



**California Department  
of Transportation**

**Fiscal Year 2011-12  
Annual Project Delivery Report  
to the  
California State Legislature**



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## Executive Summary

The purpose of this report is to provide project delivery information of programmed highway projects for which the Department of Transportation (Department) was fully responsible for the development and construction management as required by California statute. In addition, the report contains additional information as recommended by the Bureau of State Audits (BSA) in their April, 2011 audit of the Department's Capital Outlay Support (COS) program. This report fulfills the Department's annual reporting requirements as follows:

### GC 14524.16: FY 2011-12 Cost of Preliminary Engineering (P.E.):

The P.E cost for programmed STIP projects that were awarded in Fiscal Year (FY) 2011-12 was 18.91 percent. The three-year average cost of P.E. for FY's 2009-10 through 2011-12 was 19.06 percent, and remains below the statutory target of less than 20 percent averaged over three years.

### 2011 Capital Outlay Support (COS) Program Audit Recommendations:

COS Budget Cost Measure:

Recommendation 1A: Analysis of support cost budget overruns.

The percentage of major programmed projects that achieved Construction Contract Acceptance (CCA) during the three year period of 2009-10 through 2011-12 fiscal years with support expenditures less than 120 percent of the approved budget was 65 percent. This met the Department's "Budget Cost Measure" target goal of 65 percent.

For FY 2011-12 completed STIP and SHOPP projects, the total costs (using the "county share" basis) were under the total budgeted amounts. County shares are not adjusted if project component expenditures are within 80 percent to 120 percent of the programmed budget.

SHOPP total support costs were under budget. STIP support costs were over budget, but total project costs under budget in terms of the county programmed shares used to pay as a result of capital cost savings.

Component	Budget (\$1,000's)	Expended (\$1,000's)	Percent
STIP			
Support	\$ 397,420	\$ 444,517	112 %
Capital	\$1,821,531	\$1,685,167	93 %
Program	\$2,218,946	\$2,129,676	96 %
SHOPP			
Support	\$ 343,541	\$ 304,800	89 %
Capital	\$ 950,509	\$ 667,736	70 %
Program	\$1,294,049	\$ 972,535	75 %

**Support-to-Capital (S/C) Cost Measures:**

**Recommendation 2A: Annual S/C ratio.**

For FY 2011-12, the annual program level results for S/C ratio for completed projects (STIP and SHOPP combined) was 35.3 percent.

**Recommendation 2B: Annual goal for S/C ratio based on capital value groups.**

For FY 2011-12, the S/C ratios of completed projects (STIP and SHOPP combined) based on capital value groups are as follows:

Capital Value	S/C Goal	S/C Results
\$1-5 Million	< 60 %	56 %
\$5-10 Million	< 45 %	31 %
\$10-15 Million	< 35 %	38 %
\$15-25 Million	< 32 %	24 %
>\$25 Million	< 30 %	30 %

**Recommendation 6: S/C ratios for STIP and SHOPP projects at award and completion.**

For FY 2011-12, the average S/C ratios of programmed projects during the three year period of 2009-10 through 2011-12 fiscal years (STIP and SHOPP combined) are as follows:

	S/C Percent
At Award	19.4
At Completion	34.6

**GC 14525.5: FY 2011-12 Project Delivery Report:**

For Fiscal Year 2011-12, the Department delivered a total of 593 projects valued at \$3.851 billion from all funding programs. This includes the Department's delivery commitments in the Director's "Contract for Delivery" emergency projects, minor program projects and program amendments that were delivered.

## FY 2011-12 Cost of Preliminary Engineering (P.E.)

**Government Code section 14524.16:**

*“The department shall, as part of the reports required pursuant to Section 14524.16 report on its costs of project development for all STIP projects awarded during the previous fiscal year.”*

This section requires that the “Cost of project development includes all non-capital costs incurred by the department from completion of the project study report through an award of the construction contract.” This work is often described by the Department using the term “preliminary engineering (P.E.)”. These costs include the share of distributed departmental overhead attributable to P.E., with the exception of tort payments, legal costs associated with those payments, and central administrative services.

According to the Government Code, the average cost of P.E. for the report year and two previous years shall not exceed the 20 percent target.

The cost of P.E. for programmed STIP projects in FY 2011-12 was 18.91 percent of the contract allotments and right of way capital for those projects. The three-year average cost of P.E. for FY’s 2009-10 through 2011-12 was 19.06 percent.

FY’s	Cost of P.E.
FY 2009-10	18.85 %
FY 2010-11	19.35 %
FY 2011-12	18.91 %
3 Yr Average	19.06 %

## 2011 COS Program Audit Recommendations

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In April of 2011, the California Bureau of State Audits (BSA) released an audit of the Department's COS program. A number of the recommendations included language that the Department should expand its reporting of COS program information to include information as part of this annual report. The Department has concurred with the recommendations and the additional information requested has been added to this report.

There are a total of four specific recommendations from the 2011 audit that have been incorporated into this report (1A, 2A, 2B, and 6). The recommendations have been separated into two reporting sections. The first recommendation (1A) is a COS program budget measure, and is presented as one section. The other three recommendations (2A, 2B and 6) are related to S/C measures and presented together as another section of this report.

## COS Budget Cost Measure

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This section of the report includes information on cost budget variances outlined in recommendation 1A of the 2011 BSA audit on the Department's COS program. Information is presented in four subsections (denoted by end notes 1-4) to answer the request for multiple analyses contained within the recommendation.

### 2011 BSA COS Audit Recommendation Number 1A:

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To improve accountability internally and with the public, Caltrans should:

*“Create and incorporate an analysis of support cost budget overruns<sup>(1)</sup> in its quarterly report to the agency, and in its annual report to the Legislature and the governor. The analysis should report on the number of completed projects with budget overruns and on the number of open projects where the estimate at completion projects a budget overrun, the overrun ratios<sup>(2)</sup> for those projects, and the portions of the variances due to rates and hours<sup>(3)</sup>. Further, Caltrans should include a measureable goal for reducing overruns<sup>(4)</sup> in its strategic plan.”*

The BSA audit was focused on support costs and all audit recommendations apply to support. Support, however is only a portion of a project's overall cost. The Department is also including capital cost information where appropriate to complete project cost information. This is important in terms of what a STIP project sponsor paid for a project in county shares. For example, a support component can be over budget while the

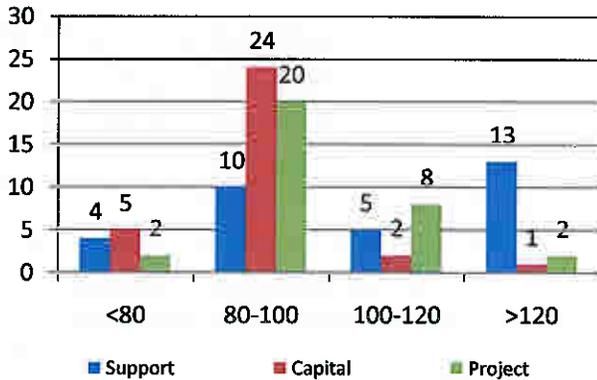
project is still under budget due to savings in other components debited and paid for through programmed county shares.

Support Cost Budget Overruns<sup>(1)</sup> – shown on the next page are charts comparing the number of projects completed in FY 2011-12 against different percentages (variances) of the project budget. The chart shows the number of project variances by percentage for total support costs, total capital costs, and overall project costs against their respective budgets.

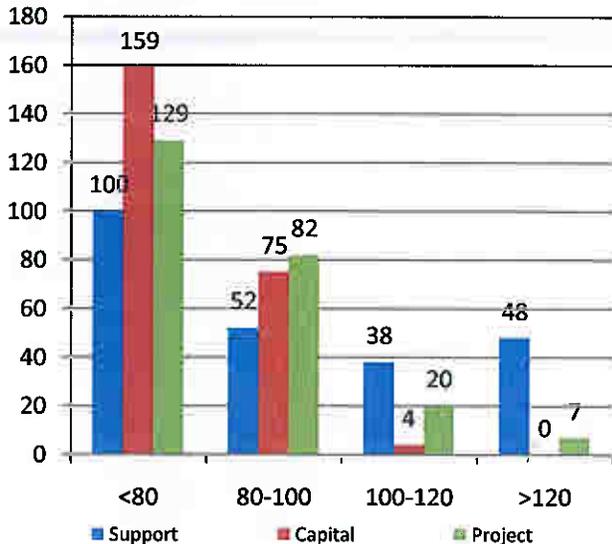
The significance of 80, 100 and 120 percent variances shown in the charts reflects the range in the STIP guidelines for making adjustments (debits or credits) to county shares used to pay for projects. In accordance with STIP guidelines, a 'project component can exceed the programmed budget (be between 100-120 percent) and not require an adjustment to supplement the budget.

### STIP and SHOPP Project Budget Variances

STIP Project Expended / Budget  
Percentage Variances



SHOPP Project Expended / Budget  
Percentage Variances



Shown to the right is a table that provides a program level look at cost information based on the last California Transportation Commission (CTC) actions on programmed cost components. For FY 2011-12 completed STIP and SHOPP projects, the total costs (using the “county share” basis) were delivered under the total budget.

### STIP and SHOPP Cost Variances

	Percent	#	Budget (\$1,000's)	Spent (\$1,000's)	Over Under (\$1,000's)
<b>STIP Projects</b>					
Support	< 80	4	\$ 45,733	\$ 31,076	\$14,657
	80-100	10	\$166,189	\$146,882	\$19,307
	100-120	5	\$ 54,268	\$ 59,127	(\$ 4,859)
	>120	13	\$131,230	\$207,432	(\$76,202)
	<b>Total</b>	<b>32</b>	<b>\$397,420</b>	<b>\$444,517</b>	<b>(\$47,097)</b>
Percent Over					( 12 %)
Capital	< 80	5	\$ 108,491	\$ 74,404	\$ 34,087
	80-100	24	\$1,669,823	\$1,564,418	\$105,405
	100-120	3	\$ 43,212	\$ 46,339	(\$ 3,127)
	>120	0	\$ 0	\$ 0	\$ 0
	<b>Total</b>	<b>32</b>	<b>\$1,821,531</b>	<b>\$1,685,167</b>	<b>\$136,365</b>
Percent Under					7 %
Program	< 80	2	\$ 117,760	\$ 85,046	\$32,714
	80-100	20	\$1,440,094	\$1,347,268	\$92,826
	100-120	8	\$ 660,194	\$ 695,846	(\$35,652)
	>120	2	\$ 898	\$ 1,516	(\$ 618)
	<b>Total</b>	<b>32</b>	<b>\$2,218,946</b>	<b>\$2,129,676</b>	<b>\$89,270</b>
Percent Under					4 %
<b>SHOPP Projects</b>					
Support	< 80	100	\$135,683	\$ 72,689	\$ 62,994
	80-100	52	\$ 98,513	\$ 86,408	\$ 12,105
	100-120	38	\$ 66,472	\$ 72,235	(\$ 5,763)
	>120	48	\$ 42,873	\$ 73,468	(\$30,595)
	<b>Total</b>	<b>238</b>	<b>\$343,541</b>	<b>\$304,800</b>	<b>\$38,741</b>
Percent Under (+)					11 %
Capital	< 80	160	\$647,132	\$396,505	\$250,627
	80-100	72	\$275,262	\$242,096	\$ 33,166
	100-120	4	\$ 28,115	\$ 29,009	(\$ 894)
	>120	0	\$ 0	\$ 0	\$ 0
	None	2	\$ 0	\$ 0	\$ 0
<b>Total</b>	<b>238</b>	<b>\$950,509</b>	<b>\$667,610</b>	<b>\$282,899</b>	
Percent Under (+)					30 %
Program	< 80	129	\$ 837,055	\$551,025	\$286,030
	80-100	82	\$ 370,001	\$321,922	\$ 48,079
	100-120	20	\$ 77,123	\$ 86,639	(\$ 9,516)
	>120	7	\$ 9,870	\$ 12,950	(\$ 3,080)
	<b>Total</b>	<b>238</b>	<b>\$1,294,049</b>	<b>\$972,536</b>	<b>\$321,513</b>
Percent Under (+)					25 %

Note: Completed cost data (calendar year basis) is different than support to capital data (FY basis) due to CTC staff request for completed cost data at Preliminary Final Estimate (PFE) milestone to capture claims information.

Overrun and Underrun Ratios<sup>(2)</sup> – shown below are tables comparing the number of projects and costs for projects completed in FY 2011-12 against different percentages (variances) of the project budget.

**Overrun and Underrun Ratios by Component**

	<80%	80-100%	100-120%	>120%
<b>STIP Projects</b>				
PAED	7	8	9	4
PSE	5	6	8	11
RW Support	8	3	5	12
RW Capital	12	3	5	4
Con Support	6	7	5	11
Con Capital	4	26	0	0
Project Total	2	20	8	2
<b>SHOPP Projects</b>				
PAED	81	32	37	32
PSE	85	29	38	71
RW Support	175	10	9	18
RW Capital	131	3	9	8
Con Support	128	38	21	45
Con Capital	151	84	0	0
Project Total	129	82	20	7

*Not all components have a budget, resulting in different totals for some components.*

**Overrun and Underrun Costs by Component**

	Budget (\$1,000's)	Spent (\$1,000's)	Over Under (\$1,000's)	Percent Over Under
<b>STIP Projects</b>				
PAED	\$ 30,194	\$31,534	(\$ 1,340)	(4 %)
PSE	\$ 137,714	\$ 150,082	(\$12,368)	(9 %)
RW Support	\$ 59,536	\$ 73,797	(\$14,261)	(24 %)
RW Capital	\$ 340,692	\$ 291,428	\$49,264	15 %
Con Support	\$ 169,976	\$ 189,103	(\$19,127)	(11 %)
Con Capital	\$1,480,834	\$1,393,732	\$87,102	6 %
TOTAL	\$2,218,946	\$2,129,676	\$89,270	4 %
<b>SHOPP Projects</b>				
PAED	\$ 43,437	\$ 36,008	\$ 7,429	17 %
PSE	\$ 128,393	\$ 138,719	(\$ 10,326)	(8 %)
RW Support	\$ 11,572	\$ 6,659	\$ 4,913	43 %
RW Capital	\$ 23,861	\$ 10,649	\$ 13,212	55 %
Con Support	\$ 160,138	\$ 123,414	\$ 36,724	23 %
Con Capital	\$ 926,648	\$ 657,088	\$269,560	29 %
TOTAL	\$1,294,049	\$ 972,537	\$321,512	25 %

Rates and Hours<sup>(3)</sup> – there is no definitive way to measure the number of projects with variances to determine if the variance was due to rates, hours, or a combination of both. As noted in the audit report, the primary variances based on interviews were due to an increase in hourly rates (collective bargaining pay raises); the Department does not anticipate this being the case in the near future, as hourly rates are relatively static. The Department does perform a separate analysis of rates each year for planning purposes.

For current active projects, the largest impact to project costs are currently due to changes in scope of work such as additional permit and mitigation requirements. An example is enforcement of the new Statewide storm water permit.

Measureable Goal for Reducing Overruns<sup>(4)</sup> – using the BSA audit data sample as a baseline, the Department is establishing an annual goal to show a continuous improvement in reducing the number of projects that overrun the support budget measured at CCA milestone. For FY 2011-12, the Department set the following goal:  
*“65% of the major programmed projects that achieve CCA during the three year period of 2009-10 through 2011/12 fiscal years will have support expenditures < 120% of the approved budget.”*

3 Yr Period	Completed Projects	Completed <120%	Percent	Goal
2007/08-09/10	766	372	49 %	Base
2008/09-10/11	719	407	57 %	60 %
2009/10-11/12	780	507	65 %	65 %

## Support-to-Capital (S/C) Cost Measures

This section of the report includes information on S/C measures outlined in recommendations 2A, 2B, and 6 of the 2011 BSA audit on the Department's COS program.

### Support to Capital Cost Measures:

of projects evaluated as a group can be compared to historical trends.

The Department maintains that the ratio of S/C is not an effective measure of individual projects because of the variability that exists from project to project. The S/C ratio is best used at a program level where a large number

Listed below is a detailed breakdown of S/C cost information and trends of three major factors, delineating why S/C may not be appropriate as a support productivity or efficiency measure.

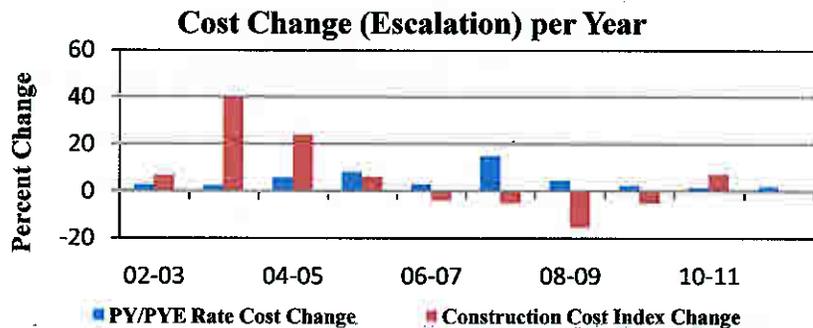
- A single number S/C ratio goal leads to certain misconceptions concerning costs. Programmatic goals should not be used to evaluate individual projects. This goal has been misused in evaluations of the COS program.

S/C Ratio	Projects	Percent	Capital	Percent	9 years of data FY 2002-03 to 2010-11
<35%	742	32.5 %	\$11,344 M	68.9 %	
>35%	1,541	67.5%	\$ 5,112 M	31.1%	
ALL	2,283		\$16,456 M		

When the Department delivers its capital programs with a COS S/C ratio of around 35 percent, in reality the distribution of projects is as follows:

- (1) Approximately one third of the number of projects with two thirds of the capital value is below the 35 percent average.
- (2) Approximately two thirds of the number of projects with one third of the capital value is higher than the 35 percent average.

- Cost escalation is outside the control of the Department. Varying escalation in labor costs and construction costs makes annual comparisons of results difficult.



	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12
Capital Value (millions)	\$1,310.8	\$1,067.4	\$1,223.8	\$2,123.1	\$1,559.0	\$1,876.3	\$2,784.5	\$2,103.6	\$2,644.3	\$2,361.4
Annual Capital Value Change (millions)		-\$243.4	\$156.4	\$899.3	-\$564.1	\$317.3	\$908.2	-\$680.9	\$540.7	-\$282.9
Annual Capital Value Change Percent		-19%	15%	73%	-27%	20%	48%	-24%	26%	-11%

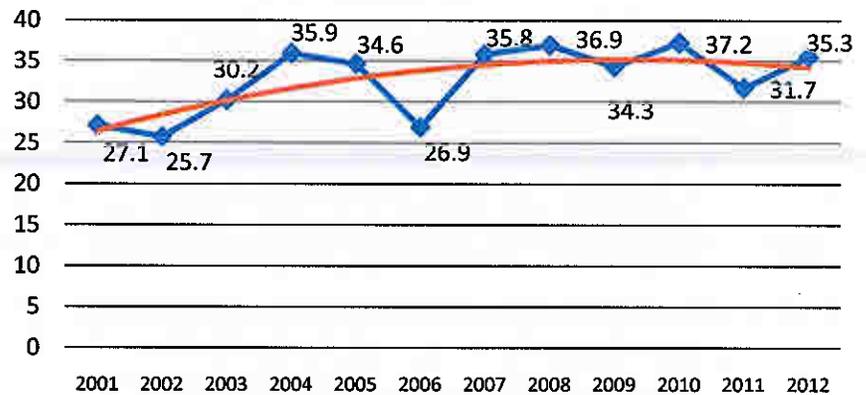
- The dollar value of capital costs data varies substantially from year to year. The annual calculated S/C ratio is heavily influenced by the number of larger projects (\$100 million and more) in the annual data.

2011 BSA COS Audit Recommendation Number 2A:

To improve performance metrics related to the support program, Caltrans should:

*“Devise, utilize, and publicize a consistent method for reporting the support-to-capital ratio on its Web site and in other reports to the public. Further, Caltrans should recalculate past support-to-capital ratios using the method devised to allow for comparison across years.”*

**Capital Outlay Support - "Support to Capital" Trendline**



2011 BSA COS Audit Recommendation Number 2B:

To improve performance metrics related to the support program, Caltrans should:

*“Develop Goals – and publicly report on the progress against those goals – for the support-to-capital ratio, based on project type (STIP or SHOPP) and project size.”*

Group	Capital Value	Baseline FY 2008-11 S/C Annual Goal	FY 2011-12 S/C Results
I	\$1-5 Million	< 60 %	56 %
II	\$5-10 Million	< 45 %	31 %
III	\$10-15 Million	< 35 %	38 %
IV	\$15-25 Million	< 32 %	24 %
V	>\$25 Million	< 30 %	30 %

*Project count of STIP projects in groups are too small to report separately.*

2011 BSA COS Audit Recommendation Number 6:

*“To ensure it receives more complete information on the support program, the Legislature should require Caltrans to include in its annual report an expanded methodology for reporting support-to-capital ratios to include, in addition to a support-to-capital ratio based on costs incurred up to the award of the construction contract of STIP projects, a separate support-to-capital ratio for STIP projects that have completed construction. Further, the Legislature should require Caltrans to report on similar ratios for SHOPP projects based on costs incurred up to the award of the construction contract and for those projects that completed construction.”*

**S/C Measure**

Projects included in this measure are all programmed STIP and SHOPP projects that completed construction during each fiscal year for which the Department was fully responsible for development and construction management. The measure calculates a ratio (expressed as a percentage) using all capital outlay support costs in the numerator divided by all capital costs in the denominator.

**S/C Ratio At Award**

	Capital (millions)	Support (millions)	S/C Ratio Percent
<b>STIP</b>			
FY 09-10	\$ 1,239.0	\$ 233.6	18.9 %
FY 10-11	\$ 1,266.2	\$ 245.0	19.3 %
FY 11-12	\$ 855.7	\$ 161.8	18.9 %
3-Yrs	\$ 3,360.8	\$ 640.4	19.1 %
<b>SHOPP</b>			
FY 09-10	\$ 1,201.9	\$ 301.7	25.1 %
FY 10-11	\$ 1,530.3	\$ 265.8	17.4 %
FY 11-12	\$ 1,196.0	\$ 202.9	17.0 %
3-Yrs	\$ 3,928.2	\$ 770.5	19.6 %
<b>Combined</b>			
FY 09-10	\$ 2,440.9	\$ 535.3	21.9 %
FY 10-11	\$ 2,769.6	\$ 510.8	18.3 %
FY 11-12	\$ 2,051.7	\$ 364.7	17.8 %
3-Yrs	\$ 7,289.1	\$ 1,410.8	19.4 %

**S/C Ratio At Completion**

	Capital (millions)	Support (millions)	S/C Ratio Percent
<b>STIP</b>			
FY 09-10	\$ 1,045.1	\$ 351.3	33.6 %
FY 10-11	\$ 1,688.5	\$ 437.6	25.9 %
FY 11-12	\$ 1,065.0	\$ 338.2	31.8 %
3-Yrs	\$ 3,798.6	\$ 1,127.1	29.7 %
<b>SHOPP</b>			
FY 09-10	\$ 1,058.5	\$ 432.0	40.8 %
FY 10-11	\$ 955.8	\$ 402.1	42.1 %
FY 11-12	\$ 1,296.4	\$ 495.7	38.2 %
3-Yrs	\$ 3,310.7	\$ 1,329.8	40.2 %
<b>Combined</b>			
FY 09-10	\$ 2,103.6	\$ 783.3	37.2 %
FY 10-11	\$ 2,644.3	\$ 839.7	31.7 %
FY 11-12	\$ 2,361.4	\$ 833.9	35.3 %
3-Yrs	\$ 7,109.3	\$ 2,456.9	34.6 %

## FY 2011-12 Project Delivery Report

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**Government Code section 14525.5:**

*“The Department shall submit a project delivery report to the Governor and the Legislature not later than November 15 of each year.”*

The End-of-Year FY 2011-12 Project Delivery Report to the CTC (Attachment A) fulfills the intent of this requirement. For FY 2011-12 the Department delivered a total of 593 projects valued at \$3.851 billion from all funding programs as detailed in the attached report.

In FY 2005-06, Director Will Kempton initiated the “Contract for Delivery” in order to improve the Department’s delivery performance. Each year, the Director signs a contract with each of the Department’s 12 district directors committing the delivery of specific projects within the planned quarter of the fiscal year.

Delivery is measured when the project has achieved Ready-to-List for advertising status. This has been very successful in improving on-time delivery performance. In the FY 2011-12 contract, 275 deliveries (out of 279 planned) were achieved, for a 98.6 percent success rate.

During the past seven years, the Contract for Delivery committed delivery of 2,019 major projects with a construction value of more than \$21.0 billion. 2,008 projects were delivered on time, which translates into a 99.5 percent delivery record.