

State of Alaska FY2010 Governor's Operating Budget

Department of Transportation/Public Facilities Design and Construction Results Delivery Unit Budget Summary

Design and Construction Results Delivery Unit

Contribution to Department's Mission

Improve the transportation system in Alaska and protect the health and safety of the people of Alaska by developing transportation and public facilities projects and constructing safe, environmentally sound, reliable and cost effective highways, airports, harbors, docks, and buildings.

Core Services

- Design has primary responsibility for a project from its initial funding 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. Design staff prepare geotechnical reports for the project site and materials sources, obtain necessary land interests and environmental clearances and permits, and prepare plans and obtain agreements with utility companies for required relocations.
- Design provides technical support functions to the department, other state and federal agencies, and local governments and the public. Examples include design assistance, traffic speed studies, bridge inspections, materials testing, processing of utility, right-of-way and traffic permits, preparation of environmental documents, a research program, and the Local Technical Assistance Program. The Design and Construction Standards section develops standards that are in use throughout the state.
- The Construction Sections administer construction contracts, provide field inspection and construction oversight, provide quality assurance that construction documentation and materials are in conformance with contract requirements during construction and closeout of projects, and report Disadvantaged Business Enterprises/Minority Business Enterprise activity on construction projects.
- The Contracts staff review construction documents, provide bid packages, advertise and award contracts, prepare certified bid tabulations, and help resolve bidding disputes. This unit also coordinates, solicits, selects, prepares and administers professional services agreements.
- The Project Control Sections coordinate and program project funding; administer state and federal grants; provide engineering management support; prepare and manage data within a management reporting system for capital projects; provide regional network administration and desktop computer support; and process time and equipment charges to projects.
- The Statewide Public Facilities Office oversees all building planning, design and construction related activities and acts as the advocate for department-wide facility needs. This section provides cost estimates and management services necessary to renovate, repair or build new state-owned public facilities.

End Result	Strategies to Achieve End Result
<p>A: Improve department efficiency.</p> <p><u>Target #1:</u> Maintain the percentage of administrative and engineering costs below 30% of total project costs. <u>Status #1:</u> The percent of administrative and engineering costs compared to total project costs decreased to 20.3% in FFY2008, well within the department's target of 30%.</p> <p><u>Target #2:</u> Advertise 75% of new highway and aviation construction project funding by April 30th. <u>Status #2:</u> 60.8% of new highway and aviation construction projects were advertised by April 30th, 2008, which is an increase from the prior year but still short of the goal of 75%.</p>	<p>A1: Reduce design and engineering costs.</p> <p><u>Target #1:</u> Maintain design engineering averages at 15% or less of total project costs. <u>Status #1:</u> Design engineering costs decreased to 8% in 2008 compared to 9% in 2007, well below the goal of 15%.</p> <p><u>Target #2:</u> Improve the percentage of projects that exceed \$1 million having formal pre-authorization scope meetings to 75%. <u>Status #2:</u> The percentage of projects over \$1 million that had formal pre-authorization scope meetings increased from 64% in 2007 to 97% in 2008.</p> <p>A2: Reduce construction project costs.</p>

<p>Target #3: Reduce the percentage difference between bid and final contractor payments to 8%.</p> <p>Status #3: The department maintained the percentage difference between bid and final contractor payments at 9% in 2007 and 2008 but still is short of the 8% goal.</p>	<p>Target #1: Maintain construction engineering (CE) costs at 14.5% or less of total contractor payments.</p> <p>Status #1: Construction engineering costs increased to 13.6% of total project costs in 2008 from 10.1% in the prior year, still below the goal of 14.5%.</p> <p>A3: Accelerate project closeouts.</p> <p>Target #1: Close out 80% of construction contracts within the next fiscal year following the project completion date as stated in the Project Completion Letter.</p> <p>Status #1: The percentage of construction contracts closed during the fiscal year following project completion increased from 60% in 2007 to 67% in 2008, still well below the target of 80%.</p>
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Major Activities to Advance Strategies	
<ul style="list-style-type: none"> • Design roads to appropriate standards • Minimize in-house costs for preconstruction services • Manage consultant contracts in a cost effective manner • Timely close-out of construction projects • Compare and contrast cost of in-house construction engineering (CE) with consultant CE 	<ul style="list-style-type: none"> • Cross training between Design and Construction • Involve Construction and Maintenance in design process from project scoping • Explore innovative contracting methods • Greater use of technology in the field

FY2010 Resources Allocated to Achieve Results									
FY2010 Results Delivery Unit Budget: \$103,476,900	<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Personnel:</td> </tr> <tr> <td style="padding-left: 20px;">Full time</td> <td style="text-align: right;">755</td> </tr> <tr> <td style="padding-left: 20px;">Part time</td> <td style="text-align: right;">226</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td style="text-align: right; border-top: 1px solid black;">981</td> </tr> </table>	Personnel:		Full time	755	Part time	226	Total	981
Personnel:									
Full time	755								
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Total	981								

Performance

A: Result - Improve department efficiency.

Target #1: Maintain the percentage of administrative and engineering costs below 30% of total project costs.
Status #1: The percent of administrative and engineering costs compared to total project costs decreased to 20.3% in FFY2008, well within the department's target of 30%.

Percent of administrative and engineering costs to total project costs

Fiscal Year	Central Region	Northern Region	Southeast Region	Department Total
FFY 2008	24.2%	19.2%	9.9%	20.3%
FFY 2007	22%	24%	26%	24%
FFY 2006	21%	23%	13%	18%
FFY 2005	20%	22%	23%	21%
FFY 2004	21%	26%	23%	22%

Analysis of results and challenges: The aim of this measure is to get more capital dollars into construction or into other related fieldwork by maintaining overhead costs at an acceptable level. This will benefit the private sector and the traveling public. Percentages are calculated by summing up all administrative and engineering costs - i.e., all costs that are not direct construction payments, right-of-way acquisition/relocation payments, or utility relocation payments - and dividing those administrative and engineering costs by the total of all project costs.

Target #2: Advertise 75% of new highway and aviation construction project funding by April 30th.

Status #2: 60.8% of new highway and aviation construction projects were advertised by April 30th, 2008, which is an increase from the prior year but still short of the goal of 75%.

Percent of construction contract funding advertised by April 30th

Fiscal Year	Central Region	Northern Region	Southeast Region	Department Total
FFY 2008	59.7%	45.9%	95.1%	60.8%
FFY 2007	54%	14%	66%	40%
FFY 2006	47%	56%	27%	42%
FFY 2005	31%	42%	51%	38%

Analysis of results and challenges: The purpose of this target is to get projects to construction early enough in the calendar year so as not to lose a full construction season. Ideally advertising should take place in January or February so a contract can be awarded in May.

Issues that have prevented the regions from providing timely contract advertising include difficulties with receiving federal grants and funding, attempting to implement very large, complex projects, a shortage of staff, difficulty with permitting agencies, new regulations and rules from state and federal agencies and unanticipated historic archaeological and hazardous materials issues.

Percentages are calculated by summing the engineer's estimates for all federal and general fund construction projects advertised by the target dates, then dividing that total by the total engineer's estimate amount of construction projects advertised in that federal fiscal year.

Target #3: Reduce the percentage difference between bid and final contractor payments to 8%.

Status #3: The department maintained the percentage difference between bid and final contractor payments at 9% in 2007 and 2008 but still is short of the 8% goal.

Difference between contractor bids and final contractor payments

Fiscal Year	Central Region	Northern Region	Southeast Region	RDU Total
FFY 2008	10%	10%	1%	9%
FFY 2007	6%	17%	5%	9%
FFY 2006	12%	11%	5%	11%
FFY 2005	15%	12%	6%	13%
FFY 2004	14%	29%	9%	18%

Analysis of results and challenges: Several large construction projects can contribute to a higher percentage difference in a year. Issues driving those changes could be availability of federal funds, additional work requested by the federal granting agency, or unknown site conditions that became evident during construction that require additional excavated materials or a different design.

A1: Strategy - Reduce design and engineering costs.

Target #1: Maintain design engineering averages at 15% or less of total project costs.

Status #1: Design engineering costs decreased to 8% in 2008 compared to 9% in 2007, well below the goal of 15%.

Percent of Design Costs to Total Project Costs

Fiscal Year	Central Region	Northern Region	Southeast Region	RDU Total
FFY 2008	9%	7%	8%	8%
FFY 2007	8%	9%	9%	9%
FFY 2006	8%	9%	8%	9%
FFY 2005	7%	8%	9%	8%
FFY 2004	9%	10%	8%	9%

Analysis of results and challenges: Ratios are calculated by summing the final design costs of all highway and aviation construction projects that receive final acceptance in a given state fiscal year, then comparing the total to the total project costs.

To provide design engineering services at 15% of the total project costs is a measure of the department's efficiency in the delivery of bid documents. The increasing complexity of the design process requires more effort than in previous years. Examples include public involvement demands, regulatory agency constraints, utility relocation costs, right-of-way costs, and the higher cost of utilizing consultants.

The results show that Design has been successful holding costs down and has exceeded this target for several years.

Target #2: Improve the percentage of projects that exceed \$1 million having formal pre-authorization scope meetings to 75%.

Status #2: The percentage of projects over \$1 million that had formal pre-authorization scope meetings increased from 64% in 2007 to 97% in 2008.

Percent of Projects having Scope Meetings

Fiscal Year	Central Region	Northern Region	Southeast Region	RDU Total
FFY 2009	93%	100%	100%	97%
FFY 2007	90%	11%*	10%	64%
FFY 2006	88%	42%*	100%	77%
FFY 2005	74%	44%*	100%	64%
FFY 2004	47%	0%	50%	37%

Analysis of results and challenges: Ratios are calculated by dividing the number of projects with formal scoping meetings by the total number of projects receiving authority to proceed.

Bringing all of the department's stakeholders together to discuss all aspects of the project prior to authorization leads to more efficient project development. People view scoping of projects as inconvenient. They may have other high, time sensitive priorities, but it is important to the overall project development efficiency to reach a consensus on the project scope.

A2: Strategy - Reduce construction project costs.

Target #1: Maintain construction engineering (CE) costs at 14.5% or less of total contractor payments.

Status #1: Construction engineering costs increased to 13.6% of total project costs in 2008 from 10.1% in the prior year, still below the goal of 14.5%.

Construction Engineering Expressed as a Percentage of Total Contractor Payments

Fiscal Year	Central Region	Northern Region	Southeast Region	RDU Total
FFY 2008	12.3%	14.7%	13.4%	13.6%
FFY 2007	11.5%	10.6%	8.2%	10.1%
FFY 2006	11.8%	11.8%	10.9%	11.8%
FFY 2005	13.0%	11.4%	11.1%	12.3%
FFY 2004	10.2%	11.1%	12.1%	10.6%

Analysis of results and challenges: This measure is determined after a construction project is closed and all construction charges are accounted for. Contract administration costs over the past several years have run at about 14.5%; however, the state's growing capital program is straining department resources and forcing the department to outsource more of its construction engineering (CE) work to other agencies as well as the private sector. Outsourced CE tends to be more expensive, so maintaining this target will be a challenge.

This measure is also a challenge because of the remoteness of most of the projects (increasing travel and transportation costs), and because the requirements of the federal funding agencies and the expectations of the traveling public tend to increase over time. All of these factors drive administrative costs up. This measure will change from year to year based on the type and size of projects completed. Small urban projects may require the same level of oversight, i.e., staff, as large rural projects. Projects that consist primarily of asphalt paving are typically completed in a short time resulting in low engineering costs compared to the contract value.

A3: Strategy - Accelerate project closeouts.

Target #1: Close out 80% of construction contracts within the next fiscal year following the project completion date as stated in the Project Completion Letter.

Status #1: The percentage of construction contracts closed during the fiscal year following project completion increased from 60% in 2007 to 67% in 2008, still well below the target of 80%.

Percent of Construction Contracts Closed Before End of Next Fiscal Year

Fiscal Year	Central Region	Northern Region	Southeast Region	RDU Total
FFY 2008	18%	83%	85%	67%
FFY 2007	35%	73%	70%	60%
FFY 2006	33%	76%	73%	57%
FFY 2005	41%	60%	79%	59%
FFY 2004	28%	52%	81%	45%

Analysis of results and challenges: Percentages are calculated by dividing the number of projects completed as stated in the Project Completion Letter, in a given federal fiscal year by the number of projects receiving Final Acceptance, or the contract closure, by the end of the following federal fiscal year.

The burden of closing out a project largely falls on the same people who must prepare for their next construction assignment or who are already actively engaged in other construction projects. Nevertheless, timely closeout of projects is an important cost-savings benefit to the state as the task itself will be done more efficiently and in some cases its completion will permit leftover construction funds to be released to fund other projects.

Central Region continues to explore avenues to close out the backlog of projects to facilitate meeting this measure. One position was added to the Public Facilities branch to focus on closing out building projects. Consultant contracts for construction administration now include clauses enabling other project closeouts to be added to the contract. A

revised Policy and Procedure (P&P) which reduces final review requirements on certain projects became effective April 2008.

Key RDU Challenges

- New environmental requirements are adding complexity, increased costs and delays to the construction program delivery. Areas of increased focus and involvement that require additional effort, training and delays include: historic property coordination with the State Historic Preservation Office (SHPO); Context Sensitive Solutions: Clean Water Act - both storm water control compliance and wetlands permitting and environmental justice. On the horizon for increased scrutiny are emissions, clean air and global warming.
- Earmarks provided by *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU) have typically been under funded and cannot fit within our federal program. Increasing compartmentalization of Federal Highway funds is restricting our ability to manage the program.
- Cost escalation and a volatile economy are significant factors in program delivery. Rapidly increasing prices and reductions in available federal dollars affects future project delivery. Right-of-way acquisition and utility relocation costs have increased dramatically over the past few years. We've seen large construction cost increases due in part to erosion and pollution control, fuel, raw materials, labor, and lack of bid competition.
- The aviation program continues to meet the challenges of changing federal airport program requirements including an expanded role in developing navigational system design plans. The Federal Aviation Administration (FAA) at the regional and national levels has increasingly restricted timeliness for delivery of both environmental approvals and project funding grants. We also continue to increase our discretionary funding beyond baseline entitlements by developing early delivery of high priority projects. These funding restrictions as well as increasing inflation are leading to a growing need for a state funded component to the airports capital improvement program.
- A key challenge continues to be to retain experienced engineers, right-of-way agents, and environmental analysts. Many are reaching retirement age. It is difficult to find and retain qualified staff willing to take long-term assignments to remote sites, often requiring exhaustive overtime and on-site presence for up to six months during the summer with little time off.

Significant Changes in Results to be Delivered in FY2010

No significant changes are anticipated.

Major RDU Accomplishments in 2008

- Put more than \$421 million of projects under construction in FFY08.
- Examples of projects that were awarded construction contracts in FFY08 included Haines Highway - Ferry Terminal to Union Street, Petersburg Runway Safety Area Phase I, Alaska Highway MP 1267-1314 Rehabilitation, Northway Airport Permanent Repairs, East Dowling Road Extension and Reconstruction, and Atka Airport Runway Extension and Resurfacing Phase II.
- Paved 33.3 lane miles (16.6 centerline miles) of gravel roads.
- Repaved 212.6 lane miles (106.3 centerline miles) of roads.
- Reconstructed 30.7 lane miles (15.3 centerline miles) of roads.
- Built 12.6 lane miles (6.3 centerline miles) of new roads.
- Obtained Corps of Engineers permit for the Juneau Access project.
- Transferred five state-owned harbors to local governments.
- Provided training to 1,700 participants from the Department of Transportation and Public Facilities, local governments, consultants and other transportation agencies.

Contact Information

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**Design and Construction
RDU Financial Summary by Component**

All dollars shown in thousands

	FY2008 Actuals				FY2009 Management Plan				FY2010 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												
Statewide Public Facilities	0.0	0.0	0.0	0.0	123.0	0.0	3,628.8	3,751.8	139.6	0.0	3,709.6	3,849.2
SW Design & Engineering Svcs	679.6	0.0	7,592.6	8,272.2	1,282.7	0.0	9,135.1	10,417.8	1,224.3	0.0	8,983.9	10,208.2
Central Design & Eng Svcs	160.6	0.0	17,788.1	17,948.7	611.4	0.0	19,214.8	19,826.2	712.6	0.0	19,699.4	20,412.0
Northern Design & Eng Svcs	285.5	0.0	12,628.3	12,913.8	412.6	0.0	15,630.0	16,042.6	489.5	0.0	15,937.5	16,427.0
Southeast Design & Eng Svcs	310.3	0.0	7,663.7	7,974.0	452.1	0.0	9,210.2	9,662.3	506.6	0.0	9,318.7	9,825.3
Central Construction & CIP	705.8	0.0	20,073.4	20,779.2	449.9	0.0	18,122.4	18,572.3	544.9	0.0	18,584.7	19,129.6
Northern Construction & CIP	529.0	0.0	14,955.6	15,484.6	546.9	0.0	14,955.1	15,502.0	619.0	0.0	15,189.0	15,808.0
Southeast Region Construction	178.9	0.0	6,816.1	6,995.0	160.6	0.0	7,515.5	7,676.1	200.5	0.0	7,617.1	7,817.6
Totals	2,849.7	0.0	87,517.8	90,367.5	4,039.2	0.0	97,411.9	101,451.1	4,437.0	0.0	99,039.9	103,476.9

Design and Construction
Summary of RDU Budget Changes by Component
From FY2009 Management Plan to FY2010 Governor

All dollars shown in thousands

	<u>General Funds</u>	<u>Federal Funds</u>	<u>Other Funds</u>	<u>Total Funds</u>
FY2009 Management Plan	4,039.2	0.0	97,411.9	101,451.1
Adjustments which will continue current level of service:				
-Statewide Public Facilities	16.6	0.0	80.8	97.4
-SW Design & Engineering Svcs	-58.4	0.0	-151.2	-209.6
-Central Design & Eng Svcs	101.2	0.0	484.6	585.8
-Northern Design & Eng Svcs	76.9	0.0	307.5	384.4
-Southeast Design & Eng Svcs	54.5	0.0	108.5	163.0
-Central Construction & CIP	95.0	0.0	287.3	382.3
-Northern Construction & CIP	72.1	0.0	233.9	306.0
-Southeast Region Construction	39.9	0.0	58.6	98.5
Proposed budget increases:				
-Central Construction & CIP	0.0	0.0	175.0	175.0
-Southeast Region Construction	0.0	0.0	43.0	43.0
FY2010 Governor	4,437.0	0.0	99,039.9	103,476.9