

**Road Flagger & Police Detail  
Cost Report & Analysis  
St. 2008, c. 86, §§ 10**



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**DRAFT**

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## ATTACHMENTS

- Attachment A --- Massachusetts Laborers' District Council – Road Flagger Prevailing Wage Schedule
- Attachment B --- Massachusetts Division of Occupational Safety – Road Flagger Rate Schedule Information for Abington, Adams, Agawam, and Boston
- Attachment C --- Massachusetts Division of Occupational Safety – *Apprentice* Road Flagger Rate Schedule Information for Abington, Adams, Agawam, and Boston
- Attachment D --- Side-by-Side Analysis of Road Flagger Rates and Municipal Police Detail Rates; Including Apprentice Step (60, 70, 80, 90) Rates
- Attachment E --- Articles XI and XII of Laborer's Collective Bargaining Agreement (Reporting Time Pay provision and Conditions of Agreement)
- Attachment F --- Department of State Police – General Order on Paid Details, ADM – 25 (July 3, 1997)
- Attachment G --- Work Zone Safety Guidelines for Massachusetts Municipalities and Contractors; and Standard Details and Drawings for the Development of Traffic Management Plans
- Attachment H --- District Cost Analysis Results – Broken Down by District Office, and by Municipal vs. State Police Details
- Attachment I --- Massachusetts Division of Occupational Safety – Road Flagger Rate Schedule Information (Dated July 10, 2008)(rates no longer current)
- Attachment J --- Ltr. from Peter C. Markle, Division Administrator-FHWA to Laurinda Beddingfield, Commissioner-MassHighway, January 30, 1996.
- Report on the Use of Police Details for Traffic Control on Federally-aided Highway Construction Projects in the State of Massachusetts
- FHWA Report on the Use of Uniformed Police Officers on Federal-aid Highway Construction Projects
- Attachment K --- Ltr. from Hugh J. Cameron, President, MassCOP to Governor Deval Patrick, June 11, 2008.

## **APPENDIX**

- Appendix 1 --- Road Flagger Questionnaire from MassHighway to CT, ME, NH, NY, RI, VT
- Appendix 2 --- Road Flagger Prevailing Wage Information for CT, ME, NH, NY, RI, VT
- Appendix 3 --- Standard Specifications on Road Flaggers from CT, ME, NH, NY, RI, VT

## I. EXECUTIVE SUMMARY

As required by section 10 of Chapter 86 of the Acts of 2008, this report summarizes the Executive Office of Transportation and Public Works' review of available data for the purpose of examining whether there will be "actual cost savings through the utilization of alternative personnel" should awarding authorities modify their current practices by using road flaggers in lieu of police details on certain public works projects. The study assumes that the use of road flaggers will be in accordance with regulations authorized by the Act and proposed by EOTPW in August, 2008, and is based exclusively on projects for which the Massachusetts Highway Department is the awarding authority. The EOTPW has concluded that cost savings will be realized due to several factors, primarily:

- Current police hourly rates are on average 13.01% higher than current road flagger rates (Table 2.1);
- Police collective bargaining agreements typically have 4 (or 4-8) hour minimum reporting time requirements; Laborer collective bargaining agreements have 2-4-8 minimums and allow road flaggers to perform additional functions on a work site when not performing required traffic control duties (*See Part III.B*);
- The revised traffic management plates, regulations, and use of alternative personnel provide for more efficient placement and use of details, resulting in a projected 28.76% savings over current practice (*See Table 5 and Attachment H*);
- The regulations provide the awarding authority with the authority to implement an alternative safety plan when designated personnel fail to arrive at the work site as agreed, reducing project delays and contractor claims for extra work (Table 8 and Part IV); and
- The regulations provide the authorized representative with the authority to determine the appropriate traffic control measures on site (St. 2008. ch. 86, § 10).

In reviewing this cost report, it is important to note that several factors, which may reduce the overall cost savings for the use of alternative personnel, could not be accurately quantified. These factors include flagger training and certification, overtime costs, additional insurance requirements, and workers compensation. These factors will be documented in the one year cost impact analysis.

Following implementation of the new road flagger and police detail regulations, the EOTPW will conduct a one year cost impact analysis to determine the savings realized through the use of road flaggers on public works projects by MassHighway. The analysis will review the total cost spent on road flaggers, the number of hours worked, and the percentage of the total cost of the project that the road flaggers represented. The same cost information will be performed for both municipal and state police details.

## II. INTRODUCTION

On April 17, 2008, Governor Deval Patrick signed St. 2008, c. 86, *An Act Financing the Commonwealth's Transportation System* ("Act" or "Bond Bill"). Section 10 of the Bond Bill authorizes the Executive Office of Transportation and Public Works ("EOTPW"), in consultation with the Executive Office of Public Safety and Security ("EOPSS"), to promulgate regulations and guidelines on the use of police details at public works sites. Section 11 of the Bond Bill requires the EOTPW to submit a separate report detailing the amount paid for police details for each public transportation construction contract started and completed during the past five (5) years, paid in whole or in part with state funds.

In accordance with Section 10 of the Bond Bill, this Cost Report will examine "the actual cost savings from the use of alternative personnel" on public works projects. This Cost Report will also provide supplemental information in Parts VI - IX describing the past policies and practices regarding the use of police details by the Massachusetts Department of Highways ("MassHighway" or "Department"), municipalities, the state police, and other regional states, studies performed by various private and governmental entities, and an analysis of the regional use of road flaggers by other state Departments of Transportation.

Section 10 of the Bond Bill requires the EOTPW, in promulgating the regulations, to consider categorizing public works projects into tiers based on the type of project (i.e., roadways, bridges, intersections, and railroads). Additionally, the regulations must take into account traffic patterns, roadway design, criminal and civil offenses, and proximity to sensitive populations/areas such as schools, playgrounds, and other youth activity locations. The regulations and guidelines must also include a "construction zone safety plan" in all public works projects requiring road flaggers or police details, which will include the procedures to be followed when safety personnel fail to arrive as required.

Section 11 of the Bond Bill requires a separate analysis "detailing the amount paid for [police] details for each public transportation construction project which was started and completed during the past 5 years and which was paid in whole or in part with state funds." The report must distinguish between details performed by municipal police versus details performed by state police. The report must also identify the percentage of the total cost of the project that the traffic detail work represented. The section 11 report must be submitted to the General Court by December 31, 2008.

Two cost studies were performed to address the requirements of section 10 of the Bond Bill, including a side-by-side cost comparison between applicable road flagger rates and police detail rates in Massachusetts municipalities, and a MassHighway district cost study analyzing savings through the administration of the new Road Flagger and Police Detail regulations.

### III. SIDE-BY-SIDE COST ANALYSIS

In performing the side-by-side analysis comparing current police detail rates with applicable road flagger rates, the results<sup>1</sup> showed an average of **13.01%** savings when using road flagger rates over police detail rates (*See* Table 2). Actual wage and rate information for the Flagger/Signaler (i.e., road flagger) category was provided by the Executive Office of Labor and Workforce Development in August, 2008. The road flagger wage and rate information was negotiated by the Massachusetts Laborers’ District Council.<sup>2</sup> The Commissioner of the Division of Occupational Safety (“DOS”), pursuant to her authority under M.G.L. ch. 149, §§ 26-27H, then established the wage and rate based on the negotiated laborer collective bargaining agreement. The side-by-side cost analysis compared the road flagger prevailing wage with available rate information for police details across the Commonwealth. Police detail rates were compiled from multiple sources, including schedule information provided by (i) the Massachusetts Chief’s of Police Association (“MCOPA”), (ii) directly from municipal police agencies, and (iii) using current rate information on file with MassHighway. The State Police charge a flat rate of \$40.00, which includes the officer and official police vehicle.

DOS divides the Commonwealth into four labor (4) zones, which in turn represent different geographical areas.<sup>3</sup> Zone 1 generally represents Metro Boston and has higher rates than Zone 4, which generally represents Berkshire, Franklin, and Hampshire counties. Table 1 represents the road flagger prevailing wage as it varies by zone, specifically in Boston, Abington, Agawam, and Adams during the negotiated periods from 2008 to 2011. The wage rates in Tables 1, 1.1, and 2 include the “fringe benefits” of health and welfare, pension, and annuity.<sup>4</sup> Unlike rates for flaggers, police detail rates are the actual wage paid to police and do not include fringe benefits.

**Table 1**

<b>Flagger Prevailing Wage</b>				
<b>Zone</b>	<b>Effective Dates</b>	6/1/2008 – 12/1/2009 Base wage \$18.50	6/1/2010 – 12/1/2010 Base wage \$19.50	6/1/2011 – 12/1/2011 Base wage \$20.50
Zone 1	Boston	\$34.85	\$35.85	\$36.85
Zone 2	Abington	\$33.45	\$34.45	\$35.45
Zone 3	Agawam	\$31.83	\$32.83	\$33.83
Zone 4	Adams	\$31.70	\$32.70	\$33.70

Table 1 – Compiled with schedule information provided by Division of Occupational Safety, See Attachment “B.”

Of the 381 police detail rates compared with road flagger rates, 27 cities and towns (14.11%) did not have any available police detail rate information. These cities and towns did not factor into the average police detail rate. Additionally, a total of 16 cities and towns (4.19%)

<sup>1</sup> See Attachment “D” for a breakdown of police detail costs by municipality and respective road flagger rates.

<sup>2</sup> See Attachment “A”

<sup>3</sup> See Attachment “A,” delineating counties, cities, and towns included in each Zone.

<sup>4</sup> See Attachment “A.”

had police detail rates **less than** the applicable road flagger rate. For example, the Towns of Gosnold and Norton have the highest variance between police detail rates and applicable road flagger rates. In both towns, the police detail rate on file is \$24.00/hr, while the applicable road flagger rate for the towns is \$33.45/hr, a 39.38% difference. The City of Fitchburg, and the Towns of Hardwick, Middleborough, and Uxbridge have the lowest variance with detail rates (provided by either MCOPA, town police departments, or on file with the Department) of \$32.00/hr; the applicable road flagger rates for these towns was \$33.45, a 4.53% difference.

**Table 1.1**

<b>Police Detail Rates</b>				
<b>Zone</b>	<b>Effective Date On file</b>	6/19/2008	6/19/2009	6/19/2010
Zone 1	Boston	\$37.00	NA	NA
Zone 2	Rockland <sup>5</sup>	\$40.00	NA	NA
Zone 3	Agawam	\$42.40	NA	NA
Zone 4	Adams	\$32.00	NA	NA

Table 1.1 – Compiled with schedule information provided by MCOPA, local enforcement agencies, and on file with MassHighway. See Attachment “D.”

A total of 308 cities and towns (80.83%) have police detail rates **greater than** applicable road flagger rates. The Town of Hamilton had the highest variance. In Hamilton, the police detail rate provided by MCOPA is \$53.50/hr, while the applicable road flagger rate is \$33.45, a 37.48% difference. The City of Chelsea has the lowest variance. In Chelsea, the police detail rate provided by the city is \$35.00/hr, while the applicable road flagger rate is \$34.85, a .43% difference.

**Table 2**

<b>Base Road Flagger and Base Police Detail - Rate Comparison</b>	
Average police detail rate	\$38.43
Average road flagger rate	\$33.09
Average percent savings	13.01%

Table 2 – See Attachment “D.”

**A. APPRENTICE ROAD FLAGGERS**

The road flagger classification is a laborer position, and part of the apprentice program established by the Division of Apprentice Training. Apprentice road flaggers, depending on their “step,”<sup>6</sup> are paid a percentage of the total wage earned by journeyman laborers. They are paid the same amount in fringe benefits. Table 2 above represents the average road flagger

<sup>5</sup> There is no rate information available for Abington. Its neighbor, Rockland, is in the same wage zone as established by the Department of Occupational Safety.

<sup>6</sup> A laborer progresses from one step to another through on the job performance and training. After successfully completing training and accumulating on the job hours, the laborer may qualify for the next step.

journeymen rates, while Table 2.1 illustrates the various apprentice rates applicable when using apprentice labor.

**Table 2.1**

<b>Apprentice Flagger/Laborer Rates for 6/1/2008 – 12/1/2009</b>					
<b>Zone</b>	<b>Ratio 1:5</b>	60 (step 1)	70 (step 2)	80 (step 3)	90 (step 4)
Zone 1	Boston	\$27.45	\$29.30	\$31.15	\$33.00
Zone 2	Abington	\$26.05	\$27.90	\$29.75	\$31.60
Zone 3	Agawam	\$24.43	\$26.28	\$28.13	\$29.98
Zone 4	Adams	\$24.30	\$26.15	\$28.00	\$29.85

Table 2.1 – Compiled with schedule information provided by Division of Occupational Safety, See Attachment “C.”

In performing the side by side analysis comparing police detail rates with the applicable apprentice road flagger rates during the period of June 1, 2008 to December 1, 2009, the results showed a higher degree of savings when compared with the average journeyman wage savings represented in Table 2. The results for the various apprentice steps are as follows:<sup>7</sup>

*Apprentice Step 1 – 60%*

- Average apprentice road flagger rate = \$25.69
- Average percent savings = 32.48%
- Total of 2 cities and towns where road flagger rates are **greater than** police detail rates
- Total of 322 cities and towns where road flagger rates are **less than** police detail rates

*Apprentice Step 2 – 70%*

- Average apprentice road flagger rate = \$27.54
- Average percent savings = 27.61%
- Total of 2 cities and towns where road flagger rates are **greater than** police detail rates
- Total of 322 cities and towns where road flagger rates are **less than** police detail rates

*Apprentice Step 3 – 80%*

- Average apprentice road flagger rate = \$29.39
- Average percent savings = 22.75%
- Total of 4 cities and towns where road flagger rates are **greater than** police detail rates

<sup>7</sup> See Attachment “D” for a breakdown of police detail costs by municipality and apprentice road flagger rates.

- Total of 320 cities and towns where road flagger rates are **less than** police detail rates

*Apprentice Step 4 – 90%*

- Average apprentice road flagger rate = \$31.24
- Average percent savings = 17.88%
- Total of 7 cities and towns where road flagger rates are **greater than** police detail rates
- Total of 317 cities and towns where road flagger rates are **less than** police detail rates

**B. COLLECTIVE BARGAINING REPORTING TIME IMPACTS**

According to the applicable laborer’s collective bargaining agreement,<sup>8</sup> road flaggers currently have 2-4-8 “reporting time pay” provisions. Therefore, if a road flagger has been hired and ordered to report to work at the regular starting time and no work is provided for him, he will receive pay equivalent to two (2) hours at the applicable rate. If he arrives at work after being ordered not to report, he will not be compensated for that particular day. If a road flagger reports to work and begins working, he will receive the equivalent of not less than four (4) hours pay for that day. Finally, if a road flagger reports to work and works for more than four (4) hours, he will receive at least eight (8) hours pay.

Police collective bargaining agreements typically have similar “reporting time pay” provisions. For example, the State Police Association of Massachusetts (“SPAM”) has a 4-8 reporting time requirement.<sup>9</sup> Therefore, if a detail officer reports to a construction zone and works for four (4) hours or less, he will be paid for four (4) hours of work. If a detail officer works for more than four (4) hours, but less than eight (8) he will be paid for eight (8) hours work. Any time worked over eight (8) hours will be paid at time and one half.

As provided in the collective bargaining agreements and Department of Labor occupational classifications, road flaggers, unlike police details, will also be capable of performing construction labor. This provides the awarding authority with the ability to deploy road flaggers effectively elsewhere on a project when the traffic control requirements are no longer required. For example, if a construction zone in Boston requires a total of thirty minutes of traffic control for vehicles entering and leaving the work site, a certified road flagger on site could be directed to perform traffic control functions for this time period, and then return to his original duties. Conversely, a detail officer would be paid a minimum of four (4) hours for the thirty minutes of traffic control.

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<sup>8</sup> See Attachment “E.”

<sup>9</sup> See Attachment “F.”

**C. APPLICATION OF ROAD FLAGGER AND POLICE DETAIL RATES TO ACTIVE MASSHIGHWAY CONTRACTS**

As of May 30, 2008, there were 388 active MassHighway-sponsored projects throughout the Commonwealth. Of these active projects, 30% could use road flaggers under the draft regulations and new traffic management plates.<sup>10</sup> Table 3 below categorizes the number of active MassHighway projects in each district, and the number of projects that could now use road flaggers. Of the 388 active projects, 117 could now use flaggers. Additionally, in highway districts 3 and 5, a total of 23 projects would use only road flaggers. Table 4 illustrates the average cost of police details and road flaggers by district.<sup>11</sup> Tables 3 and 4 together highlight how MassHighway will save through the utilization of road flaggers. For example, of the 59 active projects in district 3 where detail officers are currently paid an average of \$38.80/hr, under the new draft regulations 24 of these projects would use road flaggers at an average rate of \$33.45/hr, a 13.78% savings; 11 of these projects would use road flaggers exclusively.

**Table 3**

<b>Projects Using Flaggers by District</b>			
<b>District</b>	<b>Total Active Contracts</b>	<b>Projects that would now use Flaggers</b>	<b>Projects that would now ONLY use Flaggers</b>
1	28	9	-
2	57	19	-
3	59	24	11
4	148	39	-
5	96	26	12
<b>TOTALS</b>	<b>388</b>	<b>117</b>	<b>23</b>
<b>Average Number of Projects That Could Use Road Flaggers</b>			<b>30.15%</b>

Table 3 – Compiled with information received through the five (5) MassHighway District Offices.

**Table 4**

<b>Analysis of Active Contracts</b>				
<b>District</b>	<b>Average Police Detail Cost by District</b>	<b>Average Flagger Cost by District</b>	<b>Dollar Savings</b>	<b>Percent Savings</b>
1	\$36.27	\$31.76	\$4.51	12.43%
2	\$36.78	\$32.25	\$4.53	12.31%
3	\$38.80	\$33.45	\$5.35	13.78%
4	\$41.09	\$33.86	\$7.23	17.60%
5	\$37.79	\$33.45	\$4.34	11.48%
<b>A</b>	<b>\$38.15</b>	<b>\$32.95</b>	<b>\$5.17</b>	<b>13.52%</b>

Table 4 – Compiled with rate information in Attachment “D” and active contract data in Table 3.

<sup>10</sup> See Attachment “G” for copies of the revised traffic management plans; *see also* Part III.D for an explanation of the “use of plates.”

<sup>11</sup> The cities and towns represented in MassHighway’s five districts do not match up with the Division of Occupational Safety’s four wage zones; therefore, the average road flagger costs vary from the rates illustrated in Table 1.

#### **D. ADDITIONAL COST SAVINGS THROUGH THE EFFICIENT USE OF POLICE DETAILS**

Following enactment of the Bond Bill, MassHighway formed an internal working group made up of construction, maintenance, and safety experts. The working group reviewed the *Work Zone Safety Guidelines for Massachusetts Municipalities and Contractors* and the *Standard Details and Drawings for the Development of Traffic Management Plans*. These documents are used by design professionals, field staff, and for traffic control training for the state police. These documents provide the basic safety setup for various construction zones depending on, among other things, road design, construction zone length, traffic volume, pedestrian traffic, and lane closures. Commonly referred to as “traffic management plans” or “plates,” these documents provide guidance for the correct placement of traffic control devices (i.e., road flaggers, police details, and automated traffic signals) throughout construction zones.

The internal working group revised these traffic management plans based on the legal speed limit within the construction zone, the roadway configuration, as well as whether the work was performed during the night or day. The revised traffic management plans reduced the total number of detail officers required to perform traffic control, while maintaining or exceeding the current level of safety. For example, on plate DIV-8, a continuous barrier with breaks for vehicles was added removing the need to place a police detail and cruiser. The addition of a physical barrier provides greater safety benefits from any unauthorized vehicle encroachments, while efficiently directing traffic away from the construction zone and it saves money. The new plates have reduced the number of police details required on specific construction zone setups.

In accordance with the Act, the awarding authority has “the authority to determine the appropriate traffic control measures” on a public works project. The regulations and guidelines provide the authorized representative, through the awarding authority, with the authority to determine the number of road flaggers, police details, or other traffic control devices necessary on a public works project, which in turn translates into additional cost savings based on the efficient placement of fewer police details and road flaggers, or using barriers and other traffic control devices where there is no impact to public safety. The regulations require that these decisions be made in consultation with appropriate law enforcement at various stages in the development of a project. Modifying construction work zone setups in this manner provides additional cost savings to the Commonwealth, while ensuring the safety of the traveling public, the work zone crews, and the police officer’s on construction details.

#### **IV. DISTRICT STUDY COST ANALYSIS<sup>12</sup>**

MassHighway performed the second cost analysis study using the new draft regulations and updated traffic management plans developed by the internal working group. The District Study Cost Analysis (“District Study”) reviewed several active projects in each MassHighway district, evaluating which projects required details, how much was spent on each detail, and what

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<sup>12</sup> The second district cost study was performed using road flagger rates available as of July 10, 2008. These rates were subsequently updated and reduced. The new road flagger rates, provided in Table 1, are lower for each zone with the exception of Zone 4, which had a \$1.03 increase. The new road flagger rates remain constant until December 1, 2009. The old road flagger rates were scheduled for a \$1.00 increase in each zone on December 1, 2008. See Attachment “I.”

the projected savings would be if the draft regulations and revised traffic management plans had been used. Each district office performed a one week “snap shot” review in July, analyzing over ninety percent of the active MassHighway-sponsored contracts. The District Study further divided the projects into those requiring municipal officers versus those requiring state police officers. Table 5 demonstrates that of the 208 projects evaluated and \$584,047.95 spent on police details during the one week time period, application of the new regulations and traffic management plates would have saved the Commonwealth \$157,632.04, or 28.76%.

**Table 5**

<b>One Week Snapshot Summary</b>						
	<b>District 1</b>	<b>District 2</b>	<b>District 3</b>	<b>District 4</b>	<b>District 5</b>	<b>TOTALS</b>
Total Projects Evaluated	8	40	59	64	37	208
Projects Not Requiring Traffic Personnel	0	21	21	5	1	48
Actual Police Detail Costs	\$23,218.00	\$42,443.18	\$139,233.50	\$205,601.50	\$137,551.77	\$548,047.95
Projected Costs Using Revised Plates	\$16,908.20	\$36,195.39	\$105,820.55	\$137,628.60	\$98,041.08	\$394,593.82
Potential Savings	\$6,309.80	\$10,257.70	\$33,512.95	\$68,042.10	\$39,509.49	<b>\$157,632.04</b>
Percent Savings	27.20%	24.20%	24.10%	33.10%	28.70%	<b>28.76%</b>

Table 5 – Compiled using district data included as Attachment “H.”

A total of 48 projects did not require the use of either road flaggers or police details. Of the 160 remaining projects reviewed by the district offices, 69 of the projects could use road flaggers (43%), 57 projects could use road flaggers exclusively (36%), and 12 projects could use a combination of road flaggers and police details (7.5%) (*See Attachment “H”*).

**A. REVIEW OF DATA**

The savings illustrated in Table 5 would have been realized both through the use of road flaggers on qualifying projects as well as through the more efficient use of police details and traffic management techniques. Table 6 summarizes the amount spent on municipal police details, which totaled \$401,136.88 (161 projects). Table 7 summarizes the amount spent on state police details, which totaled \$146,911.07 (47 projects). Using the regulations and revised traffic management plans, the Commonwealth would have realized 32.31% savings on municipal details and 19.34% savings on state police details.

**Table 6**

<b>Municipality - One Week Snapshot Summary</b>						
	<b>District 1</b>	<b>District 2</b>	<b>District 3</b>	<b>District 4</b>	<b>District 5</b>	<b>TOTALS</b>
Total Projects Evaluated	4	32	45	57	23	161
Projects Not Requiring Traffic Personnel	0	15	18	4	1	38
Actual Police Detail Costs	\$17,218.00	\$39,083.18	\$92,138.43	\$177,061.50	\$75,635.77	\$401,136.88
Projected Costs Using Revised Plates	\$12,145.32	\$35,875.39	\$64,961.59	\$114,328.60	\$48,692.08	\$276,002.98
Potential Savings	\$5,072.68	\$7,217.70	\$27,176.84	\$62,802.10	\$26,942.89	<b>\$129,212.21</b>
Percent Savings	29.50%	18.50%	29.50%	35.50%	35.60%	<b>32.21%</b>

Table 6 – Complied using district data included as Attachment “H.”

Of the 123 projects represented in Table 6 using municipal police (total projects evaluated – projects not requiring details), 92 projects, or 74.79%, were on roads with a speed limit less than 45 miles per hour.

**Table 7**

<b>State Police – One Week Snapshot Summary</b>						
	<b>District 1</b>	<b>District 2</b>	<b>District 3</b>	<b>District 4</b>	<b>District 5</b>	<b>TOTALS</b>
Total Projects Evaluated	4	9	13	7	14	47
Projects Not Requiring Traffic Personnel	0	6	3	1	0	10
Actual Police Detail Costs	\$6,000.00	\$5,256.00	\$45,199.07	\$28,540.00	\$61,916.00	\$146,911.07
Projected Costs Using Revised Plates	\$4,762.88	\$2,216.00	\$38,962.396	\$23,300.00	\$49,349.00	\$117,590.84
Potential Savings	\$1,237.12	\$3,040.00	\$6,366.11	\$5,240.00	\$12,566.60	<b>\$28,419.83</b>
Percent Savings	20.60%	61.60%	14.00%	18.40%	20.30%	<b>19.34%</b>

Table 7 – Complied using district data included as Attachment “H.”

Of the 37 projects represented in Table 7 using state police (total projects evaluated – projects not requiring details), 10 projects, or 27.02% were on roads with a speed less than 45 miles per hour.

**Table 8**

<b>Supplemental District Study Information</b>						
	<b>District 1</b>	<b>District 2</b>	<b>District 3</b>	<b>District 4</b>	<b>District 5</b>	<b>TOTALS</b>
Details That Did Not Show	0	3	4	16	1	24
Details Late or Early Departure	0	0	5	12	9	26
Details Paid More Than Hours Worked	0	4	35	54	24	117

Table 8 – Complied using district data included as Attachment “H.”

Table 8 illustrates additional project impacts resulting from personnel matters. The Act requires the EOTPW and EOPSS to address these issues in the regulation and guidelines. The cost of these impacts cannot be accurately quantified in a dollar figure. Cost savings, however, can be expressed in general terms. For example, because police details are providing the required traffic control for a construction zone, if they fail to arrive, arrive late, or leave early, this impacts the ability to ensure the safety of the construction zone and requires the resident engineer to shut down the contractor's operations until another officer can be rescheduled.

The draft regulations, in accordance with the Act, provide that the Construction Zone Safety Plan ("CZSP") "shall include... the procedures to be followed... [when] the designated personnel... fail to arrive at the work site as agreed." The regulations and Act provide the awarding authority with a mechanism for cost savings when, as Table 8 illustrates, "designated personnel" fail to arrive on site. If a police detail, or road flagger, fails to report for scheduled traffic control, the authorized representative now has the authority to implement an alternative safety plan.

## **B. PROJECTED SAVINGS**

Using the one week "snap shot" data derived from the District Study yields a total one year spending of \$28.5 million on police details.<sup>13</sup> The District Study, however, was performed during the height of the construction season where traffic control costs are generally higher, and therefore should be adjusted downward. The EOTPW expects that this fiscal year's actual expenditure on police details is likely between \$20 and \$25 million based on police detail spending data available from previous years. Using this adjusted fiscal range, and based on the 28.76% overall savings reported on an annual basis through the District Study, the Department could save between \$5.7 and \$7.2 million using the regulations and traffic management plans.<sup>14</sup> While due to lower wage rates it is clear that a sizeable percentage of this savings results from the use of alternative personnel, it is still premature to put a precise figure on this percentage. In the following years, the actual "dollar savings" will likely increase as the Department implements the Accelerated Bridge Program and begins projects authorized under Bond Bills 1 and 2.<sup>15</sup>

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<sup>13</sup> This number is higher than what would be expected based on previous years spending. MassHighway spent \$22.5 million in 2006, \$20 million in 2005, \$15 million in 2004, and \$15.6 million in 2003 on police details.

<sup>14</sup> See *supra*, note 12. The actual yearly savings will be higher based on the lower flagger prevailing wage rate released after completion of the District Study cost analysis.

<sup>15</sup> See An Act Financing an Accelerated Structurally-Deficient Bridge Improvement Program, St. 2008, ch. 233; An Act Financing Improvements to the Commonwealth's Transportation System, St. 2008, ch. 86; and An Act Financing Improvements to the Commonwealth's Transportation System, St. 2008, ch. 303.

## V. FEDERAL HIGHWAY ADMINISTRATION

The use of police details on public works projects in the Commonwealth and throughout the United States has been researched and documented at great length by public and private organizations. Many states use both road flaggers and police details for traffic control duties,<sup>16</sup> the Commonwealth, however, has had a policy of using police details to control traffic on most – if not all – construction projects for at least the past thirty years. Municipalities may require police details through ordinance, by-law, or regulation; however, there is no state legislative requirement that MassHighway, or any other governmental entity, deploy police details as traffic control on construction projects.

On May 19, 1995, the United States Department of Transportation's Office of the Inspector General issued an advisory opinion to the Federal Highway Administration ("FHWA") conveying its concern regarding the costs incurred from the use of police details on the Central Artery/Third Harbor Tunnel ("CA/T") Project and other federally funded highway construction projects in Massachusetts. The opinion recommended that the FHWA decline to participate in any traffic control costs which exceeded the reasonable and necessary costs for the CA/T and other projects.

Regional representatives from the FHWA assisted MassHighway, the Massachusetts Turnpike Authority, the Massachusetts State Police, and the Boston Police Department in 1996 to develop guidelines on the appropriate use of police details on federal-aid projects. The FHWA noted that "[f]ederal-aid funds can not participate in the increased cost of using uniformed police officers over civilian Road Flaggers and/or mechanical traffic devices when one or both of these are considered adequate in accordance with the referenced guidelines."<sup>17</sup> The guidelines were developed to assist the Department to select the most efficient level of traffic control that would minimize costs, while providing the most effective level of safety and traffic control in the construction work zone. The proposed guidelines concluded that "flaggers and uniformed traffic officers should be used to supplement traffic control devices only when those devices are not sufficient to adequately direct traffic and provide necessary safety for motorists and workers in the highway right of way." (See Attachment "J")

In October of 2001, the FHWA released a report on the use of police details entitled Study on the Use of Uniformed Police Officers on Federal-Aid Highway Construction Projects.<sup>18</sup> The report indicated a general lack of uniformity among the states regarding the use and number of officers assigned to construction work zones. The report noted the conflicting missions of the uniformed officer (when compared to a Road Flagger). The "*primary mission* for a uniformed officer *assigned to a work zone* is to keep traffic moving at a safe speed, following MUTCD work zone traffic control standards. This is different than the *routine mission* performed by law

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<sup>16</sup> See Appendices 1 and 2 (providing financial, contractual, and questionnaire information on road flaggers in Connecticut, Maine, New Hampshire, New York, Rhode Island, and Vermont).

<sup>17</sup> Ltr. from Peter C. Markle, Division Administrator-FHWA to Laurinda Beddingfield, Commissioner-MassHighway, January 30, 1996 (See Attachment "J").

<sup>18</sup> See Attachment "J."

enforcement officers in work zones, which is to issue citations for traffic code infringements.” The proposed regulations that are the subject of this report specifically note that they do not affect law enforcement’s police function within and outside of construction work zones. The report noted that by far the most common source of funding for police details came from state highway construction funds.

## **VI. MASSHIGHWAY / EOTPW POLICY AND PAST PRACTICE**

In accordance with M.G.L. ch. 85, § 2,<sup>19</sup> the Manual on Uniform Traffic Control Devices (“MUTCD”), and MassHighway’s MUTCD amendments, MassHighway has the authority to erect and maintain direction signs, warning signs or lights, curb, street or other traffic markings, mechanical traffic signal systems, *traffic devices*, or parking meters as it may deem necessary for promoting the public safety and convenience. The Department requires all of its construction projects to include a traffic management plan developed in compliance with chapter 85, the MUTCD, and the Department’s current work zone management plan provided in the *Project Development and Design Guide*. A traffic management plan (“TMP”) for a construction project includes the location and setup of temporary traffic control devices depending on various criteria including the type of roadway, traffic patterns, physical length, and time of the project, and serves the same function as the CZSP called for in the Act. The MUTCD defines traffic control devices<sup>20</sup> to include any type of mechanism used to regulate, warn, or guide traffic; additionally, temporary traffic control zones<sup>21</sup> are defined as areas impacted through the use of temporary traffic control devices, flagpersons, or police details. In accordance with chapter 85 and the MUTCD, the Department may provide for the use of either police details or flagpersons if it determines that such devices are necessary for the public safety and convenience on a state highway.

MassHighway has routinely used paid police details on public works projects dating back to the at least the mid-1970s (when State Police were first used in highway work zones). As provided in the Standard Specifications, the Chief Engineer—in his or her sole discretion—may require the use of police details to ensure the safety of the traveling public and construction work

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<sup>19</sup> “The department of highways, in this chapter called the department, shall erect and maintain on state highways and on ways leading thereto and therefrom, and on all main highways between cities and towns, such direction signs, warning signs or lights, curb, street or other traffic markings, mechanical traffic signal systems, traffic devices, or parking meters as it may deem necessary for promoting the public safety and convenience and shall likewise install and maintain in accordance with the department’s current manual on uniform traffic control devices, such curb, highway, street or other traffic markings as conditions may require or as may be necessary to carry out the provisions of other statutes pertaining to highway markings.” M.G.L. ch. 85, § 2.

<sup>20</sup> “[A] sign, signal, marking, or other device used to regulate, warn, or guide traffic, placed on, over, or adjacent to a street, highway, pedestrian facility, or shared-use path by authority of a public agency having jurisdiction.” MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 1A-13, § 85 (2003 Ed.).

<sup>21</sup> “[A]n area of a highway where road user conditions are changed because of a work zone or incident by the use of temporary traffic control devices, Road Flaggers, uniformed law enforcement officers, or other authorized personnel.” *Id.* at § 87.

zone crews.<sup>22</sup> The Department's policy has been to pay police details at the same rate as the city or town pays for similar work on city or town projects. Additionally, when special or reserve officers are used, the Department requires the contractor to purchase worker's compensation insurance as a condition to employment. (See Standard Specifications, § 7.05(a)).

As noted in Part VI.A, the Department has reviewed its traffic control policies with other organizations including the Federal Highway Association, the Massachusetts Turnpike Authority, and the Massachusetts State Police Association. In 1995, MassHighway conducted a 50-state DOT survey, requesting information on the use of either road flaggers, police details, or a combination of the two for traffic control on highway projects. Forty state DOTs replied to the survey with thirty indicating that they used a combination of road flaggers and police details, and ten indicating that they exclusively used road flaggers. Massachusetts was the only state exclusively using police details.

## **VII. CURRENT MUNICIPAL POLICE POLICIES, PRACTICES, AND RATES**

There is no uniform police detail policy used by municipalities throughout the Commonwealth. Generally, cities and towns require police details through various mechanisms including by-laws, ordinances, city/town rules and regulations, traffic orders, and local police department regulations or collective bargaining agreements. Additionally, many cities and towns authorize the Chief of Police to determine the number of police detail officers necessary on any given project. For example:

1. Town of Becket (By-law)

"No public or private utility and/or construction company shall work on any public way within the town without notifying the Police Chief or his/her designee. All road details shall be assigned by the Police Chief or his/her designee. Article approved subject to the following restriction as per the Attorney General's office: State highways and any other way, maintained by the Commonwealth as provided in MGL c. 81 and c. 85, and elsewhere in the General Laws, are not subject to this article."

BECKET, MA., BY-LAW art. 17, § 3 (1995).

2. Town of Burlington (By-law)

"During construction or maintenance work on any street there shall be police officers to direct traffic as the Police Chief deems necessary. The compensation of the officers shall be the responsibility of the party doing the work."

BURLINGTON, MA., BY-LAW art. 13, § 1.3 (2007).

3. Town of Chelmsford

"Uniformed police shall be present to maintain two-way traffic in the roadway during the hours work is being done under the permit. (1) At least one week prior to commencing

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<sup>22</sup> "The contractor shall provide such police officers as the Engineer deems necessary for the direction and control of traffic within the site of the improvement." MASSACHUSETTS HIGHWAY DEPARTMENT, *Standard Specifications for Highways and Bridges* § 7.11 (Metric Ed. 1995)

construction, the permittee shall give written notification with all pertinent information regarding the work to the Police Chief so that the Police Chief may prepare a roster of police officers assigned to the excavation site. (2) If, in his or her opinion and judgment, the Police Chief deems necessary the assigning of more than one police officer to the excavation site, the Police Chief may do so in the best interest of public safety. (3) The permittee may request a waiver of the requirement for uniformed police at the excavation site in writing to the Police Chief, who must evaluate the request for a waiver and reply to the permittee, in writing, within five days of receipt of the request for waiver. (a) If the Police Chief grants the waiver and at some future time during the progress of the work the Police Chief visits the excavation site and deems necessary that a uniformed police officer be present to maintain two-way traffic in the roadway, the Police Chief may immediately rescind, suspend or modify this waiver. (b) A request for a waiver does not relieve the permittee in any way of the responsibility of having uniformed police at the excavation site until said waiver has been granted, in writing, by the Police Chief. (4) The fee and incidental expenses of the uniformed police assigned to the excavation site shall be borne by the permittee and payable, by check or money order, to the Town of Chelmsford.”

CHELMSFORD, MA., BY-LAW art. 2, § 142.23(c) (2008).

4. Town of Dunstable

“The Road Commissioners may adopt and from time to time amend reasonable Rules and Regulations ordered to facilitating the proper operation of this bylaw, the safety of the persons, the protection of public and private property, and the work carried out under permits issued pursuant hereto. These Rules and Regulations may pertain to but are not necessarily limited to the following matters: Applicants: proper parties; duties. Applications: form; content; number; manner of completion and submission. Permits: form; content; manner of issuance and execution; requirements as to possession and display; validity; term; necessity of additional permits. Supplementary data and materials: nature; form; content. Fees: application, various supplementary requirements including traffic control, site inspection, site restoration. Time: commencement and termination of work; term of permits. Notice requirements: commencement; emergency; modification; traffic considerations; hearings and appeals. Traffic: police coverage; movement or interruption; re-routing; public and private property or ways.

DUNSTABLE, MA., STREET EXCAVATION BY-LAW art. 20, § 2 (1990).

5. Town of Foxborough (By-law)

“The Chief of Police or his or her designee shall have the authority to require a police traffic detail where the passage or flow of pedestrian or vehicle traffic will be impeded, delayed, disturbed, backed-up, or rerouted on any public way, alley, highway, walkway, lane, court, public square, public place, or sidewalk within the Town of Foxborough, and/or where the safety, health and welfare of the general public is concerned.”

FOXBOROUGH, MA., BY-LAW art. 5, § 1 (2007).

6. Town of Freetown (By-law)

“The Chief of Police may, in his discretion, order that an officer or officers, as may be required and at no cost to the Town, accompany construction vehicles engaged in work or construction materials placed on public ways, or men working on, over or under public ways, for the purpose of ensuring the safe passage of vehicles and pedestrians in such work area or storage sites. In the event that the Chief is unable to assign an officer to accompany such construction vehicles or materials the Chief may, in his sole discretion, may authorize the use one or more constables or flag men in place of an officer or officers. Provided, however, that the Chief may waive the requirement to assign an officer if the owner, operator, or persons working in conjunction with construction vehicles, men, or temporarily depositing construction materials can demonstrate to the satisfaction of the Chief, that their activities will not cause an unnecessary impediment to the normal flow of traffic or be detrimental to the safety of vehicles or pedestrians. The Chief may suspend such activities when, in his discretion, the activities violate 13.6, or cause an unnecessary impediment to the normal flow of traffic, or may be detrimental to the safety of vehicles or pedestrians.”

FREETOWN, MA., BY-LAW art. 13, § 13.6(3) (2008).

7. Town of Hamilton (By-law)

The Chief of Police shall determine whether uniformed officers are required during construction and whether rerouting of traffic will be permitted or required. The contractor shall pay for all required uniformed officers.”

HAMILTON, MA., BY-LAW ch. 10, § 11(4)(e) (2007).

8. Town of Saugus (By-law)

No person, except the Board of Selectmen or Superintendent Of Public Works, shall obstruct any main street or any part thereof, or break or dig the ground of the same without first obtaining a written permit from the Department of Public Works: and if any such work is performed on those streets that are deemed main streets by the Superintendent of Public Works, a police detail must be hired to protect the safety of the public and to insure that the normal flow of motor vehicle traffic and pedestrian foot traffic is maintained.

SAUGUS, MA., BY-LAW ch. 7, § 701.05 (2007).

9. Town of Savoy

“No public or private utility and/or construction company shall work on any public way within the town without notifying the Police Chief of his/her appointed designee. All road details shall be assigned by the Police Chief or his/her designee.”

SAVOY, MA., BY-LAW art. 11 (2008).

10. Town of Tewksbury (Town Rule and Regulation)

“It is the permittee’s responsibility to provide bond and certification of insurance, indemnification of the Town of Tewksbury, traffic control plan, and waiver of claims as required prior to the issuance of a permit.... It is the permittee’s responsibility to obtain all other applicable federal, state, and local permits prior to commencement of any work on Town owned land. No police details will be approved for assignment to the job site until all necessary permits are in place.”

TEWKSBURY, MA., DEPARTMENT OF PUBLIC WORKS, *General Conditions Under Which This Permit Is Granted* (Mar. 23, 2004).

There is no uniform municipal police detail rate. Rates vary widely across the Commonwealth. For example, in Berkshire County, the neighboring towns of Hancock, Lanesborough, and Williamstown charge rates of \$40.00, \$35.00, and \$32.00 respectively. Hancock uses State Police officers to staff traffic details. The State Police charge a flat rate of \$40.00, which includes the officer and official police vehicle. As noted in Table 2, the average rate, including towns using state police, is \$38.43 – not including supervisor rates. Some cities and towns, typically through collective bargaining agreements, require a supervisor when a certain number of officers are present on site. For example, in the City of Boston, there is a 3:1 ratio. The supervisor is paid at a higher rate.<sup>23</sup>

The Massachusetts Coalition of Police (“MassCOP”) performed a survey of 94 “police locals” requesting hourly police detail rates. The average police detail cost was \$37.18 an hour. This data was not provided to the EOTPW as part of this report.<sup>24</sup> The average hourly rate for a police detail provided by MassCOP is 10.8% higher than the hourly road flagger prevailing wage (see Table 2).

## **VIII. CURRENT STATE POLICE PRACTICES AND RATES**

The State Police Association of Massachusetts (“SPAM”) currently charges a flat rate for police details of \$40 an hour. This rate includes both the police officer and police cruiser. Additionally, this flat rate applies to all State Police officers; i.e., the rate is the same for patrolman, sergeants, and lieutenants. SPAM has a detail assignment officer in each Troop who handles and distributes detail requests. Therefore, when MassHighway requests a State Police detail on a highway construction project, the designated detail assignment officer will call available off-duty officers from a detail list to staff the position. If SPAM cannot staff the detail, the assignment officer coordinates with the County Sherriff and Local Police Departments to ensure the detail request is filled.

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<sup>23</sup> A detail officer in Boston will be paid \$37/hr regardless of rank. However, when three officers are present in a construction work zone, the Boston Police Department collective bargaining agreement requires a supervisor to be present (typically staffed by a sergeant).

<sup>24</sup> See Attachment “K.”

SPAM has set guidelines<sup>25</sup> requiring all detail officers to receive specific training in traffic control. Additionally, the guidelines require the detail officer to follow the directions of the MassHighway Engineer, while on any traffic detail.

## **IX. CONCLUSION**

Under the draft road flagger and police detail regulations and the revised traffic management plans, the Commonwealth will realize cost savings through lower hourly rates for road flaggers, efficient use of road flaggers and police details on public works projects, and through greater control over the administration of the traffic management plan.

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<sup>25</sup> See Attachment "F."