

State of Alaska FY2002 Governor's Operating Budget

Department of Transportation/Public Facilities
Design and Engineering Services
Budget Request Unit

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BRU Mission

The mission of Design and Engineering Services is to develop projects that improve Alaska's transportation and public facilities infrastructure. The Division also provides a wide range of technical services to the Department, other state and federal agencies, local governments and the public.

BRU Services Provided

The planning of a project requires engineering, environmental and estimating services. The D&ES Division has primary responsibility for a project through the completion of a bid-ready set of plans, specifications for the legal and technical contract terms, and an engineer's estimate for the cost of construction. The D&ES staff then provides technical assistance during bidding and construction.

The Division provides a wide range of technical support functions to the Department, other state and federal agencies, local governments, and the public. Examples include design assistance, traffic speed studies, bridge inspections, materials testing, the processing of utility, right of way and traffic permits, preparation of environmental documents, a full research program and the Local Technical Assistance Program (both funded by the Federal Highway Administration). The Design and Construction Standards section develops standards that are in use throughout the state.

BRU Goals and Strategies

- To develop projects in the capital budget according to the timing and at the funding levels contained in the Department's planning documents and to ensure that the division is capable of producing at least fifty percent of the design work necessary for the program. This goal is consistent with the recommendations of the Transportation Research Board's recent publication on the outsourcing of DOT&PF design services.
- Use consultants to provide specialized technical services such as photogrammetry, design of corrosion protection, hydrology, underwater inspections and environmental site assessments.
- Continue to develop positive working relationships with resource agencies that issue permits for Department projects such as the Corps of Engineers, U.S. Fish and Wildlife, the Department of Fish and Game, the Department of Environmental Conservation, the Environmental Protection Agency, and others.
- Participate in the development of the Department's planning documents so that the resulting scope, schedule and budget are consistent with good engineering practices and practical to implement.
- Develop and implement management reporting systems for projects to improve the coordination of resources, priorities, cost, scope and standards.
- Provide the following technical services: design assistance; traffic speed studies; permits; bridge inspections; materials testing; the processing of utility, right-of-way and traffic permits; preparation of environmental documents.
- Assist the public and businesses with permits for right-of-way use, utilities, lane closures, special events, driveways and signs in an efficient and service-oriented manner.
- Continue the Local Technical Assistance Program funded by the Federal Highway Administration as an outreach program to local agencies engaged in the design, construction and maintenance of roads.

- Continue the Native Local Technical Assistance Program in a manner consistent with the Rural Governance Commission report.
- Provide a program of technical training funded by the Federal Highway Administration free to Department staff, local agencies, state and federal agencies and to consultants who are performing design work for the Department.
- Provide State design standards for Capital Projects.

Key BRU Issues for FY2001 – 2002

- Section 1309 of the Transportation Equity Act for the 21st Century calls for a coordinated environmental review process to expedite federal highway and transit projects. Environmental streamlining efforts are underway nationwide. Negotiations for the state's streamlining agreements must take place to reflect Alaska's unique conditions. The initiative has two major areas of emphasis: protecting and enhancing environmental quality and reducing project delays.
- The Division's right-of-way (ROW) activities are time consuming, expensive and often on the critical path for project delivery. This year we are continuing our efforts to streamline our ROW procedures; moving much of our property management information into a statewide database; developing on-line applications for permits; amending the regulations related to ROW and permitting and developing new ways of contracting for consultant assistance with the ROW program.
- The Department continues to support various methods to reduce pavement rutting. The Division is responsible for improved pavement designs and providing technical assistance to the legislature on bills related to studded tire wear.
- As the Division continues to increase reliance on private sector consultants, services previously provided by just Division staff must be looked at for possible private sector contracting. The negotiation and acquisition of land under eminent domain, utility relocation agreements, deep foundations drilling are examples of services that need to be contracted with a careful and cautious approach.
- The Division is undertaking an initiative to evaluate designs and design standards to reduce maintenance costs of the completed capital improvement. Capital projects are an effective way to reduce maintenance costs by replacing or refurbishing worn or outdated public facilities. There is an opportunity to assist the maintenance program by incorporating low maintenance design features.

Major BRU Accomplishments for FY2000

- The Division delivered a comprehensive program of bid ready designs and contract documents for projects across the state. The Division's performance placed the Department in a position to receive an additional \$1.5 million in Federal Highway Administration funding. The additional funds were available because other states were unable to obligate their full allocations of federal-aid.

Key Performance Measures for FY2002

Measure: Complete preliminary design and final design on projects within 10% of the budget in the Department's current year planning documents.
(Not yet addressed by Legislature.)

Current Status:

After a year of review, the Division of Design and Engineering Services realizes that the response to this performance measure is more complicated than originally anticipated. Criteria for the data that is to be used and procedures for its

compilation must be established in Department procedures. The Division will develop and implement the processes needed to properly report on this measure within the Department's current resources.

Benchmark:

None that are comparable.

Background and Strategies:

The Division of Statewide Design and Engineering Services participates in the development of the Department's planning documents to ensure that the resulting scope, schedule and budget are consistent with good engineering practices and are practical to implement. The Department will develop and implement management reporting systems for projects so that we improve the coordination of resources, priorities, cost, scope and standards by providing better information on projects as they are developed. Better development of an initial project scope will lead to better budget performance once a project is in design.

The Division continues to refine the estimates used in the planning phase of project development through use of scope, schedule and budget estimating procedures. These estimates are initially prepared by the Department's planning staff, but must be approved by the Design and Engineering Services Division. This input early in the project development process will lead to better estimates.

Measure: Whether the department completes the environmental impact statement phase on the Ketchikan Airport Access by December 31, 2001.

(Added by Legislature in FY2001 version.)

Current Status:

Issuing the draft EIS for public comment is dependent on local acceptance of the alternatives to be studied. The draft EIS is scheduled to be issued for public comments this summer.

Benchmark:

None

Background and Strategies:

This project is under contract with a private firm. The Division staff overseeing the contractor's work meet regularly with the contractor to ensure that the project remains on track.

Measure: The transfer of state-owned ports and harbors to local control with legislative appropriation support.

(Added by Legislature in FY2001 version.)

Current Status:

Communities rejected provisions of CH 130, SLA 00. No transfers occurred through this appropriation. All communities identified in this legislation have adopted resolutions opposing this method of financing harbor transfers.

Benchmark:

None

Background and Strategies:

The Statewide Harbors Engineer works with local communities to ensure the smooth transition of ports and harbors transfers to local control. He actively follows the capital budget as it makes its way through the legislature, to ensure that he is prepared to take immediate steps once the budget passes and is signed by the Governor.

Measure: The percentage of federal highway funds obligated in the previous federal fiscal year.

(Developed jointly with Legislature in FY2001.)

Current Status:

100% of federal highway funds were obligated. The Division's performance placed the Department in a position to receive an additional \$1.5 million in funding from the Federal Highway Administration. The additional funds were

available because other states were not as well prepared and were unable to obligate their full allocation of federal-aid.

Benchmark:

None

Background and Strategies:

The Division strives to obligate all federal funds that are available to the state for highway projects. The staff continue to work diligently on that front, reporting regularly on their projects to the Division management, and through a computerized management reporting system.

Measure: The percentage of projects in the capital budget that have been bid in the year programmed.

(Revised from Legislature's FY2001 version.)

Current Status:

On track

Benchmark:

None

Background and Strategies:

The Division strives to complete designs and bid all projects that are part of the capital budget each year. The staff continue to work diligently on that front, reporting regularly on their projects to the Division management, and through a computerized management reporting system.

Measure: The percentage of total project costs spent on project development.

(Developed jointly with Legislature in FY2001.)

Current Status:

There was 14% of total project costs spent on project development in FY 2000.

Benchmark:

There are no comparable benchmarks. The Division will need to develop benchmarks specific to Alaska.

Background and Strategies:

The Division is developing management reporting tools to aid in its efforts to control project development costs. We have also instituted additional program codes to more carefully track right of way and utilities expenditures. We will use the available management tools to track our costs, and improve our performance.

Measure: The percentage difference between final project estimates and construction bids.

(Added by Legislature in FY2001 version.)

Current Status:

On track

Benchmark:

There are no comparable benchmarks. The Division will need to develop benchmarks specific to Alaska.

Background and Strategies:

The Division will be constructing a bid tabulation and project estimating management reporting system during FY 2001-2002 using federal research funds. We will use this tool to improve our final project estimates by using historic information to prepare our estimates.

Measure: Whether the department is successful in requiring private contractors performing design and engineering services for the state to report on the same measures.

(Added by Legislature in FY2001 version.)

Current Status:

On track

Benchmark:

None

Background and Strategies:

Work performed under contract is already included in the results of our other measures.

Measure: The percentage of the design and engineering work of the division that was performed by private contractors.

(Developed jointly with Legislature in FY2001.)

Current Status:

We estimate that there is greater than 50% of the design and engineering work performed by private contractors.

Benchmark:

The recently released Transportation Research Board Report #277 on the outsourcing of Department of Transportation design work recommends that the optimal program is a balance of one-half in-house and one-half consultant designs.

Background and Strategies:

The Division intends to maintain current staff levels, and contract out as necessary to complete the work programmed in the capital budget and obligate all federal highway and airport funds available.

Status of FY2001 Performance Measures

| | <i>Achieved</i> | <i>On track</i> | <i>Too soon to tell</i> | <i>Not likely to achieve</i> | <i>Needs modification</i> |
|--|-----------------|-----------------|-------------------------|------------------------------|---------------------------|
| <ul style="list-style-type: none"> Complete preliminary design and design on projects within 10% of the budget in the Department's planning documents. Whether the department completes the environmental impact statement phase on the Ketchikan Airport Access by December 31, 2001 The transfer of state-owned ports and harbors to local control with legislative appropriation support. The percentage of federal highway funds obligated in the previous federal fiscal year. The percentage of projects in the capital budget that have been designed and bid in the year programmed. The percentage of total project costs spent on project development. The percentage difference between final project estimates and construction bids. Whether the department is successful in requiring private contractors performing design and engineering services for the state to report on the same measures. The percentage of the design and engineering work of the division that was performed by private contractors. | | X | X | | X |

**Design and Engineering Services
BRU Financial Summary by Component**

All dollars in thousands

| | FY2000 Actuals | | | | FY2001 Authorized | | | | FY2002 Governor | | | |
|--------------------------------------|----------------|---------------|-----------------|-----------------|-------------------|---------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|
| | General Funds | Federal Funds | Other Funds | Total Funds | General Funds | Federal Funds | Other Funds | Total Funds | General Funds | Federal Funds | Other Funds | Total Funds |
| Formula Expenditures None. | | | | | | | | | | | | |
| Non-Formula Expenditures | | | | | | | | | | | | |
| SW Design & Engineering Svcs | 1,045.7 | 0.0 | 6,471.2 | 7,516.9 | 889.1 | 0.0 | 6,458.4 | 7,347.5 | 913.9 | 0.0 | 7,249.4 | 8,163.3 |
| Central Design & Eng Svcs | 269.5 | 0.0 | 10,122.1 | 10,391.6 | 413.3 | 0.0 | 9,799.0 | 10,212.3 | 412.6 | 0.0 | 10,798.7 | 11,211.3 |
| Northern Design & Eng Svcs | 235.8 | 0.0 | 7,212.9 | 7,448.7 | 265.9 | 0.0 | 9,083.2 | 9,349.1 | 265.8 | 0.0 | 9,473.4 | 9,739.2 |
| Southeast Design & Eng Svcs | 292.9 | 0.0 | 4,922.3 | 5,215.2 | 327.8 | 0.0 | 5,283.2 | 5,611.0 | 328.1 | 0.0 | 5,653.8 | 5,981.9 |
| Totals | 1,843.9 | 0.0 | 28,728.5 | 30,572.4 | 1,896.1 | 0.0 | 30,623.8 | 32,519.9 | 1,920.4 | 0.0 | 33,175.3 | 35,095.7 |

Design and Engineering Services**Proposed Changes in Levels of Service for FY2002**

Expansion of the State's federal highway transportation program and difficulties in recruitment and retention of engineers prompted a review of engineers' salary levels in FY2000. As a result, effective July 1, 2000, the Department of Administration (DOA) approved the upgrade of one to two salary ranges for each engineering position. DOA's approval is contingent upon continued review of the salary increases effect on recruitment and retention efforts and how the salary levels compete nationally.

Design and Engineering Services**Summary of BRU Budget Changes by Component****From FY2001 Authorized to FY2002 Governor***All dollars in thousands*

| | <u>General Funds</u> | <u>Federal Funds</u> | <u>Other Funds</u> | <u>Total Funds</u> |
|--|----------------------|----------------------|--------------------|--------------------|
| FY2001 Authorized | 1,896.1 | 0.0 | 30,623.8 | 32,519.9 |
| Adjustments which get you to start of year: | | | | |
| -SW Design & Engineering Svcs | 0.0 | 0.0 | 539.3 | 539.3 |
| -Central Design & Eng Svcs | 0.0 | 0.0 | 217.8 | 217.8 |
| -Northern Design & Eng Svcs | 0.0 | 0.0 | 83.7 | 83.7 |
| -Southeast Design & Eng Svcs | 0.0 | 0.0 | 121.1 | 121.1 |
| Adjustments which will continue current level of service: | | | | |
| -SW Design & Engineering Svcs | -0.2 | 0.0 | -34.5 | -34.7 |
| -Central Design & Eng Svcs | -0.7 | 0.0 | 124.5 | 123.8 |
| -Northern Design & Eng Svcs | -0.1 | 0.0 | -283.2 | -283.3 |
| -Southeast Design & Eng Svcs | 0.3 | 0.0 | -13.6 | -13.3 |
| Proposed budget increases: | | | | |
| -SW Design & Engineering Svcs | 25.0 | 0.0 | 286.2 | 311.2 |
| -Central Design & Eng Svcs | 0.0 | 0.0 | 657.4 | 657.4 |
| -Northern Design & Eng Svcs | 0.0 | 0.0 | 589.7 | 589.7 |
| -Southeast Design & Eng Svcs | 0.0 | 0.0 | 263.1 | 263.1 |
| FY2002 Governor | 1,920.4 | 0.0 | 33,175.3 | 35,095.7 |