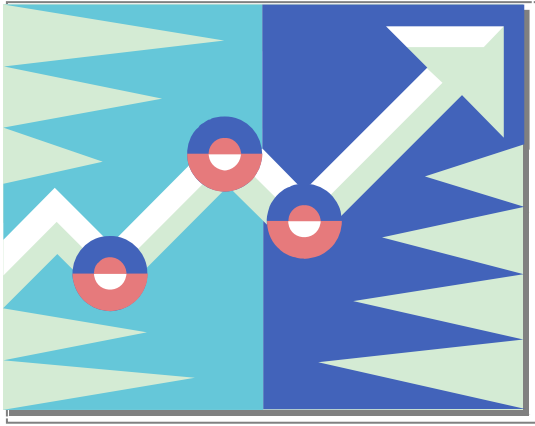


Rising Construction Costs - The Florida Story

National Highway Construction Cost Workshop
September 11, 2007
St. Louis, MO



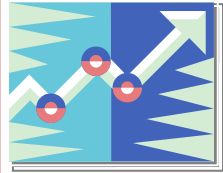


The Florida DOT Story

Ananth K. Prasad, P.E.
Chief Engineer
Florida Department of Transportation



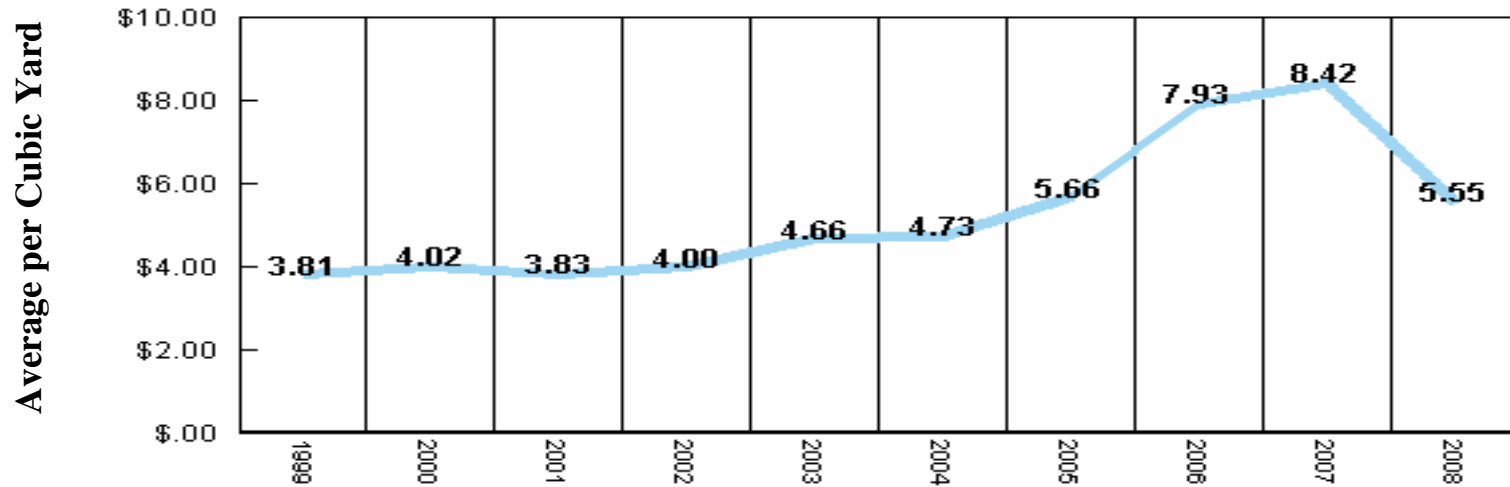
Produced by Specifications and Estimates Office
Updated August 31, 2007



Earthwork

Cost Trends Graph Including Current Let Contracts

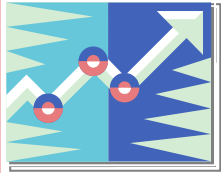
Weighted Average Price



Fiscal Year – Statewide (thru August 2007)

NOTE: Lump Sum, Design/Build Contracts not included in this graph



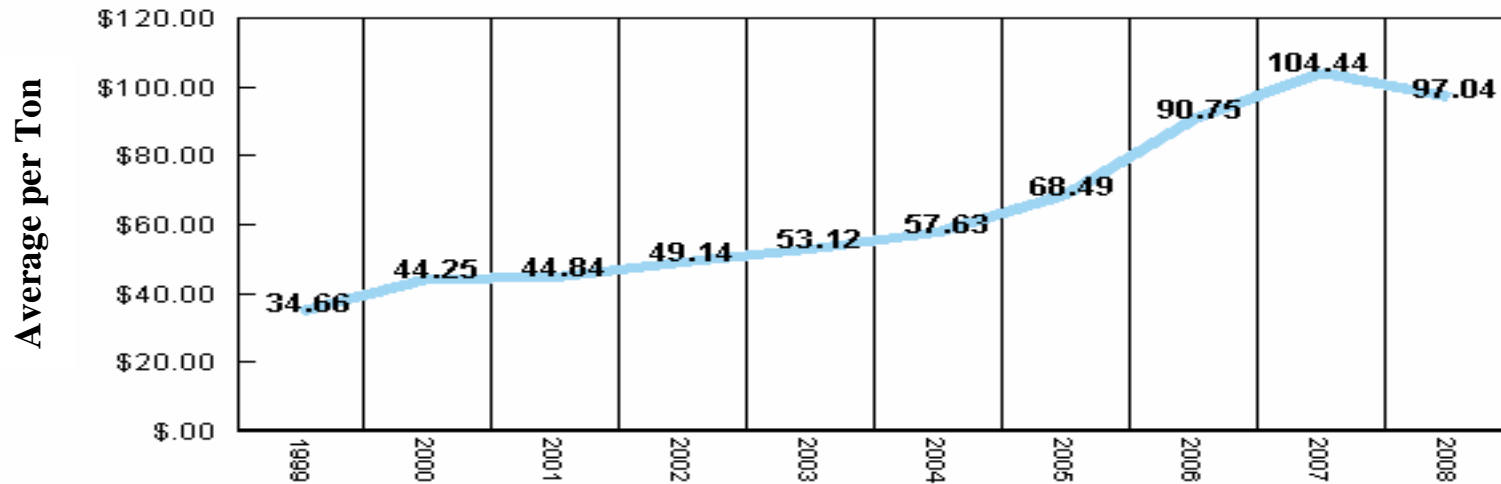


Asphalt

Cost Trends Graph Including Current Let Contracts

Weighted Average Price

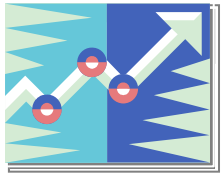
(Structural/Friction Course Items only)



Fiscal Year – Statewide (thru August 2007)

NOTE: Lump Sum, Design/Build Contracts not included in this graph

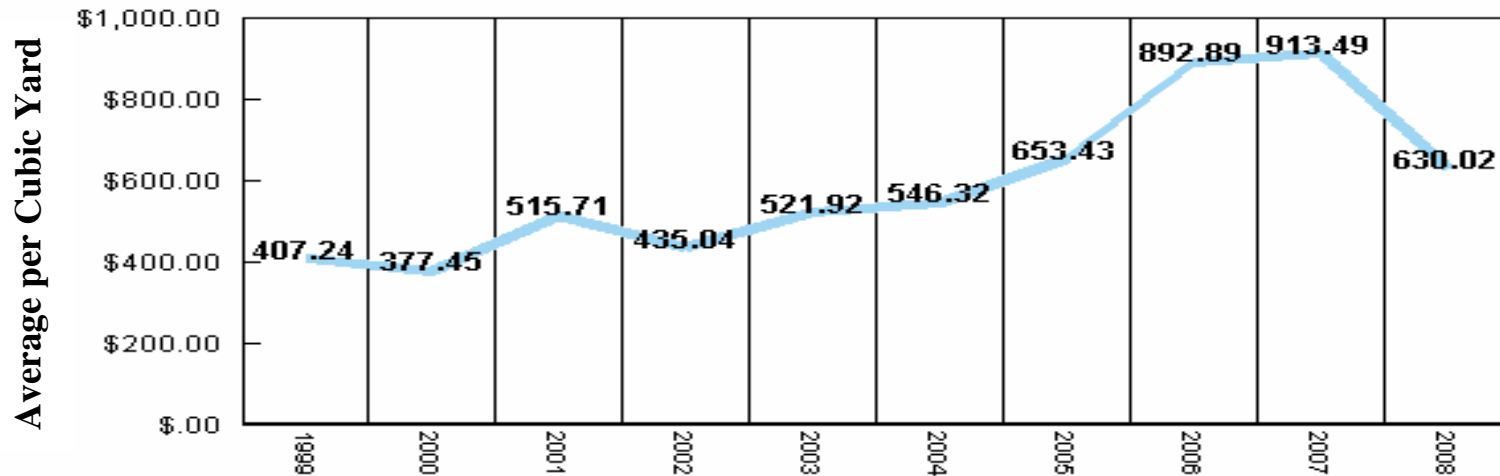




Structural Concrete

Cost Trends Graph Including Current Let Contracts

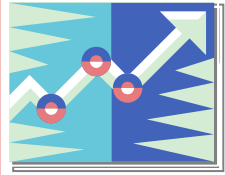
Weighted Average Price



Fiscal Year – Statewide (thru August 2007)

NOTE: Lump Sum, Design/Build Contracts not included in this graph

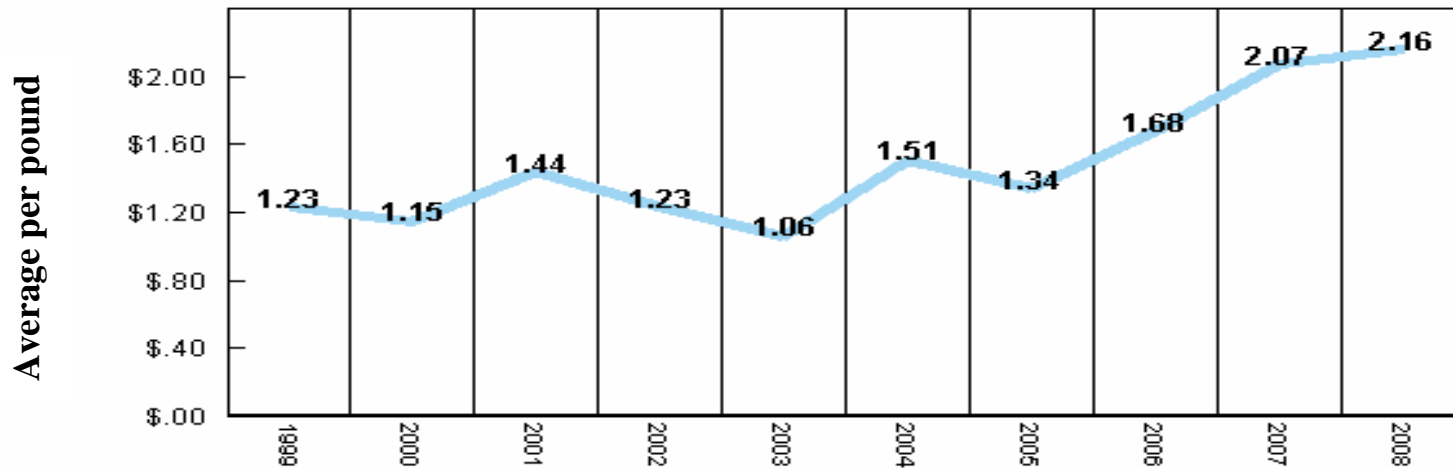




Structural Steel

Cost Trends Graph Including Current Let Contracts

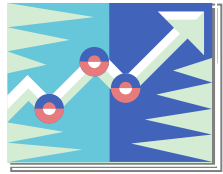
Weighted Average Price



Fiscal Year – Statewide (thru August 2007)

NOTE: Lump Sum, Design/Build Contracts not included in this graph

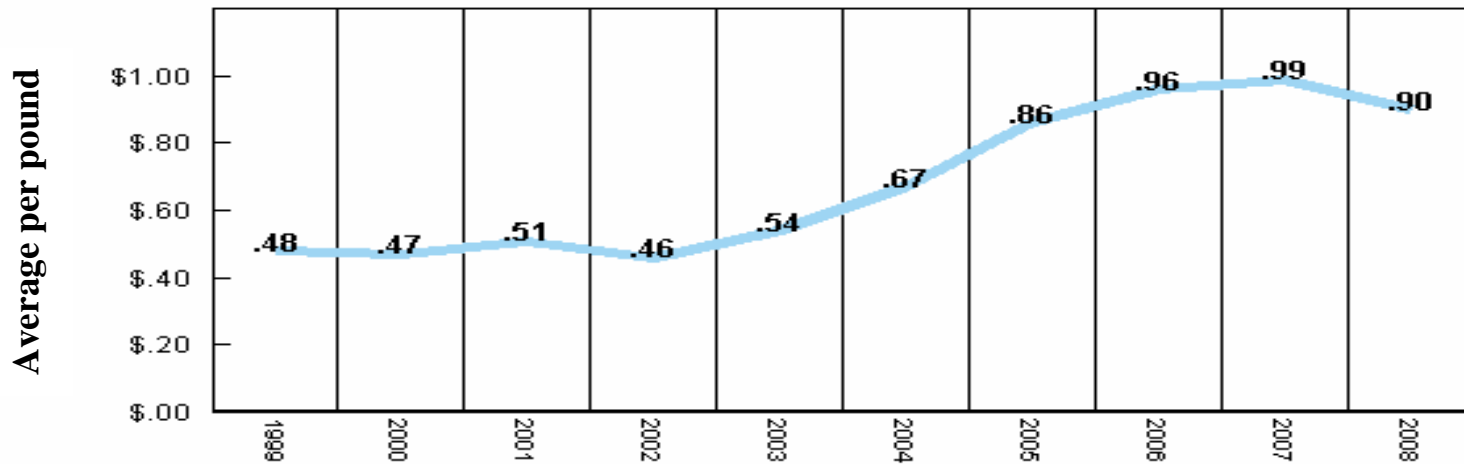




Reinforcing Steel

Cost Trends Graph Including Current Let Contracts

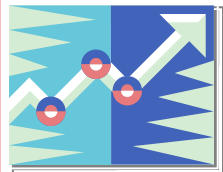
Weighted Average Price



Fiscal Year – Statewide (thru August 2007)

NOTE: Lump Sum, Design/Build Contracts not included in this graph





Summary

Statewide Weighted Average Prices (Fiscal Year)

Pay Item Group	Unit	FY05	FY06	Change FY06/FY05	FY07	Change FY07/FY06	FY08	Change FY08/FY07
Earthwork	CY	\$5.66	\$7.93	+40.1%	\$8.42	+6.2%	\$5.55	-34.1%
Asphalt	TN	\$68.49	\$90.75	+32.5%	\$104.44	+15.1%	\$97.04	-7.1%
Structural Concrete	CY	\$653.43	\$892.89	+36.6%	\$913.49	+2.3%	\$630.02	-31.0%
Structural Steel	LB	\$1.34	\$1.68	+25.4%	\$2.07	+23.2%	\$2.16	+4.4%
Reinforcing Steel	LB	\$0.86	\$0.96	+11.6%	\$0.99	+3.1%	\$0.90	-9.1%



MONTHLY BID ANALYSIS - FOR FY 04/05

SUMMARY THROUGH JUNE LETTING

INCLUDES ALL PROJECTS LET BY THE DEPARTMENT THROUGH JUNE 2005 *(Projects rejected and deferred to 05/06 have been removed)*

THIS REPORT COMPARES THE "APPARENT LOW BID DOLLAR AMOUNT" TO THE "JULY ADOPTED DOLLAR AMOUNT"

	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>		<u>Adopted</u>	<u>Low Bid</u>	<u>Over/(-)Under</u>	<u>% of Chg</u>
Low Bids	410.7	202.0	7.8	186.1	281.6	118.4	225.5	126.8	514.5	218.2	97.8	501.2					
# Projects	64	36	11	45	69	42	50	41	56	63	51	61					
D1	0.0	1.1	0.0	5.3	0.2	(0.9)	7.7	2.5	16.5	1.3	0.9	50.6		216.1	301.3	85.2	39.0%
D2	(16.2)	(0.1)	(2.0)	0.0	6.1	(2.9)	(2.0)	0.1	(15.2)	10.2	1.4	0.2		470.9	450.4	(20.5)	(4.0)%
D3	0.4	0.7	0.0	(0.7)	2.7	1.2	0.4	(0.2)	(10.3)	0.1	3.7	25.2		383.2	406.4	23.2	6.0%
D4	2.0	0.0	0.0	1.4	(1.6)	0.7	1.2	9.1	3.7	(0.7)	8.7	1.2		186.3	209.5	23.2	12.0%
D5	(3.8)	0.1	0.0	(0.6)	10.0	(6.4)	(2.9)	(1.4)	(1.3)	(1.3)	(2.9)	0.3		333.6	324.2	(9.4)	(3.0)%
D6	0.3	60.2	0.0	8.3	0.6	1.9	3.7	5.8	1.6	9.4	5.4	10.3		356.2	463.7	107.5	30.0%
D7	(2.2)	1.0	0.0	0.1	1.3	(0.1)	0.6	(7.1)	(2.5)	25.9	(2.0)	(4.1)		186.8	199.5	12.7	7.0%
TPK	3.1	7.0	0.0	2.4	0.0	(4.2)	42.4	0.0	5.0	0.5	0.0	33.6		445.8	535.6	89.8	20.0%
TOTALS	(16.4)	70.0	(2.0)	16.2	19.3	(10.7)	51.1	8.8	(2.5)	45.4	15.2	117.3		\$2,578.9	\$2,890.6	\$311.7	12.0%

Production Management Office - July 13, 2005

Office of Work Program



MONTHLY BID ANALYSIS - FOR FY 05/06

SUMMARY THROUGH JUNE LETTING

INCLUDES ALL PROJECTS LET BY THE DEPARTMENT THROUGH JUNE 2006 (*Projects rejected and deferred to 06/07 have been removed*)

THIS REPORT COMPARES THE "APPARENT LOW BID DOLLAR AMOUNT" TO THE "JULY ADOPTED DOLLAR AMOUNT"

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN		Adopted	Low Bid	Over/(-)Under	% of Chg
Low Bids	365.2	175.8	188.1	95.2	57.9	111.8	132.8	116.8	122.3	269.9	93.8	347.1					
# Projects	74	61	42	34	19	61	47	47	53	66	48	68					
D1	1.4	0.5	1.6	4.2	2.4	13.2	7.2	1.7	4.2	1.3	10.2	7.7		148.2	203.8	55.6	37.5%
D2	0.1	(1.5)	(0.1)	4.5	(0.1)	(0.2)	4.0	3.4	1.1	10.4	(1.5)	1.2		242.4	263.7	21.3	8.8%
D3	11.6	3.3	3.9	2.1	(4.5)	2.6	5.5	12.7	5.3	22.7	0.2	24.7		256.7	346.8	90.1	35.1%
D4	3.4	5.0	11.2	0.4	0.0	3.1	2.3	6.2	(0.8)	5.3	4.6	8.7		222.2	271.6	49.4	22.2%
D5	(0.9)	0.4	5.5	1.7	0.0	0.6	1.8	1.7	2.6	(1.6)	3.5	14.4		343.8	373.5	29.7	8.6%
D6	0.2	0.0	0.1	0.0	(0.8)	2.6	2.3	(0.7)	23.7	4.1	(0.2)	1.1		95.4	127.8	32.4	34.0%
D7	(1.1)	2.1	4.0	9.9	0.0	(0.3)	0.3	4.6	1.0	7.9	0.4	30.9		228.2	287.9	59.7	26.2%
TPK	2.2	(0.9)	18.4	0.0	7.1	(0.6)	0.2	0.0	0.0	(7.4)	(8.6)	13.8		177.4	201.6	24.2	13.6%
TOTALS	16.9	8.9	44.6	22.8	4.1	21.0	23.6	29.6	37.1	42.7	8.6	102.5		\$1,714.3	\$2,076.7	\$362.4	21.1%

Production Management Office - July 13, 2006

Office of Work Program



MONTHLY BID ANALYSIS - FOR FY 06/07

SUMMARY THROUGH JUNE LETTING

INCLUDES ALL PROJECTS LET BY THE DEPARTMENT THROUGH JUNE 2007 (Projects rejected and deferred to 07/08 have been removed)

THIS REPORT COMPARES THE "APPARENT LOW BID DOLLAR AMOUNT" TO THE "JULY ADOPTED DOLLAR AMOUNT"

	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>		<u>Adopted</u>	<u>Low Bid</u>	<u>Over/(-)Under</u>	<u>% of Chg</u>
	234.2	188.3	363.3	265.9	81.5	186.5	75.3	668.1	197.2	262.3	201.3	506.5					
# Projects	53	38	47	47	19	45	29	48	37	51	52	60					
D1	(2.3)	(2.9)	(3.1)	5.5	(0.1)	(4.3)	(6.3)	5.6	(4.0)	(17.0)	(0.8)	(1.0)		685.6	654.9	(30.7)	(4.5) %
D2	(2.7)	1.1	(36.5)	(14.7)	(0.7)	(3.8)	0.0	(7.6)	(2.3)	1.2	(4.1)	(3.5)		453.3	379.7	(73.6)	(16.2) %
D3	2.4	(1.0)	8.1	1.1	0.0	0.6	(5.8)	(6.3)	(0.8)	1.6	(3.4)	(0.5)		220.5	216.5	(4.0)	(1.8) %
D4	(5.2)	(0.6)	(3.8)	(5.0)	0.0	(6.0)	0.5	(7.9)	(2.6)	0.3	7.4	0.0		303.4	280.5	(22.9)	(7.5) %
D5	10.1	1.0	27.6	(0.3)	0.0	0.2	(2.7)	0.7	2.0	(3.3)	(5.2)	2.3		386.0	418.4	32.4	8.4 %
D6	(0.2)	0.0	(0.3)	2.1	(0.3)	(1.9)	(0.1)	(0.4)	(0.8)	0.0	(0.9)	103.6		398.3	499.1	100.8	25.3 %
D7	0.8	(0.8)	1.0	3.6	0.0	1.2	1.8	18.2	20.0	(0.1)	24.4	7.2		285.9	363.2	77.3	27.0 %
TPK	10.1	(5.5)	3.8	0.0	(5.5)	(37.7)	0.0	2.0	(0.9)	(44.7)	0.0	(1.9)		498.4	418.1	(80.3)	(16.1) %
TOTALS	13.0	(8.7)	(3.2)	(7.7)	(6.6)	(51.7)	(12.6)	4.3	10.6	(62.0)	17.4	106.2		\$3,231.4	\$3,230.4	(1.0)	(0.0) %

Production Management Office - July 5, 2007

Office of Work Program



MONTHLY BID ANALYSIS - FOR FY 07/08

SUMMARY THROUGH JULY LETTING

INCLUDES ALL PROJECTS LET BY THE DEPARTMENT THROUGH JULY 2007 (Projects rejected and deferred to 08/09 have been removed)

THIS REPORT COMPARES THE "APPARENT LOW BID DOLLAR AMOUNT" TO THE "JULY ADOPTED DOLLAR AMOUNT"

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN		Adopted	Low Bid	Over/(-)Under	% of Chg
Low Bids	218																
# Projects	49																
D1	(2.6)													5.9	3.3	(2.6)	(44.1) %
D2	(3.5)													14.6	11.1	(3.5)	(24.0) %
D3	(0.5)													5.0	4.5	(0.5)	(10.0) %
D4	(2.1)													20.5	18.4	(2.1)	(10.2) %
D5	(9.0)													122.4	113.4	(9.0)	(7.4) %
D6	(0.6)													5.2	4.6	(0.6)	(11.5) %
D7	(7.5)													49.0	41.5	(7.5)	(15.3) %
TPK	1.0													20.2	21.2	1.0	5.0 %
TOTALS	(24.8)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		\$242.8	\$218.0	(\$24.8)	(10.2) %

Production Management Office - August 3, 2007

Office of Work Program



BID TRENDS

Fiscal Year	Number of Contracts	Avg Number of Bidders Per Contract	Percent of Contracts w/ 0, 1 or 2 Bids
2002/2003	243	4.3	14.0%
2003/2004	238	3.8	26.5%
2004/2005	240	3.5	27.5%
2005/2006	300	2.3	46.7%
2006/2007	288	3.7	28.8%
2007/2008*	45	4.5	15.6%
*Contract Class 1 thru August 2007 Letting			



General Considerations

□ Robust economy in Florida

■ Significant population growth

- In 2004, value of construction put in place per capita in Florida was double the national average and passed California – a State twice its size.
- 70% of construction activity was in residential market, whereas the Highway and Bridge construction accounts for only 10% of the market.

■ Residential Market has cooled off significantly

- How long it will last is unclear – recovery expected to be slow.



General Considerations

- Inflationary Risks/Uncertainty in escalators
 - Recouping of prior year losses
- Energy Costs (mainly fuel)
 - Fuel Index only addresses consumption in producing output
- Labor Shortages
 - Low unemployment rate and wages
 - Rate of growth in construction employment (7%) is double that of overall
 - Florida was less affected by recession



General Considerations

- Bid Competition
 - Consolidations
 - “Grass is greener on the other side”
- Hurricane rebuilding efforts in Florida and Southeast US
 - Putting strain on supply chains.
 - “Hand to Mouth”



Impacts to Florida's Program

- First impact occurred in FY05/06
 - Rejected 71 contracts because of high bids
 - These were advertised at \$600M and bids came in at \$977M
 - 28 of these were re-let, deleted or deferred
 - 43 contracts were rolled into FY 06/07 and cost estimates adjusted.



Impacts to Florida's Program

FY06/07 Impact

- Rejected 11 contracts because of high bids
 - These were advertised at \$23.1M and bids came in at \$37.3M
 - 2 of these were re-let.
 - 9 projects are scheduled to be re-let, deferred to 07/08 or deleted.

FY07/08 – No rejected contracts to date



Impacts to Florida's Program

Imbalance in FY06/07

- 2007: \$4.0B, 2008: \$2.6B, 2009: \$2.2B

Balanced Letting Plan

- 2007: \$2.8B, 2008: \$3.0B, 2009: \$3.3B

- Production Ready Plan: 86 projects totaling \$1.2B

- 32 projects totaling \$721M moved out

- 54 projects totaling \$452M were let this year

- FY 06/07 Total Awarded was \$3.2B



Impacts to Florida's Program

- Deferral of Construction & Right-of-Way project phases (FY 06/07 to FY 10/11)
 - Within the 5-year Tentative Program
 - 36 projects totaling \$1.5B
 - Outside of the 5-year Tentative Program
 - 35 projects totaling \$1.3B



Department Strategies

(Short Term)

- Refined Awards Criteria
 - Department rejected 71 contracts (14%) in FY05/06 valued at \$600M (Bids were at \$977M)
- Revisited/Revised Inflation Rates and Contingency Levels
- Refined Department's Estimating Process
 - More periodic updates and performance measures established
 - Developed additional cost libraries that use historical unit prices from similar contracts & time durations



Department Strategies

(Short Term)

- Encourage use of Bid Options and Scope Alternates
 - “Got to have” versus “Nice to have”
- Implemented Bid Maximum Specification
- Developed a comprehensive price index for construction contracts to manage risk
 - Implemented indexing monthly payouts to PPI
- Optimize Night Work
 - Revisit windows of operations
- Contract Scope and Length
 - Bigger is not necessarily better



Department Strategies

(Long Term)

- Conduct a Work Force Study
 - Unskilled workers
 - Inmate training program
- Address conflicts in mobility and freight
 - Statewide Freight Study to address key supply chains (emphasis on ports and rail infrastructure)
 - Make investment in rail and port capacity that give us more return on such investments



Department Strategies

(Long Term)

- Better manage risk associated with material availability
 - Statewide Aggregate Resource Study
 - Department's procurement of aggregate to build redundancy in supply
- Right of Way Opportunities
 - Joint Use Stormwater Ponds
 - Securing Borrow Pits



Department Strategies

(Long Term)

- Not require everything to Federal-aid Standards
 - Only 25% of Florida's Construction Program is funded by federal-aid dollars
- Flexible Design and Engineering
 - We need to "Design what can be built easily" rather than "Build what can be designed easily"



Department Strategies

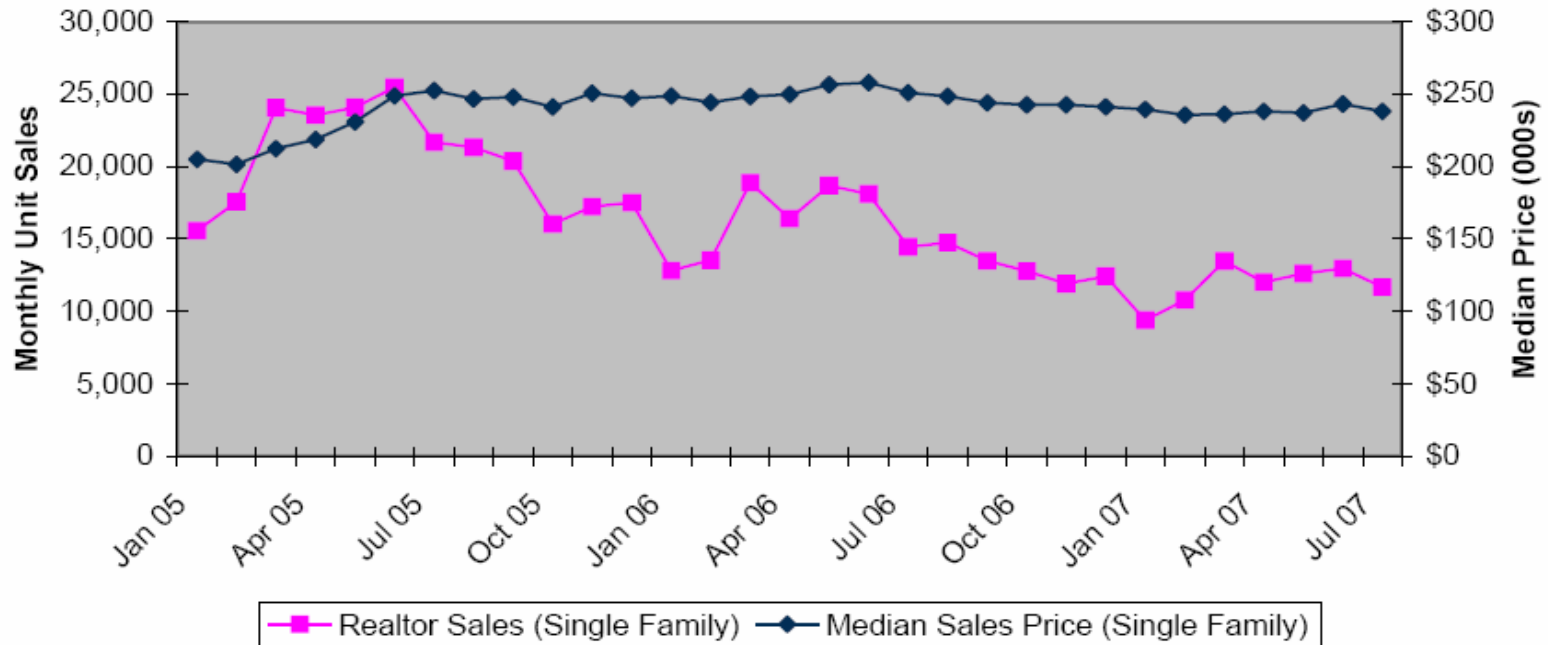
(Long Term)

- Develop indicators to aid in establishing letting levels
 - Maintain a “moderately aggressive” base level of lettings at all times
 - Statewide Construction Database shows \$9.1B for Highway and Bridge Work (FDOT’s share is only \$3.0B)
 - Get contracts “Production Ready”.
 - Revisit policy on “Production Ready” plans to bring up to current standards.
 - “Fatal Flaw” concept



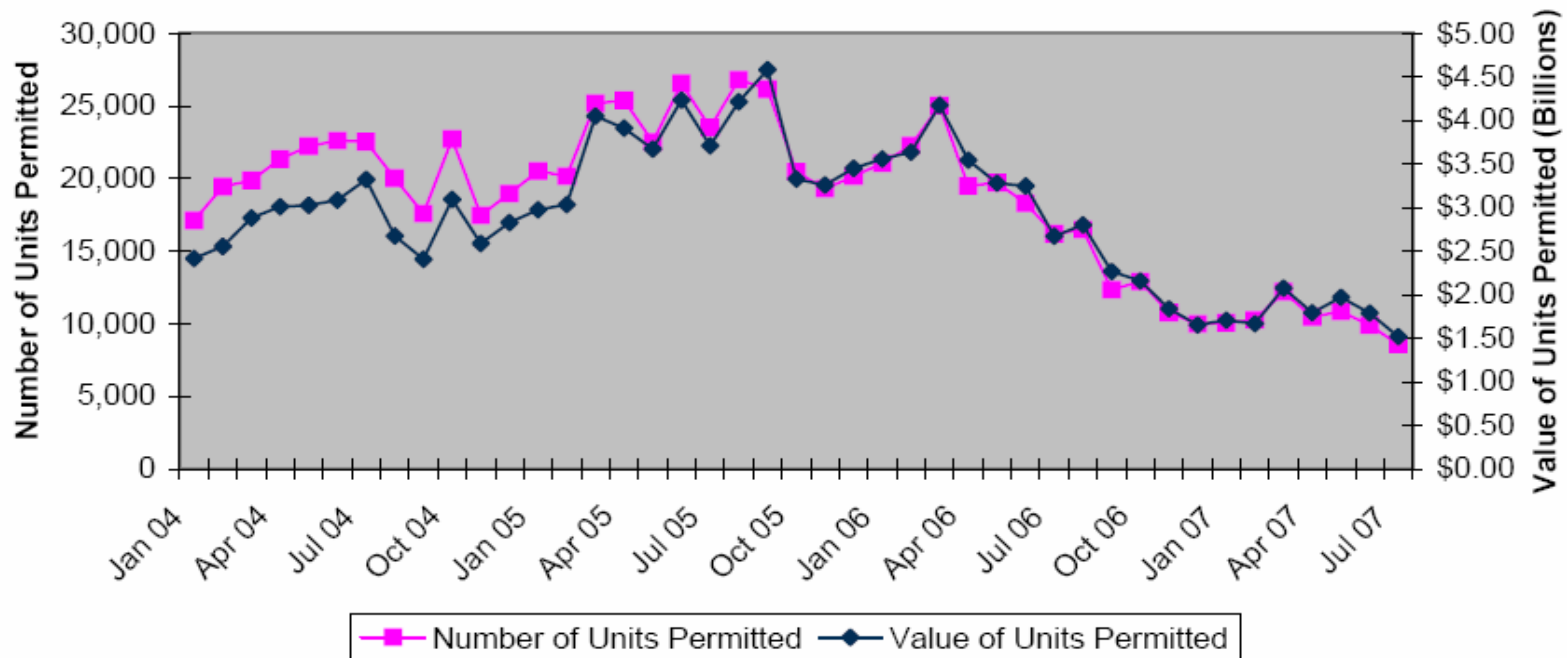
Transportation Cost Indicators

Figure 4 Florida Single Family Home Sales



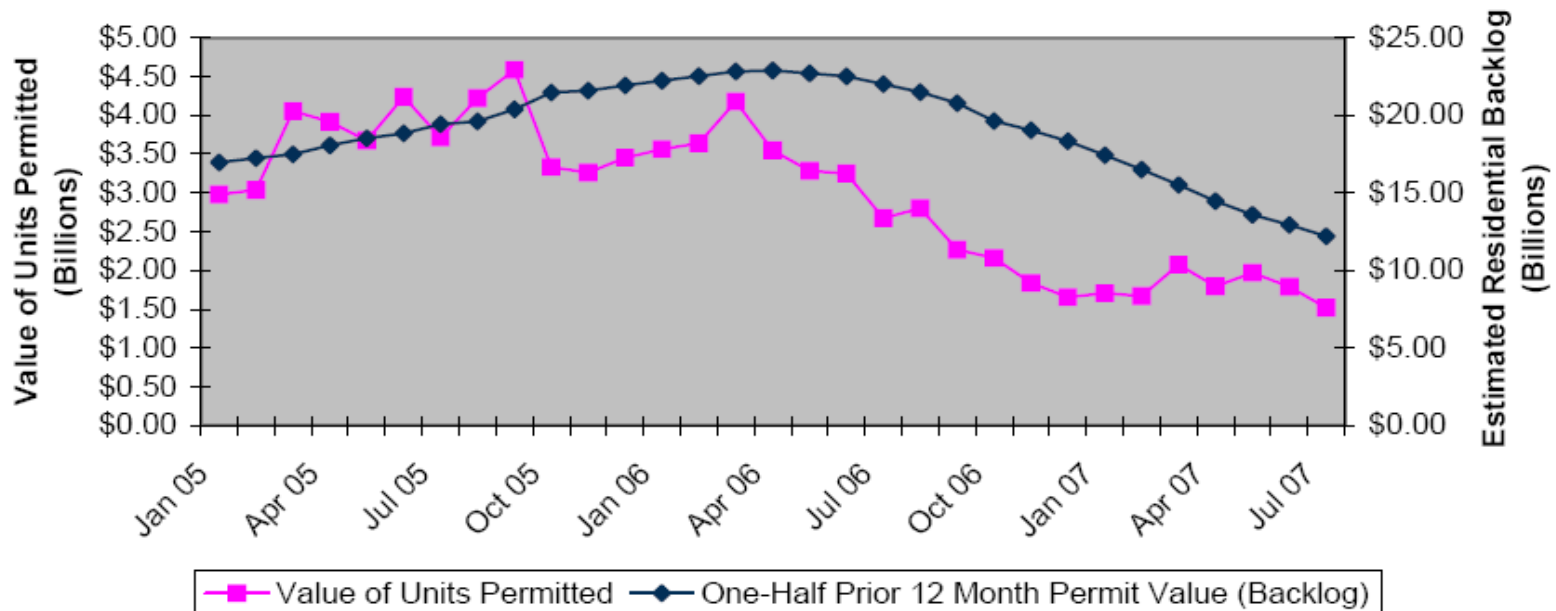
Transportation Cost Indicators

Figure 6 Number and Value of Florida Residential Units Permitted



Transportation Cost Indicators

Figure 7 Monthly Residential Unit Permit Value and Estimated Construction Backlog



Department Strategies

(Long Term)

□ Increase Competition

- Even during this volatility, contracts with 3 or more bids came in closer to our estimate
- Waive bonds on smaller contracts to develop next generation of Primes
- Simplify contract administration (inspection and testing) on smaller contracts
- “Remove restrictions that do not add value” initiative.
- Procure and permit sites for temporary asphalt plants for contractors to use



Department Strategies

(Long Term)

- Permits for Aggregate Sources and Plants (Asphalt and Concrete)
 - Participate in the dialogue
 - Provide information so that an “informed” decision is made
 - Remember, there is a fine line between providing information and advocating
 - Legislature recently formed Strategic Aggregate Review Task Force
 - Evaluate the availability of construction aggregate and related mining & land use practices



Lake Belt Dilemma

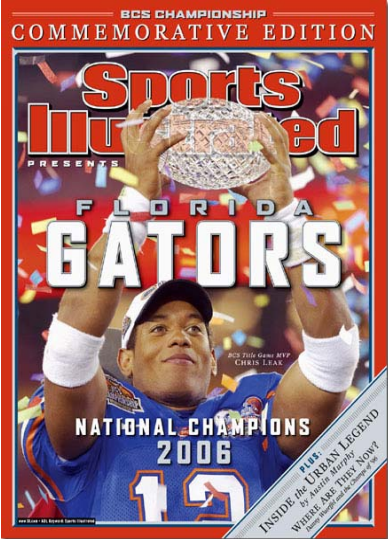
- Large mining area in South Florida
 - Home to five of the largest limestone mines in US.
 - Supplies 40% of State's Limestone
 - FDOT as a largest single user contracts for about 10% of supply
- Ruling in late July 2007
 - Immediately stopped 1/3 of all mining
 - Ruling has been appealed; decision on appealed expected by early 2008.



Lake Belt Dilemma

- Ruling's affect on Material Cost
 - Concrete suppliers are not immediately affected
 - Limerock up \$5/ton - Aug 1st
 - Asphalt Aggregate up \$5-\$10/ton – Aug 1st
 - Initially, cost increases are expected in southern half of the state only.
 - Statewide impact expected in Jan 2008



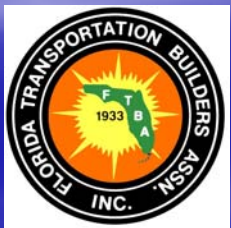


How 'bout them Gators!



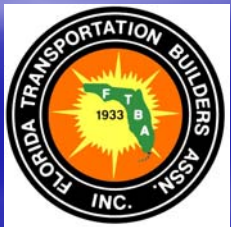
FLORIDA'S CONTRACTING INDUSTRY INSIGHTS ON COST INCREASES

Bob Burleson, President
Florida Transportation Builders Association

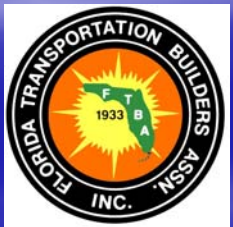


INTRODUCTION

- Florida's contracting industry has worked with the Florida Department of Transportation to address cost increases and attempt to mitigate their impact on the work program.



- 2004-2006 was a period of unprecedented price increases.



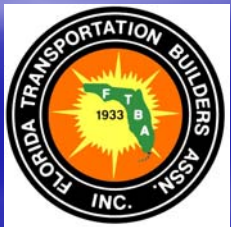
What were the factors driving these increases?

- Never before seen escalation in material/ fuel prices
- Lack of skilled workers drove up wages and slowed production
- Uncertain material delivery caused production to drop-increasing prices
- Fear of further escalations put larger contingencies into long-term jobs
- Florida's booming economy gave contractors many options and many chose not to bid FDOT work.



Florida's Unique Aggregate Problem:

- Rock is scarce in Florida
- Permitting of new sources is difficult
- Federal judge effectively wiped out 15-20% of states supply overnight
- Prices for rock are now more uncertain than ever
- Port capacity is such that importing material will not fully meet our needs. Rail delivery is limited. We must have local sources.
- We import rock from Georgia, Alabama, Mexico, Bahamas and Canada- all very expensive options.



- Contractors face a real dilemma when bidding work. Rock shot up \$5 a ton immediately after the court ruling with more increases on the horizon.



STATE AGGREGATE CONTRACT

- FDOT entered into a contract to purchase 300,000 T of new source material from Vulcan Materials. This rock is coming from Mexico. FDOT has every right to be concerned and act to acquire material supply of their own but 300,000 T. is a drop in the bucket for a FDOT market of 40 million T.

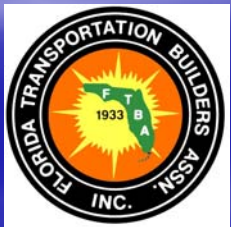


- Contractors believe the market will step up to supply rock as the need arises. The state's contract is of very little help and by the time the contract was put in place the price was higher than the open market price. That could change, however, with this court ruling.



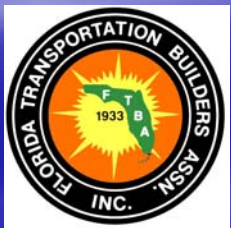
Overall Price Considerations:

- Aside from the rock issue, prices are now a little more stable in Florida



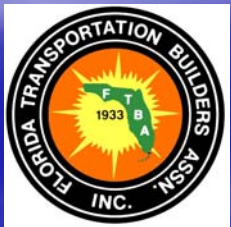
Overall Price Considerations:

- Fuel and Liquid Asphalt are still a concern but we have escalators for that. The escalator works particularly well for liquid asphalt.



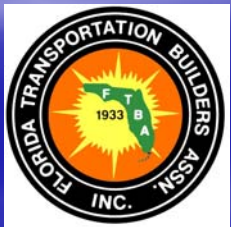
Overall Price Considerations:

- Contractors are more carefully weighing possible price increases during the duration of a job.



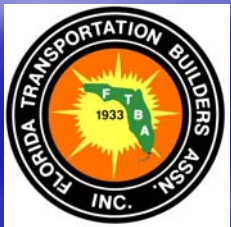
Overall Price Considerations:

- The volume of work in the private market is down pushing some contractors back into the public market.



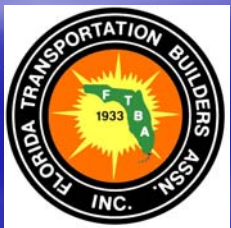
Overall Price Considerations:

- Competition is greater now for local government work.



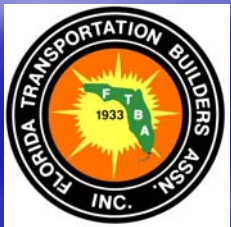
Overall Price Considerations:

- FDOT work is not for everyone. I don't think the pool of contractors bidding FDOT work has increased a great deal. I believe FDOT contractors are bidding more jobs as the volume of work decreases.



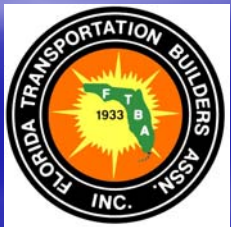
Overall Price Considerations:

- We are starting to see more availability of labor.



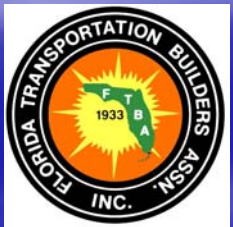
FDOT's Responses that We Like:

- They have significantly improved their project estimates. This is by far the best thing FDOT has done.



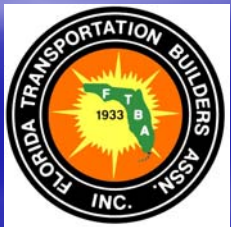
FDOT's Responses that We Like:

- Utilizing “bid options” for what they need versus what they want.



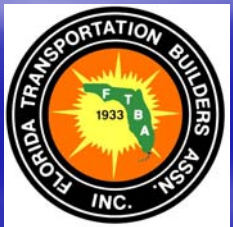
FDOT's Responses that We Like:

- Looking at reducing night work where possible.
- Extending night working hours where possible.



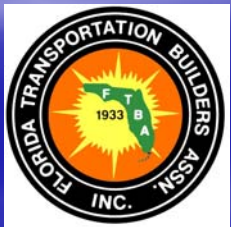
FDOT's Responses that We Like:

- Not always trying to see how large they can make an individual contract.



FDOT's Responses that We Like:

- Working with industry to develop long-term solution to our aggregate issue.
- Trying to improve rail and port infrastructure to increase capacity.



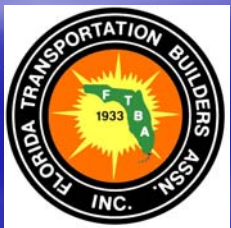
FDOT's Responses that We Like:

- Assessing risk assumption.



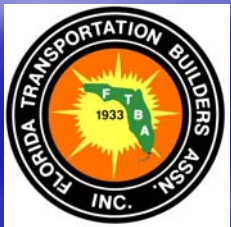
FDOT's Responses that We Like:

- We are hopeful that FDOT will truly, “Design what can be built easily rather than build what can be designed easily.”



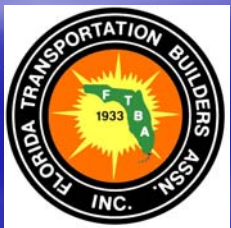
What We Don't Like: The Maximum Bid Specification

- A bid SHALL be rejected if over a certain number stated in the proposal
- We prefer MAY
- Happy to know amount of money available



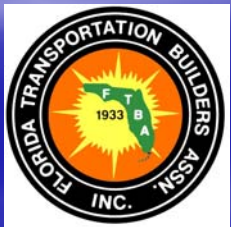
The Maximum Bid Specification

- Contractor does not know exact bid until a few hours before bid time. Example: a \$50 million maximum bid limit could be a \$49 million job or a \$51 million job- you just don't know. Contractor has spent enormous time and money developing a bid that he possibly cannot turn in.
- If all bids exceed the maximum we would rather see the Department negotiate with the low bidder to fit into their budget than reject.



CONCLUSION

- We are in changing times.
- *Contractors no longer dictate to material suppliers. The material suppliers now dictate to the contractor. Contractors know this but I am not quite sure DOT's have figured it out yet.*
- We must all work together to make best use of the precious few dollars we have.



Thank You and any Questions!

