Capital Improvement Program: Tracking Transportation Project Completion

CountyStat

March 20, 2009

CountyStat

CountyStat Principles

- **Require Data-Driven Performance**
- **Promote Strategic Governance**
- **Increase Government Transparency**
- **Foster a Culture of Accountability**

Agenda

- Welcome and Introductions
- Status of Follow-up Items from Previous Meeting
- Demonstrate the CAO's CIP Project Tracking Tool
- Discuss Strategies for Road Project Scheduling as it Relates to Procurement
- Wrap-Up

Meeting Goal

The goal of this meeting is to:

- Introduce and present CAO's CIP Project Tracking Tool
- Identify areas for improving scheduling efficiencies in DOT CIP projects that will lead to reductions in project duration and cost

Follow-up Item Progress

Complete

- **Disaggregate the number of days in the project implementation process, identifying project delay by factors out of DOT control and within its control. Use this to create a day-by-day breakdown**

Complete

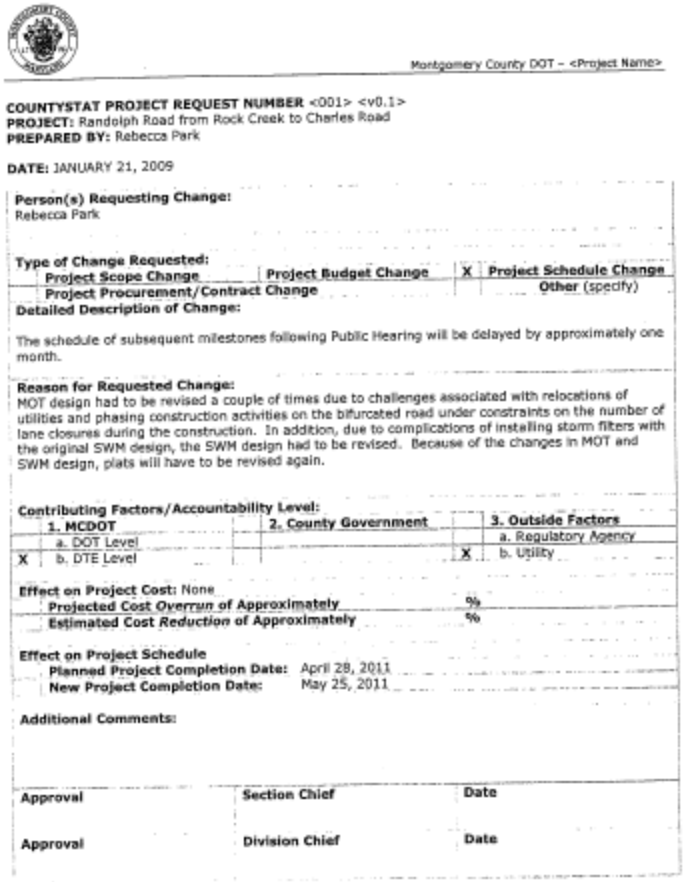
- **Develop methodology for determining which projects will be reported on in quarterly CountyStat meetings**

Complete

- **Redevelop the outline for County Council packets on road projects to more accurately depict the causes of delays and cost overruns. Attribute these causes to factors within or outside DOT control**

Project Implementation by Day: Follow-up Status

- A “Project Change Form” (PCF) is filed whenever there is a change to a project’s schedule, budget or scope.
- The PCF identifies the reasons for the change and quantifies the amount of delay or cost change and identifies the reason for the change.
- This establishes a cumulative record of the various factors affecting the implementation of the project.



Montgomery County DOT – <Project Name>

COUNTYSTAT PROJECT REQUEST NUMBER <001> <v0.1>
PROJECT: Randolph Road from Rock Creek to Charles Road
PREPARED BY: Rebecca Park

DATE: JANUARY 21, 2009

Person(s) Requesting Change:
Rebecca Park

Type of Change Requested:

	Project Scope Change		Project Budget Change	X	Project Schedule Change
	Project Procurement/Contract Change				Other (specify)

Detailed Description of Change:

The schedule of subsequent milestones following Public Hearing will be delayed by approximately one month.

Reason for Requested Change:
MOT design had to be revised a couple of times due to challenges associated with relocations of utilities and phasing construction activities on the bifurcated road under constraints on the number of lane closures during the construction. In addition, due to complications of installing storm filters with the original SWM design, the SWM design had to be revised. Because of the changes in MOT and SWM design, plats will have to be revised again.

Contributing Factors/Accountability Level:

	1. MCDOT		2. County Government		3. Outside Factors
	a. DOT Level				a. Regulatory Agency
X	b. DTE Level			X	b. Utility

Effect on Project Cost: None
Projected Cost *Overrun* of Approximately %
Estimated Cost *Reduction* of Approximately %

Effect on Project Schedule
Planned Project Completion Date: April 28, 2011
New Project Completion Date: May 25, 2011

Additional Comments:

Approval	**Section Chief**	**Date**
Approval	**Division Chief**	**Date**

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Follow-up Item Progress

Complete

- **Finalize the criteria for determining which projects require Facility Planning Stage 1**

In Progress

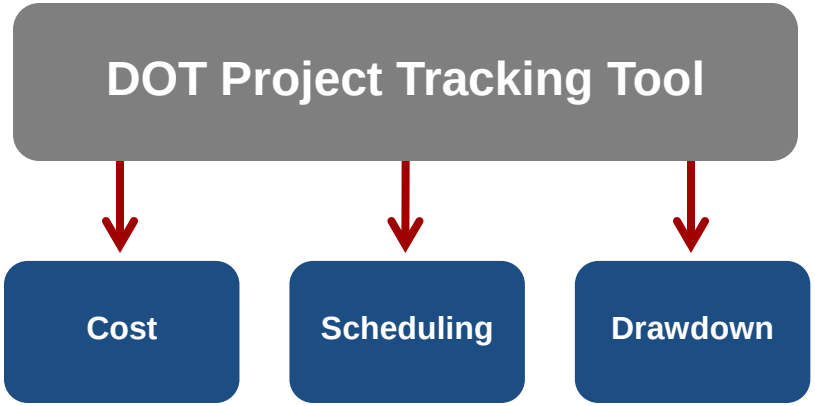
- **Develop metrics for historical transportation project costs, and train an existing employee as a cost estimator**
  - DOT has purchased software that interfaces with SHA cost data and can be filtered for projects specifically in Montgomery County. All county consultants use this data to perform cost estimates in accordance with established SHA procedures.
  - DOT is in the process of identifying staff to train as cost estimators and evaluating the need for assistance from professional cost estimators.

In Progress

- **Develop a methodology for building cost escalation into road project cost estimating**
  - DOT has identified three independent categories that are subject to different escalation rates throughout the life of a project. These include: staff, labor and consulting fees; construction and utility relocation; and land. DOT still needs to identify appropriate leading indicators (as opposed to trailing indicators) to predict escalation over the 6-year cycle of the Capital Improvements Program.

Project Tracking: Overview

- The CIP Tracking Tool will allow the CAO to quickly assess the ongoing status of CIP Road projects, resulting in quick and decisive action

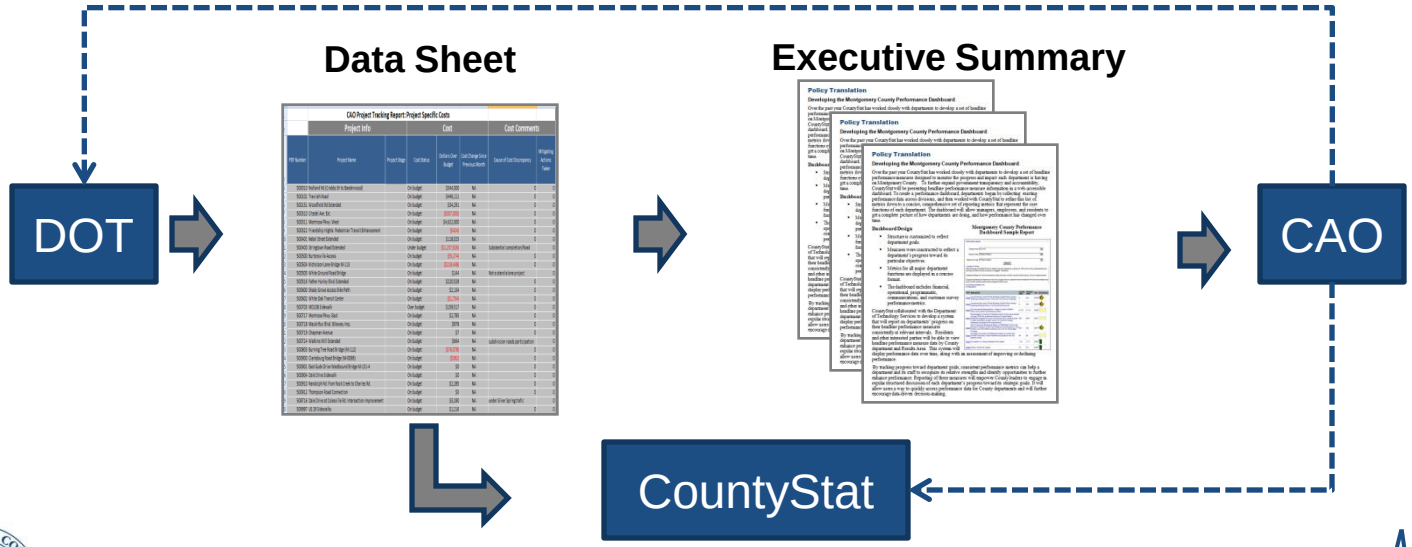


- This tool will improve existing internal practices by providing the ability to quickly get a high level analysis of DOT project adherence to approved costs, schedule, and drawdown of current fiscal year budgeted resources with the added ability to drawdown at the project specific level

The CAO's CIP Tracking Tool will monitor the variables of cost, scheduling, and drawdown for projects that have completed facility planning and have their own Project Description Form (PDF).

Process for Submission

- The CIP Tracking Tool is an Excel-based spreadsheet that is populated by DOT on a monthly basis
- CountyStat will assist DOT with implementation of the tool over the course of the first three months
- The CAO will receive a 3-page executive summary on a monthly basis



CIP Tracking Tool - Cost: February 2009

Total DOT Transportation Projects:	**27**
Projects That Are:	
On Budget	**25**
Over Budget	**1**
Under Budget	**1**
Total Projects Completed This FY:	**3**
Project Completed:	
On Budget	**2**
Over Budget	**0**
Under Budget	**1**
Major Issues Resulting in Projects Being Over Budget	
Project Name: MD 108 Sidewalks (Olney-Sandy Spring Road)	
Major Issue: Actual Land Costs Exceeded Estimate	

Data Point	Definition
Initial Cost – Design & Supervision	Design and Supervision costs in original Stand - Alone PDF (after Facility Planning completed)
Initial Cost - Construction	Construction cost in first PDF with full Construction Funding
On Budget Threshold	Initial total cost plus (+/-) 10%

The initial budget is presented when the project goes into the CIP as a stand alone project as noted by its own Project Description Form (PDF).

CIP Tracking Tool Example: Cost Screenshot

PDF Number	Project Name	Cost Status	Dollars Over Budget	Initial Total Cost	Current Total Cost
500010	Redland Rd (Crabbs Br to Baederwood)	On budget	$344,000	$ 5,456,000	$ 5,800,000
500101	Travilah Road	On budget	$446,111	$ 11,163,000	$ 11,609,111
500151	Woodfield Rd Extended	On budget	$34,291	$ 14,527,000	$ 14,561,291
500310	Citadel Ave. Ext.	On budget	-$307,000	$ 5,407,000	$ 5,100,000
500311	Montrose Pkwy. West	On budget	$4,622,000	$ 70,378,000	$ 75,000,000
500322	Friendship Hights Pedestrian Transit Enhancement	On budget	-$424	$ 396,000	$ 395,576
500401	Nebel Street Extended	On budget	$118,025	$ 13,931,000	$ 14,049,025
500403	Stringtown Road Extended	Under budget	-$1,257,926	$ 8,810,000	$ 7,552,074
500500	Burtonsville Access	On budget	-$5,274	$ 7,949,000	$ 7,943,726
500504	Nicholson Lane Bridge M-113	On budget	-$218,448	$ 3,745,000	$ 3,526,552
500505	White Ground Road Bridge	On budget	$144	$ 1,371,000	$ 1,371,144
500516	Father Hurley Blvd. Extended	On budget	$220,528	$ 21,544,000	$ 21,764,528
500600	Shady Grove Access Bike Path	On budget	$2,134	$ 2,714,000	$ 2,716,134
500602	White Oak Transit Center	On budget	-$1,754	$ 1,791,000	$ 1,789,246
500703	MD108 Sidewalk	Over budget	$139,517	$ 841,000	$ 980,517
500717	Montrose Pkwy. East	On budget	$2,785	$ 51,300,000	$ 51,302,785
500718	MacArthur Blvd. Bikeway Imp.	On budget	$978	$ 8,710,000	$ 8,710,978
500719	Chapman Avenue	On budget	$7	$ 12,192,000	$ 12,192,007
500724	Watkins Mill Extended	On budget	$664	$ 8,525,000	$ 8,525,664
500803	Burning Tree Road Bridge (M-112)	On budget	-$76,078	$ 1,426,000	$ 1,349,922
500900	Clarksburg Road Bridge (M-009B)	On budget	-$382	$ 1,540,000	$ 1,539,618
500901	East Gude Drive Westbound Bridge M-131-4	On budget	$0	$ 2,230,000	$ 2,230,000
500904	Dale Drive Sidewalk	On budget	$0	$ 4,900,000	$ 4,900,000
500910	Randolph Rd. from Rock Creek to Charles Rd	On budget	$2,285	$ 2,146,000	$ 2,148,285
500912	Thompson Road Connection	On budget	$0	$ 425,000	$ 425,000
508716	Dale Drive at Colesville Rd. Intersection Improvement	On budget	$3,290	$ 3,912,000	$ 3,915,290
509997	US 29 Sidewalks	On budget	$1,216	$ 5,577,000	$ 5,578,216

CIP Tracking Tool - Scheduling: February 2009

Total DOT Transportation Projects:	**27**
Projects That Are:	
On Schedule	**18**
Ahead of Schedule	**1**
Behind Schedule	**8**
Total Projects Completed This FY:	**3**
Project Completed:	
On Schedule	**3**
Ahead of Schedule	**0**
Behind Schedule	**0**
Major Issues Resulting in Projects Being Behind Schedule	
Project Name: Travilah Road - Darnestown Rd. to Dufief Mill Road	
Major Issue: Extensive Land Acquisition, Utility Relocation Delays and Additional Scope	
Additional explanations for other projects will be found on actual executive summary	

Data Point	Definition
Initial Schedule – Design & Supervision Start	Year of first Design expenditure in first Stand – Alone PDF
Initial Schedule – Design & Supervision End	Year of first Construction Expenditure in first full funded PDF
Initial Schedule - Construction Start	Year of first Construction Expenditure in first full funded PDF
Initial Schedule - Construction End	Year of last expenditure in first full funded PDF
On Time Threshold	End date (+/-) 90 days

Schedule tracking begins when the project goes into the CIP as a stand alone project as noted by its own Project Description Form (PDF).

CIP Tracking Tool Example: Scheduling Screenshot

PDF Number	Project Name	Schedule status	Number of Days off Schedule	Initial Schedule	Current Schedule	Cause of Schedule Discrepancy
500010	Redland Rd (Crabbs Br to Baederwood)	On time	0	6/22/09	6/22/09	
500101	Travilah Road	Behind Schedule	149	9/22/08	2/18/09	Extensive Land Acquisition, Utility Relocation Delays and Additional Scope
500151	Woodfield Rd Extended	On time	21	11/19/10	12/10/10	
500310	Citadel Ave. Ext.	Behind Schedule	97	12/24/08	3/31/09	Contractor Cash Flow - Surety Funding Project
500311	Montrose Pkwy. West	On time	-43	9/30/08	8/18/08	
500322	Friendship Hights Pedestrian Transit Enhancement	On time	0	7/18/09	7/18/09	
500401	Nebel Street Extended	Behind Schedule	228	10/28/10	6/13/11	Land Acquistion - major property changed hands
500403	Stringtown Road Extended	On time	0	8/13/07	8/13/07	
500500	Burtonsville Access	On time	0	9/30/13	9/30/13	
500504	Nicholson Lane Bridge M-113	On time	17	11/21/08	12/8/08	
500505	White Ground Road Bridge	On time	60	7/8/10	9/6/10	
500516	Father Hurley Blvd. Extended	Behind Schedule	177	2/2/11	7/29/11	
500600	Shady Grove Access Bike Path	On time	44	8/2/10	9/15/10	
500602	White Oak Transit Center	On time	78	11/11/09	1/28/10	
500703	MD108 Sidewalk	On time	56	1/12/09	3/9/09	
500717	Montrose Pkwy. East	Behind Schedule	210	11/12/13	6/10/14	Basic Ordering Agreement Delayed Final Design
500718	MacArthur Blvd. Bikeway Imp.	On time	7	1/14/13	1/21/13	
500719	Chapman Avenue	Behind Schedule	104	3/27/13	7/9/13	Procurement of Traffic Engineering under DTEO Contract Delayed Final Design
500724	Watkins Mill Extended	On time	32	6/18/10	7/20/10	
500803	Burning Tree Road Bridge (M-112)	On time	0	4/16/09	4/16/09	
500900	Clarksburg Road Bridge (M-009B)	On time	0	12/16/10	12/16/10	
500901	East Gude Drive Westbound Bridge M-131-4	On time	0	1/31/11	1/31/11	
500904	Dale Drive Sidewalk	On time	0	12/19/11	12/19/11	
500910	Randolph Rd. from Rock Creek to Charles Rd.	Behind Schedule	294	6/23/10	4/13/11	Major Design Revisions Necessary to Address MOT, SWM and Constructability Issues
500912	Thompson Road Connection	On time	0	11/4/10	11/4/10	
508716	Dale Drive at Colesville Rd. Intersection Improvement	Ahead of Schedule	-115	6/16/11	2/21/11	
509997	US 29 Sidewalks	Behind Schedule	138	11/13/08	3/31/09	Unanticipated Rock Coring: pushed weather sensitive activities into winter.

CIP Tracking Tool - Drawdown: March 2009

Projects Where Fiscal Year Budget Drawdown is:	
Project Completed:	
On Target	**9**
Ahead of Target	**0**
Behind Target	**18**
Major Issues Resulting in Projects Being Behind Schedule	
Project Name: Watkins Mill Road	
Major Issue: Participation project - Expenditures by developer not tracked in FAMIS	
Additional explanations for other projects will be found on actual executive summary	

The project drawdown is calculated as the difference between the actual fiscal year's project budget and the actual expenditures normalized over a twelve month period and will be reported on a quarterly basis.

*In the future DOT intends to weight the drawdown based on time of year.

CIP Tracking Tool Example: Drawdown Screenshot

PDF Number	Project Name	FY09 PDF Budget	Actual Drawdown for FY	% Drawdown from Projected (Current FY)	Drawdown status*	Cause of Drawdown Discrepancy
500010	Redland Rd (Crabbs Br to Baederwood)	$ 1,074	$ 1,733	161%	On Target	
500101	Travilah Road	$ -	$ 1,099	Not budgeted	Behind Target*	No FY09 $ - Schedule delays cited pushed work into FY09
500151	Woodfield Rd Extended	$ 600	$ 472	79%	On Target	
500310	Citadel Ave. Ext.	$ -	$ 1,085	Not budgeted	Behind Target*	No FY09 $ - Contractor Delay Pushed work into FY09
500311	Montrose Pkwy. West	$ 6,357	$ 8,842	139%	On Target	Note MPW is complete - Expenditure Schedule never matched "reality"
500322	Friendship Heights Pedestrian Transit Enhancement	$ 52	$ 24	45%	Behind Target	Construction will start this spring and last only 3 months. Monthly Draw Comparison is not valid.
500401	Nebel Street Extended	$ 1,078	$ 127	12%	Behind Target	Land Negotiations are complex and impacted by change in ownership.
500403	Stringtown Road Extended	$ -	$ 49	Not budgeted	On Target	Project is substantially complete
500500	Burtonsville Access	$ -	$ 14	Not budgeted	On Target	No expeditures programmed this FY
500504	Nicholson Lane Bridge M-113	$ 1,115	$ 1,208	108%	On Target	
500505	White Ground Road Bridge	$ -	$ 7	Not budgeted	Behind Target*	NO FY09 $
500516	Father Hurley Blvd. Extended	$ 4,500	$ 356	8%	Behind Target	
500600	Shady Grove Access Bike Path	$ 1,256	$ 63	5%	Behind Target	
500602	White Oak Transit Center	$ 315	$ 131	42%	Behind Target	
500703	MD108 Sidewalk	$ -	$ 355	Not budgeted	Behind Target*	
500717	Montrose Pkwy. East	$ 2,002	$ 1,939	97%	On Target	
500718	MacArthur Blvd. Bikeway Imp.	$ 426	$ 259	61%	Behind Target	
500719	Chapman Avenue	$ 2,855	$ 97	3%	Behind Target	
500724	Watkins Mill Extended	$ 6,006	$ -	0%	Behind Target	subdivision roads participation
500803	Burning Tree Road Bridge (M-112)	$ 963	$ 801	83%	On Target	
500900	Clarksburg Road Bridge (M-009B)	$ 469	$ 5	1%	Behind Target	
500901	East Gude Drive Westbound Bridge M-131-4	$ 13	$ -	0%	Behind Target	
500904	Dale Drive Sidewalk	$ 225	$ 10	4%	Behind Target	
500910	Randolph Rd. from Rock Creek to Charles Rd.	$ 243	$ 27	11%	Behind Target	
500912	Thompson Road Connection	$ 148	$ 16	11%	Behind Target	
508716	Dale Drive at Colesville Rd. Intersection Improvement	$ 304	$ 148	49%	Behind Target	under silver spring traffic improvement transportation improvement
509997	US 29 Sidewalks	$ 1,983	$ 2,094	106%	On Target	

Variables Impacting Tracking Tool Computation

Data Point	Definition
PDF Version	A project can be reset in the project tracking form when there is a scope change or a supplemental appropriation is approved
Month, Year	Current date
Stage of Project	Design & Supervision or Construction
Project Contact Person Name	Text provided by DOT
FY Budget Drawdown	
Expected Drawdown for this FY	Based on current Fiscal Year PDF projections
Actual Drawdown for FY	Calculation of current drawdown in relation to month in Fiscal Year
Cost	
Current Cost – Design & Supervision	Current projections of what Design & Supervision will cost
Current Cost - Construction	Current projection of what Construction will cost
Cause of Discrepancy - Cost	Text provided by DOT
Mitigation Strategy - Cost	Text provided by DOT
Cause of Discrepancy Classification - Cost	Cause identified as within DOT control, within County control, outside County control, using DOT's classification system
Schedule	
Current Schedule - Design & Supervision Start	Current projection of when Design & Supervision will start
Current Schedule - Design & Supervision End	Current projection of when Design & Supervision will end
Current Schedule - Construction Start	Current projection of when Construction will begin
Current Schedule - Construction End	Current projection of when Construction will end
Cause of Discrepancy - Schedule	Text provided by DOT
Mitigation Strategy - Schedule	Text provided by DOT
Cause of Discrepancy Classification - Schedule	Cause identified as within DOT control, within County control, outside County control, using DOT's classification system

DGS Developmental Tracking Form

- DGS will develop a tracking tool similar to the efforts of DOT
- An executive summary of monthly results will be delivered to the CAO in a similar manner as the DOT executive summary
- CountyStat will work to develop the DGS tracking tool over the next few months and roll-out the final product during a June meeting

Impact of Procurement as it Relates to Road Project Scheduling

Problem: In the past CIP meeting CountyStat identified time as significant driver of cost

Hypothesis: In order to minimize cost overruns the amount of time a project takes must be minimized

Potential Solution: The Procurement process, which entails multiple department involvement, is one aspect of scheduling, identified in the previous meeting in which all projects must pass through in order to progress to later phases

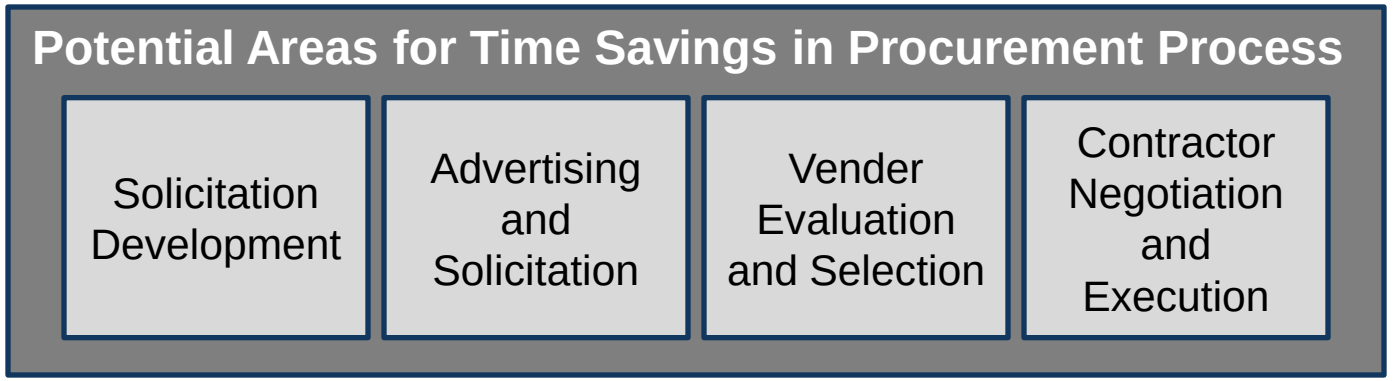
Impact of Solution: By analyzing data for the amount of time it takes to complete the procurement process, for road projects, the County can assess areas where efficiencies can be made to streamline the process and accelerate project implementation

There are common issues between each of these contract types where efficiencies can help to streamline the Procurement process for CIP projects.

CIP Road Procurement Process Analysis: Overview

- There are common areas where finding efficiencies will help to streamline the practices of all stakeholders in the procurement process for CIP projects

- Essential to identifying areas for improvement is identifying common phases within the procurement process



DOT analysis will be based on the improvements in the timing of each phase.

DOT: Interaction with Procurement

- Invitation for Bid (IFB) and Request for Proposal (RFP) are the two major interactions DOT has with Procurement.

	IFB	RFP
Primary Use	Utilized for construction phase of CIP projects where focus is on achieving lowest cost	Solicit the development of a new idea or design, most often through the use of consulting services
Major Evaluation Criteria	Price	Price, Experience, Quality of Submission
Average Timeline (Days)	145 days	Wide Varity and Infrequent Use

While DOT and DGS will work to impact the timeframe for each type, the IFB is much more common place and therefore can be expected to yield consistent results on an annual basis

Procurement Timeframe for Request for Proposal (RFP)

- Within the last year DOT and Procurement completed the most current two RFPs which took 640 days.
- This RFP involved a process change that has helped to streamline the process by which individual Task Orders are issued; this included research and rescoping and rewriting the majority of the solicitations by DOT and Procurement.
- DOT and Procurement are already realizing a considerable decrease in the number of days for the issuance of Task Orders.
- Before these new RFPs, task orders issued under the prior contracts took DOT and Procurement an average of 35-40 days.
- After these new contracts were put in place we have processed 9 of 26 task orders with an average length of time of 5.3 days, a decrease of 85%.

RFP's are contracts utilized in the design phases of CIP projects. They address and award criteria points for numerous requirements in addition to dollar amount and best value.

Detailed Timeframe for DOT Roads/Bridges Invitation for Bids (IFB)

Process Step (These include averages for IFBs issued for DOT projects in FY08 through early 2009)	Average Number of Days	Responsibility		
		DOT	Procurement	Other
Days from Complete Draft Package to Solicitation Issued	21		X	
Days from Date Issued to Due Date (Regulations require 30 days)	39			X
Days from Solicitation Due Date to Date Returned to Using Dept	5		X	
Days from Date Returned to Using Dept to Date Department Recommendation Received	22	X		
Days from Date Department Recommendation Received to Date Award Posted	17		X	
Days from Date Award Posted to Date contract Received (Regulations require 10 days for protest period)	36			X
Days from Date Contract Received to Date Contract Executed	6		X	
Average of Total	**145**			

** The average number of days is based on the timeframe for completion of DOT road and bridge IFBs*

DOT Perspective of Reducing Time Associated With the Procurement Process

- **Areas for Improvement**
  - Workload
  - Delegation of Authority during leave
  - Signing Authority

- **Potential Solutions**
  - Design-Build Contracts (certain contracts only)
  - MFD Plan – Require to be provided in bid
  - Decentralization and delegation of procurement authority

- **Newly Implemented Actions**
  - Deliverable Checklist with “ball-in-court”
  - Turn-around time commitment
  - MFD Review of Task Orders every 6 months

DGS Perspective of Procurement Process

- **Areas for Improvement**
  - What constitutes a complete Task Order or contract documentation
  - Training for new operations staff
  - Upfront DOT and Procurement coordination on workload and programmatic factors
- **Potential Solutions**
  - Semi-annual progress meetings
  - Include pre-submission conferences for major solicitations
- **Newly Implemented Actions**
  - Deliverable Checklist
  - Coordinated with DOT and Office of Business Relations and Compliance for MFD review every 6 months
  - Updated Signature Delegation and increased Specialist signatory thresholds
  - Weekly Group Training
  - Agreed Upon Timelines with departments for each IFBs/RFPs

DOT & DGS Common Areas For Impact

- **Areas for Impact**
  - **Short Term (0-6 Months)**
    - Deliverable Checklist
    - Turn-around time commitment
    - Periodic MFD review
    - Signature Delegation and increased signatory threshold
  - **Long-Term (6-12 Months)**
    - Design-Build Contract (only appropriate for certain projects)
    - Encourage MFD Plan submission with Bid

- **Expected Results**
  - **Short Term (0-6 Months)**
    - 3 to 5 day decrease (approximately savings rate of $1,000 a day per project)
  - **Long-Term (6-12 Months)**
    - 30 to 60 day decrease (approximately savings rate of $1,000 a day per project)

Tracking Our Progress

- **Meeting Goal**
  - Establish baseline performance
  - Identify efficiencies in the procurement process that will aid DOT in streamlining project scheduling
- **How will we measure success**
  - Develop an ongoing tracking mechanism that allows early identification and intervention when projects fall behind
  - Minimize the amount of time CIP projects spend within each phase of the procurement process

Wrap-Up

- **Follow-Up Items**
- **Date of next meeting**