The Humanitarian Situation in Bosnia: Problems and Outlook

Summary

Bosnian cities are descending into a crisis of subsistence, played out against the backdrop of intense ethnic warfare. Once Tito's showplaces of ethnic harmony, Sarajevo, Mostar, and Gorazde have become the principal urban venues of terror campaigns that threaten to destroy civil society and inflict famine and disease on a large population.

- About 1.3 million Bosnians have been displaced by the war; at least 9,000 have been killed. Fighting over the next few months could raise the death toll to over 15,000.

- The refugee flow to other countries—totaling about 500,000—has slowed, mainly because of a lack of transportation, because other countries are imposing tougher standards for entry, and because the displaced

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1 Displaced persons are those who have left their homes but remain within the borders of ex-Yugoslavia. Refugees are those who have gone abroad.

This memorandum was prepared by analysts in the DCI Interagency Balkan Task Force, the Office of European Analysis, the Office of Resources, Trade, and Technology. Comments and queries are welcome and may be directed to Chief, Balkan Task Force.
from Bosnia have been able to find a relatively safe refuge closer to home, principally in Croatia. West European governments are unlikely to cut off the flow of refugees, in fact domestic and international pressures may prompt them to accept more, as the hardships that displaced people will likely confront this winter become apparent.

- Winter weather—which turns cold in October—will make many roads difficult to use or impassable. Nonetheless, major routes—such as the road from Belgrade to Gorazde—will probably remain usable in all but the harshest conditions.

Fighting will continue to send Bosnian countryfolk into the already-crowded cities, placing further pressure on urban resources. If the current exodus continues, about 30,000 to 40,000 per week will be displaced. Worsening conditions in winter are likely to send thousands more into Croatia, looking for housing and relief.

Provisioning and medical supplies are still adequate to prevent famine and epidemic—especially in Sarajevo although pre-war food stocks have probably been depleted. But, outside the city the quality and availability of medical services are declining relative to need, and food shortages and disease are on the rise. We expect further deterioration of basic services and infrastructure this winter and the onset of localized starvation and epidemic disease.

Our projections about the humanitarian situation in the coming winter would worsen substantially if:

- The fighting intensifies in the late fall and winter.
- The winter is harsher than the norm.
- The UN relief operation is not able to sustain its current level of effort.
- The Serbians decide to deal more harshly with Bosnian Muslims now trapped in besieged cities.
### Humanitarian Situation in Bosnia: A Matrix

| Population | The population is now stable at about 380,000. |
| Food and Water | Currently 285,000. |
| | Estimated currently at 160,000, almost entirely Muslim. |
| Food and Water | The original population of 35,000 is now between 70,000 and 100,000. Ten percent are children. |
| Population | City is about 91 percent provisioned, and water is available from public faucets. Relief supplies appearing on the thriving black market. In Muslim areas, security forces are well provisioned; civilians short on food. |
| Materials Damage | Extensive damage from shelling and incendiaries. 70 percent of structures in Sarajevo and downtown at least moderately damaged. About 30 percent of structures in outlying areas are damaged. |
| Materials Damage | Food reserves are probably running short. Press reports indicate the city, which needs 2,500 tons of food per month, received only 40-60 tons between mid-June and mid-July. Since then no food had been delivered. Potable water is available, but contamination increasing. |
| Materials Damage | Starvation not evident, but civilians reportedly malnourished. No running water, but fresh water available from wells and springs. However, these are under sniper fire, and some wells poisoned. |
| Electricity | Rolling blackouts are common, but capable of using power when available. Telephone system operative only within the city. |
| Electricity | Is intermittent. |
| Electricity | No electricity, except gasoline generator at hospital. |
| Medical Situation | Hospitals—including the University and Military Hospitals—well supplied and staffed. The key problem, is the wounded and sick find it difficult to get to medical facilities because of snipers. |
| Medical Situation | Supplies are probably short, but facilities and staff probably available. |
| Medical Situation | Conditions at the hospital primitive and unsanitary. Surgery performed without anesthetics; no medical supplies and drugs; and bandages being boiled and reused. Hospital also understaffed. |
| Movement | People attempting to leave city are frequently stopped by security forces. Men between 18-60 are turned back, considered potential combatants. |
| Movement | Roads appear open and are carrying traffic. |
| Movement | Possible for individuals to walk in and out of the city, but only under sniper attack. |
Scope Note

This paper is a baseline assessment of current conditions in major Bosnian cities—including Sarajevo, Gorazde, Tuzla, Bihac, Banja Luka, Mostar, and Zenica—and of the impact that winter conditions will have on the humanitarian situation.

The Urban Landscape

Pattern of Damage

The building stock of major Bosnian cities is heavily damaged, but major factories probably remain capable of at least partial operation. In some parts of Sarajevo, upwards of 70 percent of the structures appear to be moderately to severely damaged. In the Stari Grad and downtown area of Sarajevo—which include the city telephone exchange and post office, all government buildings, army barracks, an electrical switching building, major hotels, a sports complex, and train passenger terminal—few buildings remain untouched; most have at least moderate (that is, around fifty percent) damage. Outlying residential areas, however, show only light to moderate damage; only about five percent are destroyed, and these are mostly industrial buildings and apartment blocks near the garrisons and airport.

The pattern of destruction is different elsewhere. In Mostar and Gorazde, the effort to destroy buildings has been directed almost exclusively at housing areas; central cities are as yet only lightly scarred. In Mostar, where 70-80 percent of houses are destroyed and where 45-60 percent of government and industrial buildings are damaged or destroyed, the destruction was apparently the result of house-to-house incendiaries, with few signs of shelling. The same is true of Gorazde, where reported house-to-house fighting and accurate targeting has left a path of systematic destruction that has become characteristic of the Serbian "ethnic cleansing" campaign.
Other key Bosnian cities have so far escaped major damage to buildings. Shelling at Tuzla has left only superficial and limited damage in the eastern suburbs. Nor is there any evidence of shelling or serious destruction of buildings in Banja Luka or Zenica.

**Factories and Businesses**

- At Sarajevo, however, most major industrial facilities located inside the city show moderate to severe damage. Industrial facilities outside the city limits—such as a tank plant, aircraft engine factory and the Ilijas Steel Fabrication Plant—are not operating but they do not appear to be damaged. These plants are down, probably because shelling is keeping workers and raw materials from reaching them, and/or because power and water supplies are not reliable.

- The same is true of Tuzla, where largely undamaged outlying industries appear to be operating sporadically, when workers and materials are available. Notwithstanding press reports that the Tuzla Chemical Combine was struck by shells and missiles, the buildings appear to be undamaged and the plant is not operating at present but probably could be brought back into operation quickly.

- The Coke, Iron, and Steel Works at Zenica is in a similar condition.

- Mostar is the exception, where most industrial facilities in and near the town have been at least moderately damaged.

**Infrastructure**

Bosnia's infrastructure is inoperative at times but not severely damaged. The transportation network is still in operating condition, but rail yards, rail lines, major roadways and bridges leading into major cities are often blocked with vehicles and rubble. Even in besieged cities like Sarajevo and Gorazde roads, bridges and rail facilities are largely intact. Again, the main exception is Mostar, where all highway and rail bridges in or near the city have been destroyed. And except for Sarajevo and Banja Luka, airport facilities in most cities have been hit by shelling or destroyed by withdrawing Serbian units, and we judge they will require extensive repairs to become usable.
Electrical power in most Bosnian cities is becoming increasingly scarce and erratic, according to various reports, and water and sewerage systems depend on electricity. Nonetheless, most cities have at least some power, the warring factions have not so far successfully targeted major power production facilities such as dams and major power generation plants.

Sarajevo appears typical. There is no visible damage to substations and switching stations serving the city, which are located outside of town and appear to be serviceable. However, the main power switching center downtown has been destroyed.

Like most Bosnian cities, Sarajevo draws its power from the national grid, which in Bosnia is mostly supplied by hydroelectric facilities on the river systems. The large hydroelectric plant at Jablanica/Konjic, the two low-dam hydro plants at Mostar, and the plant at Bajina Basta do not appear to be working. The Lukavac power plant at Tuzla, which is also connected to the grid serving Sarajevo, was still operating on 17 August.

However, conditions are more chaotic outside Sarajevo. For example, only the hospital there is getting power.

Next to buildings, the communications system is the hardest hit part of the urban infrastructure. In Sarajevo the telephone and communications systems are not working well, probably because the Telecommunications and Postal Center downtown has been damaged and because power supplies are irregular. Evidence of the condition of communications elsewhere is fragmentary, but there appears to be virtually no service in Gorazde and unreliable systems in most other cities.

Hospitals and Medical Services

Various evidence indicates that hospitals in Bosnian cities—except in Gorazde—are relatively undamaged and are treating patients. However, the lack of safe access to hospitals and the shortage of medical supplies outside of Sarajevo remain serious problems.

We do not know the status of all 19 hospitals in Bosnia and Herzegovina, but the situation in Sarajevo is probably better than that in other cities. A UNICEF team that visited pediatric wards in the University...
and the Military Hospitals in Sarajevo concluded that they had sufficient emergency medical supplies, physicians, staff, and facilities to treat the sick and wounded. However, various reports indicate that many of the wounded and dying in Sarajevo cannot reach hospitals because of the shelling and sniper fire. The situation in Tuzla is almost certainly similar to Sarajevo.

The two hospitals there—one a children's facility—appear to be undamaged, but there is no evidence concerning their operations.

The situations at Mostar and Gorazde appear catastrophic. The heavy damage at Mostar suggests that health facilities have been shelled and/or burned. According to Radio Bosnia-Hercegovina, the constant shooting in Gorazde, even at night, has made it impossible for medical teams there to treat the wounded. The great tragedy there is the hospital, which is virtually out of medicines and supplies, notably anesthetics.

Surgery was being performed under unsanitary conditions, bandages were being boiled and reused, that the hospital and its personnel were being constantly targeted by Serbian mortars and snipers, and that facilities were badly overcrowded.

The materials delivered by the convoy probably included about 5-6 tons of medical supplies, but we have no information about the extent to which these satisfied Gorazde's needs.

Despite deliveries of medical supplies by UN agencies and non-governmental organizations, shortages of medicines and medical supplies exist outside Sarajevo.

Medical facilities outside of Sarajevo received only about 10-15 percent of their required medicines and supplies for the month of July, largely from international relief sources. In places where hostilities have brought transportation to a halt, the level is 3-5 percent.

On the basis of orders filled at the end of July, one medical official concluded that the shortages would persist through August. He noted also that shortages of vaccines and serums, cardiovascular drugs, antibiotics, and basic items such as disinfectants and anaesthetics were particularly serious.

Although Sarajevo has fared better than other cities and has received over 400 tons of medical supplies since early July, the city still faces shortages of some medicines and medical supplies.

Insufficient drugs to treat illnesses such as leukemia and tumors. Radio Croatia reported in early July that there are also shortages of tetanus vaccines and vaccines for children.

Report "urgent" needs for the full range of medical supplies.
Problems of Survival

Various evidence suggests that Bosnian cities face a burgeoning crisis of subsistence. As their populations swell with people displaced by the fighting in the countryside, food supplies and other basic necessities have diminished, according to a variety of reports. Outside of Sarajevo, moreover, only a trickle of humanitarian relief has reached those most in need. Comparing estimated minimum food needs with reported deliveries by the UN and non-governmental relief agencies, we estimate that less than 40 percent of the food requirements of the displaced and other people in need in selected Bosnian cities, including Sarajevo, were met by international relief efforts during the period 1 July through 15 August. Nevertheless, without the relief effort, Bosnia would be substantially further along the road to starvation than it is today.

Number of Dead and Wounded

According to the most conservative estimate, just over 9,000 people have been killed in the fighting in Bosnia and Herzegovina since early April. These deaths, reported in a Bosnian Government survey based on incomplete data, occurred at a weekly average of about 500 and included 1,200 children. Of the 39,500 serious injuries reported in the same period, about 25 percent occurred to children. Estimated that 80 percent of the victims were ethnic Muslims, while 70 percent of the killed and wounded were civilians.

The actual death toll is probably higher, however, because the Bosnian reporting excludes some areas of the region and does not include any of the 60,000 people now reported missing, some of whom are most likely dead. Assuming that areas not included in the Bosnian Government estimates would add about 6,000 casualties to the total and that a quarter of the missing are dead--total deaths so far could exceed 30,000. Including these projections in the weekly estimate would raise it to about 1,700.

Refugees and the Displaced

Some 1.3 million Bosnians have been displaced by the fighting, Data on the patterns of population movements are too fragmentary to analyze, but about 600,000 of these people remain within the borders of Bosnia and Herzegovina; an additional 700,000 have fled to neighboring republics, mainly Croatia, and up to 250,000 have sought refuge in Europe (See Table 1). Many of those who remain in Bosnia have converged on the cities from the countryside, as rural villages have been destroyed by Serbian sieges. For example, 23 villages around Gorazde were destroyed as of mid-July, sending nearly 30,000 people into the city, according to various estimates.
Table 1
Refugee's and Displaced People of the Balkan Conflict, mid-August 1992

<table>
<thead>
<tr>
<th>Displaced People</th>
<th>Total</th>
<th>Percent from Bosnia and Hercegovina (estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosnia</td>
<td>681,000</td>
<td>87</td>
</tr>
<tr>
<td>Croatia</td>
<td>597,000</td>
<td>54</td>
</tr>
<tr>
<td>Macedonia</td>
<td>31,000</td>
<td>82</td>
</tr>
<tr>
<td>Serbia</td>
<td>388,000</td>
<td>60</td>
</tr>
<tr>
<td>Slovenia</td>
<td>70,000</td>
<td>96</td>
</tr>
<tr>
<td>Montenegro</td>
<td>51,000</td>
<td>86</td>
</tr>
<tr>
<td>UN Protected Areas</td>
<td>87,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,905,000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Refugees</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>52,000</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>215,000</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>54,000</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>11,000</td>
<td></td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>45,000</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>41,000</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>15,000</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Additional refugees</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>485,000</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL** 2,390,000
The pattern of population displacement from the countryside to the cities will probably continue, in particular as long as Bosnian Serbs are able to continue their "ethnic cleansing" campaign. With Serbian military activity now increasing in western Bosnia and Hercegovina, already overcrowded cities like Bihac and Banja Luka will probably become a "safety valve" to additional displaced over the next month or so. On average, the number of internally displaced has been growing by roughly 30,000 to 40,000 per week since late May.

Officials in Banja Luka observe that hundreds of families—presumably non-Serb—are arriving daily to sign over their assets to Serbs before attempting to leave Bosnia.

Women and children are being accepted in Croatia, but only if the military-age males stay behind or agree to take up arms as part of militias being formed in southwest Bosnia.

Nonetheless, Croatian officials claim that they do not have the resources to absorb another huge influx of displaced people and have threatened to pass the next large group to "Western Europe."

On average, the number of internally displaced has been growing by roughly 30,000 to 40,000 per week since late May.
Bosnian Refugees In Europe

We estimate that roughly half the 500,000 refugees that have fled ex-Yugoslavia departed from Bosnia and Herzegovina. Movements to other parts of Europe are much smaller than within ex-Yugoslavia and appear to have slowed since the Serbian siege began in May. We attribute this mainly to a lack of transportation and the unwillingness of most European countries to accept more refugees. Austria, for example, currently reports receiving 20 to 30 refugees per day, down from some 500 per day in early July.

The movement of refugees into other European countries will probably remain relatively small, but will not stop. Indeed, as the harsh conditions of winter set in and as the fighting continues, pressure on Bosnians to seek safer refuge in Europe will increase, as will the public and world pressure on European governments to accept more refugees.

Provisioning and Water

Food reserves appear to be dwindling or exhausted in most places. The situation in Sarajevo is the best; 91 percent of its food needs had been met by the airlift--almost 8,400 metric tons--and most of the remainder had been satisfied by food deliveries via land convoys. (Table 2) Canadian General McKenzie emphasized in a recent debriefing that Sarajevo has not been a starving city and has not been short of medical supplies. Still, worry that the city's poor--and Muslim--civilians will suffer severe malnutrition.

For areas of Bosnia outside of Sarajevo--which General McKenzie indicated are worse off--we estimate that only about 5 percent of food needs were met by humanitarian aid land convoys. The situation in besieged Gorazde may be the worst. There, food supplies have dwindled to the point where only the defending Muslim soldiers receive rations. The civilian population, normally less than 50,000, has ballooned to between 70,000 and 100,000--depending on various estimates--because of the influx of displaced people from the surrounding countryside. reports of starvation in the city are exaggerated, but people there are malnourished and the military is "hoarding" most of the food. We estimate that the 40 tons of food aid delivered to Gorazde last weekend represented just under one day's ration for the city.

Elsewhere the food crisis is almost as bad. Although Tuzla did not receive food aid from international relief convoys in July, it may have received a small amount--
about 1 (one) percent of its needs—from other sources. It is now surviving on dwindling reserves. Banja Luka has received about 3 percent of its food needs from relief supplies, and Bihac, faces an impending food shortage. Mostar has received about 90 tons of food since early July—enough to feed its 90,000 people for about two days.

Most Bosnian cities are experiencing water shortages of some degree, either because electrical power has been interrupted or because of damage to water lines and pumping equipment. Problems of water contamination are on the rise and with them the incidence of water-borne intestinal diseases.

- In July, Serbs besieging Sarajevo cut the city's main water line from the reservoir at Bacevo, which supplies 90 percent of the city's needs. While UN forces managed to restore some of the previous volume, the city's supply is much reduced and subject to intermittent interruptions, according to press reports.

- Since Gorazde came under Serbian bombardment in May, it has been without running water. Moreover, a radio report indicates that alternatives to the city water supply—local springs and wells—are under permanent mortar and sniper fire. These reports are largely corroborated by the who also was told that Serbs had poisoned at least one well.
Table 2

Bosnia and Hercegovina: Estimated Minimum Food Needs, Mid-August 1992

We estimated minimum food needs on the basis of UNHCR calculations of minimum daily food requirements--0.5 kilogram per person. For Sarajevo, we used UNHCR's planning figure of 200 MT daily. We estimated cumulative food deliveries--via airlift and land convoys--to these seven Bosnian cities on the basis of

<table>
<thead>
<tr>
<th>PLACE</th>
<th>IN NEED</th>
<th>1 DAY</th>
<th>1 JULY - 15 AUG</th>
<th>1 JULY - 15 AUG</th>
<th>OF PEOPLE FOR ( \text{NEEDED (MT)} ) DELIVERIES ( \text{PERCENT OF PEOPLE FOR PERIOD (MT)} ) ( \text{OF} )</th>
<th>( \text{NEED} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarajevo</td>
<td>380,000</td>
<td>200</td>
<td><strong>9,200</strong></td>
<td><strong>9,063</strong></td>
<td><strong>99%</strong></td>
<td></td>
</tr>
<tr>
<td>Tuzla</td>
<td>160,000</td>
<td>80</td>
<td>3,700</td>
<td>0</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Banja Luka</td>
<td>285,000</td>
<td>143</td>
<td>6,600</td>
<td>190</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Bihac</td>
<td>70,000</td>
<td>35</td>
<td>1,600</td>
<td>189</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Mostar</td>
<td>90,000</td>
<td>45</td>
<td>2,100</td>
<td>92</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Gorazde</td>
<td>85,000</td>
<td>42</td>
<td>1,900</td>
<td>40</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Zenica</td>
<td>85,000</td>
<td>42</td>
<td>1,900</td>
<td>388</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,155,000</td>
<td>587</td>
<td>27,000</td>
<td>9,961</td>
<td><strong>37%</strong></td>
<td></td>
</tr>
</tbody>
</table>

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* Via airlift and land convoys

** ICRC estimates prewar food consumption in Sarajevo to have been 500-700 MT per day (equal to 1 to 1.3 kg. per person on the basis of Sarajevo's estimated population of 525,000 at that time).

*** Includes 8,400 MT delivered via airlift to Sarajevo.
Disease

Infectious diseases—especially those associated with contaminated water—are on the rise in areas where the fighting is taking place, according to various press reports. While media reports of epidemic are probably exaggerated, infectious diseases are clearly increasing at alarming rates, especially in cities where basic public health measures, medical infrastructure, and sanitation services have been seriously degraded. Outbreaks of acute diarrheal diseases, typhoid fever, and hepatitis (A) had been reported with increasing frequency in the southern part of ex-Yugoslavia. Many Bosnian refugees arriving in Hungary are ill; some of them are suffering from such infectious diseases as dysentery and tuberculosis.

Breakdown of Civil Society

The conflict in Bosnia and Hercegovina has led to serious social and psychological disruptions that will almost certainly continue to feed the violence regardless of any political settlement. In part, the current conflict and atrocities are a result of residual resentments over acts committed by all sides during the Second World War. Much of the violence now raging in Bosnian cities is also mere criminality, unchecked and masquerading as ethnic reprisals.

Bosnian Muslims, who represent 44 percent of the region's population, have been the hardest hit by the violence and social dislocations. Almost two thirds of the Muslim population has been either uprooted or is now living under constant military attack. As a result, cities that were once multicultural are now suddenly "homogeneous." Support systems for ethnic cultures—schools, churches, theaters and the like—have been damaged and destroyed. The psychological impact of the war—especially among Muslims—has already produced an unshakable conviction that other ethnic groups have planned for years to murder them.

Many Muslims, some of whom are reportedly experiencing a religious renewal, believe they face a diaspora, much like the Palestinians. Few can now envision a political settlement that would begin to put things back the way they were. Nonetheless, moral among the Bosnian Muslims is still "pretty good," mainly because "they are proud of being survivors."

Outlook for Winter

Given the likelihood of a near-term intensification of ethnic warfare, the quality of life in many Bosnian cities will probably fall to near and in some cases below the level of subsistence. Although the fighting may taper off as winter cold and snow begin, the cities will face deepening fuel and food crises, along with a further
The onset of winter will exacerbate the already serious conditions among both citizens and displaced, especially in cities other than Sarajevo. Lack of adequate shelter and clothing in some areas will increase the need for assistance at the same time that weather makes movement along many relief routes difficult or impossible. Over the next two months, inclement weather in Bosnia will begin to make secondary roads and roads which run through mountain passes more difficult to use.

- Routes currently being used by UNHCR and ICRC to convoy supplies from Split to Sarajevo will become treacherous in late fall. the main route from Split to Sarajevo will be impassable during the winter, beginning in mid-October--and even now cannot accommodate the volume of traffic required to meet needs.

- Roads leading from Zagreb to Bihac and Banja Luka are hard-surfaced and will remain passable in all but the harshest winter weather.

- Tuzla and Gorazde are most easily supplied by routes from Belgrade, which should remain relatively open in winter weather.
In general, the use of even the best roads and rail line will depend on the condition of Bosnia's numerous bridges and tunnels almost as much as the weather.

**Bosnian Winters**

The rugged nature of Bosnia's terrain and its location along the margin of the hot and wet Mediterranean climatic region and the colder, dryer Continental climatic region produce highly variable weather patterns. Winters are generally cold—extremely so in many enclosed basins and at higher elevations. Mean daily minimum temperatures approach freezing in mid-November and tend to remain at or below this level throughout March. At Sarajevo, winter temperatures average in the mid-twenties Fahrenheit, but can reach as low as -22 degrees F. Snow generally begins to fall throughout the region in October and November and remains through April in the central highlands. First snows have been reported at Bjelasnica—in the mountains to the southwest of Sarajevo—as early as July.

Increasing problems of provisioning and declining medical services suggest a greater prospect of starvation and rising incidence of disease. Typhus, typhoid and tuberculosis are certain to increase, as the population huddles together in winter weather and as water supplies become more contaminated.
ANNEX

Additional Evidence of the Situation in Key Bosnian Cities

Sarajevo:

- Extensive damage from shelling and incendiaries. Initial damage occurred mostly from incendiaries and a few carefully placed shells.

- Initial shelling was directed at government facilities, but then at Muslim religious and cultural facilities in the Stari Grad district.

- Shelling then expanded to include all of Stari Grad and the downtown zone near the river, with signs of heavy shelling still confined to this part of town.

- Subsequently, shelling expanded to include the Dobrinja area near the airport.

- About 70 percent of structures in Stari Grad and downtown area appear to be moderately (that is, about 50 percent) to severely (that is, almost totally) damaged. Main casualties include the city's main telephone exchange and post office, virtually all government buildings, army barracks, the electrical switching station on the river, and hotels, sports complex, train passenger terminal, and major recreational facilities in the downtown district. Meanwhile, no visible damage to the large Catholic church or to the large Serbian Orthodox church in the heavily shelled downtown area.

- About 30 percent of structures (mostly apartment buildings) in the Dobrinja area are lightly (that is, 25 percent) to moderately damaged. Five percent of structures have been destroyed, mostly industrial buildings and some apartment blocks near the garrison and airport.

- No damage to rail yards, rail lines, roadways, or bridges, but most roads leading into Sarajevo are blocked, as are major thoroughfares throughout the city.

- Electrical substations and switching stations located outside the city are not visibly damaged.

- Radio Bosnia-Hercegovina reported on 29 July that an epidemic of intestinal diseases broke out in Stara Breka and a refugee center.
Sarajevo’s main water and electrical power lines remain cut, although generators are providing power to hospitals and other key facilities.

The same contacts told US officials that telephone lines out of the city are down.

The Belgrade opposition weekly, Verme, reported on 10 August that local doctors in Sarajevo caution about possible epidemics due to lice and skin and stomach diseases. The young, it said, are afflicted by the rapid spread of children’s diseases and hospitals "have long been without vacant beds and medical supplies."

A senior public health official of Bosnia-Hercegovina said recently that Sarajevo clinics and hospitals have been able to obtain no more than 35-40 percent of their required medicines and supplies.

Mostar:

- Most of the extensive damage to buildings is the result of house-to-house incendiaries; there are few signs of shelling.

- About 75-80 percent of houses are damaged or destroyed. About 45-60 percent of municipal/government/industrial buildings are damaged or destroyed, including sports, recreational, and cultural facilities.

- Neither hydroelectric plant in the vicinity of Mostar is operating regularly, but the upper dam operates intermittently.

- A Muslim official in Mostar’s municipal government reported recently that electrical lines and substations within the city are inoperable.

- About 65 percent of local medical facilities are damaged.

- Only the ancient footbridge at Mostar is passable.

- Mostar Alumina and Aluminum Plant is not operating. If the power was cut off without warning, the aluminum was probably solidified in the pots, and the entire potline will probably have to be replaced before the plant can resume operation.
The Mostar Airframe plant has sustained moderate damage. Press reports indicated that production is to be transferred from Mostar to Pancevo, in Serbia.

the main grain elevator has been damaged, with spillage of grain.

Most industrial facilities in or near the town appear to be at least moderately damaged.

The runways and taxiways at Mostar Airfield have been cratered and require extensive repairs.

Sixty-four members of the former Yugoslav People's Army who surrendered to Mostar defenders in mid-May were suffering from typhoid fever, according to press reports.

the risk from waterborne diseases remains elevated in Mostar.

in mid-July that Mostar was in urgent need of medicines.

identified food to be the number one need of Mostar during an early-July visit. Since then, UN deliveries reported by US officials have amounted to about 90 metric tons of food—enough to feed Mostar's 90,000 people for about two days.

A Muslim municipal official reported that 90 percent of all historic and cultural buildings, including cathedrals and mosques, are damaged to varying degrees.

Gorazde:

minor damage to the nitrate plant outside town, confirming press reports of damage to the processing unit there. However, shelling near the plant was directed at the village across the river, and the plant was hit by a stray shell.

mid-August, roads and bridges in the town appear to be intact. However, one of the bridges was barricaded by a vehicle parked athwart the lanes, and a probable tank controlled a nearby intersection.

According to the Belgrade daily Borba, infectious diseases had started to rage in Gorazde in early July.
On 4 August, there were no medical supplies in Gorazde.

A 29 July Radio Bosnia-Hercegovina report indicated that Gorazde needed a full range of medical supplies.

Tuzla:

Despite press reports that it was knocked off line, the Lukavac Power Plant appears to be undamaged. It was operating at a level consistent with summer operations.

Outlying industries in the area appear to be operating sporadically, and no damage is visible to the plants.

Tuzla airfield, cratered by the army when it evacuated the facility, is being repaired and should be operational soon.

The city needs 3,700 metric tons of food per month, has received only 40-60 tons between mid-June and mid-July.

The city is in critical need of food and medicines.

Split and Tuzla reported that typhoid has broken out in Tuzla.

Banja Luka:

deliver a field hospital to Banja Luka, but there is no further information to indicate that the hospital was actually delivered.

the city may have received one truckload of medical supplies as part of a 24 July ICRC convoy that was scheduled to visit Banja Luka.

no evidence of serious damage to structures in Banja Luka. Roads appear open and are carrying traffic.

According to press reports, Banja Luka has received only three deliveries of food aid by land convoy during late July and early August, satisfying about three percent of its needs.
Bihac:

- Bihac was in urgent need of medicine.
- that they region has a critical shortage of medical supplies.
- people in the city are desperate for food; seeing emaciated children in the hospital.
- According to local officials, the agricultural industry of Bihac and neighboring districts could feed the local population and others if the road to Zagreb could be opened.
- Local officials in Bihac also said that dwindling fuel supplies for generators in the face of power outages threaten a local company's large stocks of frozen food.
- a convoy delivered 34 tons of food to Bihac over the weekend. This would he about one days rations for the 70,000 people now trapped in the city.

Zenica:

- US officials that the Zenica hospital was sending vehicles to Split to pick up medicines and supplies on 29 July.
- In mid-July, an Arabic language newspaper in London reported that shops in Zenica had only empty shelves and that long lines of people stood in front of a bread distribution center.
- considerable market activity and many cars and pedestrians on the streets.