Linking The Americas--
Progress And Problems Of
The Darien Gap Highway

Progress toward building a road through the Darien Gap, the final link in the Pan American Highway, is behind schedule and exceeding cost estimates, after more than 6% years of work. The 1981 completion date has been delayed until 1985, and completion by then is very questionable. Delays and inflation will increase the cost of the highway to about twice the $150 million figure originally estimated.

Construction close to the Colombia-Panama border is primarily dependent upon successful foot-and-mouth disease control programs since the highway could be instrumental in spreading the disease northward. The Colombians have not made sufficient progress in controlling the disease, despite U.S. assistance over the past 4 years. Highway funding should, therefore, be postponed south of Yaviza, Panama, until the disease is under control in Colombia.
To the President of the Senate and the Speaker of the House of Representatives

This report discusses the status of the Darien Gap Highway, which is the final link in the Pan American highway system connecting North and South America.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Acting Director, Office of Management and Budget, and to the Secretaries of State, Agriculture, and Transportation.

[Signature]
Comptroller General of the United States
In 1971, the United States, Colombia, and Panama agreed to construct the final link in the Pan American Highway system. This section, known as the Darien Gap, involves about 400 kilometers (250 miles) of highway through parts of Colombia and Panama.

Estimated cost for the highway has nearly doubled. In 1968, the highway was estimated to cost $150 million, with the United States contributing $100 million (two-thirds) and Panama and Colombia contributing $30 million and $20 million, respectively. In March 1977, Department of Transportation officials estimated the total costs would be $285 million. Accordingly, the U.S. share would increase to $190 million, almost twice the original amount authorized by the Congress. This cost increase is largely attributed to inflation. (See p. 3.)

The Secretary of Transportation should provide the Congress with data that discloses the total expected program costs at current prevailing dollars and also furnish amounts which include inflation based on a range of inflation factors over the project's life. The Department concurred in this recommendation. (See p. 7.)

As of July 31, 1977, the United States, Panama, and Colombia had expended about $59 million on the highway. As of that date about 33 percent of the road (or about 134 kilometers) had been completed except for paving; another 18 percent is under construction. The completion date of the link, scheduled for 1981, has slipped more than 4 years to 1985, but this date is not now valid. Progress has been delayed by lower-than-anticipated congressional funding and by a court injunction on design and new construction. Also, the National Security Council advised against Federal participation in
highway construction in Colombia until there is satisfactory progress in controlling the spread of foot-and-mouth disease. Panama has remained free of the disease. (See p. 6 to 10.)

When present in cattle, foot-and-mouth disease may result in death, disability, reproduction failures, decreased milk production, and/or weight loss. There is concern by U.S. officials that completion of the highway could result in the spread of the disease northward, creating serious repercussions on the livestock industry in the United States, Mexico, and Central America. (See p. 10.)

Any continuing effort to control the disease is dependent upon Colombia's ability and willingness to participate in the eradication and control program. Colombia has not yet implemented certain safeguards, outlined in a 1973 agreement, such as adequate inspection and control of livestock. Colombian officials have presented a proposal expanding the control program along the entire north coast. U.S. officials are considering alternative proposals. (See pp. 13 to 15.)

GAO recommends that the Congress continue to postpone further funding of the highway south of Yaviza, Panama, within 60 kilometers of the border, until foot-and-mouth disease is under satisfactory control in Colombia. The Department of State believes the report correctly emphasizes the problem of establishing an effective foot-and-mouth disease program in Colombia before highway construction begins there. The Department of Agriculture agrees with GAO's recommendations and has noted that the Government of Colombia must make the commitments necessary to accomplish program objectives. The Department of Transportation has stated that postponing highway funding until the disease is under control is not reasonable because it penalizes Panama for a problem in Colombia and delays highway construction in Panama, which will cost more to construct at a later date. The Federal Highway Administration said that the highway in Panama should be constructed to a temporary terminal beyond Yaviza and as close to
the Panama-Colombia border as is consistent with other considerations. (See pp. 17 and 18.)

In GAO's view, however, extending the road south of Yaviza would not allow for a sufficient cushion to assure against the spread of the disease northward. This view is consistent with the positions held by officials of the Departments of State and Agriculture. (See p. 18.)

In a letter report to the Secretary of Agriculture dated August 15, 1977 (PSAD-77-154), GAO recommended that the Secretary, in cooperation with the Secretary of State, develop an overall plan that sets forth realistic target dates for eradicating and controlling foot-and-mouth disease within the existing program area of Colombia to the extent that the disease would no longer pose a threat for transmission northward via the Pan American Highway system. The plan should also provide for the commitment by Colombia of sufficient resources that will assure its willingness to participate in a control program following the eradication and control of the disease from the program areas in Colombia.

GAO also suggested in the report that since control of the disease is also important to the Central American countries and Mexico, consideration should be given to involving them in the planning and financing of control and eradication programs in Colombia.

The Department of Agriculture also agreed with these recommendations.
DARIEN GAP HIGHWAY
CONSTRUCTION STATUS AS OF JULY 31, 1977
# Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIGEST</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Authorizing legislation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Scope of review</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>INCREASING COSTS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Reasons for cost increases</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Economics--inflation allowance</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Engineering changes</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Use of more economical designs could have</td>
<td></td>
</tr>
<tr>
<td></td>
<td>produced additional savings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estimating omission</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Questionable current estimate</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Future inflation</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Claims</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Funding</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Conclusions</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Recommendation</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Agency comments</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>SCHEDULE DELAYS AND PERFORMANCE STATUS</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Reasons for delays</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Congressional funding</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Court injunction</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Foot-and-mouth disease</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Impact of delays</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Construction status</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Connecting road needs improvement</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Conclusions</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>EFFECTIVE FMD PROGRAM NEEDED IN COLOMBIA</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Agreement with Colombia</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Implementation of the FMD program</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Future program plans</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Improvements needed in Panama's FMD</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>prevention program</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Conclusions</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Recommendations</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Agency comments</td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX

<table>
<thead>
<tr>
<th></th>
<th>Authorization and appropriations for Darien Gap Highway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>U.S. participating share of project costs</td>
<td>19</td>
</tr>
<tr>
<td>II</td>
<td>Analysis of contract awards for Darien Gap Highway</td>
<td>20</td>
</tr>
<tr>
<td>III</td>
<td>Status of construction performance as of July 31, 1977</td>
<td>21</td>
</tr>
<tr>
<td>IV</td>
<td>Letter dated September 28, 1977, from the Deputy Assistant Secretary for Budget and Finance, Department of State</td>
<td>22</td>
</tr>
<tr>
<td>V</td>
<td>Letter dated October 21, 1977, and enclosures from the Administrator, Animal and Plant Health Inspection Service, Department of Agriculture</td>
<td>23</td>
</tr>
<tr>
<td>VI</td>
<td>Letter dated December 27, 1977, and enclosure from the Assistant Secretary for Administration, Office of the Secretary of Transportation, Department of Transportation</td>
<td>26</td>
</tr>
<tr>
<td>VII</td>
<td>Principal officials responsible for administering activities discussed in this report</td>
<td>37</td>
</tr>
</tbody>
</table>

### ABBREVIATIONS

- **FHWA**: U.S. Federal Highway Administration
- **FMD**: Foot-and-Mouth Disease, one of the most serious communicable livestock diseases (also known as aftosa)
- **NEPA**: National Environmental Policy Act of 1969
- **USDA**: U.S. Department of Agriculture
Chapter 1

Introduction

The United States has, for approximately 50 years, cooperated with many Latin American countries and Canada in providing financial, technical, and administrative support for construction of the Pan American Highway. Such assistance has been given through the activities of the Pan American Highway Congress 1/ of the Organization of American States, and more recently, through bilateral agreements with individual countries. The Pan American Highway system is a longitudinal route extending from Alaska through Canada, the United States, Central America, Panama, and South America.

In 1971, the United States, Colombia, and Panama agreed to cooperate in constructing the Darien Gap Highway which is the final link in the Pan American Highway system connecting North and South America. The highway is to provide a land trade route between the Americas and promote international political relationships. The route proposes to open potentially rich areas of agriculture, minerals, livestock, and timber, which have been impenetrable because of the tropical forest and swamp lands; and is to provide the Governments of Panama and Colombia access to these areas so they can control undesirable land uses, contraband operations, and animal diseases.

Authorizing Legislation

The Federal-Aid Highway Act of 1970 authorizes the United States to cooperate with Panama and Colombia in the construction of approximately 400 kilometers (250 miles) of highway; about 80 kilometers are to be constructed in Colombia and about 320 kilometers in Panama. This act authorizes the appropriation of $100 million to fund the U.S. portion of two-thirds of the cost of survey and construction.

The United States agreed with Colombia and Panama in May 1971, to cooperate in the construction of the Darien Gap Highway on a prescribed corridor from Tocumen, Panama, to a border crossing at Palo de las Letras, and across the Atrato

1/ The Pan American Highway Congress was organized in 1925 as a permanent institution of the Organization of American States. It consists of representatives of the American Governments, fostering construction of the Pan American Highway system.
Swamp to a bridge at the river Leon, which connects to the Turbo-Medellin Road in Colombia. Both agreements require the host country to provide not less than one-third of the total participating cost of the work from its own funds.

The U.S. Department of Transportation’s Federal Highway Administration (FHWA) agreed to expend U.S. funds allotted under project agreements for work performed in accordance with approved plans, specifications, and estimates. In this connection, FHWA approves the work performance methods, authorizes bid advertising, concurs in contract awards, checks work quality, and reimburses the host country for FHWA’s share of the cost for approved completed work.

In July 1968 the Congress authorized the Secretary of Agriculture to carry out foot-and-mouth disease (FMD) prevention, control, and eradication programs, in cooperation with the several governments of Central America. The authority was broadened and expanded in 1971 to include Colombia and Panama.

**SCOPE OF REVIEW**

Work was performed in Washington, D.C.; Colombia; Panama; and the Panama Canal Zone. We examined the status of the highway, determined reasons for its cost increases and construction delays, and analyzed procurement practices. We reviewed legislation, country agreements, FHWA financial information, project files, and plans for the building of the highway.

Because of the impact that the status of the FMD eradication and control program has on the completion of the highway, we reviewed U.S. assistance for the FMD program. We also reviewed country agreements establishing the programs, inspection reports, and other available records at the FMD control program offices.

Further, we conducted onsite inspections and discussed the highway and FMD control programs with officials from the Governments of Panama and Colombia, the Inter-American Development Bank, the United Nations Development Programs, FHWA, the U.S. Department of Agriculture (USDA), the Department of State, and the Agency for International Development.
CHAPTER 2

INCREASING COSTS

Cost of the Darien Gap Highway was originally estimated at $150 million, with the United States contributing $100 million (two-thirds), and Panama and Colombia contributing $30 million and $20 million, respectively. In congressional hearings of March 1977, FHWA officials estimated that the total costs would be $285 million. Accordingly, the U.S. share would increase to $190 million or almost twice the original amount authorized by the Congress.

REASONS FOR COST INCREASES

Cost increases are primarily attributable to inflation and delays in Darien Gap Highway construction. FHWA officials stated that other primary reasons for these increases are the court injunction, FMD control problems and inadequate funding which caused construction delays of considerable magnitude and thereby additional cost increases with the continued inflationary trend. These and other cost-increase reasons are listed here and in chapter 3.

<table>
<thead>
<tr>
<th>Amount (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original base estimated cost in 1968</td>
</tr>
<tr>
<td>Allowance for inflation</td>
</tr>
<tr>
<td>Original estimate</td>
</tr>
<tr>
<td>Causes for increase since 1968:</td>
</tr>
<tr>
<td>Economics</td>
</tr>
<tr>
<td>--Inflation over the 1968 estimate</td>
</tr>
<tr>
<td>--Allowance for future inflation</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>Engineering</td>
</tr>
<tr>
<td>--Widening of certain segments</td>
</tr>
<tr>
<td>--Identified design savings</td>
</tr>
<tr>
<td>--Other possible design savings</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>Estimating</td>
</tr>
<tr>
<td>--Omissions in original estimate</td>
</tr>
<tr>
<td>Sundry</td>
</tr>
<tr>
<td>--Environmental impact statement preparation</td>
</tr>
<tr>
<td>--Adjustment of field estimate by FHWA Washington headquarters</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>Net increase since 1968</td>
</tr>
<tr>
<td>Total estimate in 1977</td>
</tr>
</tbody>
</table>
Economics--inflation allowance

The inflation allowance in the 1968 estimate was based on 1966 prices with 25 percent (or $30 million), for future inflation over the estimated 10-year construction period. In 1968, a 25-percent allowance for inflation would have been a valid estimate since the Federal Aid Highway Construction composite price trend index shows only a 21-percent increase between 1958 and 1968. By 1971, however, when the FHWA requested its initial highway appropriation providing for 25-percent inflation, prices had already increased 37 percent from 1966. A more realistic allowance could have been used when requesting the appropriations, giving the Congress a better cost estimate.

Engineering changes

FHWA regional office personnel estimated that bridge-widening design changes in both Panama and Colombia increased the highway cost $2.9 million. Widening and paving the roadway in Panama from Tocumen to Canitas, a distance of about 63 kilometers, was also estimated to increase the cost by $2.7 million.

On the other hand, FHWA identified about $5.1 million in other design change savings. Of this savings $2.8 million was due to replacing spread footings supporting bridge abutments with steel pilings and $0.6 million was saved by using newly prepared standard plans meeting new concrete box culvert standards. This modification reduced the amount of material required, while permitting 25-percent heavier truck loading. Additional possible savings estimated at $1.7 million may result from other design changes, such as using updated standard plans for pipe and box culvert headwalls.

Use of more economical designs could have produced additional savings

More economical designs were available which could have saved about $750,000 in construction costs. Two contracts, totaling about $26.2 million, were awarded for highway construction in Panama, using original standard plans prepared for Inter-American Highway construction. A third contract of $25 million was awarded with updated bridge plans, but with older standard plans for culverts and other features. Highway officials advised us that in view of a Presidential mandate expediting the highway's completion, they used the available plans without including more current design standards. Potential savings, which FHWA officials acknowledge, follow.
<table>
<thead>
<tr>
<th>Description</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 bridges built using cast-in-place concrete footings and pedestals, rather than steel pilings</td>
<td>$226,812</td>
</tr>
<tr>
<td>12 bridges built using cast-in-place concrete girders, rather than pre-stressed girders</td>
<td>$53,328</td>
</tr>
<tr>
<td>6 bridges changed to new design by change order, but only after contract awarded and some work in place</td>
<td>$74,961</td>
</tr>
<tr>
<td>3 bridges' superstructure designs revised by change order, but only after contract was awarded</td>
<td>$13,332</td>
</tr>
<tr>
<td>78 box culverts built to old, rather than new, design</td>
<td>$390,000</td>
</tr>
<tr>
<td><strong>Total potential savings</strong></td>
<td><strong>$758,433</strong></td>
</tr>
</tbody>
</table>

**Estimating omission**

The cost estimate prepared in 1968 was to include design allowances of 15 percent for engineering and 20 percent for contingencies, totaling 35 percent of estimated construction costs. At the time the estimate was prepared, 135.5 kilometers of highway had been designed. The estimate did not include design allowances for the remaining 264.5 kilometers. This omission resulted in a difference of $11.8 million, at current prices.

**QUESTIONABLE CURRENT ESTIMATE**

FHWA's most current estimate of March 1977, which totaled $285 million, did not have a sufficient allowance for inflation and did not include an amount for potential payments on claims.

**Future inflation**

FHWA estimated that highway construction will be completed by 1985, or 8 years after the estimate of March 1977. It has estimated $29.4 million or about 25 percent of the base-estimated cost to be incurred for future inflation over this 8-year period. An estimate of $116 million would be more realistic, since inflation during the past 9 years of $130 million or over 100 percent of the original base-cost estimate has been experienced.
Claims

FHWA's cost estimate did not include any potential payments for contractors' claims. Twenty-four claims were filed on Project No. 1 totaling $1.2 million. We were advised that as of July 1977, approved claims total about $29,200 on all but one claim, which FHWA officials believe will not amount to much. On the basis of preliminary study, FHWA officials stated that Project No. 2 claims, totaling $715,400 have no merit. They believe the impact of claims on the final costs of these two projects will therefore be minimal.

According to FHWA, it is doubtful whether it would approve all of the claims for U.S. participation. Panama's highway office must first review the facts and make a determination which is then reviewed by FHWA's engineers. The determination is then submitted to its Washington, D.C., offices for legal sufficiency and the Administrator's approval. For rejected claims the contractor has the option of appealing to Panama's courts for approval.

FUNDING

By July 31, 1977, the Congress appropriated $53.6 million to FHWA for the Darien Gap Highway. Of this amount, $52.4 million was obligated, and we were informed that $40.1 million was expended by the United States. No funds were appropriated for the transitional quarter and fiscal year 1977. (See app. I and II.) At the same time, Panama had expended about $18.1 million, while Colombia had expended $870,000 of its own funds.

From 1955 through September 1976, the United States also participated with other American Governments, contributing $2 million out of a total of $3 million in contributions to the Darien Highway Special Fund of the Organization of American States. These funds were used for surveys and for the development of highway plans.

CONCLUSIONS

FHWA has continually underestimated inflation in its construction cost estimates. Primarily because of the high inflation rate over the past 9 years, the agency's estimated construction costs for the Darien Gap Highway have doubled. There are many uncertainties in the estimating process, but when inflation appears to be a significant factor for cost increase, estimating information should disclose the total expected program costs at both current and future dollars.
Because FHWA used plans that did not consider more economical designs, the highway will cost $750,000 more than necessary. Agency personnel agreed that plans of future projects would be reviewed prior to awarding contracts so that they contain the most economical designs. They said such reviews have been made on ongoing construction projects and that these analyses will be made prior to engaging in future projects.

RECOMMENDATION

To assist the Congress in its oversight functions, especially when inflation is a large contributing factor for cost increases, we recommend that the Secretary of Transportation, in addition to providing the Congress data that discloses the total expected program cost at current prevailing dollars, furnish amounts which include inflation based on a range of inflation factors for the project's life.

AGENCY COMMENTS

The Federal Highway Administration agreed with our recommendation to provide the Congress with data that discloses total expected program costs at current prevailing dollars and also furnish amounts which include a range of inflation factors over the project's life. (See app. VII.)
CHAPTER 3
SCHEDULE DELAYS AND PERFORMANCE STATUS

The highway was originally scheduled to be completed in 1981 and was rescheduled to be completed by 1985. This latter date is not valid, however, because of a lack of additional congressional funding, and a court injunction. FHWA officials stated that a new completion date would be estimated when the court action outcome is known and the future appropriations level has been forecast. By July 1977, about 33 percent of the road had been completed except for paving, and another 18 percent was under construction.

REASONS FOR DELAYS

Congressional funding

Appropriations have been at less than half the levels requested since fiscal year 1972. The appropriation for fiscal year 1976, the last year funds were appropriated, was $4.9 million. Of this amount, all but $133,000 was transferred to another appropriation account and was not available for highway construction. (See app. I.)

FHWA established construction work schedules on the basis of its estimate of congressionally appropriated funds. Because the appropriations have not been as large as the agency anticipated, contracts have not been awarded to construct as many miles of highway as FHWA included in its work schedules.

Court injunction

In its recent work schedules, which included a 1985 completion date, FHWA assumed that the Congress would appropriate $23.5 million for fiscal year 1977, permitting the awarding of one Colombian and two Panamanian construction contracts. This money was not appropriated for fiscal year 1977 because a court injunction prohibited FHWA from requesting any appropriations for the Darien Gap Highway.

In October 1975, the U.S. District Court for the District of Columbia issued a preliminary injunction prohibiting FHWA from contracting, obligating and/or expending funds, or from construction on the Darien Gap Highway, until the agency has complied with requirements of the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321).
Because all Federal-aid highway projects are subject to NEPA, a detailed statement is required describing (1) the environmental impact, (2) any adverse environmental impacts which cannot be avoided, (3) alternatives, and (4) any irreversible commitments of resources which would be involved in the proposed action.

The October 1975 order was modified in December 1975, allowing for U.S. participation in construction contracts awarded prior to the injunction in Panama.

FHWA filed a final environmental impact statement in July 1976, in an attempt to meet the requirements of NEPA, however, in September 1976, the court ruled that the agency’s environmental impact statement was inadequate. This action extended the original injunction—except as specified in the December 1975 court order. This decision was appealed by the FHWA in February 1977 to U.S. Court of Appeals for the District of Columbia.

FHWA also petitioned the U.S. District Court in May 1977 for partial suspension of the September 1976 court ruling. The petition requested permission for FHWA to seek funds and proceed with the highway project in Panama to the Panama-Colombian border; the prohibition against activity in connection with the Colombian segment would remain in effect. In July 1977, the U.S. District Court denied the petition.

The State Department supports completion of the highway to Yaviza, Panama (which is within 60 kilometers of the border), even if the project is delayed indefinitely. USDA officials told us that they did not favor any extension of the highway beyond Yaviza, until a satisfactory FMD program has been instituted in Colombia.

In August 1977, the U.S. Court of Appeals ordered the District Court's injunction modified to permit FHWA to seek further appropriations from the Congress. Based on this order, FHWA plans a supplemental appropriation request for fiscal year 1978, to fund the resumption of highway construction in Panama and the survey and design program in Colombia. As of January 24, 1978, no decision has been rendered by the Court of Appeals to resolve the issues.

**Foot-and-mouth disease**

The Darien Gap Highway project has stimulated concern over animal disease introduction and control. The "Gap"
area has apparently served until now as an effective natural barrier to the spread of animal diseases, including FMD.

Development and use of the Darien Gap Highway, however, may increase the chances of FMD spreading northward into Central and North America. The disease is caused by a highly communicable virus, which has a long survival ability. It can be spread by animals, humans, or materials that bring the virus in contact with susceptible animals, and it may result in death, disability, reproduction failures, decreased milk production and/or weight loss. The disease is prevalent throughout South America, including Colombia. All other American countries from Panama northward are presently free of FMD. The highway when constructed will penetrate natural barriers, such as the Atrato Swamp, and may permit easier transport of diseased animals to Central and North America.

On the other hand, the highway could provide access to remote areas where control and inspection is now difficult or even nonexistent. U.S. officials are concerned that completion of the Darien Gap Highway could result in the spread of the disease northward, causing serious repercussions on the livestock industry in Central America, Mexico, and the United States. A USDA-funded study, for example, estimated that if the disease spread into the United States, livestock production could be reduced by 25 percent—producing a first-year economic loss of up to $3.5 billion in direct losses or as much as $10 billion if indirect losses are included. But this case analysis is based on the worst possible conditions.

The National Security Council advised against the use of U.S. financial resources to further construction of the highway, until effective FMD surveillance and control programs have been established to prevent the spread of the disease during construction and after completion of the highway. Accordingly, FHWA is not to participate in highway construction in Colombia until a disease eradication and control program is implemented and the USDA determines it effective.

**IMPACT OF DELAYS**

Delays in completing the highway would result in additional costs. According to FHWA, for example, delay of the road paving on the finished projects would result in an estimated loss of $500,000 in the first year due to erosion, traffic, and contamination of the road's subbase, and
--an increase in maintenance costs, estimated at $450,000 per year, which are at least double the costs for maintaining a paved surface road.

Other effects of delays stated by FHWA officials include:

--Operating inefficiencies from a cutback in the work level, since most overhead costs and technical staff levels remain constant, regardless of workload. (Cost of maintaining the present FHWA staff in Panama approximates $450,000 per year.)

--Estimated added costs of about $4.2 million for 1 year's delay in Panama because of inflation—based on the current rate which approximates 6 percent per year.

CONSTRUCTION STATUS

After 6-1/2 years of effort, 206 kilometers of the 400 kilometer highway had been completed or were under construction by July 1977. In Panama, according to FHWA, 134 kilometers (about 83 miles) are graded but unpaved, 36 bridges have been completed, and 72 kilometers (about 45 miles) and 15 bridges are under construction. About 100 kilometers (62 miles) are opened to traffic.

In Colombia, no construction contracts have been awarded, although designs are complete for three or four projects. The remaining project in the Atratc Swamp area, requires an additional subsurface soil investigation before final design. This investigation has been suspended, however, because of the court injunction.

Appendix III shows the contracts awarded to date and appendix IV shows the status of construction performance.

CONNECTING ROAD NEEDS IMPROVEMENT

A primary purpose of the Darien Gap Highway is to provide land access for vehicles to travel between Panama and Colombia, and link the North American and South American continents. We found, however, that the Turbo-Medellin road in Colombia, which will connect the Darien Gap Highway to the Pan American Highway in Colombia, is a substandard, twisting road. Further, the road has no guard rails and winds over mountainous terrain. Much of it is one lane, and is 67-percent unpaved. On sections that have been paved,
slides have taken away portions of the paving. The Colombia Ministry of Public Works is making a preliminary study for an alternative route nearby with tunnels. Full benefits of the Darien Gap Highway will not be realized, however, until this connecting road is upgraded.

U.S. Government officials are aware of the connecting road conditions. They stated that they are reluctant to discuss the subject with the Colombian officials at this time because it could lead to a request for additional U.S. assistance.

CONCLUSIONS

Delays in highway construction will result in additional costs. Completion dates of the Darien Gap Highway construction will continue to slip until

--the court injunction has been lifted to permit further design work and new construction;

--there is satisfactory progress on the FMD control and eradication program, permitting restrictions to be lifted; and

--congressional funding is made available.
CHAPTER 4

EFFECTIVE FMD PROGRAM NEEDED IN COLOMBIA

Colombia does not have an effective FMD control and eradication program. If the highway were to be completed, possible spread of FMD would pose a serious threat to the multibillion-dollar cattle industry in Central and North America. Although Colombia has made some progress since the 1973 agreement with the United States to control FMD, it has not implemented the safeguards outlined in the agreement. These safeguards include adequate inspections and controls over livestock movements and effective vaccination.

AGREEMENT WITH COLOMBIA

Because of construction of the Darien Gap Highway, the United States, in December 1973, agreed with Colombia on a 5-year program to control and eradicate FMD in certain northwest portions of Colombia adjacent to the Panama border. The agreement authorizes a U.S. commitment of up to $7.8 million, including the first-year costs of USDA personnel. Thereafter, USDA personnel support costs have been provided as an additional U.S. contribution. The Colombian Ministry of Agriculture agreed to contribute a portion of construction, equipment, personnel and operational costs of the program, and to set aside certain designated areas for control and eradication purposes. (See map of zones on p. 14.) The agreement does not require a minimum contribution by Colombia, however.

From inception of the program in Colombia through December 31, 1976, approximately $5.8 million had been expended. USDA contributed about $5.7 million, and the Government of Colombia provided $148,000, or 2.5 percent of project expenditures.

IMPLEMENTATION OF THE FMD PROGRAM

Little progress has been made toward achieving program objectives, primarily because Colombia has not implemented certain protective measures outlined in the cooperative agreement so that it could have an effective program. These shortcomings include the need (1) for more frequent livestock inspections in the area adjacent to the border with Panama (Area I), (2) to establish and patrol subzones in that area to control animal movements, and (3) to relocate some cattle so that the chances of FMD spreading are
lessened. However, over the last 3 years, no signs of the disease have been detected in that area.

In another control area (Area II) in the northwest portion of that country there have been more reported FMD outbreaks in 1976 than in either 1975 or 1974, with the potential for a higher rate of spread. In that area: livestock movements have not been strictly controlled, especially at night; the vaccine has not been sufficiently potent or of the proper strain to immunize the cattle; other livestock need vaccinations; and supervision and control over vaccinations has not been adequate.

USDA officials, in cooperation with State Department and FHWA officials, have discussed these program shortcomings with their Colombian counterparts, but at the time of our review, we noted that little corrective action had been taken.

FUTURE PROGRAM PLANS

Representatives of the Colombian Government presented a plan to USDA for expanding the FMD control program along the entire north coast of Colombia from Panama to Venezuela. The plan is an 8-year program to eradicate FMD from this area, at an estimated cost of $172 million. Colombia might provide as much as $700,000 annually for this expanded program. We were told that U.S. officials are considering alternative proposals.

The expanded program is contingent upon improvements in the current program. The Colombian proposal was discussed in a February 1977 meeting between United States and Colombian Agricultural officials. USDA representatives, aware of problems in the existing program, told the Colombians that before the United States could consider an expanded program or a continuation of the current one, the shortcomings must be corrected. Because of the program weaknesses, we noted that a realistic timeframe to control and eradicate FMD was not developed by USDA officials or coordinated with Federal Highway Administration officials so that the highway construction could be rescheduled and completed. In fiscal year 1978 budget hearings, a USDA official in reference to the Colombian program, stated "we have done all we can and if definite improvement is not made this year, we will have to reconsider our involvement."
IMPROVEMENTS NEEDED IN PANAMA'S FMD PREVENTION PROGRAM

Unlike Colombia, there have been no reported cases of FMD in Panama. However, the FDM program in Panama could be strengthened by timely and consistent distribution of information about the disease and the preventive measures being taken, making regular livestock inspections and more program monitoring. Program officials agreed with our observations and plan to take corrective actions.

From the inception of the program in Panama through December 31, 1976, approximately $1.5 million had been expended in preventing the entry of FMD into Panama. USDA has contributed $1.4 million or 94.6 percent, and Panama has contributed $81,540, or 5.4 percent. We were informed that Panama is currently contributing additional funds to meet its agreed-upon 10-percent commitment.

CONCLUSIONS

Completion of the Darien Gap Highway is currently dependent upon establishing successful control of FMD in Colombia. After 4 years of cooperation between the United States and Colombia, mostly at U.S. expense, little has been achieved. Safeguards outlined in the cooperative agreement have not been implemented and more FMD outbreaks were reported in 1976 than in either 1975 or 1974. We believe that any continuing effort to control the disease in Colombia is dependent upon Colombia's ability and willingness to participate in an eradication and control program. This willingness has not been sufficiently demonstrated during the current program. Consequently, there is no assurance that the Colombians are fully committed to this program.

USDA officials agreed with our findings and stated that they do not consider accomplishments under the FMD control program effective enough to permit construction to proceed on the Darien Gap Highway in Colombia. If the disease in Colombia cannot be eradicated and controlled in terms of the program objectives, prospects for completing the highway as initially envisioned are doubtful.

Although there have been no reported outbreaks of FMD in Panama, with the existence of natural barriers, the program should be strengthened to insure that the disease does not spread, especially if the road is completed to the Colombian border. As agreed by program officials, improved distribution of information about the disease and measures to
prevent it, and more monitoring with regular livestock inspections should improve the program and lessen the risks of the disease spreading into Panama and northward.

Control and eradication of FMD is not only important to Panama, Colombia, and the United States, but also to the nearby Central American neighbors and Mexico, who have livestock which would be adversely affected by the spread of the disease.

RECOMMENDATIONS

We recommend that the Congress continue to postpone further funding of the highway south of Yaviza, Panama, within 60 kilometers of the border, until FMD is under satisfactory control in Colombia.

In our letter report to the Secretary of Agriculture dated August 15, 1977 (PSAD-77-154), we recommended that the Secretary cooperate with the Secretary of State to develop an overall plan setting realistic target dates for the eradication and control of FMD. This plan should be adopted within the existing program area of Colombia so that the disease would no longer pose a threat for transmission northward via the Pan American Highway system. The plan should also provide for Colombia's commitment of sufficient resources to assure its participation in a control program, following the eradication and control of the disease in the program areas in Colombia.

We also suggested in our report that because control of the disease is also important to the Central American countries and Mexico, consideration should be given to their involvement in the planning and financing of control and eradication programs in Colombia.

AGENCY COMMENTS

The Department of State believes our report correctly emphasizes the problem of establishing an effective FMD control program in Colombia before highway construction begins there. The State Department pointed out the high level attention given to the problem since 1975, and stated that the program is still not effective enough for the United States to participate in road construction there. It mentioned that, in conjunction with USDA, the Department was attempting to convince Colombia to agree to joint administration of the program. It stated that if these efforts are not successful in substantially improving its implementation, then the
program would be reviewed to determine if it is in the interest of the United States to continue participation. (See app. V.)

USDA agreed with our recommendations and noted that the Government of Colombia must make the commitments necessary to accomplish the program objectives. The Department concurred that the Central American countries and Mexico should be involved in the planning and financing of control and eradication programs in Colombia. It mentioned that because the construction of the Darien Gap Highway is a joint effort between the United States, Panama and Colombia, the other countries were not asked to contribute additional funds toward the FMD program necessitated by building the road.

USDA agreed that supervision and monitoring of the FMD program in Panama needs improvement. The Department believed the FMD awareness program in Panama to be operating effectively, although not perfectly, with excellent distribution of information. However, this view is not consistent with our observations, concurred in by program officials in Panama, on the need for program strengthening. (See app. VI.)

The Department of Transportation, in a letter dated December 27, 1977 (see app. VII), stated that it is committed to participate in the completion of the highway when the FMD control program in Colombia is established and proven successful. It also stated that continuing to postpone funding of the highway until FMD is under control is not reasonable because it penalizes Panama for a problem in Colombia, and delays construction of the highway in Panama which will cost the United States and Panama more to construct at a later date. Also, FHWA said that the highway in Panama should be constructed to a temporary terminal beyond Yaviza and as close to the Panama-Colombia border as is consistent with other considerations and that all survey and design work in Colombia should be completed.

In our view, however, extending the road south of Yaviza would not allow for a sufficient cushion to assure against the spread of FMD northward. This view is consistent with the positions held by officials of the Departments of State and Agriculture that the road in Panama should not extend beyond Yaviza until USDA determines that a satisfactory FMD program has been established in Colombia. Further completion of all survey and design work in Colombia could be premature and wasteful since there is no assurance when or if the FMD problems in Colombia will be resolved.
## APPENDIX I

### AUTHORIZATION AND APPROPRIATIONS FOR DARIEN GAP HIGHWAY

<table>
<thead>
<tr>
<th>Amount (millions)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorized—Federal-Aid Highway Act of 1970:</td>
<td>$100.0</td>
</tr>
<tr>
<td>Appropriated—fiscal year 1971:</td>
<td>5.0</td>
</tr>
<tr>
<td>1972:</td>
<td>15.0</td>
</tr>
<tr>
<td>1973:</td>
<td>15.0</td>
</tr>
<tr>
<td>1974:</td>
<td>5.0</td>
</tr>
<tr>
<td>1975:</td>
<td>13.5</td>
</tr>
<tr>
<td>1976:</td>
<td>4.9</td>
</tr>
<tr>
<td>Less: Funds transferred by the 1977 Transportation Appropriations Act:</td>
<td>-4.8</td>
</tr>
<tr>
<td>Appropriated—transition quarter:</td>
<td>0.0</td>
</tr>
<tr>
<td>Appropriated—fiscal year 1977:</td>
<td>0.0</td>
</tr>
<tr>
<td>Net appropriations to date:</td>
<td>$53.6</td>
</tr>
</tbody>
</table>
### U.S. Participating Share of Project Costs

<table>
<thead>
<tr>
<th>Project</th>
<th>Obligated as of 7-31-77</th>
<th>Expended as of 7-31-77</th>
<th>Unresolved claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panama</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4,674,938</td>
<td>4,378,019</td>
<td>374,700</td>
</tr>
<tr>
<td>2</td>
<td>15,829,929</td>
<td>15,215,915</td>
<td>715,425</td>
</tr>
<tr>
<td>3</td>
<td>782,000</td>
<td>695,522</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>19,875,796</td>
<td>10,060,145</td>
<td>-</td>
</tr>
<tr>
<td>5A</td>
<td>6,513,032</td>
<td>5,832,172</td>
<td>-</td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2A</td>
<td>644,168</td>
<td>37,056</td>
<td>-</td>
</tr>
<tr>
<td>3A</td>
<td>773,333</td>
<td>691,526</td>
<td>-</td>
</tr>
<tr>
<td>4A</td>
<td>246,694</td>
<td>142,443</td>
<td>-</td>
</tr>
<tr>
<td>U.S. administrative costs</td>
<td>$3,098,769</td>
<td>$3,049,800</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>$52,438,659</td>
<td>$40,103,398</td>
<td>$1,090,125</td>
</tr>
</tbody>
</table>
### Analysis of Contract Awards for Darien Gap Highway

<table>
<thead>
<tr>
<th>Project</th>
<th>Contractor</th>
<th>Contract Amount</th>
<th>Date Advertised</th>
<th>Date of Bid Opening</th>
<th>Date of Award</th>
<th>Estimated Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panama 1</td>
<td>Constructora ICA-Continental S.A.</td>
<td>$6,237,800.50</td>
<td>6-30-71</td>
<td>6-31-71</td>
<td>10-29-71</td>
<td>4-23-75</td>
</tr>
<tr>
<td>2</td>
<td>Constructora Eskay, S.A.</td>
<td>19,974,190.00</td>
<td>11-15-72</td>
<td>12-18-72</td>
<td>2-12-73</td>
<td>April 1977</td>
</tr>
<tr>
<td>3</td>
<td>Republic of Panama (note a)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Design work prohibited by injunction.</td>
</tr>
<tr>
<td>4</td>
<td>Record Construction Co. (note b)</td>
<td>24,995,282.06</td>
<td>5-24-74</td>
<td>7-30-74</td>
<td>9-16-74</td>
<td>July 1978</td>
</tr>
<tr>
<td>5A</td>
<td>Construcciones Louis Martinz Inc. &amp; Wright Contracting Co.</td>
<td>8,241,785.90</td>
<td>5-22-75</td>
<td>7-30-75</td>
<td>10-16-75</td>
<td>January 1978</td>
</tr>
<tr>
<td>Columbia 2A (subsurface soil investigation)</td>
<td>GAMA LTDA.</td>
<td>192,705.00</td>
<td>12-19-73</td>
<td>1-14-74</td>
<td>3-7-74</td>
<td>11-21-74 (terminated)</td>
</tr>
<tr>
<td>3A (design contract)</td>
<td>LAW/TAMAYO</td>
<td>758,625.00</td>
<td>Negotiated</td>
<td>Negotiated</td>
<td>9-12-75</td>
<td>Design work prohibited by injunction.</td>
</tr>
<tr>
<td>4A (design contract)</td>
<td>La Vailidad S.A.</td>
<td>1,109,792.00</td>
<td>Negotiated</td>
<td>Negotiated</td>
<td>6-14-73</td>
<td>10-24-75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>280,701.00</td>
<td>Negotiated</td>
<td>Negotiated</td>
<td>10-1-74</td>
<td>9-30-76</td>
</tr>
</tbody>
</table>

*Panama is doing the survey and design of the Tocumen-Palo de Las Letras segment of the highway under this project.*

*This contract was awarded to Devcon International Corp., but was assigned to Record Construction Co. on 9/2/76.*
<table>
<thead>
<tr>
<th>Location (from west to east)</th>
<th>Project</th>
<th>Size (kilometers)</th>
<th>Under construction (kilometers)</th>
<th>Percent of construction complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panama</td>
<td>Tocumen-Rio Escobal No. 5A</td>
<td>33.7</td>
<td>0</td>
<td>a/99</td>
</tr>
<tr>
<td></td>
<td>Rio Escobal-Canitas No. 5B</td>
<td>28.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Canitas-Bayano No. 1</td>
<td>14.6</td>
<td>0</td>
<td>a/100</td>
</tr>
<tr>
<td></td>
<td>Bayano River-Canazas No. 4</td>
<td>72.0</td>
<td>72.0</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Canazas River-Canglon River No. 2</td>
<td>85.5</td>
<td>0</td>
<td>a/100</td>
</tr>
<tr>
<td></td>
<td>Canglon-Palo de Las Letras No. 6</td>
<td>82.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>316.8</td>
<td>72.0</td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>Palo de Las Letras-Atrato River No. 4</td>
<td>30.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Atrato River Bridge No. 3</td>
<td>1.3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Atrato River-Las Aisladas No. 2</td>
<td>22.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Las Aisladas-Rio Leon No. 1</td>
<td>28.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>398.2</td>
<td>72.0</td>
<td></td>
</tr>
</tbody>
</table>

* a/Completed except for paving.
September 28, 1977

Mr. J. K. Fasick
Director
International Division
U.S. General Accounting Office
Washington, D.C.

Dear Mr. Fasick:

I am replying to your letter of August 8, 1977, which forwarded copies of the draft report: "Linking the Americas—Progress and Problems of The Darien Gap Highway."

The enclosed comments were prepared by the Deputy Assistant Secretary for Inter-American Affairs.

We appreciate having had the opportunity to review and comment on the draft report. If I may be of further assistance, I trust you will let me know.

Sincerely,

[Signature]
Daniel L. Williamson, Jr.
Deputy Assistant Secretary
for Budget and Finance

Enclosure:
As Stated
With regard to the Colombian portion of the Darien Gap Highway, the GAO Report correctly emphasizes the problem of establishing an effective foot-and-mouth disease (FMD) control program before highway construction can begin. The Department of State and the American Embassy in Bogota, together with the Department of Agriculture, have been diligently attempting to establish a more effective FMD control program, in cooperation with the Government of Colombia.

By 1975 it became evident that progress on FMD control was unsatisfactory under the December 1973 bilateral agreement for "Control and Eradication of Foot-and-Mouth Disease." The Department of State therefore arranged for a high-level meeting to discuss the problem during the state visit of Colombian President Lopez in September 1975. The U.S. Secretaries of Agriculture and Transportation and the Deputy Secretary of State and the Colombian Ministers of Agriculture and Public Works participated. It was agreed to establish a Consultative Group, composed of senior representatives of the U.S. Departments of Agriculture, State, and Transportation and the Colombian Ministries of Agriculture, Foreign Affairs, and Public Works, to review the problems involved in constructing the highway in Colombia, with particular reference to priority FMD control. The Consultative Group met in Bogota in December 1975, September 1976, and August-September 1977.

Despite the high-level attention to the problem the FMD control program is still not effective enough to enable the U.S. Government to participate in highway construction in Colombia. (Of course, the U.S. District Court injunction would have to be lifted before we could participate in construction.) Therefore, the Department of State and the American Embassy in Bogota, in conjunction with the U.S. Department of Agriculture, are attempting to convince the Government of Colombia to agree to a major
change in the FMD control program. Under the U.S. proposal a joint U.S.-Colombian commission would administer the FMD control program, rather than the Colombian Agricultural Institute.

If these strong efforts to seek substantial improvement in the administration and implementation of the FMD program are not successful, we will review the FMD control program to determine if it is in the U.S. interest to continue participation.

Richard G. Arellano
Deputy Assistant Secretary for Inter-American Affairs
Mr. Henry Eschwege  
Director, Community and Economic  
Development Division  
General Accounting Office  
Washington, DC 20548

Dear Mr. Eschwege:

Thank you for allowing the U.S. Department of Agriculture (USDA) the opportunity to review and comment on the draft report "Linking the Americas--Progress and Problems of the Darien Gap Highway." The document is particularly impressive in its coverage of the existing problems associated with the completion of the Darien Gap portion of the Pan American Highway. Your personnel should be commended for an excellent presentation of the facts concerning this matter. Our only comments relative to the draft are as follows:

At the bottom of page 21 under the heading "Improvements Needed in Panama's Foot-and-Mouth Disease Prevention Program," and page 23 under "Conclusions," mention is made that the foot-and-mouth disease (FMD) program in Panama could be strengthened by timely and consistent distribution of information about FMD and the preventive measures being taken, and by making regular livestock inspections and more program monitoring. Although not perfect, we believe that the FMD awareness program in Panama is operating effectively with excellent distribution of information regarding FMD and the cooperative prevention, control, and eradication program in Panama.

We agree that supervision and monitoring of the program in Panama needs improvement. This has primarily been due to the absence of a USDA veterinary advisor to the program in the Darien. Our APHIS Personnel Division has been requested to study the methods for recruitment and processing of personnel selected for assignment overseas, with a view toward shortening the time necessary for recruitment and assignment of personnel to cover key overseas positions. Although under study, it is doubtful that the time necessary for recruitment, selection, medical clearance (for the person selected and his family), security clearance, language training, etc., can be reduced.

We agree with the points made in the section on recommendations in the draft report. We continue to believe that the way to accomplish program goals in Colombia is to create a joint autonomous commission which would have complete authority over administration, personnel, and disease control activities. A statement in this report dated July 6, 1977, was delivered by the U.S. Embassy in Bogota, Colombia, to the Colombian Ministry of Agriculture. In addition, a paper outlining this position...
APPENDIX VI

Mr. Henry Eschwege

(Enclosure No. 1) was developed in cooperation with the Department of State, Department of Transportation, and USDA and used during the recent Senior Review and Consultative Group Meetings held in Bogota August 31-September 1, 1977.

At these meetings the Colombians were also handed an informal note (Enclosure No. 2) which is to be followed up by an Aide Memoire advising them of the types of changes necessary and requesting a commitment on their part within 30 days. The Colombians agreed that by September 15, 1977, they would have a draft proposal for USDA concerning reorganization of the program to eliminate the administrative and operational problems that exist.

Nevertheless, in order to comply with the recommendation to develop an overall plan that sets forth realistic target dates for eradicating and controlling FMD within the existing program area of Colombia to the extent that the disease would no longer pose a threat for transmission northward via the Pan American Highway System, the Government of Colombia must make the legal, administrative, and political commitments necessary to accomplish the program objectives as outlined in the cooperative agreement.

We concur that the Central American countries and Mexico should be involved in planning and financing of control and eradication programs in Colombia. In July 1963, a declaration was signed by Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA) and the Pan American Health Organization (PAHO) and Colombia. This declaration gave OIRSA authority to assist in organizing a program of FMD prevention in the Choco region of Colombia to prevent the spread of FMD from Colombia to the OIRSA countries. In January 1964, the Government of Colombia, OIRSA, and PAHO set up a tripartite agreement establishing a program to keep the Choco area, particularly the northeast region, free of FMD. The agreement remained in effect and was active until April 1966 at which time the Government of Colombia advised OIRSA of its desire to terminate the agreement. Financial assistance to FMD control and eradication efforts in Colombia by the Central American countries and Mexico ceased with the termination of the agreement. Through our cooperative programs with the Central American countries and Mexico and the international organizations, OIRSA and PAHO, we have continually maintained an exchange of information with these countries concerning FMD control and eradication programs in both Panama and Colombia.

The OIRSA countries have in the past and are continuing to contribute to the FMD prevention program in Panama by payment of the expenses of the National Guard troops assigned to the joint program. The construction of the Darien Gap portion of the highway is a joint effort between the United States, Panama, and Colombia. Since Central American countries and Mexico
Mr. Henry Eschewege

are not involved, we have not asked them to contribute additional funds toward the RD program necessitated by building this section of the road.

Again, I wish to thank you for allowing the Department the opportunity to review and comment on the draft report. It has been a pleasure and reassuring to see the observations and recommendations made in this document.

Sincerely,

F. J. Mulhern
Administrator

2 Enclosures
The implementation of an effective foot-and-mouth disease (FMD) program in Colombia remains the main stumbling block to construction of the Darien Gap Highway. The other principal impediment, the U.S. District Court injunction, is being appealed to a higher court.

The United States Department of Agriculture (USDA) continues to feel strongly that the present foot-and-mouth disease program is ineffective, largely owing to administrative deficiencies. Three and a half years ago, when the original agreement was being developed, the Department of Agriculture proposed that the program be administered through a special commission that reported directly to the Colombian Minister of Agriculture and the commission would provide its own administrative support. With great reluctance, the Department of Agriculture agreed to have the program function through the Instituto Colombiano Agropecuario (ICA) and this was done only to be cooperative and show good faith. It has become obvious to the Department of Agriculture section that this has been the greatest stumbling block to the program. The Department of Agriculture counterparts in the Instituto Colombiano Agropecuario do not share this assessment.

At the last Senior Review Group (SRG) meeting in September 1976, it was agreed that experts from the Department of Agriculture and the Instituto Colombiano Agropecuario would meet to prepare recommendations on the foot-and-mouth disease program for their consideration. The meeting of experts took place in early February 1977.

The Department of Agriculture team was not satisfied with the results of the February meeting. The United States effort was directed toward means to improve the present program. The Instituto Colombiano Agropecuario team, in turn, proposed an elaborate 8-year, $172 million foot-and-mouth disease project covering much larger areas of Colombia.

With regard to the present foot-and-mouth disease program, the Colombians offered to make some changes. The major proposal was to move the Program Director from Bogota to Medellin. While it would bring the Director physically closer to project operations, he would still not be able to act independently, but would have to report to the Instituto Colombiano Agropecuario Regional Director in that city. While we appreciate the need to have the Program Director close to the people he supervises, we think it is even more important that he have immediate access to the Colombian Minister of Agriculture.

The Department of Agriculture points out that the Program Director does not administer a separately funded program but operates as a part of the Instituto Colombiano Agropecuario. He cannot make personnel and operating decisions on his own. He is dependent on the Institute Colombiano Agropecuario and the Colombian Institute of Renewable Resources (INDERENA) personnel, who are not seconded specifically to the program but operate in their home agency capacity, to support the foot-and-mouth disease program. The Colombian Institute of Renewable Resources is a separate
agency with a distinct mission (forest preserves and wildlife), making coordination even more complicated. The Department of Agriculture's technical experts have given recommendations on this issue and the Instituto Colombiano Agropecuario improvements necessary to meet minimum standards in the foot-and-mouth disease program. The present situation is untenable. Our dissatisfaction with this arrangement is not theoretical but comes as a result of failure of the program to carry out the plans agreed upon by the Senior Review Group.

Strategy

The time may have come to fish or cut bait. The Darien Gap Highway cannot be built in Colombia (with United States Government assistance) until an adequate foot-and-mouth disease program is in place. A foot-and-mouth disease control program is required in order to protect the livestock industry of Central and North America. Moreover, there is a legal requirement to comply with the environmental impact statement (EIS), of which the foot-and-mouth disease program forms a major part.

The United States Government remains committed to the completion of the Highway. The major impediment continues to be the lack of an effective foot-and-mouth disease program. Our proposals to restructure the present program have been rejected. Colombian counterproposals are unrealistic. We must impress upon the Colombians the fact that it simply is not possible for us to expect Congress to appropriate $172 million to fund an extensive foot-and-mouth disease program when we have been unable to demonstrate that the present limited program is effective. There is significant opposition in the United States to the Highway as a potential threat to the spread of foot-and-mouth disease. Prestigious organizations, such as the American Veterinary Medical Association, and environmental groups are petitioning Congress to halt the road project. Lack of progress on the foot-and-mouth disease front seriously places in jeopardy further United States assistance to construction of the Highway.

The present foot-and-mouth disease agreement expires on December 31, 1978. The Colombians must be made to realize that failure to take constructive steps immediately to demonstrate a great commitment to foot-and-mouth disease control will make it extremely difficult for the United States Government to request additional funds from Congress to permit renewal of the agreement or even continue in the present program. There is no hope of a greatly expanded program until such time as it can be clearly demonstrated that the present program is meeting its objective.

We should inform the Government of Colombia that failure to agree to the proposed necessary administrative modifications in the immediate future (say, 90 days) could be tantamount to postponing or cancelling the Darien project in Colombia. If the necessary steps are not taken, we would then be required to determine whether or not we can continue our present participation in the foot-and-mouth disease program. Highway construction is also contingent on an effective foot-and-mouth disease program.
APPENDIX VI

Background/Analysis

The last Senior Review Group meeting was held in Bogota in late September 1976, resulting in agreement on: (1) a series of implementing measures to achieve goals in controlling animal movement and vaccine quality; (2) an attempt to achieve 100 percent vaccination in Area II; (3) a decision to review the 1977 budget by the Program Director and Senior Technical Advisor and make necessary adjustments; (4) maintaining a close relationship with the Plum Island Animal Disease Center and the Pan American Foot-and-Mouth Disease Center; and (5) restructuring the present agreement to make necessary modifications to ensure continuity of the program upon the agreement's expiration. In line with item 5, the United States delegation tabled the recommendation to restructure the program.

The Government of Colombia has informed our Embassy that a number of steps were taken to implement the September 1976 Senior Review Group recommendations. However, the Department of Agriculture's Senior Technical Advisor has commented that many of the above implementing measures have not been carried out as fully as the Colombians have indicated and not at all at a level satisfactory to the United States section.

With respect to the highway agreement, the Department of Transportation has complied with the Senior Review Group recommendation "To press ahead with...efforts to overcome judicial restraints to its contribution to the construction of the Darien Gap Highway."

The Department of Justice, with Department of Transportation and State Department support, is appealing the U.S. District Court's continuance of the injunction halting work on the Highway. On August 10, the U.S. Court of Appeals ordered that the District Court's injunction be modified to permit the appellant (Federal Highway Administration, Department of Transportation) to seek further appropriations from Congress. The Clerk of the Court was directed to schedule the case for argument as promptly as the business of the Court permitted. Based on this court order, the Federal Highway Administration, Department of Transportation, plans to request a supplemental appropriation for fiscal year 1978 to fund resumption of highway construction in Panama and the survey and design program in Colombia.

The test of this court order appears to give the government a more favorable position of winning the appeal. If won, the judicial restraint on work, both in Panama and Colombia, might be lifted. However, other restrictions on the Colombian program remain in effect—the 1973 National Security Council (NSC) directive and the environmental impact statement provision that an adequate foot-and-mouth disease program be implemented before highway construction can begin. (Compliance with the program is to be determined by the Department of Agriculture.)
Talking Points

-- We are pleased to note that some of the goals established at the last Senior Review Group meeting have been met, at least partially.

-- However, the fundamental issue of the program's structure remains. This issue must be resolved if we are to think in terms of continuing the program through to the December 1978 expiration date. Failure to resolve administrative problems would raise the question of whether the United States will be able to continue its cooperation in the foot-and-mouth disease project even during 1978.

-- There is little chance that Congress would fund a greatly expanded program along the lines suggested by the Instituto Colombiano Agropecuario at the technical group meeting in February.

-- With the present program in jeopardy, it behooves us to lower our sights and concentrate on remedying its deficiencies first. The Instituto Colombiano Agropecuario proposals advanced in this regard are not adequate.

Darien Gap Highway

United States Position

We remain committed to construct the Highway. United States Government efforts to appeal the court injunction demonstrate our intentions. However, the National Security Council policy directive remains in force: No work in Colombia until the Department of Agriculture concludes that an adequate foot-and-mouth disease program is in place. This executive branch administrative restraint hangs over us regardless of what happens to the District Court injunction. The Colombians must not assume work will automatically go forward once the injunction is lifted. In addition, during recent discussions between officials of the Department of State and the Departments of Transportation and Agriculture, it was agreed that the road in Panama should not extend beyond Yavisa until the Department of Agriculture determines that a satisfactory foot-and-mouth disease program has been instituted in Colombia.

Talking Points

-- In line with the recommendation made at the last Senior Review Group meeting, the United States Government is making every effort to lift the District Court injunction. We are appealing to a higher court and expect a decision shortly.

-- If the appeal succeeds, we would be permitted to do design and survey work in Colombia. However, United States participation in actual road construction will continue to be blocked pending an effective foot-and-mouth disease program.
In the event the appeal is lost, the Federal Highway Administration, Department of Transportation, will have to prepare a revised environmental impact statement. Revising the environmental impact statement would be costly and time-consuming and would further curtail the advertisement of new work in the Darien Gap Highway construction program.

In the event the appeal is lost, the Department of Transportation will have to comply with the District Court's order and prepare a revised environmental impact statement or give up the project. Revising the environmental impact statement could take years. Work on the road in Panama and Colombia would be halted during that time. Unless definite progress is made on the part of the Colombians, the Department of Agriculture would have no alternative but to rank future funding for the Colombian part of the program at a very low priority. Withdrawing support from Colombia and increasing efforts in Panama to provide adequate program measures is under consideration in the Department, pending signs of compliance by the Colombian Government.

Department of Agriculture/Instituto Colombiano Agropecuario Foot-and-Mouth Disease Control Program

United States Position

We have received the Instituto Colombiano Agropecuario report on implementing the Senior Review Group recommendations; however, our evaluation is that the progress has not been significant and the basic problem of improving the project's overall administrative effectiveness remains. This issue is fundamental. Unless resolved satisfactorily, it places continued foot-and-mouth disease cooperation in doubt. The Colombians must recognize that it is totally unrealistic to think in terms of a vastly expanded foot-and-mouth disease program, funded by the United States, when we are unable to demonstrate that a limited program is workable. Several groups are expressing great opposition to completion of the Highway and are monitoring the Department of Agriculture's status in the program. In a recent report, the General Accounting Office (GAO) did not recommend withdrawal, but problem areas were identified that require drastic action on the part of the Government of Colombia if they are to be overcome. The Department of Agriculture's position remains unchanged. "Future expenditure of funds in Colombia is not warranted in the absence of assurance from the Government of Colombia that the program will be granted sufficient autonomy so it can meet its goals." If such assurance is not received by October 1, 1977, or soon thereafter, it will be obvious that our proposals are not acceptable to the Government of Colombia and the machinery to end the program should be set in motion. If action can be taken immediately to restructure the present program, we are prepared to discuss an extension beyond December 31, 1978. It would be premature to consider a greatly expanded program until this has been accomplished.
--Resolving the foot-and-mouth disease problem remains the key to moving forward. The Department of Agriculture/Instituto Colombiano Agropecuario cooperative agreement must be made more effective.

--After three and a half years, it is obvious to us that we cannot reach the objective we are seeking as presently organized. Therefore, we are proposing to the Colombian officials that the agreement be modified to have a Colombia-United States Commission set up that would report directly to the Minister of Agriculture in Colombia and would carry out its own administrative functions.
APPENDIX VI

Informal Note to Colombia

Enclosure No. 2

As stated in the Environmental Impact Statement, no U.S. participation in highway construction in Colombia will be permitted in areas of FMD danger unless proper measures are undertaken to prevent the spread of the disease. The degree of compliance will be determined by the U.S. Department of Agriculture.

The review in which we have just participated and the recommendations of the General Accounting Office of the U.S. Congress mandate a change in the organizational structure of the present Program. Such a change would delegate to the program directors the authority to accomplish program objectives. This may best be accomplished by creating a joint organizational entity with Colombian and U.S. managerial control.

Such an organization could be called a Joint Commission and could be set up under present Agreement or by minor modification thereof.

The United States Government feels it is imperative that a Joint U.S.-Colombian Commission be established that would have full responsibility for budgeting, scheduling and maintaining appropriate manpower, daily operations and progress reporting.

Tentative details of our proposal for the operation of the Commission will be provided in an Aide Memoire shortly.

Establishment of the Commission would have to be covered by an amendment to the present agreement.

Before consideration of continuation, renewal and/or expansion in the program, deficiencies have to be corrected. This issue is fundamental and further expenditure of funds in Colombia is not warranted in the absence of assurance from the Government of Colombia that the program would be granted sufficient autonomy so it can meet its goals.

A minimal Commission jointly managed by a Colombian and a U.S. Director should have authorities that include, but are not limited to the following:

1. Authority to establish a bank account.
2. Authority to purchase supplies, equipment, vehicles, property, and other assets as required.
3. Authority to pay its own bills.
4. Authority to select, hire and fire project personnel.
5. Authority to establish categories of project personnel and establish salary rates.
6. Authority to request audits by Colombian, U.S. or private auditing concerns as needed.
7. Authority to make all technical and program decisions.

Controls that would be exercised by the Government of Colombia and the U.S. would include, but not necessarily be limited to the following:

1. The directors of the Joint Program will be appointed by the Minister or Secretary of Agriculture of the two countries and would be subject to their direct supervision or the supervision of their designated representatives.

2. The operations of the Joint Program would continue to be monitored and reviewed by the SRO made up of at least three members from each country.

3. The property, equipment, facilities, supplies, etc., purchased with Joint Program funds would be totally under the control of the Joint Program.

4. The Colombian and U.S. agencies presently providing technical support and guidance to the Program would continue to do so.

5. Salaries and all benefits, including but not limited to housing, retirement and social security of the Colombian Director, would be paid by the Colombian Government. Similarly, the salary and benefits of the U.S. Director and all U.S. advisors would be paid by the U.S. Government. Expenses incurred by Program employees not related to the Program would be paid by the respective governments.

6. Salaries for all personnel hired by the Joint Program would be paid from Joint Program funds.
Mr. Henry Eschwege  
Director  
Community and Economic Development Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Eschwege:

We have enclosed two copies of our reply to the General Accounting Office (GAO) draft report "Linking the Americas - Progress and Problems of the Darien Gap Highway."

The Department is committed to participate in the completion of the Darien Gap Highway when the foot-and-mouth disease (FMD) control program in Colombia is established and proven successful. The GAO recommendation that Congress continue to defer funding of the highway until the FMD is under control is not reasonable because it penalizes Panama for a problem in Colombia, and delays construction of the highway in Panama which will cost the United States and Panama more to construct at a later date.

Please let us know if we can assist you further.

Sincerely,

[Signature]

Edward W. Scott, Jr.

Enclosure
After more than 6 years of effort, progress on the Darien Gap Highway, the final link in the Pan American Highway, has not met expectations. The completion date, originally planned for 1981, has been revised to 1985 and completion by this date is highly questionable. Delays brought about by a court injunction, foot-and-mouth disease (FMD) in Colombia, inflation, and insufficient appropriations, have increased the cost of the highway to about twice the $150 million originally estimated.

Construction near the Colombian-Panama border is primarily dependent upon successful FMD control programs. Despite U.S. assistance over the past 3 years, the Colombians have made little progress in controlling the disease.

The GAO recommended or suggested that:

1. The Congress continue to defer further funding of the highway until FMD is under satisfactory control in Colombia;

2. The Secretary of Agriculture in cooperation with the Secretary of State develop an overall plan that sets forth realistic target dates for eradicating and controlling FMD within the existing program area of Colombia to the extent that the disease would no longer pose a threat for transmission northward via the Pan American Highway System. The plan should also provide for the commitment by Colombia of sufficient resources that will assure its willingness to participate in a control program following the eradication or control of the disease;

3. Since control of the disease is also important to the Central American countries and Mexico, consideration should be given to involving them in the planning and financing of control and eradication programs in Colombia;
(4) to assist the Congress in its oversight functions, especially when inflation is a large contributing factor for cost increases, the Secretary of Transportation, in addition to providing the Congress data that discloses the total expected program cost at current prevailing dollars, furnish amounts which include inflation based on a range of inflation factors over the project’s life.

The Federal Highway Administration (FHWA) will only answer recommendations 1 and 4.

SUMMARY OF DEPARTMENT OF TRANSPORTATION POSITION

It is the position of the FHWA that (1) the Darien Gap Highway in Panama should be constructed to a temporary terminal beyond Yaviza and as close to the Panama-Colombia border as is consistent with other considerations; and (2) all survey and design work in Colombia should be completed. This position is dependent upon a favorable decision by the United States Court of Appeals, District of Columbia Circuit, with respect to the temporary injunction now restricting activities on the Darien Gap Highway program. As a result of temporary relief from the Court of Appeals, DOT has submitted a funding request to OMB. Satisfactory operation of the FMD control program would permit the FHWA to resume participation in the Colombia construction program.

The GAO recommendation that Congress continue to defer further funding of the highway until the FMD is under satisfactory control in Colombia is not reasonable as it penalizes Panama for a problem in Colombia, and delays construction of the highway in Panama which will cost the U.S. and Panama more to construct at a later date.

We agree with the GAO recommendation to provide Congress with data on total expected program cost at current level including a range of inflation factors over the project’s life.

Based on the legislative order of the U.S. Congress, FHWA's longstanding position in the Pan American Highway Congress and international agreements with Panama and Colombia, FHWA/DOT is committed to participate in the completion of the Darien Gap Highway when the FMD control program in Colombia is established and proven successful.

POSITION STATEMENT

We believe the overall report will be beneficial by bringing to the attention of the Congress problems and details that are delaying construction of the Darien Gap Highway. However, there are some comments and recommendations in the report which should be approached differently.
(1) We do not agree with the GAO recommendation that Congress continue to defer further funding of the highway until FMD is under control in Colombia.

Panama's Darien Gap Highway program should not be delayed by the FMD control program as Panama presently has a successful and effective control program. On June 12, 1974, the U.S. Cooperative Agreement with the Republic of Panama for the prevention of FMD was amended to provide additional support for the efforts of the Ministry of Agriculture of Panama in preventing the entrance of FMD into Panama as a result of construction and completion of the Darien Gap Highway. Since Panama is recognized as having a successful preventive program and has made provisions for a prevention program with U.S. support upon the completion of the Darien Gap Highway, there is no reason why Panama should be penalized or made a party to the FMD control program in Colombia.

Panama has met its commitments under the terms of the Panama/United States Agreement of Cooperation and should not be penalized by withholding funds for its section of the highway. In addition, the U.S. Court of Appeals, District of Columbia Circuit, issued an Order on August 10, 1977, that permits the Department of Transportation/Federal Highway Administration to request further funding from the United States Congress.

The Federal Highway Administration believes there will be no adverse effects by proceeding with funding for the construction of the Darien Gap Highway section in Panama.

(2) We agree with the GAO recommendation that the Secretary of Transportation, in addition to providing the Congress data that discloses the total expected program cost at current prevailing dollars, furnish amounts which include inflation based on a range of inflation factors over the project's life.

We are working on an updated cost estimate. The new estimate will necessarily be somewhat speculative in view of Court orders, FMD program restraints and funding uncertainties.
APPENDIX VII

MISCELLANEOUS

The following are a few areas in which we are not in agreement with the text of the GAO draft report.

(1) After receiving and compiling comments on the draft GAO report from interested parties in the FHWA, a meeting was held with GAO representatives to resolve minor matters and editorial comments, thus making it unnecessary to include them in this response.

(2) We would suggest that the following inconsistency be corrected and correlated with the information shown on Page 5.

Page 8 - Future inflation

a. Inflation during the period 1970 to 1977 was stated at over 100 percent. Contrary to this stated percentage, the "Price Trends for Federal-Aid Highway Construction," indicates only an increase of 71.6 percent for this same period.

b. On Page 5, inflation over the 1970 estimate is given at $93.2 million, which does not agree with the figure of $123.2 million in this section.

c. The last sentence of this section "...inflation of $123.2 million or over 100 percent..." does not agree with Page 9. Conclusions, second sentence "...have almost doubled...".

(3) Regarding the condition of the connecting road with the Darien Gap Highway in Colombia, the GAO report states, "U.S. Government officials are aware of the connecting road conditions."

We are reluctant to discuss the condition of the Turbo-Medellin Road since it is outside FHWA's area of responsibility. Under the Agreement of Cooperation, we are responsible only for the Darien Gap Highway section in Colombia between Palo de las Letras and Rio Leon. However, it is probably correct that any insistence on upgrading the Turbo-Medellin Road would result in a request for U.S. assistance.
APPENDIX VIII

PRINCIPAL OFFICIALS RESPONSIBLE FOR ADMINISTERING ACTIVITIES DISCUSSED IN THIS REPORT

<table>
<thead>
<tr>
<th>Tenure of office</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
</table>

DEPARTMENT OF TRANSPORTATION

SECRETARY OF TRANSPORTATION:
Brock Adams Jan. 1977 Present

ADMINISTRATOR, FEDERAL HIGHWAY ADMINISTRATION:
William M. Cox Apr. 1977 Present
Lester P. Lamm (acting) Jan. 1977 Apr. 1977

DEPARTMENT OF AGRICULTURE

SECRETARY OF AGRICULTURE:
Bob Bergland Jan. 1977 Present
Clifford M. Hardin Jan. 1969 Nov. 1971

ADMINISTRATOR, ANIMAL AND PLANT HEALTH INSPECTION SERVICE:
Francis J. Mulhern Oct. 1971 Present

DEPARTMENT OF STATE

SECRETARY OF STATE:
Cyrus R. Vance Jan. 1977 Present

ASSISTANT SECRETARY FOR INTER-AMERICAN AFFAIRS AND U.S. COORDINATOR, ALLIANCE FOR PROGRESS:
Terence A. Todman Apr. 1977 Present
Charles A. Meyer Apr. 1969 May 1973

(951323)