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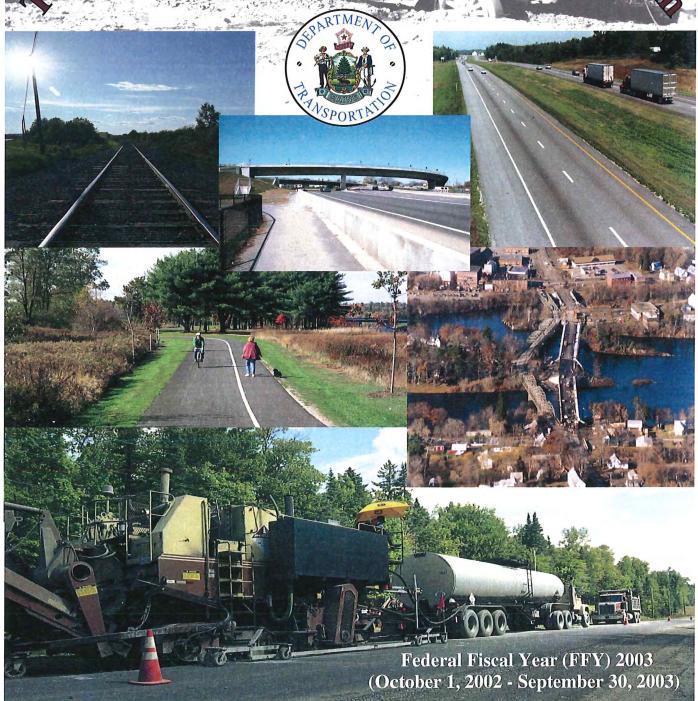


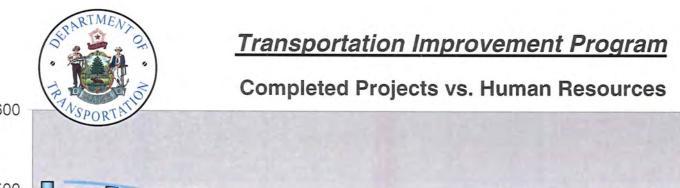
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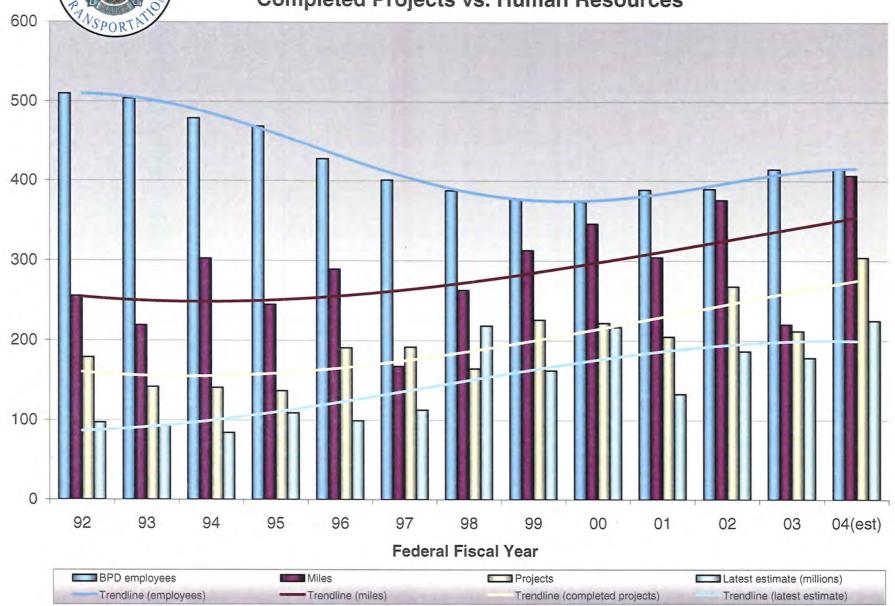
U.S. 1 Aroostook County

# Bureau of Project Development

cosportation Improvement Programme 2003 Delivery Report Programme 2003 Delivery Report







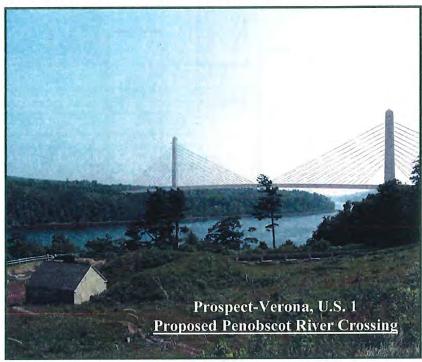


#### To Bureau staff, MaineDOT managers and our many transportation customers:

This is the fourth report of yearly accomplishments by the Bureau of Project Development. Production levels of safe, cost effective, quality transportation projects remained high for the second consecutive year as we faced several unique challenges. The most significant was implementation of extraordinary repairs to the Waldo-Hancock Bridge, while setting a fast track for its replacement (see picture below).

The Bureau has historically been asked to respond to unforeseen situations while still delivering the regular transportation program. This year was again one of those times. We were asked to respond to unforeseen needs on the Waldo-Hancock Bridge, adjustment organizational leadership and changes continued and we moved back to our Augusta headquarters. Program delivery all the while continued. The Bureau's 2003 Report looks mostly at completed projects, an absolute measure of program delivery. In addition, we had high numbers of projects reaching the construction phase this year:

- ♦ 324 projects delivered, having
- ◆ \$218M total value, involving
- ♦ 312 miles of roadway work.



This beginning construction output includes 158 miles of highway improvements, 154 miles of roadway resurfacing, 43 bridge projects, 26 multimodal projects, and 52 environmental and traffic projects.

Other significant highlights of work delivered in 2003 include a new I-295 to Commercial Street Connector in Portland, replacement of the Gilbertville Bridge on Route 140 in Canton, and improvements to 10 miles of Route 27 from Chain of Ponds to Coburn Gore. All Program areas have been successful delivering many smaller, less visible projects such as safety improvements at rail/highway grade crossings and highway intersections, roadside improvements to provide for better pedestrian/bicycle access, plus environmental enhancements and wetland mitigation work.

Community involvement and active local participation in many of these projects have been substantial elements in our production successes. We expect in 2004 to continue delivering a large volume of high quality transportation improvements. Our schedule for new work contains over 300 projects, about \$300 million in value and some 400 miles of highway work. This output will also be of great benefit to Maine's economy as each \$1 million in value is estimated to create, or sustain 42 jobs annually.

Sincerely,

Kenneth L. Sweeney, P.E.

Director, Bureau of Project Development



# BUREAU OF PROJECT DEVELOPMENT

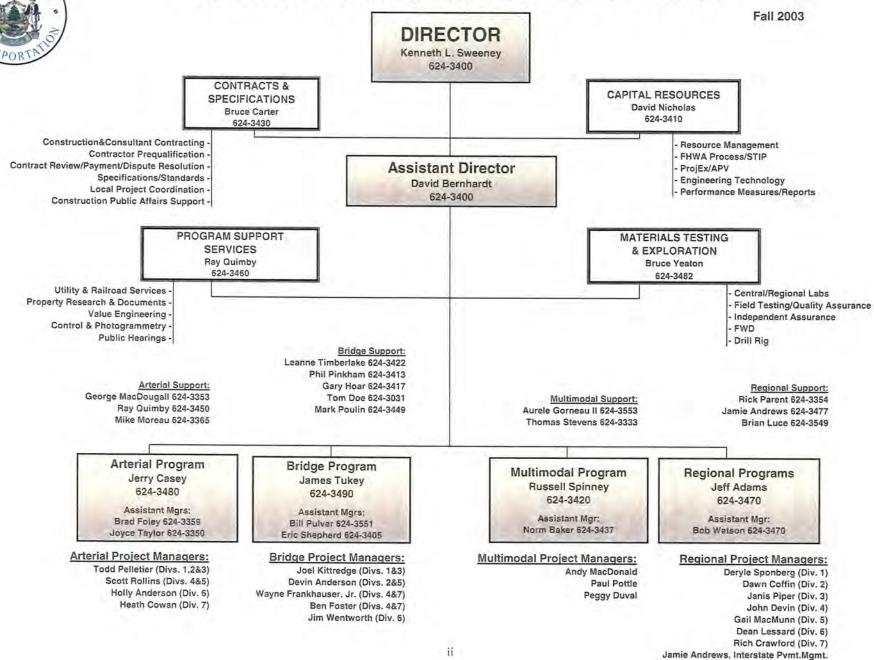
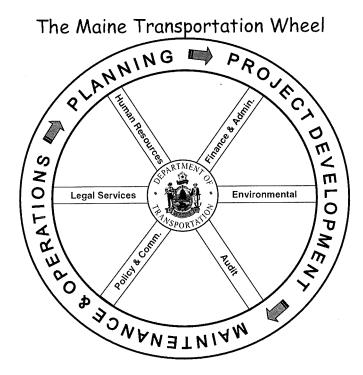


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### **Introduction:**

The report that follows provides a summary of our efforts to deliver Maine's Transportation Improvement Program between October 1, 2002 and September 30, 2003. Production numbers remained high and prospects are for this level to again be sustained through 2004. It's a continuous process, taking projects from conception in an approved program through to construction completion, a process that requires many hands with multiple disciplines, teamwork, and continuous improvements to meet high production goals. The figure below illustrates the Department's ongoing, core mission of Planning, Project Development, and Maintenance & Operations as a wheel with spokes representing support provided by a host of other Bureaus and Offices.



But that's not all it takes to be successful. The Bureau of Project Development also relies upon involvement by many external partners to achieve program delivery success. Chief among these partners is the Federal Highway Administration providing the majority of funding, necessary approvals, oversight, staff training and ongoing coordination at all levels. Others include municipal participation in project development and cost sharing, innovation and cost savings introduced by consultants and contractors, cooperative research through the University of Maine, as well as dedicated work by many resource and permitting agencies. The following pages outline FFY 2003 successes we share with all our partners.

Arterial Program

In 2003, the Urban & Arterial Highway Program continued to produce projects at a rate that greatly exceeded the output of similar work in recent years. Thirty-one projects were advertised that will reconstruct approximately 27 miles of highway at a construction value of \$51 million. Construction of thirty-seven projects was completed. These projects constructed or reconstructed just over 34 miles of

highway, at a construction value of \$60 million.



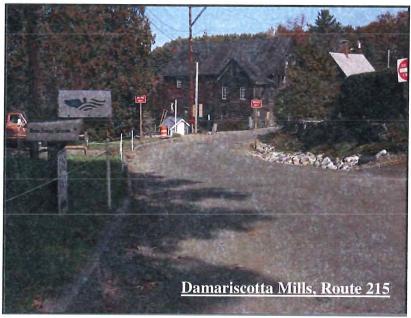
Highlights of the last year include:

- Advertised and let the Rte. 26 contract for Gray/New Gloucester/Poland. This project constructs 6.2 miles of Rte. 26 at an approximate cost of \$9 million. Ninety thousand cubic meters of ledge has been excavated, allowing the relocation of this major highway away from the Shaker Village and the "Seven Deadly Curves".
- Advertised and let the design-build contract for the I-295 Connector in Portland. When completed in 2005, this direct connection from the Congress St./I-295 interchange to Commercial Street will relieve congestion in the Congress Street/St. John's/Veteran's Bridge area, provide access to a proposed hospital relocation, and expand Portland's network of bicycle and pedestrian trails.
- Continued progress on the Augusta Third Bridge project, on-schedule for its November '04 opening.
- Completed the construction of the final section of "The Airline" in Amherst/Aurora.

Completed the first phase of the controversial reconstruction of Rte. 1 in Warren. Initial feedback has been very positive.

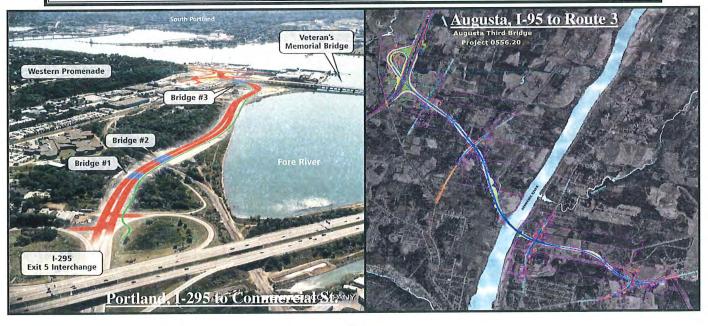
- Completed or neared completion on downtown or village-area projects in Freeport, Morrill's Corner in Portland, South Berwick, Old Orchard Beach, Van Buren, Lincoln, Machias, Kennebunk, Winterport and Damariscotta Mills.
- The Damariscotta Mills project is a prime example of a context sensitive solution, with its community-driven design, new traffic pattern, timber guard rails, and other innovative features (see picture at right).

The following is a list of Arterial projects completed in 2003:



## <u> Arterial Program – Completed Projects</u>

AMHERST ALIBORA Pouto 0	HIGHWAY RECONSTRUCTION	\$7,653,526.00
AMHERST-AURORA, Route 9	HIGHWAY IMPROVEMENTS	\$527,463.19
AUBURN, Hotel Road	HIGHWAY IMPROVEMENTS	\$1,066,910.38
AUBURN, Hotel Road	LEVEL 3 HIGHWAY RESURFACING	\$272,000.00
BANGOR, Hancock-Washington Street.	HIGHWAY RECONSTRUCTION	\$2,552,311.77
CORNISH, Route 5		\$1,235,515.00
FAIRFIELD, Route 139	HIGHWAY RECONSTRUCTION	\$2,795,839.00
FREEPORT, U.S. Route 1	HIGHWAY IMPROVEMENTS	
FRENCHVILLE, U.S. Route 1	HIGHWAY IMPROVEMENTS	\$2,776,397.00
GORHAM, Libby Avenue	HIGHWAY IMPROVEMENTS	\$1,519,578.00
GORHAM, Mosher Road Reclamation	HIGHWAY IMPROVEMENTS	\$580,358.72
HOULTON TIC Improvements	SPECIAL PROJECT	\$70,682.00
KENDUSKEAG, Route 15	HIGHWAY RECONSTRUCTION	\$1,101,084.00
KENNEBUNK, Route 35	HIGHWAY RECONSTRUCTION	\$3,409,009.00
LIMERICK, Route 11	HIGHWAY RECONSTRUCTION	\$3,369,703.49
LINCOLN, U.S. Route 2	HIGHWAY IMPROVEMENTS	\$1,718,031.00
LISBON, Route 125	HIGHWAY IMPROVEMENTS	\$319,998.25
MACHIAS, U.S. Route 1	HIGHWAY IMPROVEMENTS	\$4,170,222.00
MOSCOW,Bridge #2133 over Carney Brook	BRIDGE REPLACEMENT	\$3,474,401.76
MOSCOW-CARATUNK,U.S. Route 201	HIGHWAY RECONSTRUCTION	\$4,228,010.24
NAPLES, U.S. Route 302 & Route 11	INTERSECTION IMP W/O SIGNAL	\$403,052.12
NEWCASTLE-NOBLEBORO, Route 215	HIGHWAY IMPROVEMENTS	\$1,878,642.00
OLD ORCHARD BEACH, Route 98	HIGHWAY IMPROVEMENTS	\$2,471,222.95
ORRINGTON, Route 15	HIGHWAY IMPROVEMENTS	\$2,591,468.00
PITTSFIELD, I-95 NB&SB	REST AREA IMPROVEMENTS	\$1,569,500.00
PORTLAND, U.S. 302-Morrills Corner	TRAFFIC ENG IMPROVEMENT	\$1,589,197.56
SKOWHEGAN, Route 150	LEVEL 3 HIGHWAY RESURFACING	\$760,306.87
SMYRNA-LUDLOW; Town Line Road	HIGHWAY IMPROVEMENTS	\$231,647.64
SO. BERWICK, Main Street	HIGHWAY IMPROVEMENTS	\$1,879,375.00
STANDISH, Route 25	HIGHWAY REHABILITATION	\$3,775,000.00
TOPSHAM, U.S. Route 201 – Main Street	HIGHWAY IMPROVEMENTS	\$3,545,726.00
VAN BUREN, U.S. Route 1	HIGHWAY RECONSTRUCTION	\$2,398,846.00
WARREN, U.S. Route 1	HIGHWAY RECONSTRUCTION	\$4,255,233.00
WINTERPORT, Route 1A	HIGHWAY RECONSTRUCTION	\$3,592,142.00



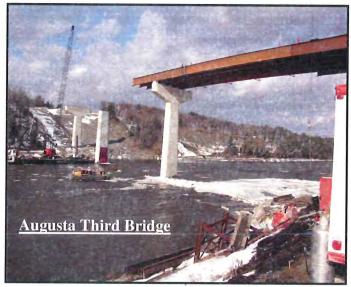
Bridge Program

The Bridge Program (Bridge) once again in 2003 productively responded to capital bridge infrastructure needs across the state. Production included construction completion of 48 bridges valued at \$38 million and construction advertising of 39 projects valued at \$40 million. Bridge staff consists of about 85 highly skilled, innovative, resourceful individuals of over a dozen disciplines working together in

self-directed, multi-discipline teams with each having geographic responsibility.

### 2003 Bridge Highlights:

- Emergency posting of the Waldo-Hancock Bridge at 24,000 pounds due to unanticipated advanced corrosion in main cables
- Unique fast-track strengthening of Waldo-Hancock Bridge in under 3 months with supplemental cables, restore posting to 80,000 pounds
- Began fast-track replacement of Waldo-Hancock Bridge with a cable stay bridge scheduled to be open to traffic in July 2005
- Began construction of 4 span, curved girder Third Bridge in Augusta along with 3 other bridges on new Kennebec River crossing, connecting I-95 with coastal Route 3 (picture at right).
- Replaced major river crossings in Biddeford-Saco, York, Canton, Fairfield-Benton and Machias





- Rehabilitation of two I-95 bridges in Bangor using "cost plus time" bidding to minimize traffic impacts
- Painting and rehabilitation of the Madawaska International Bridge
- Design of a replacement bridge using modular "get in, get out" techniques
- Completed a new edition of the MaineDOT Bridge Design Guide
- On-time success rate of 87% for advertising
- On-time success rate of 69% for completion
- Preliminary and construction engineering costs each at 10 % of project costs.

Looking ahead to 2004, Bridge will implement a formal Quality Assessment of completed bridge projects based on safety, environmental compatibility, functionality and cost effectiveness. Also, in response to our fiscal environment and bridge needs, Bridge will be challenging itself with a formal process to identify and devise cost saving measures so as to deliver bridges in still more cost effective ways.

There are 57 bridge projects valued at \$98 million scheduled for advertisement, or the beginning of construction, during 2004.

## Bridge Program - Completed Projects

ADDISON, Ada Batson Bridge#3444	BRIDGE CULVERT REPLACEMENT	\$252,379.88
ANDOVER N SURP., Gibbs Bridge #5579	BRIDGE CULVERT REPLACEMENT	\$244,812.28
ARROWSIC-WOOLWICH, Route 127	BRIDGE PAINTING	\$2,126,773.93
ASHLAND, Big Machias River Bridge	BRIDGE REPLACEMENT	\$198,607.10
BANGOR, Kenduskeag Stream Bridge#5791	BRIDGE DECK REHABILITATION	\$3,468,261.42
BANGOR, Vet Rem Bridge#1558,Route 395	BRIDGE WEARING SURF REPLACEMENT	\$1,313,072.56
BAR HARBOR, Otter Creek Bridge#5381	BRIDGE CULVERT REHABILITATION	\$141,206.25
BELGRADE, Route 135,Crank Bridge#5245	BRIDGE CULVERT REPLACEMENT	\$192,196.14
BENTON, Route 139,Jewett Bridge#5246	BRIDGE CULVERT REPLACEMENT	\$249,242.98
BIDDEFORD-SACO, Route 9 (Main Street)	BRIDGE WIDENING	\$3,779,304.91
BOOTHBAY, Hodgdon Bridge #2376	BRIDGE CULVERT REPLACEMENT	\$398,493.62
BRIDGTON, Willett Brook Bridge#0218	BRIDGE SUPERSTRUCTURE REPLACEM	\$364,237.58
BRUNSWICK, Durham Road Bridge#5685	BRIDGE REHABILITATION	\$755,012.50
BRUNSWICK, U.S.1 Ramp Bridge#6287	BRIDGE WEARING SURF REPLACE	\$188,211.78
BRUNSWICK, Water Street Bridge #5885	BRIDGE SUPERSTRUCTURE REPLACEMENT	\$941,811.22
COLUMBIA, Branch Brook Bridge#2095	BRIDGE CULVERT REHABILITATION	\$101,571.00
FORT FAIRFIELD, Munson Mill	BRIDGE REPLACEMENT	\$686,332.82
FREEPORT, Pumping Station Bridge	BRIDGE REHABILITATION	\$1,676.29
HARRISON-OTSFLD, Ryefield Bridge#0238	BRIDGE REHABILITATION	\$695,000.00
HOULTON,B&A RR SB Bridge#6096	BRIDGE WEARING SURF REPLACEMENT	\$134,766.94
HOULTON,B&A RR NB Bridge#1383	BRIDGE WEARING SURF REPLACEMENT	\$132,543.12
HOULTON,I-95 NB B Bridge#1384	BRIDGE WEARING SURF REPLACEMENT	\$162,571.85
HOULTON,I-95 SB B Bridge#6096	BRIDGE WEARING SURF REPLACEMENT	\$154,411.59
HOWLAND, I-95/Seboeis Road #6070	BRIDGE WEARING SURF REPLACEMENT	\$41,673.72
HOWLAND, Piscataquis Riv SB Bridge#6069	BRIDGE WEARING SURF REPLACEMENT	\$162,713.72
JOHNSON MT TWP, Mt Brook Bridge#2876	BRIDGE CULVERT REPLACEMENT	\$94,103.31
LEWISTON, Main Street Overpass	BRIDGE CONSTRUCTION-NEW	\$4,738,241.43
LEWISTON, RR Overpass Bridge	BRIDGE CONSTRUCTION-NEW	\$928,919.86
LIMERICK, Pendexter Bridge#5857	BRIDGE CULVERT REPLACEMENT	\$372,027.19
LINCOLNVILLE, Route 52	BRIDGE CULVERT REPLACEMENT	\$131,000.00
MONMOUTH, Wilson Bridge#2953	BRIDGE REPLACEMENT	\$180,000.00
MONMOUTH, Wilson Bridge#2953	BRIDGE CULVERT REPLACEMENT	\$14,427.36
NEW GLOUCESTER, MCRR Bridge#0248	BRIDGE REPLACEMENT	\$827,050.21
OAKLAND, Dunn Edge Bridge#2238	BRIDGE WEARING SURF REPLACEMENT	\$259,908.46
OGUNQUIT, Beach Street. Bridge#3492	BRIDGE REPLACEMENT	\$1,928,000.00
OGUNQUIT, Beach Street Bridge #3492	BRIDGE REPLACEMENT	\$193,762.36
POWNAL, Dyer Bridge#5644	BRIDGE CULVERT REPLACEMENT	\$521,866.54
POWNAL, Snow Bridge#0199	BRIDGE IMPROVEMENT	\$124,790.58
PRESQUE ISLE, Gouldville Bridge	BRIDGE SUPERSTRUCTURE REPLACEMENT	\$1,072,072.68
RUMFORD, S Richardson Bridge#5310	BRIDGE REPLACEMENT	\$430,905.31
SO. BERWICK, Salmon Falls Bridge#5700	BRIDGE WEARING SURF REPLACEMENT	\$277,931.04
SWANVILLE, Route 131	BRIDGE CULVERT REPLACEMENT	\$112,540.38
WASHBURN, Churchill Brook Bridge#3630	BRIDGE CULVERT REPLACEMENT	\$513,157.46
WATERBORO, Carpenter Bridge#3829	BRIDGE CULVERT REHABILITATION	\$85,967.72
WATERVILLE, I-95 Main Street Bridges	BRIDGE DECK REPLACEMENT	\$1,350,301.77
WATERVILLE, I-95 NB&SB Bridges	BRIDGE DECK REPLACEMENT	\$1,712,587.10
WATERVILLE, I-95 SB&NB Bridges	BRIDGE DECK REPLACEMENT	\$6,053,748.95
WEST GARDINER, Collins Bridge#3331	BRIDGE SUBSTRUCTURE REHABILITATION	\$77,193.05

# Multimodal Program

The Multimodal Program successfully completed several multi-year construction projects under its oversight, as the curtain closed on the 2003 construction season. A \$25M+ passenger rail upgrade project on the Rockland Branch from Brunswick to Rockland, a \$13M+ Mack Point Cargo Pier project in Searsport, and the \$10M+

CSO Abatement-Consolidated Conduit Project in Augusta were all completed this year.

The Rockland Branch project included; 142,000 linear feet of ditching and 12,000 linear feet of underdrain; installation of 257,000 track feet of continuous welded rail, 17,000 track feet of new jointed rail and the removal of an equal amount of existing jointed rail; installation of 76,500 hardwood ties; installation of 130,000 tons of crushed rock ballast; improvements at 31 railway/highway intersections, improvements, including redecking, of 14 bridges, and many other improvements to sidings, cross culverts and stone boxes, and other appurtenances to the rail line.

Major improvements at Mack Point in Searsport include, demolition of the former Bangor & Aroostook Railroad timber pier and transfer sheds; disposal of 62,000 cubic yards of dredge material either by dewatering and placing designated upland areas or dumping at sea off Rockland at an approved ACOE site; construction of a 258 foot access trestle and a 540 foot by 100 foot pier on the former pier's footprint using 25,140 linear feet of 24-inch steel pipe piles, along with and cast-in-place precast high strength reinforced concrete.



In Augusta, the Augusta Sanitary District (ASD) installed 4,000 linear feet of a 10 foot by 6 foot precast box culvert beneath the State-owned rail line along with many screening and flushing structures to handle combined storm sewer overflows (CSO) before discharge into the Kennebec River. To accomplish the Project, MaineDOT coordinated the removal of the rail line and several sidings, which allowed ASD's contractor to install the box culvert approximately 15 feet below finish grade using open cut with 2/1 side slopes rather than trenching with steel sheeting. This method saved ASD approximately \$4M, so ASD was very willing to pay for the installation of 4,000 track feet of new mainline rail, a 1,000 track foot passing track, and the construction of a 12-foot wide pedestrian/bicycle trail adjacent to the rail line as part of the Kennebec River Rail Trail.

While the Multimodal Program celebrated the completion of these large multi-year projects, many other smaller, yet equally satisfying, projects were completed including: intermodal terminal expansion in Auburn; a ferry pen in Tremont (Bass Harbor); ped/bike projects in So. Portland, Gray, Old Town, and Auburn; Small Harbor Improvement Program (SHIP) projects in Blue Hill and Stonington;

<u>Industrial</u> <u>Rail</u> <u>Access</u> <u>Program</u> (IRAP) projects in South Portland, Van Buren, and St. Croix Township; a <u>Boating</u> <u>Infrastructure</u> <u>Grant</u> (BIG) project in Tremont; <u>Railway/Highway</u> <u>Intersection</u> <u>Improvement</u> <u>Program</u> (R/HIIP) projects in Wiscasset, Gilead, North Yarmouth, and Woodstock; a snowmobile bridge over the Kennebec River between the Forks and West Forks; an airport access road in Augusta; a park and ride lot in Saco; and, several improvement projects at the Casco Bay Bridge between Portland and South Portland.

The staff of the Multimodal Program, their municipal, consultant and contractor partners, as well as many other MaineDOT employees who worked on these projects are to be congratulated for a job well done.



### <u>Multimodal Program - Completed Projects</u>

AUBURN, Riverwalk	BIKE/PEDESTRIAN FACILITY	\$1,084,404.98
AUGUSTA, Airport Access Road	AIRPORT IMPROVEMENTS	\$30,632.79
AUGUSTA, Lower Road RR	RAIL OPERATIONAL IMPROVEMENTS	\$540,800.00
BLUE HILL, SHIP	PUBLIC TRANSPORTATION	\$14,363.04
BRUNSWICK-ROCKLAND, RR Signals	R/H CROSSING SIGNAL INSTALL/REHAB	\$90,281.00
FORKS- Snowmobile Bridge Kennebec	BRIDGE CONSTRUCTION-NEW	\$446,104.83
GILEAD, Bridge Street	R/H CROSSING SIGNAL INSTALL/REHAB	\$111,808.86
GRAY, Pedestrian & Bike Facilities	BIKE/PEDESTRIAN FACILITY	\$186,400.00
NO. YARMOUTH	R/H CROSSING REHAB W/ SIGNAL	\$150,000.00
OLD TOWN, Peace Pole Park	PARK AND RIDE FACILITY CONSTRUCTION	\$400,000.00
PORTLAND, Casco Bay Bridge	BRIDGE IMPROVEMENT	\$210,000.00
PORTLAND-SO. PORT, Route 77	SPECIAL PROJECT	\$145,500.00
PORTLAND-SO. PORT, Route 77	BRIDGE REHABILITATION	\$268,617.88
ROCKLAND BRANCH, Track Rehab	RAIL LINE REHABILITATION	\$25,017,179.69
SACO, Park & Ride near Exit 5	PARK & RIDE FACILITY IMPROVEMENT	\$37,900.00
SEARSPORT, Mack Point	CARGO PORT DEVELOPMENT	\$14,721,034.00
SO. PORTLAND, Greenbelt Walk	BIKE/PEDESTRIAN FACILITY	\$146,352.22
SO. PORTLAND, Sprague Energy	INTERMODAL CARGO FACILITY IMPROVEMENT	\$494,098.00
ST. CROIX TWP, IRAP	RAIL LINE REHABILITATION	\$36,626.50
STONINGTON, SHIP	PUBLIC TRANSPORTATION	\$19,000.00
TREMONT, Bass Harbor Pier	FERRY FACILITY IMPROVEMENTS	\$2,250,000.00
TREMONT, Boating Infrastructure Grant	SPECIAL PROJECT	\$26,826.30
VAN BUREN, IRAP	RAIL OPERATIONAL IMPROVEMENTS	\$60,621.00
WISCASSET, Birch Point Road	R/H CROSSING RECON/REHAB W/ SIGNAL	\$92,300.30

# Regional Program

The Regional Program is continuing to promote and use pavement recycling as an alternative to thicker Hot Mix Asphalt (HMA) layers. Three recycling techniques most often used are Cold-In-Place Recycled Asphalt Pavement (CIP RAP), Recycled Asphalt Pavement with Foamed Asphalt, and Plant Mix Recycled Asphalt Pavement (PM RAP). These techniques have a number of benefits, including: 1.) They are less expensive than HMA, and 2.) These are cold

processes using existing aggregate thus saving natural resources with less impact on the environment.



We improved 25 miles of highway using CIP RAP in 2003. CIP RAP is a process where a recycling train mills off 3"-5" of the pavement surface, crushes and sizes the aggregate to the required gradation, mixes the aggregate with emulsion and other additives, then places and compacts the material to required grade and slope. We plan on advertising approximately 22 miles of CIP RAP in 2004.

We improved 23 miles of highway using PM RAP. This is very similar to CIP RAP except that pavement millings are hauled offsite to be processed and mixed

with emulsion. The recycled pavement is brought back and placed with a regular paver and compacted with normal paving rollers. This process works well where there are cut and fill areas or variable gravel areas. We plan on advertising approximately 32 miles of PM RAP in 2004.

We improved approximately 53 miles of highway with recycled asphalt pavement with foamed asphalt. This process requires a pulverizing machine to pulverize the existing pavement and mix additives such as asphalt, cement and other additives into a homogeneous mixture. This homogeneous mixture is then placed with a grader and compacted to the specified densities. We plan on advertising approximately 40 miles of recycled asphalt pavement with foamed asphalt in 2004.

Ladner Road in Easton (picture below) was the site this year of a project to replace 3 existing 6' culverts spanning Prestile Stream. This area had been a flooding and safety problem for years brought on by periodic high water and sharp roadway curvature. Regional and Bridge Programs worked closely together to get the new aluminum box culvert out to bid before a July 15 deadline. The new structure is 88' in length, 9'6" high, and has a span of 25'. Installation and assembly were completed by a crew from North

Carolina in about 7 working days, keeping duration of a detour of traffic to and from Canada at a minimum. There were also numerous environmental issues on this project and a great deal of effort and care were taken to address them. All concerns with the stream were abated by using poly lined temporary diversions, rock lined stream banks, mulch and continuous pumping of water into areas that would not cause erosion or infiltration in to the stream. Construction began on July 15, 2003 and was completed on September 26, 2003, nearly three weeks ahead of schedule.



# Regional Program - Completed Projects

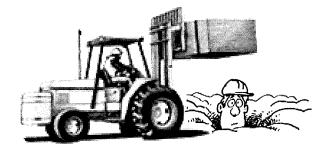
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ALLAGASH, Route 161	CULVERT REPLACEMENT	\$55,000.00
ALTON, Route 16	CULVERT REPLACEMENT	\$96,418.42
ALTON-OLD TOWN, Route 16	HIGHWAY IMPROVEMENTS	\$1,692,532.71
AMHERST, Route 9	LEVEL 2 HIGHWAY RESURFACING	\$1,226,762.84
APPLETON, Route 105	CULVERT REPLACEMENT	\$5,488.68
AUBURN, Hotel Road	LEVEL 1 HIGHWAY RESURFACING	\$76,500.00
AUBURN, Manley Road	LEVEL 1 HIGHWAY RESURFACING	\$85,500.00
AUBURN, Route 136	LEVEL 2 HIGHWAY RESURFACING	\$416,299.95
AUGUSTA, Route 3	LEVEL 2 HIGHWAY RESURFACING	\$106,192.75
AUGUSTA, Routes 11/17/100/202	LEVEL 2 HIGHWAY RESURFACING	\$485,213.07
BANGOR, Broadway	LEVEL 2 HIGHWAY RESURFACING	\$113,063.72
BANGOR, Hogan Road	LEVEL 2 HIGHWAY RESURFACING	\$110,674.00
BANGOR, Independence Street	LEVEL 2 HIGHWAY RESURFACING	\$50,731.23
BANGOR, Main Street.	LEVEL 2 HIGHWAY RESURFACING	\$126,041.21
BANGOR, Main Street(Route 1A)	LEVEL 2 HIGHWAY RESURFACING	\$244,005.18
BANGOR, Route 15	CULVERT REPLACEMENT	\$97,000.00
BANGOR, Route 15	LEVEL 2 HIGHWAY RESURFACING	\$276,600.00
BANGOR, Washington Street Spur	LEVEL 2 HIGHWAY RESURFACING	\$446.52
BARNARD, Stagecoach Road (SA#1)	CULVERT REPLACEMENT	\$30,000.00
BELFAST-BROOKS, Route 7	HIGHWAY IMPROVEMENTS	\$3,575,536.58
BELGRADE to OAKLAND, Route 11	HIGHWAY IMPROVEMENTS	\$2,856,340.55
BOWDOIN, Route 125 @ U.S. Route 201	INTERSECTION IMP W/O SIGNAL	\$544,750.99
BOWDOIN, Route 125 (SA 1)	BRIDGE CULVERT REPLACEMENT	\$139,920.76
BOWDOIN, U.S. Route 201	CULVERT REPLACEMENT	\$26,000.00
BRUNSWICK, I-95 On/Off Ramps	LEVEL 2 HIGHWAY RESURFACING	\$617,354.28
BRUNSWICK,WISCASSET,U.S. Route 1	GUARDRAIL	\$211,815.46
BUCKSPORT, Central Street	STATE RECONSTRUCTION	\$405,000.00
BUCKSPORT, Route 15	LEVEL 2 HIGHWAY RESURFACING	\$2,928,000.00
CARIBOU, Route 161	CULVERT REPLACEMENT	\$164,909.21
CARIBOU, Route 161	GUARDRAIL	\$28,996.12
CARMEL, U.S. Route 2	LEVEL 2 HIGHWAY RESURFACING	\$419,405.25
CARY PLT,U.S. Route 1	CULVERT REPLACEMENT	\$169,254.21
CHAIN OF PONDS TWP, Route 27	HIGHWAY IMPROVEMENTS	\$490,648.99
CHARLESTON to DOV-FOXCRFT,Route15	LEVEL 1 HIGHWAY RESURFACING	\$228,624.00
CHARLESTON, Hot Maintenance Mulch	MAINTENANCE PAVING	\$825,284.51
CORINTH to CHARLESTON, Route 15	LEVEL 2 HIGHWAY RESURFACING	\$523,837.27
DOVER-FOXCROFT, Route 153	LEVEL 2 HIGHWAY RESURFACING	\$882,707.77
DRESDEN, Route 197	LEVEL 2 HIGHWAY RESURFACING	\$435,476.97
DURHAM, Route 136	HIGHWAY IMPROVEMENTS	\$3,260,096.78
EAGLE LAKE, Route 11	LEVEL 1 HIGHWAY RESURFACING	\$328,917.50
EAST MACHIAS Route 191,CIP	HIGHWAY IMPROVEMENTS	\$140,500.06
EASTON, "River de Chutes"	HIGHWAY IMPROVEMENTS	\$138,500.00
EDMUNDS, U.S. Route 1	CULVERT REPLACEMENT	\$26,000.00

## Regional Program - Completed Projects (Continued)

FAIRFIELD, Crew Quarters Building	SPECIAL PROJECT	\$70,000.00
FAIRFIELD, Route 139	LEVEL 1 HIGHWAY RESURFACING	\$286,785.99
FAIRFIELD, Route 139	LEVEL 2 HIGHWAY RESURFACING	\$234,650.78
FAIRFIELD, Routes 11/100/201	LEVEL 2 HIGHWAY RESURFACING	\$519,517.23
FREEPORT, Route 125	INTERSECTION IMP W/O SIGNAL	\$8,910.71
GORHAM to STANDISH, Route 25	LEVEL 2 HIGHWAY RESURFACING	\$1,095,439.27
GREENBUSH, U.S. Route 2	CULVERT REPLACEMENT	\$62,000.00
HIRAM, So. Hiram Road	HIGHWAY REHABILITATION	\$85,244.74
HOULTON, Ludlow Road	HIGHWAY RECONSTRUCTION	\$393,596.53
HOULTON, Ludlow Road	HIGHWAY RECONSTRUCTION	\$389,260.83
ISLEBORO, West Side Road	HIGHWAY IMPROVEMENTS	\$81,390.82
JAY through CHESTERVILLE, Route 156	HIGHWAY IMPROVEMENTS	\$2,165,194.73
JEFFERSON, Hot Maintenance Mulch	MAINTENANCE PAVING	\$1,396,830.00
JEFFERSON, Route 126	LEVEL 2 HIGHWAY RESURFACING	\$209,979.15
JEFFERSON, Route 126	HIGHWAY IMPROVEMENTS	\$1,277,113.20
JEFFERSON, Route 32	LEVEL 2 HIGHWAY RESURFACING	\$241,611.56
KENNEBUNKPORT, Route 9	SPECIAL PROJECT	\$76,834.41
LINCOLN, U.S. Route 2	CULVERT REPLACEMENT	\$24,000.00
LINCOLNVILLE, Route 52	CIP PAVING	\$117,709.71
LINNEUS	CULVERT REPLACEMENT	\$37,817.47
LISBON, Route 125	LEVEL 2 HIGHWAY RESURFACING	\$177,874.78
LISBON, Route 196	LEVEL 2 HIGHWAY RESURFACING	\$209,255.02
LISBON, Route 196	SLOPE PROTECTION	\$27,974.98
LISBON, Route 196, Capitol-Plummer	LEVEL 2 HIGHWAY RESURFACING	\$204,539.66
MACWAHOC PLT to NO YARMOUTH ACAD, U.S. Route 2A	LEVEL 2 HIGHWAY RESURFACING	\$2,029,670.82
MADAWASKA to FRENCHVILLE, U.S. 1	LEVEL 2 HIGHWAY RESURFACING	\$333,744.15
MADAWASKA, Lake Shore Drive	BRIDGE CULVERT REPLACEMENT	\$44,500.00
MANCHESTER to READFIELD, Route 17	LEVEL 2 HIGHWAY RESURFACING	\$958,289.18
MANCHESTER, Pond Road	CULVERT REPLACEMENT	\$50,000.00
MANCHESTER, Route 17	HIGHWAY IMPROVEMENTS	\$577,288.29
MECHANIC FALLS-POLAND, Route 11	LEVEL 1 HIGHWAY RESURFACING	\$662,438.98
MEDDYBEMPS Route 191-CIP	HIGHWAY IMPROVEMENTS	\$165,153.51
MILO, Routes 6/11/16	LEVEL 2 HIGHWAY RESURFACING	\$328,048.19
MONMOUTH, Cobbosseecontee Road	CULVERT REPLACEMENT	\$41,000.00
MONMOUTH, Route 9/126	LEVEL 1 HIGHWAY RESURFACING	\$124,992.20
MT DESERT, Route 102	CULVERT REPLACEMENT	\$116,943.67
MT DESERT, Route 198	LEVEL 2 HIGHWAY RESURFACING	\$285,102.46
NEWBURGH, Route 69	LEVEL 2 HIGHWAY RESURFACING	\$349,619.74
NEWBURGH, Route 9/202	CULVERT REPLACEMENT	\$30,000.00
OLD TOWN, Route 16 (Bennoch Road)	LEVEL 2 HIGHWAY RESURFACING	\$196,242.60
ORIENT to CARY PLT,U.S. Route 1	LEVEL 2 HIGHWAY RESURFACING	\$3,987,525.71

# Regional Program – Completed Projects (Continued)

PALMYRA to NEWPORT, Routes 11/100	LEVEL 2 HIGHWAY RESURFACING	\$682,177.87
PALMYRA, Route 11	CULVERT REPLACEMENT	\$100,273.66
PITTSFIELD, Route 152	LEVEL 2 HIGHWAY RESURFACING	\$191,667.79
POLAND-MECHANIC FALLS, Route 11	LEVEL 2 HIGHWAY RESURFACING	\$1,251,500.00
PRESQUE ISLE, Route 167	LEVEL 2 HIGHWAY RESURFACING	\$1,001,762.22
PRESQUE ISLE, Route 205	CULVERT REPLACEMENT	\$74,682.86
PRESQUE ISLE, Route 205	CULVERT REPLACEMENT	\$205,646.19
PRESQUE ISLE, U.S. 1 @ Maple Street	CULVERT REPLACEMENT	\$228,738.93
PRESQUE ISLE, U.S. Route 1	CULVERT REPLACEMENT	\$84,557.03
PRESQUE ISLE, Route 163/167	GUARDRAIL	\$85,296.97
RUMFORD, So. Rumford Road (SA 2)	HIGHWAY REHABILITATION	\$428,000.00
SABATTUS, High Street	LEVEL 2 HIGHWAY RESURFACING	\$74,675.92
SCARBOROUGH, Route 9	LEVEL 2 HIGHWAY RESURFACING	\$460,971.17
SEBEC, Route 6/16	CULVERT REPLACEMENT	\$89,000.00
SEBEC, Route 6/16	CULVERT REPLACEMENT	\$23,000.00
SPRINGFIELD, Route 6	CULVERT REPLACEMENT	\$103,000.00
ST AGATHA, Route 162	LEVEL 1 HIGHWAY RESURFACING	\$205,539.99
STOW, Route 113	CULVERT REPLACEMENT	\$78,594.00
SWANVILLE, Route 141	MEDIUM STATE REHABILITATION	\$214,651.83
T3 IND PURCH-MILLINOCKET, Route 11	LEVEL 2 HIGHWAY RESURFACING	\$1,290,881.75
T7R5, Route 11	TRUCK WEIGH AREA	\$324,000.00
TOPSFIELD to DANFORTH, U.S. Route 1	HIGHWAY IMPROVEMENTS	\$2,255,296.05
TOPSFIELD-BROOKTON TWP, U.S. 1	LEVEL 2 HIGHWAY RESURFACING	\$1,519,190.30
TWP D, Route 17	HIGHWAY IMPROVEMENTS	\$17,734.72
WASHINGTON, Route 17	LEVEL 2 HIGHWAY RESURFACING	\$1,281,521.02
WATERVILLE, Elm Street	LEVEL 2 HIGHWAY RESURFACING	\$203,000.00
WATERVILLE, Route 11	LEVEL 2 HIGHWAY RESURFACING	\$632,234.58
WATERVILLE, Route 104	LEVEL 2 HIGHWAY RESURFACING	\$295,703.74
WELLS, Route 9	LEVEL 2 HIGHWAY RESURFACING	\$222,842.37
WELLS, U.S. Route 1	LEVEL 1 HIGHWAY RESURFACING	\$192,879.51
WESTBROOK, New Gorham Road(90063)	LEVEL 2 HIGHWAY RESURFACING	\$155,909.22
WHITEFIELD, Route 126	CULVERT REPLACEMENT	\$70,000.00
WILTON, Main Street(Road C415O)	EMBANKMENT RECONSTRUCTION	\$27,704.56
WILTON,U.S. Route 2	LEVEL 2 HIGHWAY RESURFACING	\$68,504.86
WINDHAM-RAYMOND, U.S. Route 302	LEVEL 2 HIGHWAY RESURFACING	\$1,978,000.00



# Capital Resources



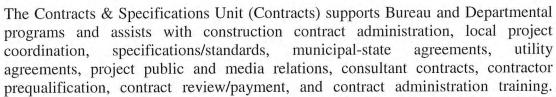
The Capital Resources Unit supports program delivery by the Bureau of Project Development and others in a variety of ways including engineering systems support, managing federal funding resources, processing project financial data, executing project approval processes, representing the Bureau in biennial and statewide transportation programming, managing the program/project management system (ProjEx), and development of Bureau performance and production reports.

Capital Resources highlights and accomplishments during this past year include:

- Execution of more than 2000 individual project financial transactions that committed federal funding to projects having a total value exceeding \$251 million, both substantial increases over 2002 and recent annual averages.
- Transfer of federal funds between Interstate and non-Interstate categories to provide more balance in available resources for programmed work.
- Continued implementation and enhancement of ProjEx:
  - \* Significant changes developed by multi-discipline groups will be implemented in the spring of 2004:
    - The Transfers and Finance History forms have been redesigned to better meet the needs of Project Managers. They will be able to request financial transfers from project to project and be notified of request approvals through the system.
    - 2) The Roads form has been totally redesigned to include and replace several other forms. These changes, requested by the users, will allow more detail and yet still streamline the process at the project and road segment level.
    - Planning Manager has seen a redesign of its own. The new enhancements will allow greater flexibility, project grouping and reporting for BTIP development and process.
  - \* An enhancement still in the works will shift the addition of new PINS/projects to ProjEx, this formerly had been done exclusively in PROMIS, except at BTIP process uploads which were done through ProjEx. And as an added benefit it is expected that all project level identification will be done in ProjEx, this is expected to greatly increase the uniformity of data between the two systems.
  - \* The newly developed right-of-way system will hook directly into ProjEx eliminating dual entry.
- Engineering Systems Support Group activities:
  - \* Completed a Department-wide upgrade of CADD software, including our custom macros, programs and interfaces, coordinated with the Windows XP migration.
  - \* Implemented support for U.S. Customary units (feet and inches) throughout our CADD system, while maintaining support for metric projects.
  - \* Completed the System Configuration and Installation phases of a project to provide an Electronic Plans archiving and retrieval system. (Subsequent phases will populate the archives with scanned plans and implement a procedure for archiving new plan sets.)
  - \* Conducting an RFP procurement process to select a contractor for scanning our libraries of As-Built and Right-of-Way plans to be transferred into our Electronic Plans System. (Selection process expected to be complete in mid-January 04.)
  - \* Provided support and training to CADD users throughout MaineDOT.
- Continued development and timely delivery of monthly, quarterly and annual reports on transportation improvement program delivery performance and production success.



# Contracts&Specifications



Contracts continues to produce a record number of contracts, with fewer resources than were used in the past, while managing continuous change and refinement in contract administration and tracking. Highlights and accomplishments during this past year include:

- Process streamlining and technological innovation:
  - \* All Construction Contractor Prequalification Packages have been electronically filed in the TEDOC's system. Contractor evaluation procedures are being reviewed to strengthen the process.
  - \* Electronic advertising, automated bid amendment notification and electronic bidding continue successfully.
  - \* Introduced electronic bid bonds (facsimile) to allow true fully electronic bidding. One of the first, if not the first, state DOT to do so.
- New Consultant Contract Administration Manual produced jointly with FHWA.
- New Construction Manual produced.
- New Free 2000 Consultant Contract and Agreement Electronic Tracking system developed in partnership with Audit, Information Systems and Finance & Administration. This allows electronic payment of both consultant contract invoices and various types of multi-party agreements, as well as tracking many items in real time:



- \* Stand-alone contracts
- \* Municipal-state agreements
- \* Contracts under a multi-year General Consultant Agreement
- \* Task orders under a Task Order Contract
- \* Expenditure by consultant or vendor
- \* Expenditures by contract
- \* Expenditures against maximum contract amount
- \* Modifications to contracts
- \* Invoice (linked to TEDOC's)
- \* Expenditures by PIN
- Held 3 additional Locally Administered Project (LAP) Certification courses to municipalities and consultants. Total number of certified individuals is now nearly 200.
- Enhanced the labor compliance capabilities of the unit with a partnership with the FHWA. Internal documentation and coordination of labor issues were enhanced by the Labor Compliance Officer.
- Developed A + B specifications which were successfully used on a high traffic location on I-95. The FHWA intended to use our recently developed spec as a model of simplicity and effectiveness.
- Developed sample field documentation notebooks and produced a training course for junior resident engineers and inspectors. Held courses in 2 locations reaching about 40 people.
- Began working with MDOT Safety Office to increase emphasis on contractor safety awareness and compliance during prequalification process.
- Developed a Consultant Contract Administrator course and held two such courses for about 50 people.
- Held a joint FHWA Construction Contract Administration Course which trained about 45 people.
- Held Junior Resident Engineer Training for approximately 30 relatively new resident engineers.
- Held training for approximately 30 people on use of the electronic field manager software system.
- Trained approximately 40 contractor representatives in the basics of the electronic bidding system we have made available to the public.

# Materials Testing & Exploration

The Materials Testing and Exploration unit supports the Programs, other Bureaus of Maine DOT, and Municipalities involved with Locally Administered Projects. This unit provides materials expertise, HMA and PCC plant inspections, materials testing and inspection, Independent Assurance, Geotechnical drilling, Falling

Weight Deflectometer (FWD) testing, and other materials related services. The following table presents a "snapshot" of the testing that was completed during FFY 2003:

<b>Testing Unit</b>	Testing Performed	# Of Tests
HMA Lab Section	Hot Mix Asphalt (HMA) mix, pavement cores, liquid binder, emulsions	5618
Concrete/Structures Lab Section	concrete, rebar, admixtures, cement, pipe, deck cores, paint	1110
Soils/Aggregate Lab Section	HMA/concrete aggregate, construction aggregate, proctors, geology samples, salt, winter sand	3326
Freeport Lab	HMA mix, pavement cores, gradations	3883
Presque Isle Lab	HMA mix, pavement cores, gradations	638
Field Acceptance Testing (MTX)	nuclear density, gradations	2716
Independent Assurance	nuclear density, guardrail, pipe, concrete, HMA	331
Field Testing by Others	nuclear density, gradations	1622
	TOTAL	19244

MTE accomplishments and activities for FFY 2003 include:

- Michael Rafalowski, the Materials Engineer in The Federal Highway Administrations Office of Pavement Technology visited Maine in July to review Maine DOT's Quality Assurance Program.
- Evaluated the new Superpave Performance Tester during a visit to Maine by the FHWA Superpave Mobile Laboratory with Leslie A. Myers, PH.D., an Asphalt Pavement Engineer in The Federal Highway Administrations Office of Pavement Technology.
- Completed renewal of AMRL and CCRL accreditation of the Department's Central Laboratory in Bangor.
- Completed Job Hazard Assessments for testing procedures used by the Materials Testing and Exploration Unit.
- Implemented a new Traffic Control Plan for use when deploying the Falling Weight Deflectometer.
- Provided Technical expertise and testing on several projects using "Foamed" asphalt.
- Renovated a portion of the Central Laboratory in Bangor.
- Completed the development phase of a pilot project using Personal Digital Assistants (PDA's) to collect testing data in the field.
- Began field evaluation of the new Corelok Device for determining Bulk Specific Gravity of field and lab compacted samples of Hot Mix Asphalt Pavement, and determining the specific gravity of aggregates more quickly, reliably and efficiently.
- Acquired a new, entirely automated, Direct Shear Machine to replace the old equipment.
- Assisted several local Municipalities with testing and technical advice for Locally Administered Projects.
- Continued to developed and customize, for the Department's needs, the "Testing Information Management System" (TIMS) in house for much less than the cost of commercially available software.
- Provided Technical advice and testing for placement of a Stone Matrix Asphalt (SMA) using a latex modified asphalt in one of the most heavily trafficked intersections in the State.
- Worked with Maine FHWA to conduct a National study to determine the variability of Rapid Chloride Permeability (RCP) test results.

# Program Support Services



The Program Support Services (P.S.S.) Unit supports Bureau Programs and the Department in a variety of areas including geodetic control surveys, photogrammetry, condemnations, right-of-way research, right-of-way mapping support, public hearing displays, utilities and value engineering. P.S.S. highlights and accomplishments during this past year include:

### Right of Way Research and Documents Group:

- Eliminated a backlog of unrecorded right of way plans and are remaining up-to-date with new plans.
- Responded to over 2,150 internal and external requests for right-of-way related information.

#### Utilities & Railroad Services Group:

- Continued ongoing discussions with utility companies to improve coordination of project construction schedules.
- Processed approximately 448 Utility permits for installation, or relocation of utilities.

#### Public Hearings Display Group:

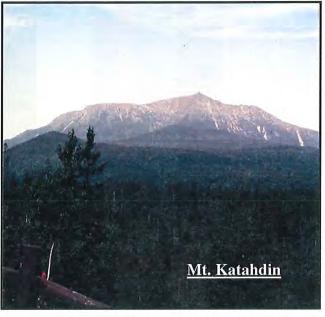
- Produced 72 hearing plans and handled numerous inquiries for a variety of services.
- Assisted with steady progress in quality control and indexing of aerial photography for future use by many others.

#### Value Engineering Group:

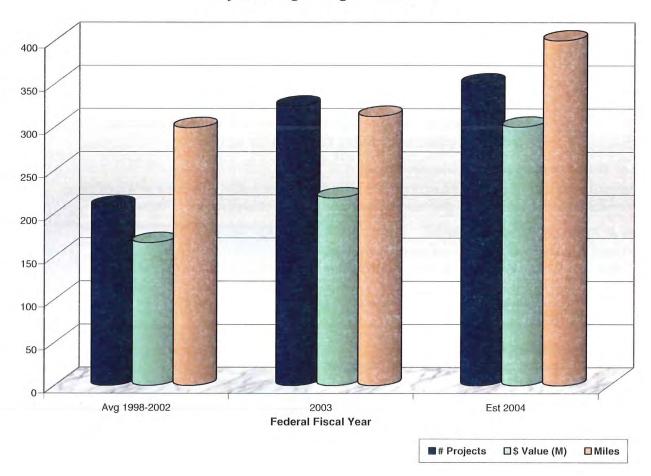
- Completed VE studies with approval of nearly \$1 million in total savings on 3 projects: Windham, U.S. Route 302, Biddeford Five Points Intersection, and Bethel-Gilead, U.S. Route 2.
- Completed a fast-tracked VE study in October on the new Penobscot River Bridge to review the proposed cable-stayed bridge cradle design. This was essential to getting FHWA approval of this proprietary design element.
- Developed applications and guidelines to use for ranking projects using key criteria to determine VE candidates for study and to calculate VE Change Proposal savings.

#### Photogrammetry& Control Group:

- Delivered 15 photogrammetric mapping projects, an increase of more than 60% from last year.
- Flew 542.83 miles of photography at a cost of \$173,032.66, representing 179 flight lines and taking 2636 individual pictures. Airborne GPS was used on 417.29 of these miles. A total of 888 diapositives were created from these photos to assist in the mapping.
- Scanned and compressed 2500 aerial photographs, using them for public hearings, enlargements, backdrops, court cases and many other applications. One of the most notable is the fly-through created by the Public Hearings Group for the Waldo-Hancock Bridge project.
- Consulted with Meridian Consultants, Inc to do ground based laser scanning on the Waldo-Hancock bridge project, the first time MaineDOT has ever paid to have ground based laser scanning done on one of its projects.
- Set and described over 235 new horizontal and vertical control points, representing GPS observations of well over 400 horizontal and vertical marks scattered throughout the state. The Control Crew also set and observed over 160 picture points for various mapping projects and the Office Staff processed over 150 GPS projects.
- Began a new program to bring GIS to the entire Bureau that will successfully compile a plethora of information that is critical to the successful delivery of transportation projects in a succinct, organized, and detailed manner.



### **Projects Beginning Construction**



### **Summary:**

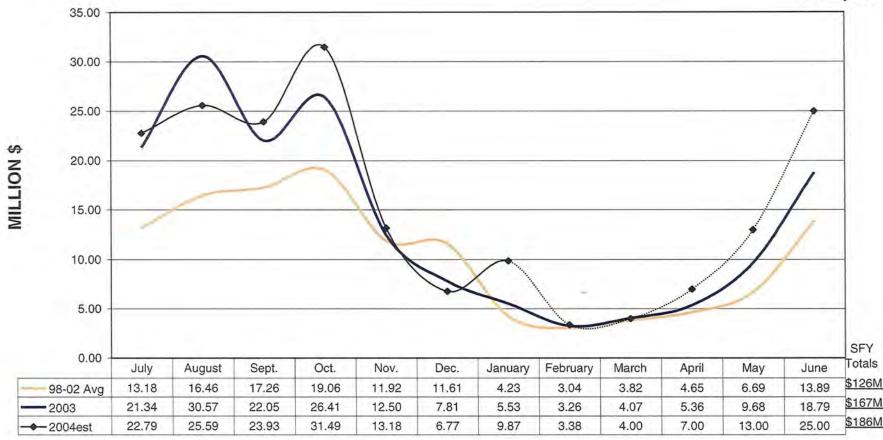
Charts on this and the facing page show that delivery of Maine's Transportation Improvement Program continues at a high level compared to recent history. We began construction on significantly higher numbers of projects, dollars and miles in 2002, kept the numbers up in 2003 and have scheduled even greater output for 2004. Annual highway improvement mileage continues to move upward and resurfacing mileage will shoot upward in 2004 as we see the great benefits of new technology and innovation in our resurfacing program. We are replacing the Waldo-Hancock Bridge between Prospect and Verona at an estimated cost of \$65 million, overpasses of Route 4 in Auburn and Main Street in Lewiston have recently been completed, a new Kennebec River crossing will soon be complete in Augusta connecting I-95 with coastal Route 3, and a new connector linking I-295 with Commercial Street in Portland is underway. In addition, expansion of passenger rail service, intermodal facilities, pedestrian/bicycle trails, and our external partnerships are bringing a full spectrum of transportation improvements to Maine transportation users.

Construction contract payments are cyclical as can be seen on the next page. It should also be clear that recent payments are measurably higher than recent averages for this time of year and are projected to move even higher beginning the 2004 construction season. It has been documented that these payments provide lasting and needed support to Maine's economy through direct, indirect and induced jobs. The Bureau receives a lot of help of course in delivering the program, but central to it all are dedicated Bureau of Project Development employees who continue to think, innovate, create, and succeed in their work.



# MaineDOT Construction Contract Payments

January 2004



Both the Federal Highway Administration and the American Road and Transportation Builders Association equate \$1 million in transportation investment to 42 person years of employment. About 19% would be direct, on-site project jobs. Another 47% would be indirect jobs in industries that supply, or provide services to project contractors. The remaining 34% would be more widespread, induced jobs, resulting from expenditures by individuals employed by the direct and indirect jobs.

