is little segregation by nationality in the Soviet new towns. This is an accomplishment. However, nationalism has not diminished among the minority peoples in the USSR, which collectively may form a majority in the Soviet Union. The birth rate of the Central Asian republics far exceeds that of the Russian Republic. The Russian concept of "zblezhenia," or "drawing together," is the dominant Russian policy toward the minority nationalities. This actually involves a drawing together on Russian terms, with the use of Russian language and culture encouraged at every turn. Many new towns have introduced great Russians and other non-natives into minority republics such as Kazakhstan.

With regard to relations among Soviet social classes, Hedrick Smith argues that class differences are pronounced in the USSR and growing larger. I believe that this is exaggerated. The national norms and standards apply,

generally, to both rich and poor. One of the strongest rationales for the national standards is the strong emphasis on equality. In response to questions about lack of diversity in housing, Soviets respond that they cannot provide one type of housing for one group of people, but not for others. That would be violating the principle of socialist equality. In the new towns there is little apparent difference between houses for persons of various social standing, education and income.

Although the Soviet elite does have many privileges, as pointed out by Smith and others, I still maintain that class differences in the USSR appear to be far less than the U.S. and in other Western European countries. This is a point meriting further study.

10. Another point about Soviet planning is that there appears to be little in-depth analysis of what people want or what their needs are to form a basis for planning. Soviet surveys, when they are done, are on small questions, such as what type of industrialized housing prototype shall be used, not on fundamental questions such as what density of housing people prefer or what section of the country would they prefer to live in.

Because of the relative absence of meaningful political choice and the relative absence of efforts to determine whether or not people are satisfied with their housing and the relative absence of freedom of choice, it is difficult to determine whether people are satisfied with city planning and housing in the USSR. We cannot presume they are dissatisfied, however, because what they have now is so much better than they had before.

11. With regard to social services in the new towns and elsewhere, the Soviet employees receive a compensation package much like in the U.S. Army: wages are modest, but benefits are steady and there is a basic

level of protection from cradle to grave. Instead of paying a high wage, as they do in the West, the typical Soviet worker may only receive 150 rubles a month. But he receives free medical care, particularly free vacations and free college education for his children. Housing costs are only five percent of his salary; transportation only costs a nickle a ride; books are cheap; and non-luxury food items are modest in cost. The average worker is unlikely to get fired and has a good deal of security if he is not politically out of line. Each of these services provided is modest, but acceptable.

It is misleading to call these services "free," since they are really part of the workers' compensation. It does ensure that a basic level of service will be provided, regardless of income; however, it reduces the worker's freedom of choice in selecting priorities among services. In the U.S. the worker receives a high wage, but few free services. He can choose the mix of his consumer expenditures. In the USSR, the State controls the services, determines the level of services, the priority of access to services and other issues.

The fact that most of the workers compensation in the USSR is not in the form of wages, but in services, makes cost comparisons between the US and USSR confusing. Only the direct cost of wages are attributed to the cost of a given enterprise. Thus, expenditures for housing, national defense, transit, etc., do not reflect the true cost of supporting a worker in these areas. To make true cost comparisons, the total value of the services would have to be provided, then added to the cost of wages. This would determine the real cost of transit, housing or defense. Then better cost comparisons can be done.

What We Have Not Learned

What we have learned has been important. But some conclusions are beset with questions. In the words of Bernaro Overstreet, by what we have learned we have "merely enlarged the circle of our ignorance": we know more and are more aware of our large areas of lack of knowledge.

Among the things that we don't know are the following:

-- We are not sure how many real new towns there are which were consciously planning. The Soviet definition which covers the 1000 new towns is so broad that it includes existing towns which passed from a rural to urban status and which rapidly expanded, as well as freestanding classic new towns. Applying the same definition we would have over 1800 new towns in the US, after the Russian Revolution, since the number of towns over 10,000 increased by that number during this period. However, most of these U.S. towns were not planned.

-- We have no comprehensive list of Soviet new towns; all we have are the names of selected new towns and maps without town names.

-- We are not sure whether or not the national settlement pattern is more or less efficient than the pattern which might have been established by decisions to locate industry by natural economic forces. However, certain attempts to maximize efficiency were pointed out above.

-- We are not sure of how the real decision to locate a new town is made, since Gosplan appears to make the basic decision for the distribution of productive forces before the new towns are built. Our delegations have had few sessions with Gosplan.

-- We are not sure whether or not a developed science of public and business administration (in our definition) exists in the USSR or what

principles are applied in the management of Soviet enterprises. This may be partially corrected by a new draft of the Soviet management report. Much more scholarship should be done in this field.

-- We are not sure how Soviet citizen feels about the 9, 12, and 16 story buildings. They are not too popular for families in other countries.

This list could go on. The point is that we have only scratched the surface of scholarship and understanding the way cities are planned and how the national pattern of settlements is determined. But at least we have made a start. We certainly know far more than when the exchange started five years ago.

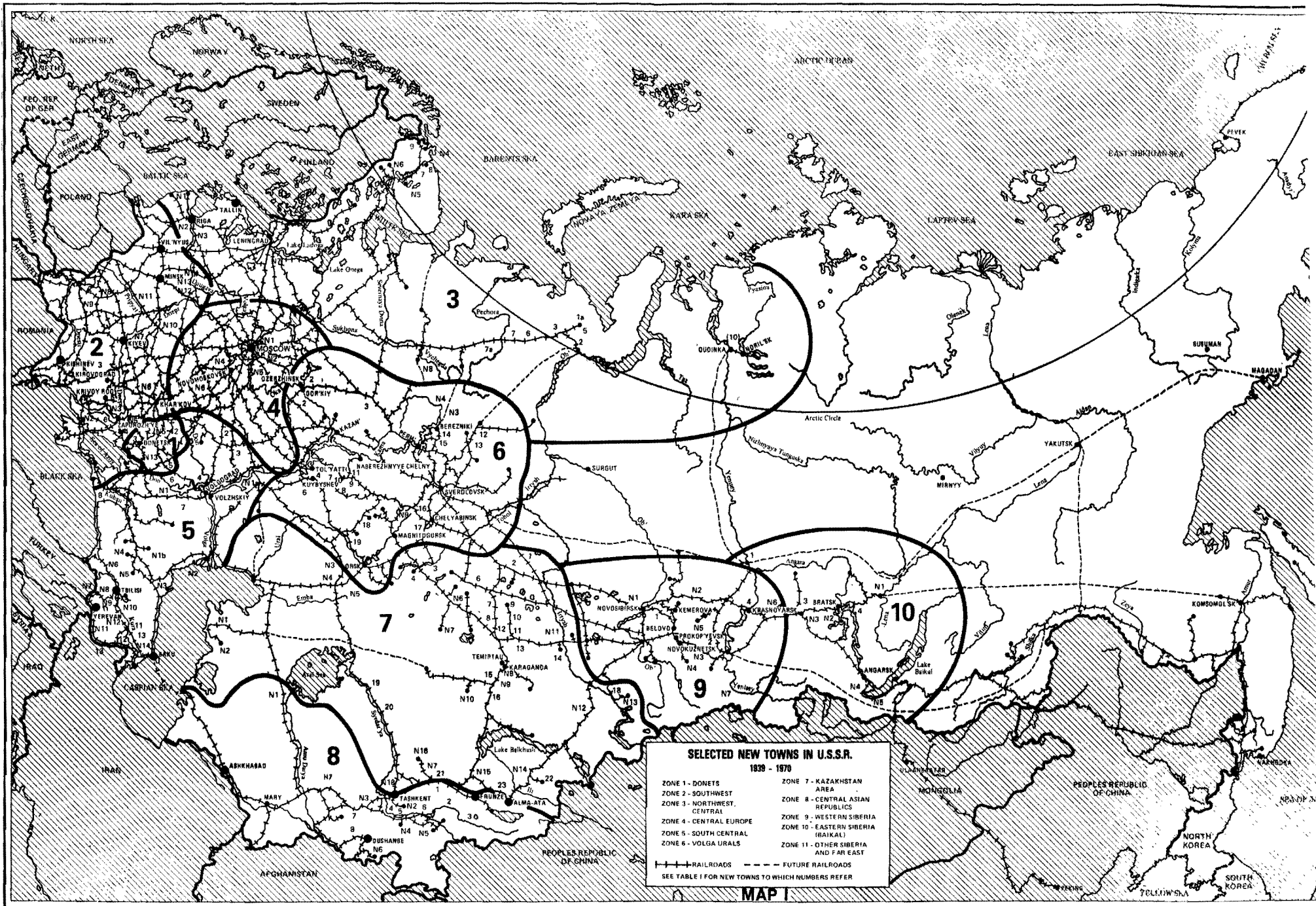
Where Do We Go From Here

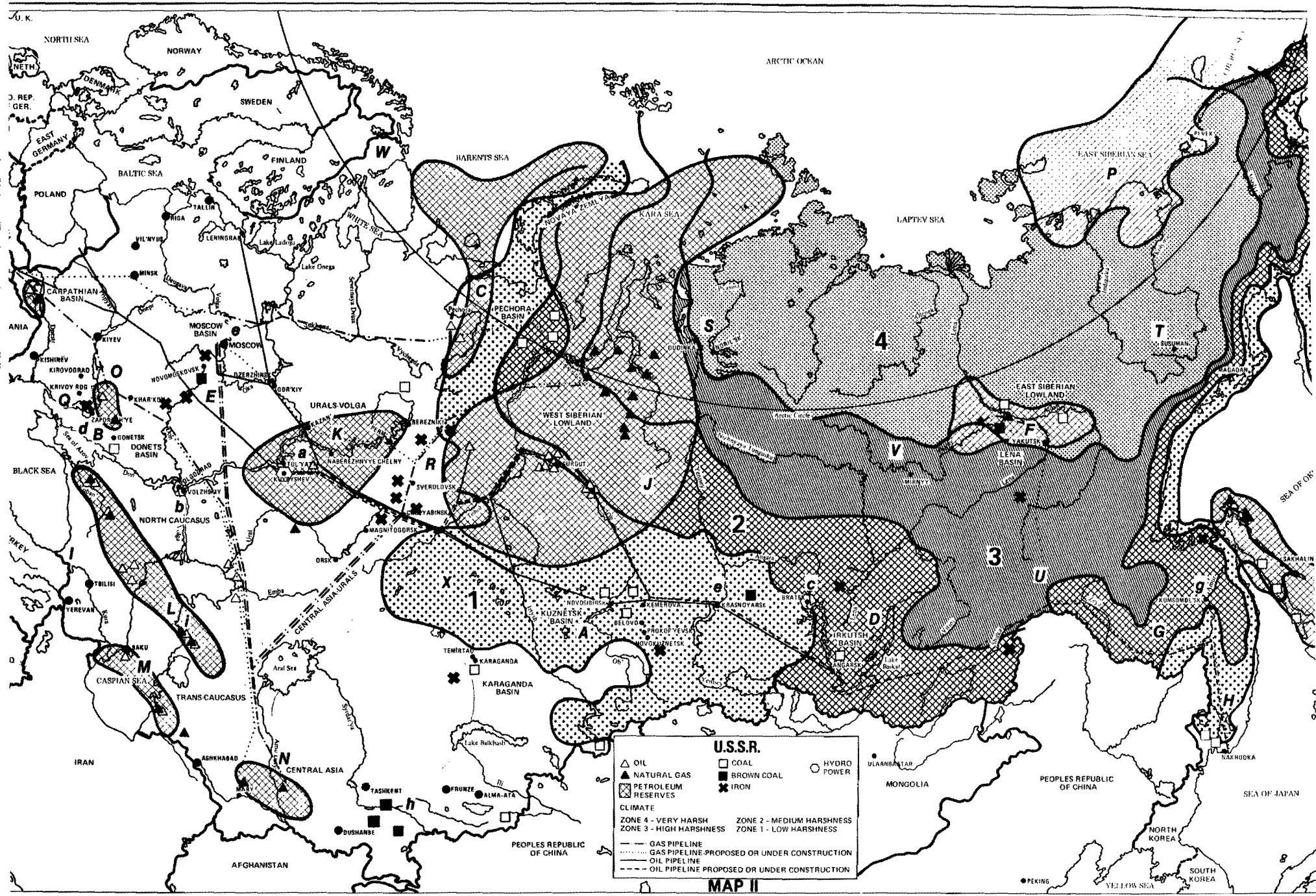
The next step is to interest American scholars in pursuing urban studies in the USSR. We need qualified scholars to follow up and build upon the foundation that we have laid. There should be a free exchange of scholars so that we can reduce the number of unanswered questions.

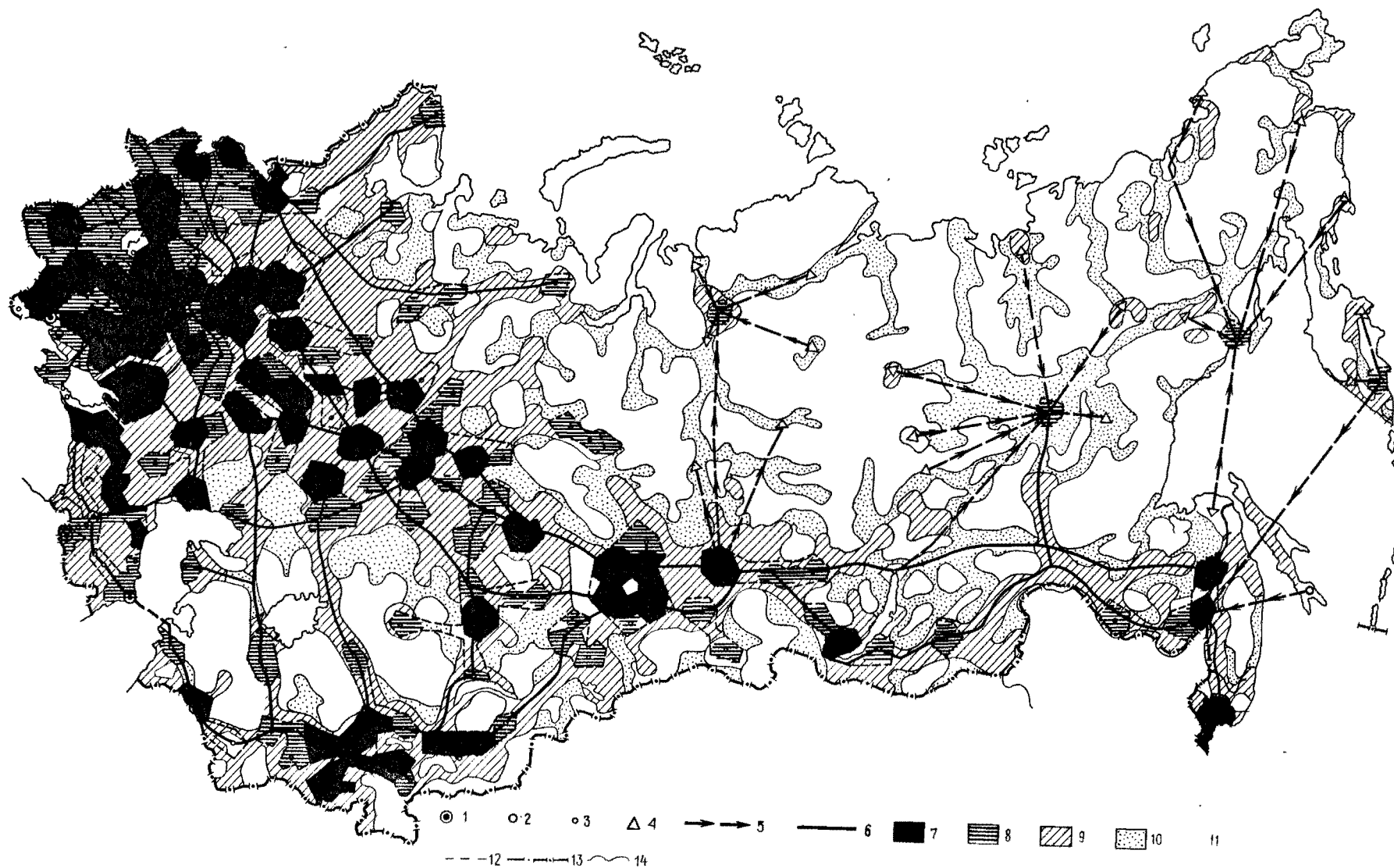
This, of course, is not a one way street. The Soviets have a great desire to learn about the U.S. city management and planning tools and techniques. They can learn much more if they spend more extended times in the U.S.

Now that the new towns section of the agreement is phasing out, it is my hope that future scholarship in both countries will head in this direction. However, the importance of scholarship should not take from other goals which we have attempted to accomplish under the agreement--intangible as they may be. It can never replace the face to face contact and learning experience by top level decision-makers in both countries. Many misconceptions have been cleared up by the trips. My hope is that this face to face contact by high

level officials will continue in related agreements so that this aspect of the agreement will not be lost. One of the most important products may be making a modest contribution to peaceful relations between the two countries, based upon open and honest contact, not upon myth and misunderstanding.







MAP 1. Plan for A National Settlement System in the USSR.

1.Potential centers for regional settlement systems. 2.Potential centers for very large settlement groups. 3.Potential centers for medium size settlement systems. 4.Supporting centers for population clusters outside of the settlement systems. 5.Planned transportation links connected to system centers. 6.Air transport networks of regional significance. 7.Large settlement system zones. 8.Medium size settlement system zones. 9.Small settlement system zones. 10.Zones for population centers outside of the settlement systems. 11.Zones of seasonal employment and exploration. 12.Boundaries of the regional population zones. 13.Boundaries of the USSR. 14. Coastal Zones.