

Committee Meeting

of

ASSEMBLY TRANSPORTATION, PUBLIC WORKS, AND INDEPENDENT AUTHORITIES COMMITTEE

*"Testimony on the findings and recommendations of the
New Jersey Privatization Task Force regarding the privatization
of various transportation services in the State of New Jersey"*

LOCATION: Committee Room 11
State House Annex
Trenton, New Jersey

DATE: September 16, 2010
10:00 a.m.

MEMBERS OF COMMITTEE PRESENT:

Assemblyman John S. Wisniewski, Chair
Assemblywoman Linda Stender, Vice Chair
Assemblyman Charles S. Mainor
Assemblyman Matthew W. Milam
Assemblyman Vincent Prieto
Assemblywoman Caridad Rodriguez
Assemblywoman Connie Wagner
Assemblywoman Bonnie Watson Coleman
Assemblyman John F. Amodeo
Assemblyman Scott Rudder
Assemblyman Scott T. Rumana
Assemblyman Brian E. Rumpf



ALSO PRESENT:

Maureen McMahan
*Office of Legislative Services
Committee Aide*

Aaron Binder
*Assembly Majority
Committee Aide*

Glen Beebe
*Assembly Republican
Committee Aide*

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Meeting Transcribed by
The Office of Legislative Services, Public Information Office,
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ASSEMBLYMAN JOHN S. WISNIEWSKI (Chair): We are here today to take testimony from a variety of individuals with regard to the report prepared by the New Jersey Privatization Task Force, in particular the issues that are raised -- the issues that are discussed in that report as they pertain to transportation. But I am sure that there are other questions that will be raised by members of the Committee.

We will do a roll call of the members.

What I would ask, just for housekeeping details-- I'd like to advise everybody that our proceedings today are going to be broadcast on the internet. And so what you say intentionally or otherwise into the microphones will be heard by lots of people outside this room. If you have a cell phone, or pager, or other electronic device -- if you could at least switch it to vibrate, because there are some really interesting ring tones out there and I'm not sure we all want to hear them.

And with that, I will ask Maureen to take the roll.

MS. McMAHON (Committee Aide): Assemblyman Rumpf.

ASSEMBLYMAN RUMPF: Here.

MS. McMAHON: Assemblyman Rumana.

ASSEMBLYMAN RUMANA: Here.

MS. McMAHON: Assemblyman Rudder.

ASSEMBLYMAN RUDDER: Here.

MS. McMAHON: Assemblyman Amodeo.

ASSEMBLYMAN AMODEO: Here.

MS. McMAHON: Assemblywoman Wagner.

ASSEMBLYWOMAN WAGNER: Here.

MS. McMAHON: Assemblywoman Rodriguez.

ASSEMBLYWOMAN RODRIGUEZ: Here.

MS. McMAHON: Assemblyman Prieto.

ASSEMBLYMAN PRIETO: Here.

MS. McMAHON: Assemblyman Milam.

ASSEMBLYMAN MILAM: Here.

MS. McMAHON: Assemblyman Mainor.

ASSEMBLYMAN MAINOR: Here.

MS. McMAHON: Assemblywoman Watson Coleman.

ASSEMBLYWOMAN WATSON COLEMAN: Here.

MS. McMAHON: Vice Chair Stender.

ASSEMBLYWOMAN STENDER: Here.

MS. McMAHON: Chairman Wisniewski.

ASSEMBLYMAN WISNIEWSKI: Here.

We have one substitute today. We have Assemblywoman Bonnie Watson Coleman joining us.

Good morning, Assemblywoman.

ASSEMBLYWOMAN WATSON COLEMAN: Good morning.

Thank you, Mr. Chairman, for having me.

ASSEMBLYMAN WISNIEWSKI: If you wish to testify, there are slips on the table to the left of the door. I'd appreciate it if you'd fill one out and give it to one of the Committee Aides. If you have written testimony, we'd appreciate copies of that. And if you are testifying, to the extent that you can paraphrase your testimony and not read word-for-word, that would be great. Because we have well over a dozen individuals who wish to testify, and it would just save -- for time. But my intention is to

give everybody here who has signed up and wishes to testify an opportunity to let us know what they think. And I've asked our two principal witnesses if they would stay around subsequent to their testimony so that they might be available for follow-up.

I just wanted to say at the outset, privatization is an issue that seems to come and go in cycles. There are points in time where it's talked about a lot, and then there are periods of time where it seems to fade into the background. But it is always somewhere just slightly below the surface in the discussions of government. It tends to come out more frequently when economic circumstances are tougher and budget conditions are not as robust.

But I think a good way to start off this hearing is to refer to the quote by that notable Republican President Abraham Lincoln who said, "The legitimate object of government is to do for a community of people whatever they need to have done but cannot do at all, or cannot do so well, for themselves in their separate and individual capacities."

And so with that as the frame, the issue of privatization is really somewhat of an existential question about government itself. If you-- Where do you go? How far do you privatize? There are a whole bunch of proposals in this report about privatizing a variety of functions. But one could argue that there is no limit to what you can privatize. Can you privatize cabinet offices? Can you privatize administrations and entire departments? At some point there is a loss of control, there's a loss of accountability that's probably one of the most important aspects of an elected representative government where tax dollars are used to provide

services. But there's an accountability, ultimately through elections, that may not exist in a privatization context.

We have with us today former Congressman Richard Zimmer, who chaired the Privatization Task Force; and our Commissioner of the New Jersey Department of Transportation, Jim Simpson. This is his first appearance before the Assembly Transportation Committee.

Gentlemen, welcome to you both. I will let each of you decide -- I don't know if you want to arm wrestle for it or toss a coin -- who goes first.

F O R M E R C O N G R E S S M A N D I C K Z I M M E R:
Thank you very much, Mr. Chairman, members of the Committee.

My name is Dick Zimmer. I was the Chairman of the New Jersey Privatization Task Force. I welcome this opportunity to discuss our recommendations with you.

The Chairman began with a quotation from an outstanding Republican, Abraham Lincoln. I'd like to begin with a quotation from an outstanding Liberal Democrat, Mario Cuomo, who said, "It is not government's obligation to provide services, but to see that they are provided." And that was the thinking that motivated our Task Force, which was instructed by Governor Christie to comprehensively review opportunities for privatization throughout State government. We met with most of the Cabinet. We met with the leadership of the State's transportation authorities, and many other stakeholders, practitioners, and experts. We heard extensively from the state's employee unions, and held three public hearings around the state.

After analyzing all this input, the Task Force concluded that through sensible planning and implementation, privatization offers a variety of benefits, including lower costs, improvements in the quality of public services, and access to private-sector capital and professional expertise. We recommended 40 privatization initiatives that would result in annual savings of more than \$200 million a year. Many of the most promising of these opportunities are related to transportation. I'd be happy to answer your question about any of our individual recommendations relating to transportation or otherwise.

We also proposed the enactment of broad and flexible legislation authorizing public-private partnerships, or P3s, for the development and operation of infrastructure projects; and urged the creation of a State advisory body to oversee P3s modeled after California's Public Infrastructure Advisory Commission.

The Chairman mentioned cycles of interest in privatization. I believe you were in your first term, Mr. Chairman, when the Assembly unanimously passed pilot legislation authorizing P3s.

As you know, beginning July 1 of next year, every cent paid into the Transportation Trust Fund from gasoline taxes and all other sources for the following 31 years will go to pay off the debt for projects already completed. Whether or not you believe that the state needs a higher gasoline tax, as the Chairman does, or that we should move to the pay-as-you-go system, as the Governor does, public-private partnerships have got to be considered as part of the solution to our enormous transportation funding challenge because they provide necessary capital,

they can reduce costs, and they provide for innovative ways of accomplishing our objectives.

Although we are all familiar with the high-profile failures of privatization, I respectfully disagree with the Chairman's recent statement that most privatization of transportation services have gone terribly awry. In fact, our Task Force found that the successes far outnumber the failures. A national model for public-private partnerships is New Jersey's Hudson-Bergen Light Rail Line, owned by NJ TRANSIT. The project was funded by the State and Federal governments. It was developed through the award of what's called a *DBOM* -- that's design, build, operate, and maintain -- contract to an engineering and construction consulting firm which agreed to deliver a fleet of vehicles, a guaranteed completion date, and 15 years of operation and maintenance of the system for a fixed price. The Light Rail Line commenced operation in 2000, years earlier than would have been possible under standard bidding procedures. The project has met or exceeded its objectives, and the contract with the vendor has been extended. The Light Rail Line has been a catalyst for both residential and commercial development along the route and has played a significant role in the revitalization of Hudson County.

Another high-profile privatization program is the Atlantic City International Airport, operated by a private contractor from the South Jersey Transportation Authority. The operation of this Airport, through this successful initiative, has allowed for unprecedented growth which serves as a key economic driver for the southern New Jersey region. And we just learned that the most recent passenger traffic statistics are higher than they've been in the history of Atlantic City Airport.

Public-private partnerships built the Ferry Terminal in Weehawken and implemented Smart Highways instrumentation of Route 80. Both of those programs were done under the pilot P3 legislation that passed the Legislature in 1997.

The New Jersey Turnpike Authority has fully privatized all service areas along the Turnpike and the Garden State Parkway.

At the Department of Transportation, all line striping, bridge painting, guide rail work, and resurfacing has been outsourced.

Despite these successes, we are acutely aware that not all of New Jersey's experiences with privatization have been successes. And rather than trying to ignore or put the best face on past failures, we confronted them directly. That's why we invited the State Inspector General, the State Comptroller, and the Executive Director of the SCI to our first public hearing to testify about the failed privatization efforts investigated by their offices. They told the Task Force about the lessons they learned from failures in the privatizations involving E-ZPass, EnCap, schools construction, motor vehicle inspections, tax collections, inmate health services, and municipal utilities.

These failures, we learned, have much in common. They were poorly conceived at the start, goals were not clearly articulated, due diligence was superficial, contractors were inexperienced or undercapitalized, and government oversight was lax or nonexistent. In extreme cases, government officials had clear conflicts of interest and engaged in official misconduct.

You should know that none of these government watchdogs advised us that privatization is inherently a bad idea -- only that it must be

carefully undertaken and strictly monitored. The Chairman made a valid point that you should be careful not to lose control of accountability. Our recommendations include proposals to assure that elected officials, who are accountable to the people, maintain control and accountability.

New Jersey's privatization experience, both its successes and its failures, informed the recommendations made by our Task Force, including our recommendation that the Governor designate a centralized entity to manage the privatization process and assure the application of best practices in project selection and contracting.

Privatization is not the province of a single ideology or political party. It's, rather, a pragmatic way to respond to major challenges. And I quoted Governor Cuomo; another great Democrat, Mayor Richard Daley of Chicago, has privatized more than 40 city services and, since 2005, generated more than \$3 billion in up-front payments from private-sector leases of city assets, including Chicago Skyway toll road and several parking assets.

While serving as Mayor of Philadelphia, current Pennsylvania Governor Ed Rendell saved \$275 million by privatizing 49 city services. And in his last year as Governor, Governor Rendell has agreed with Governor Christie to establish the public-private partnership to rebuild the Scudder Falls Bridge, five miles north of here, at an estimated cost of \$310 million.

Last year, in New York, the Commission on State Asset Maximization appointed by Governor David Paterson and chaired by former State Comptroller Carl McCall recommended that public-private partnerships undertake a wide array of transportation projects, including

the building and renovation of bridges, the construction of high-speed rail lines, and highway maintenance.

Further evidence of the nonpartisan nature of privatization is the fact that the legislation I previously alluded to for a public-private partnership pilot program for New Jersey passed the Assembly in 1997 by a unanimous vote, with only two dissenting votes in the State Senate. Just this week, Senate President Steve Sweeney introduced a bill to help implement our Task Force's recommendation that the New Jersey Turnpike Authority enter into a contract for private toll takers to achieve an estimated savings of \$35 million a year.

Leaders across the political spectrum have embraced privatization because it introduces competition in the delivery of public services and challenges public monopolies. Implemented properly, competition drives down costs and creates incentives for performance and results. In well-structured outsourcing initiatives, contractors have strong incentives to deliver on performance. A public agency exposed to competition for the first time might be spurred to improve its own performance. Introducing competition helps managers determine their true costs; and promotes innovation, efficiency and greater effectiveness in serving customers' shifting demands.

I urge this Committee to seriously consider our Task Force's recommendations and the pragmatic philosophy that gave rise to them.

Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you very much.

What I will do, Commissioner, is allow you to make your statement, and I think you'll both be in for a little bit of questioning from members of the Committee.

COMMISSIONER JAMES S. SIMPSON: Great.

Good morning, Chairman Wisniewski and members of the Committee. It truly is an honor to be here today -- my first hearing before this Committee. It's also still an honor to serve as your Transportation Commissioner. It's been a very difficult eight months with the issues facing our great Garden State.

I appreciate the opportunity to discuss the DOT's thoughts on privatization. Our mission, and all of transportation and all of our agency's, is to really -- simply, in a nutshell -- to maintain a safe, reliable, and efficient transportation network.

Privatization is not a panacea, but privatization is one tool used to maximize savings, improve quality, and provide better value for taxpayers. I don't think anybody would argue that any organization, if it's going to maintain competitive and if it's going to stay in existence and not become obsolete, has to invent itself and reinvent itself. And privatization allows that to happen. Once again, it's a tool that we use.

And as we move forward, the Department will continue to consider privatization and the formation of public-private partnerships when appropriate. But before any decisions are made, we intend to get input from all the stakeholders, including the unions and the workforce. Dialogue and good communications between all the stakeholders are a key component of the process.

The Department's history of privatization has largely been related to using outside contractors and consultants to supplement in-house activities. It's nothing new. It's old wine in a new bottle. We've been doing it for years, particularly when staffing levels are insufficient to provide a suitable level of service or you need expertise in a given area.

NJ TRANSIT has already undertaken-- I don't want to go into the-- I don't want to enumerate the DOT's privatization initiatives. The Congressman did that eloquently. But there are some other things that New Jersey DOT has done -- excuse me, NJ TRANSIT has done and is doing that I think are worth noting. NJ TRANSIT has already undertaken numerous privatization projects that have delivered services at savings to the public. Let me mention the major ones. And it's not just cost considerations, it's an elevation of service. It's really: What is your value proposition? Price is what you pay for something, and value is what you receive in return.

We have a couple of projects that would not have gotten built without PPPs: the Morristown Transit Village, which includes a new parking deck built with private funds. Parking decks were also built by private developers to serve the Trenton, Hamilton, and Metro Park stations. The River Line and Hudson-Bergen Line -- Light Rail Line were built under design, build, operate, and maintain contracts that streamlined project delivery and reduced capital outlays.

And I think it's important to note for the Committee that I had served-- I was the administrator of the Federal Transit Administration in Washington. And the United States -- that has been a leader in everything else -- is so far behind the rest of the world in public-private partnerships.

And we invented public-private partnerships over 100 years ago, but we've sort of forgotten about them. The rest of the world is light years ahead of us.

Five years ago in Washington we started two programs: a joint development program that allowed -- the Federal government allowed the kinds of projects that were built by NJ TRANSIT -- joint developments between private developers and a public agency. And there was a program called the Penta-P, Public-Private Partnership Pilot Program. For the first time, the Federal government had allowed projects to be built in the format that we're proposing for the State of New Jersey as well. And they've been very successful around the country.

NJ TRANSIT has also contracted, for years, with private bus carriers to operate bus routes that would be too expensive for New Jersey to handle. I don't know whether this Committee knows it or not, but we've got two kinds of public-private partnerships that have been going on very successfully for years. One is the case where we give buses to a private operator and they provide everything else, and they collect a fee. In other cases, we provide the bus and they provide services. It's been working really well, and it's a good complement to the public sector, and it promotes competition between the two entities. It's like anything else. If you were going to have a service provided for yourself, what's the first thing you do? You don't have the first supplier give you an estimate, and you say okay. You look at another supplier, you look at another estimate to sort of balance everything, not just cost. And that's what we propose to do here.

NJ TRANSIT also has contracts with private companies for maintenance on the Atlantic City Rail Line, and the Secaucus Junction, and

the Newark Penn Station. It also has many leases with private retailers that generate revenue and provide a variety of products and services for passengers using our stations and terminals. The examples I have mentioned are success stories. There can be many more in the future if we allow and enhance public-private partnerships.

Governor Christie created the New Jersey Privatization Task Force and directed it to undertake a fair and independent evaluation of new opportunities to achieve cost savings and deliver better value, deliver projects in a more timely manner, and take advantage of the private sector's expertise and spirit of innovation.

Just because we do a public-private partnership doesn't automatically mean that we're going to throw out the existing workforce and bring in a new workforce. It doesn't mean that at all. The Task Force has had recommendations months ago that were no-brainers for the DOT, which I'd be more than happy to talk about as we have this hearing today, that could save \$13 million -- which is not a lot of money in the overall scheme of things, but it just tells you that things like this, that seem to be no-brainers, are the kinds of things we need to focus on.

The Task Force also has recommendations for many of our sister agencies. It urged the New Jersey Turnpike Authority and the South Jersey Transportation Authority, as well as the New Jersey DOT, to use performance-based highway maintenance contracts which are being done elsewhere in the country -- in Florida and Virginia, but not here. It's something worth looking at.

It's also asked the SJTA to consider advertising and naming rights as a shift from cashless tolls; and going to an all-electronic toll, which

is really a change in technology, not privatization. And in a couple of weeks, the South Jersey Transportation Authority will go out for an RFP to privatize our part-time toll collectors. Now, you'll say, "Why would you want to do that?" It's because the core mission of the South Jersey Transportation Authority is not to be in the human resource business. And the cost and the aggravation to have a rotating workforce of part-time workers is best handled by a company that does that. So we're outsourcing something that's not our core competency, if it moves forward.

Finally, the Task Force has recommended that NJ TRANSIT privatize parking facilities, bus facilities, and bus routes.

With that synopsis, Mr. Chairman, I'd be happy to answer any questions.

Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you, Commissioner. I appreciate you taking the time to be here today.

Congressman Zimmer.

One of the -- and I'll throw it out to both of you, and whoever wants to catch it can-- One of the conclusions, if you will, that the Privatization Task Force report supports-- It says that savings of \$200 million, approximately, can be achieved by implementing these proposals. And in this year's budget, effective July 1, 2010, there's \$50 million allocated as a cost-savings from the privatization, P3, whatever you want to call it, that's in this report.

Where are we at? We're a quarter into the fiscal year. Where is the State of New Jersey at in implementing any of those proposals? And

how much time is needed to implement them? Where do we achieve that savings?

COMMISSIONER SIMPSON: The budget is very complicated, and there are a lot of numbers in the budget. I can't recall them off the top of my head. I apologize. But these things are a little bit more -- they take a little bit more time than one would think.

But two items at the DOT that I can recall is the approximately \$10.5 million to \$12 million for our emergency service patrol. We're doing an evaluation right now. I can elaborate on the emergency service patrol. But basically we provide a road service, which does not include towing. It allows us the opportunity to change somebody's flat tire if they have a flat tire, give them a can of gas, and maybe jump the battery if their battery died. Typically, if we do anything, we're helping them with a flat tire.

Now, the service is not statewide, it's not 24/7, it's really not there when you need it with an exception of a small service area in South Jersey. There's no weekend coverage at all. And typically, as most of you know, our weekends are when we get the occasional traveler or the folks who aren't typically your experienced commuter. And the service doesn't cover the whole state. So we're giving a partial service. And at least half the time, if not more-- And the goal of this-- This is a Federal program. The goal of this program is to decrease the amount of time that a stranded vehicle is on the right-of-way, because of the potential for an accident and also for rubber-necking and congestion.

Well, what happens most of the time is, we get out there-- By the time we diagnose the problem when we get there-- As a matter of fact, I called for a vehicle myself. And after an hour, I couldn't get one. And I'm

the Commissioner of Transportation, and it was only 10 miles from Trenton. This was in the afternoon when there was service. So it's not a full-time service. But what happens is, you've got the vehicle along the side of the road. And the next thing you know, you need a tow truck anyway.

Our proposal is to take that money that's being used for this service-- And we're looking at a couple of things. One proposal is to just do away with it and make sure that we have -- and we do have a backup for it. Right now, when somebody breaks down, they either call roadside assistance, or they call 9-1-1, or they call the local police. And our State Police and our local police officers have phone numbers of towing companies that would pay for the tow, or if you have a car -- or you belong to a AAA or something like that, you're covered. So we're looking at (a) doing away with the service, letting the private sector handle it. That \$10.5 million to \$12 million a year goes toward asphalt.

The second proposal that we're looking at -- that's why these things take time -- is to maybe concentrate that program. Instead of having it scattered, and you don't have full coverage in the whole state, is to use it in your congested areas. We know the most -- and I'm not talking about the Turnpike and Parkway. We know the most congested interstate highways. Maybe concentrate the program, bring it in, run it in the most congested areas -- Newark, Trenton areas -- and have it 24/7, or have it there when people need it on weekends. So we're looking at that alternative.

We're also looking at a public-private partnership where, maybe if you had that scenario, you might be able to reduce costs because you're concentrating it and using less forces, but you're more effective overall in

the state. It's sort of like fishing. You want to fish where the fish are. We've got these tow trucks going all -- not tow trucks, these service vehicles going around the state, and there's not even any traffic in certain areas. So if we can concentrate it to sort of where the vehicles are, that would help.

Also, we're looking at maybe having it co-opted with a private company like an insurance company or any company that wants to have their name on the side of the trucks. It's being done in other states for several million. So that would be a possibility for us to reduce the cost. Give this service where it's needed, focus it, and then put whatever balance would be left into asphalt. But we're not going to keep the program where it is.

So those are the two alternatives, Mr. Chairman, that we're looking at right now. We don't have an answer for you yet, but we should have one very soon.

ASSEMBLYMAN WISNIEWSKI: Just as a follow-up -- mentioned it's a Federal program. So there is obviously some type of Federal match.

COMMISSIONER SIMPSON: Typically our match is 20 percent, but we don't really have to worry about the match. We have so many toll credits and things. But you could say yes, there's a 20 percent Federal match on that.

ASSEMBLYMAN WISNIEWSKI: So the Federal government gives us 20 percent.

COMMISSIONER SIMPSON: No, the Federal government gives us 80 percent.

ASSEMBLYMAN WISNIEWSKI: Eighty percent of the \$13 million.

COMMISSIONER SIMPSON: But our Federal dollars on this are-- I think the maximum is \$12 million, and I think we utilized \$10.5 million last year.

ASSEMBLYMAN WISNIEWSKI: So if we were to do away with this program, we would be doing away with a \$10 million Federal match?

COMMISSIONER SIMPSON: No, the Federal money could be used for other things. It's part of your formula funds from the Federal government so that you can take that money and flex it into asphalt, or pavement, or safety, or other things that are more vital -- more guide rails. It's part of the Federal Highway Aid Program.

ASSEMBLYMAN WISNIEWSKI: So we've made a decision to, instead of doing asphalt, to do service?

COMMISSIONER SIMPSON: Yes.

ASSEMBLYMAN WISNIEWSKI: I'd like to see that information if you can provide it.

COMMISSIONER SIMPSON: We'll get that information to the Committee.

ASSEMBLYMAN WISNIEWSKI: Assuming, hypothetically, that you would go ahead and do this, we're a quarter of the way into the budget year. So when does it get implemented?

COMMISSIONER SIMPSON: I can't give you an answer on that. I don't have an answer for you.

ASSEMBLYMAN WISNIEWSKI: Okay. I have just two follow-up questions for either of you, and then I'll open it up to members of the Committee.

Congressman, in your opening statement you seem to use, interchangeably, P3 and privatization. Do you view them synonymous or are there distinctions between them?

CONGRESSMAN ZIMMER: P3 is one kind of privatization. There are a whole range of activities that involve the private sector -- ranging from procurement of paperclips from a private vendor; to the more sophisticated and comprehensive design, finance, build, operate, and maintain projects that are represented by a P3.

I think it-- Privatization is a very broad term, and I think it is-- I emphasize P3s to point out one area of privatization where I think there should and has been a buy-in by major construction labor unions, by people across the political spectrum as a way of getting things done. So I'd say that they're not identical, but P3 is an important subcategory of privatization.

COMMISSIONER SIMPSON: Mr. Chairman, can I add on to that? It's basically three types: It's an asset type, where you would sell an asset that would belong to the State, let's say.

ASSEMBLYMAN WISNIEWSKI: You're talking about P3.

COMMISSIONER SIMPSON: The three types of privatization you'd have. You'd have asset. Then you'd have contracting services -- we're all familiar with. And then would be construction and operations, which would include the design, build, operate, and maintain,

finance and the like. So anytime you have the private sector involved you could call it P3.

ASSEMBLYMAN WISNIEWSKI: But you would agree that a public-private partnership has the word *public* in it--

COMMISSIONER SIMPSON: Yes.

ASSEMBLYMAN WISNIEWSKI: --whereas privatization is a little more--

CONGRESSMAN ZIMMER: Look, none of our proposals takes the public out of any of these projects.

ASSEMBLYMAN WISNIEWSKI: No, no, I'm not suggesting that. But there are different degrees of privatization. The least degree, perhaps -- in my mind at least -- would be a public-private partnership.

But along that line, my last question is that-- We've privatized some of the functions at DOT already, Commissioner. We have privatized, for instance, bridge inspections. Those are privatized to private engineering firms. And you're aware that there's a report out there -- I forget the exact name of it -- that has said that that can be done cheaper through State employees.

COMMISSIONER SIMPSON: Yes, I'm aware of that.

ASSEMBLYMAN WISNIEWSKI: So in not every case where you privatize a public function do you get a cheaper result. Would you agree?

COMMISSIONER SIMPSON: Let me put it to you this way. As the Commissioner of Transportation, I would -- even if I knew that, on paper, I could do it cheaper -- a bridge inspection in-house -- I wouldn't do it. Because the management and performance-appraisal process in this

State is broken. And I'm talking about -- somebody who was a former senior-level Federal official and someone who was an entrepreneur. You cannot manage the workforce the way the current work rules are in this State and at the DOT. Now, I'm not digging anybody in our Department. But until we can have real reform where you can hold people accountable and get rid of the deadwood, and take care of the good people, I would not, in any stretch of the imagination, look at that report and tomorrow say, "Let's go out and hire in-house people."

ASSEMBLYMAN WISNIEWSKI: You're saying that your workforce is unmanageable?

COMMISSIONER SIMPSON: I didn't say that. I said that the systems are in place so that to manage your people effectively is not there. You're stymied. You can't do it. Until you have real reform with the work rules and the--

ASSEMBLYMAN WISNIEWSKI: But you're talking about your current employees.

COMMISSIONER SIMPSON: Yes, I know that. I know that.

ASSEMBLYMAN WISNIEWSKI: That's astounding.

COMMISSIONER SIMPSON: Well, take a look at the appraisal process -- that you get pass/fail only. There are no degrees, there's no motivation for anybody to work extra hard.

ASSEMBLYMAN WISNIEWSKI: When you talk about *appraisal*, are you talking about appraisal of property or appraisal--

COMMISSIONER SIMPSON: Appraisal of employees.

ASSEMBLYMAN WISNIEWSKI: Of employees. This is a process that, as Commissioner, you manage.

COMMISSIONER SIMPSON: We're managing it. We're trying to manage it. It's a very difficult thing to manage in its current-- Even if the State of New Jersey just followed the Federal guidelines, you could make tremendous reforms; but we don't even have that kind of-- It's probably for another hearing. But I know of the report. And without reform, I would not recommend doing it.

The other thing is--

ASSEMBLYMAN WISNIEWSKI: So you would recommend spending more money for bridge inspection as opposed to doing it in-house and saving money?

COMMISSIONER SIMPSON: You can't, in the current workforce environment that you have, and with the current work rules that you have -- with bridge inspections that can go up and down, you don't have the flexibility to move people within the organization and around the organization. There are a bunch of work rules that make it very difficult. And the performance appraisal-- In other words, you could have a bridge inspector that does a really good job -- does a lot of bridges; and another inspector who is sort of mediocre, and you get pass/fail. So it's very hard to--

ASSEMBLYMAN WISNIEWSKI: But you have that same process now for your resident engineers who are ultimately responsible for overseeing the building of bridges. You're saying that process of evaluating the people who are managing our contracts doesn't work.

COMMISSIONER SIMPSON: No, I'm saying that there's-- Look, you've got really good people at the DOT. I don't want to take this down the wrong path. But there are tremendous opportunities for reform

and improvement within the work rules of the State of New Jersey to really effectively -- to manage the workforce. You really can't manage the workforce effectively.

ASSEMBLYMAN WISNIEWSKI: You're right. This is a hearing that is going to be a much longer hearing, I guess. Because what you've told me is that you can't manage the people who are overseeing the construction of infrastructure, as opposed to--

COMMISSIONER SIMPSON: I didn't say that.

ASSEMBLYMAN WISNIEWSKI: I mean, with all due respect, Commissioner, you did.

Assemblywoman, Vice Chair Stender.

ASSEMBLYWOMAN STENDER: Thank you, Mr. Chairman.

Good morning, gentlemen. Thank you for being here.

I do have a few questions about the -- especially as I reviewed the report. I felt like it was déjà vous all over again. Because after 20-some years of having the opportunity to serve publicly, it's very reminiscent to me of the reports I've seen over time about consolidation -- which basically says, "This can be done. There can be benefits, but we don't know exactly what the cost benefit will be." And that's my concern about this report.

Specifically, when you -- throughout there were references-- And you said there wasn't enough time, which I understand, as the Commission's job-- But the activity-based costing system, which is what the Federal government gives as a guideline, does not seem to have been employed. And I have real concerns about moving -- talking about anything that you can't really give us a cost-benefit analysis on. I mean, in terms of the opportunities, it's very generic what you've suggested out there. And I

believe that our only commodity is service. In fact, I have concerns about moving and making changes that move profit margins into this by publicly traded companies, which is what we're often dealing with. I've seen it go awry. I was here for the E-ZPass debacle from the first Christie administration that gave us E-ZPass. That was a disgrace.

So the public-private partnership piece we've seen go very badly awry. You've mentioned some positives and I respect that. But when I go back to privatization goals and look over what you've identified, for instance, under improved risk management -- where you say, out loud, that part of the benefit of this is because you can save money because you can sidestep compliance with Federal and State environmental regulations -- I don't think that's what we're trying to accomplish. And that concerns me, because a public-private partnership -- I can see where there would be opportunities for making that work. But until you have a real breakdown of exactly what it's going to cost and what that benefit is going to be, including -- are we talking about moving labor costs from a livable wage down to minimum wage? And how are-- What's the role of how employees are going to be trained and compensated? I think all of those things have to be considered. And I am very concerned about those aspects.

It seems to me that obtaining reliable cost data on any proposal must be the first step. Because you're right. You could privatize almost anything, but if we -- at least I believe -- that the government's job is to provide essential services and do it in a cost-efficient manner. I want to know that you've actually compared the costs correctly for tangible benefits and for tangible differences before anything moves forward.

Can you speak to that issue of how you actually get the cost benefits? I mean, we have -- seem to have difficulties within our existing technology infrastructure in this state today, which-- I mean, I think the Motor Vehicle Commission, to their credit -- because there was quite an investment made -- operates beautifully at this point in time. But it didn't used to. And many of our systems cannot seem to produce data. We run into this all the time.

So how are we, as government, even going to make the assessments that need to be made before you confidently compare what you're saying is a cost savings to what it's actually costing?

CONGRESSMAN ZIMMER: I agree with your point completely, Assemblywoman. And you've got to have a good cost-benefit analysis beforehand. The reason that E-ZPass failed was because there was a very bad one done before the contracts were designed and let.

And we recommended, for that reason, that there be a devoted unit in State government that would do the cost-benefit analysis in a very rigorous way. We're modeling our suggestion after a unit in the state government of Florida which-- And I suggest that you go to their website. I think it's called Council on Government Efficiency. What they do is, there are what are called *business cases* proposed. Somebody comes up with an idea in government or outside government -- a potential contractor or stakeholder for a privatization initiative. This unit of government goes to (*sic*), in excruciating detail, the cost and the benefits. They quantify the quantifiable aspects. They deal with the intangibles as well. And then they decide whether to move forward and to privatize a specific proposal. Our suggestions go beyond that -- what Florida is doing. We believe that there

should be a centralized unit of people who are experts at procurement, so that we get the contracts properly drafted so that the bidding process is as sophisticated and focused on performance as possible. And after the contracts are let, this central unit of government would make sure that they're monitored so everything stays on the up and up.

But the first step has got to be a really good analysis of the cost and the benefits. And I couldn't agree with you more that that's something we have not done well enough. And it's a key to successful initiatives in the future.

ASSEMBLYWOMAN STENDER: How would you-- I mean, immediately what I'm hearing is that at a time when the workforce is getting smaller in the State, and budgets have been cut -- that the manpower out there is diminishing -- you're suggesting yet a new function for government, a new layer of government that would be on top.

CONGRESSMAN ZIMMER: A new function, but not a new layer. Not even a new function; a centralized unit that could very well be staffed by existing employees who are expert in procurement, in financial analysis, and in the legal aspects of contracting. We have them in government, and our Task Force dealt with them. They're really excellent. They're in the Department of the Treasury, they're in the Department of Law and Public Safety, they're in some of the operating departments like Transportation. We need not hire anybody. And it doesn't have to be a big unit. In fact, in Florida, the agency that does this is staffed with four -- count them -- four people, and it saved hundreds of millions of dollars.

ASSEMBLYWOMAN STENDER: Moving on from that, because I think we could continue to debate some of those issues about --

well, taking existing people who are already doing existing jobs and moving them into a new function; and then who is going to do the job that they were doing?

CONGRESSMAN ZIMMER: They're doing the job better and more coherently.

ASSEMBLYWOMAN STENDER: But having said that, I don't think that yet speaks to the issue of who makes the decision of what things ultimately get privatized. And I have concerns about one person or one committee. I think it's very -- I think that is not in the public's interest to have just a couple of people making these big decisions, because it's too subject to influence that I don't think could be good, necessarily. That's one thing.

But the other thing-- Let me just say this. Given that we are three months into the fiscal year and have the pressure of needing \$50 million in savings to keep the budget balanced, and have yet to begin implementing any of these privatization proposals-- I mean, how do you avoid these mistakes other than you're just saying you're going to take people you already have, and you're going to move them over, and they're going to stop doing what they're doing so that they can do this?

CONGRESSMAN ZIMMER: Well, the people who I would envision would form this unit of government would not stop doing what they're doing. They would do it in a more effective way. It relates to what the Commissioner said. We have very talented people throughout State government. We can use them in a more productive way so that their capabilities can be better used for the benefit of the State.

I would suggest-- Before I testified I should have consulted with Treasury to get their ongoing score card of savings that go to this \$50 million line item. But I can tell you that NJ TRANSIT -- even before we began our work -- was well on its way to a process where it was going to realize considerable savings by engaging in privatization and public-private partnerships relating to its parking facilities; not just to achieve more resources out of the parking facilities that exist, but actually to use them as the focal point to develop transit-oriented development around our train stations.

That is something I do think you'll see a payoff from within this fiscal year. There are others that I know have been-- Some of our suggestions came from the departments and authorities themselves. And so my thinking is that they were already beginning to take these initiatives, even as we were deciding whether to include them in our report. Unfortunately I can't quantify this at this point. And I would suggest that you ask the Treasurer's Office to do so.

ASSEMBLYWOMAN STENDER: Okay. Which of your proposals that you've gotten-- Because it seems to me that there has to be better oversight than what you're proposing in the structure that you've given. And so I have to ask which of your proposals would require legislation?

CONGRESSMAN ZIMMER: By the way--

ASSEMBLYWOMAN STENDER: Because it seems to me that it's only through the legislative process that we, the public -- as the public representatives really get to see what the -- whether the job has been done

adequately for a cost-benefit analysis, because that continues to be my concern about what you're proposing.

CONGRESSMAN ZIMMER: Well, a lot of our-- Our most significant recommendation on legislation other than to create an organized-- I believe that it would be appropriate to create an organized system for vetting and overseeing privatization initiatives of the sort that I described.

Also, I would very much recommend that you seriously consider passing P3 legislation. A lot has happened since the legislation that was passed in 1997. There were three projects built under that legislation. They were all successes. And other states like Virginia, and now Pennsylvania, have really gone further in the area of P3s. That would require legislation. Only independent authorities -- quazi-autonomous authorities like NJ TRANSIT and the Delaware River Toll Bridge Commission, which is doing the Scudder Falls Bridge, are in a position to do major infrastructure projects. I would urge your Committee to consider P3 legislation if for no other reason than to be able to use P3s as part of the response to the expiration of the Transportation Trust Fund.

And I would urge you, when you do that, to make sure that you have the kind of control, and oversight, and cost-benefit analysis that you referred to. It's part of any appropriate and successful privatization initiative.

ASSEMBLYWOMAN STENDER: Thank you very much.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblywoman.

Assemblywoman Bonnie Watson Coleman.

ASSEMBLYWOMAN WATSON COLEMAN: Thank you, Mr. Chairman.

This was quite a lot to read last night, and a lot of work went into this. And I'm not necessarily opposed to privatization when it works. But I'm very concerned with some of the experiences that we have had; and some of, I think, the underdeveloped ideas that are contained in this report, with expectations that don't seem to have, really, any sort of evidence base associated with accomplishing them.

So I have a couple of questions for you, Congressman, first to the extent that you know -- given that we are four months into the new year. There is a \$50 million expectation of savings. Where are we in that process in this budget?

CONGRESSMAN ZIMMER: As I mentioned to Assemblywoman Stender, I'm sorry that I don't have the financial data for you. I should have asked Treasury for it, and I suggest that you do so. But I can tell you that in our internal calculations, we concluded that it was well over \$50 million in the first year.

ASSEMBLYWOMAN WATSON COLEMAN: Within this budget.

CONGRESSMAN ZIMMER: In the first year was easily achievable by the combination of our recommendations.

ASSEMBLYWOMAN WATSON COLEMAN: I guess one of my concerns is, one of the things that you said -- that the goal of privatization or the public-private partnerships should be lower costs, improvement of services, access to private capital. Are those *ands* or *ors*?

CONGRESSMAN ZIMMER: They're *ands*, and there are more *ands* beyond that. There are many benefits that are available.

ASSEMBLYWOMAN WATSON COLEMAN: So it is proposed that in order to determine what should be privatized -- how it could be privatized and how the cost could be saved, we would be creating this super entity, using existing people or otherwise, who will have numerous responsibilities: not only monitoring the procurement of contracts and how they're designed, not only what kind of skill set you need, but somebody is even going to envision what should be privatized based upon their expertise.

CONGRESSMAN ZIMMER: Yes.

ASSEMBLYWOMAN WATSON COLEMAN: So I guess since this may exist department by department, how does something like this megastructure, this additional level of bureaucracy, get formed within a period of time that you could even make a determination as to what could viably be saved in this fiscal year?

CONGRESSMAN ZIMMER: Well, I would urge you to consider legislation to accomplish it. I think the Governor can, within his executive powers, do so administratively probably with not as much detail and clear authority as can be done by legislation. It was done legislatively in Florida, which was our model.

ASSEMBLYWOMAN WATSON COLEMAN: May I ask a question on that? What you're suggesting is that this entity, this super entity, would be developed legislatively, although the Governor could conceivably do it administratively--

CONGRESSMAN ZIMMER: It could be done--

ASSEMBLYWOMAN WATSON COLEMAN: --through his executive powers, but perhaps not as thoroughly as if it were vetted legislatively?

CONGRESSMAN ZIMMER: Perhaps I'm showing my prejudice as a former State legislator. I'd rather have it done by the Legislative Branch. But I do believe that the powers of the Governor are sufficient that it could be done by him.

ASSEMBLYWOMAN WATSON COLEMAN: But it doesn't exist in this form. So on September 15 or 16, whatever this super entity is going to be has to be designed, has to be assigned, people have to be identified, and then it has to be charged, and then hopefully it will design--

CONGRESSMAN ZIMMER: Okay. The fact is that these functions are being done already by the Department of the Treasury, by the Department of Law and Public Safety, by the operating departments. Sometimes they're paying large amounts of money for outside contractors to do this kind of analysis which we would save if we could do it in-house.

So it is not a prerequisite to moving forward. The State has done a lot of initiatives without this entity. We just believe that the entity would make it -- would be better able to identify appropriate subjects for privatization and reject the inappropriate ones, and also to manage it better. Because we've had failures in the past.

ASSEMBLYWOMAN WATSON COLEMAN: Thank you, Congressman.

I think that that is a big concern of mine -- the compressed way in which we might be moving forward; and the fact that we're thinking a lot of what can be done and what can be accomplished, and we're thinking

what could be saved and what could be done better -- but we don't really know, because we don't have any evidence-based information upon which to make those decisions. So it's almost a leap forward in faith, and I have no idea if that's appropriate in this setting.

Thank you.

CONGRESSMAN ZIMMER: I respectfully disagree with that.

ASSEMBLYWOMAN WATSON COLEMAN: I understand that.

CONGRESSMAN ZIMMER: It's one thing-- We were discussing setting up an administrative unit, but we do have a lot of evidence that could be applied by people in the existing structure.

ASSEMBLYWOMAN WATSON COLEMAN: We most assuredly have a lot of evidence on what has not worked and even in the things that have worked. So we do have evidence. We just don't have the infrastructure put together the way you suggested it needed to be in order to ensure that the right decisions were being made as to what to privatize; that the manner of oversight is established; that we determined the ratio of oversight to activities being done by outside contractors; and on, and on, and on, and on. I mean, there's a lot to do here if we're going to do it right.

CONGRESSMAN ZIMMER: There is. But to give credit where credit is due, the Chairman and others in the Legislature, when they analyzed E-ZPass and the problems involved, successfully enacted legislation to deal with some procurement problems that were revealed by E-ZPass. And I won't say that sort of thing will never happen again, but EnCap, other failures, have given rise to legislation. That legislation, however, has been piecemeal, and we would -- we think it could be -- we

could better manage the privatization that's been ongoing, through Democratic and Republican administrations, through some kind of coherent system.

ASSEMBLYWOMAN WATSON COLEMAN: Right. And we do have an opportunity, if given the time necessary to evaluate what is in the best interest to do, and how to do it; and how to ensure that it's done properly without having to correct, after the fact, something we should have gotten in the very beginning.

CONGRESSMAN ZIMMER: I agree.

ASSEMBLYWOMAN WATSON COLEMAN: Thank you.

Commissioner, I wanted to talk to you a little bit about two areas. One is the South Jersey Transportation Authority's part-time toll collecting. I don't know why it's part-time, and I don't know why it's not considered a core function of a transportation authority whose responsibility is the Atlantic City Expressway. And I would like to know what we think we could save -- because do we know what it costs?

COMMISSIONER SIMPSON: I think that's a good example, because what I've been hearing-- And I've been listening, because they always say a good witness listens rather than talks. We're talking about a couple of things. Really, this privatization thing-- One of the areas is contracting out of services, which I think is a hot button for everybody for a whole bunch of reasons that we're all familiar with.

So let's take the South Jersey Transportation Authority and the part-time toll takers. When you have seasonality -- and I don't think anybody would argue that the South Jersey Transportation Authority has seasonality on its toll road. Obviously, in the summertime with everybody

headed to the shore, you need -- and also on the Garden State Parkway -- you need a whole bunch of part-time workers. It makes no sense to have full-time workers. That stress of hiring on the Garden State Parkway and Turnpike -- let's say, 500 people for a short period of time -- stresses the human resource departments of either agency. You could pick either agency. Plus, the work that's involved for the full-time people to try to determine who is best suited for the job-- It's just a very timely, onerous process to--

ASSEMBLYWOMAN WATSON COLEMAN: A lot of those positions get taken by college students and things, right?

COMMISSIONER SIMPSON: Yes, that's correct.

ASSEMBLYWOMAN WATSON COLEMAN: So at a kind of nominal--

COMMISSIONER SIMPSON: Yes.

ASSEMBLYWOMAN WATSON COLEMAN: Do we have any idea what it actually costs to run that sort of seasonal response versus what it would cost -- as well as ongoing -- as opposed to what it would cost if a private entity were doing it?

COMMISSIONER SIMPSON: Yes. And to do this right really captures the essence of contracting out services, which I don't really call PPPs, even though it is. The big stuff is the infrastructure that I'd like to talk about in a moment.

Here's what happens: When this goes out-- Now, we know--

ASSEMBLYWOMAN WATSON COLEMAN: I just wanted to know, do we know?

COMMISSIONER SIMPSON: Yes. The answer is yes. Obviously we would be very bad accountants and managers if we didn't know what it would cost for that.

ASSEMBLYWOMAN WATSON COLEMAN: So it would just seem for us -- that we'd like to know those figures. We'd like to know, tangibly, what something costs, whether or not it is an adequate service or deficiency in service, and what we're proposing, and what it would cost, and what would be the mechanism for ensuring that level of service. as well as the cost-savings.

COMMISSIONER SIMPSON: You laid out-- You basically laid out the process. You know what it costs to deliver the service as is. You know what the quality of the service is. And now if you go out for an RFP, and you had a private company come in and say, "Look, we're going to take the headache away from you. We will supply you. We will make sure that you have so many--" I hate to use toll collectors, because they always get hit. It could be anything. It could be any kind of a service where you need a whole bunch of people for a short period of time, or any kind of other service, and you do an analysis. The leadership-- Right now, we have the authority to do that. We don't need legislation to do that. So we could just go ahead and do that. And if you're unhappy with it, my understanding is that you hold a hearing, and you hold us accountable as the Executive Branch.

So to me, that's the stuff that you really should be doing on a regular basis. And guess what? You aren't always giving it to the private sector. There are cases in this state -- NJ TRANSIT -- where we do an analysis like that. Guess what? The public sector is actually less money

than the private sector. That's a good thing. You've got a balance, you've got a competition. So sometimes you stay with the private, sometimes you stay with the public.

This whole thing about PPP legislation-- I think the big thing is-- And I can give you an example. It's probably the easiest way to do it. The Scudder Falls Bridge -- this new bridge we're proposing over I-95--

ASSEMBLYWOMAN WATSON COLEMAN: You know what? I'm okay. Because my question is: Do we know the cost now? Do we know what the cost -- what will be saved and what will be the process for oversight?

COMMISSIONER SIMPSON: Yes.

ASSEMBLYWOMAN WATSON COLEMAN: So in terms of the question that I asked, we don't know the cost now, and we don't know-- If we do, we haven't brought it here. We're not prepared to discuss it today.

COMMISSIONER SIMPSON: No.

ASSEMBLYWOMAN WATSON COLEMAN: So I want to go on to something else.

COMMISSIONER SIMPSON: Okay.

ASSEMBLYWOMAN WATSON COLEMAN: Are you at all aware of a right-of-way privatization at DOT in the 1990s, I believe in Governor Whitman's Administration?

COMMISSIONER SIMPSON: No.

ASSEMBLYWOMAN WATSON COLEMAN: And perhaps you might want to look at it, because it might inform you in the future as it relates to privatization in the Department. But it failed so miserably that

within a year we were back in the Legislature trying to kill that contract and rehire people.

COMMISSIONER SIMPSON: For right-of-way?

ASSEMBLYWOMAN WATSON COLEMAN: I think it was a right-of-way function -- that or a surveying function.

COMMISSIONER SIMPSON: Sometimes it's the process. It's like you don't want to throw out the baby with the bathwater.

ASSEMBLYWOMAN WATSON COLEMAN: It was the contract; it was poor performance, I believe, and it was dashed expectations. And they ended up having to -- as they always thought, those who were representing those employees -- that the work could be done more efficiently, effectively, and cost-effectively in-house, which takes me back to the bridge inspection.

That will be my last question, Mr. Chairman, because I see your hand is getting ready to cut off my microphone here. (laughter)

I guess I'm a little bit lost here by two things. Number one is that if you were to take over, again, the bridge inspections -- that are a subject of this contract that someone has done a report, that I'm sorry I haven't seen -- where it could be done more cost-effectively in-house. You would have to hire more people, right -- people do this -- or you would be using the existing workforce?

COMMISSIONER SIMPSON: I can get you the exact numbers, because it is a big Department and there are other departments. Some bridge inspections we do ourselves. Other bridge inspections we don't have the in-house expertise-- We just don't have the expertise, and we don't have the personnel. So we outsource it. We contract out for it.

ASSEMBLYWOMAN WATSON COLEMAN: So you would have to-- If, for some reason, you made a determination that this contract that exists now is too costly and you're not getting your bang for your buck, you would have to hire people if you were going--

COMMISSIONER SIMPSON: I'll tell you the truth. My concern is not cost, really. I mean, my concern is cost. Let me just-- With bridge inspections, it's a very critical asset. You don't want to have a bad-- It's like surgery. You don't want to have a bad surgeon. You don't want to have a bad bridge inspector.

ASSEMBLYWOMAN WATSON COLEMAN: I agree. So do we have any reason to believe that you have deficient inspections by in-house people of bridges?

COMMISSIONER SIMPSON: No.

ASSEMBLYWOMAN WATSON COLEMAN: Because I really don't want anyone to put a checkmark beside a bridge that may not be safe either.

COMMISSIONER SIMPSON: Bridge inspections are probably a bad example, because it's really mission-critical. And whenever -- in Transportation or, I guess, anything in the State -- but I will just speak for Transportation. Whenever you have a safety nexus, there are really no shortcuts. So my earlier comment really was a 30,000-foot comment relative to the Department of Transportation and other agencies.

But with respect to bridge inspections, you have my assurances that whether it's contracted out or it's in-house-- And at the end of the day, those folks who do the actual bridge inspection -- we do have inside.

But if we're using an outside contractor, in-house people are looking over their reports to make sure they're right.

ASSEMBLYWOMAN WATSON COLEMAN: So there is competency inside the Department of Transportation to either inspect it or to oversee the inspection of it.

COMMISSIONER SIMPSON: Absolutely. And I'll let this Committee know now, we do have a shortage of expertise on bridges. People are retiring, and it's very difficult, for a whole bunch of reasons -- even if you were so inclined to bring people on board -- to get those people.

ASSEMBLYWOMAN WATSON COLEMAN: So then if we have the expertise, and we have the competency inside, and now there is a report that says we could do it cheaper, wouldn't those be the reasons to bring it back inside?

COMMISSIONER SIMPSON: Well, you know what? Once again, I'm sure there will be another hearing on this. I probably spoke too much. But you have to do the full analysis. How many bridge inspectors do you have? What is their full cost? What does the office space cost? What is that analysis? And what are the other benefits that accrue with that? Sometimes--

ASSEMBLYWOMAN WATSON COLEMAN: Did you read that report? Are you familiar with that report?

COMMISSIONER SIMPSON: There are like 600 reports. I think I read through the executive summary six months ago, and I haven't looked at it since.

ASSEMBLYWOMAN WATSON COLEMAN: I would hope that they would have done that kind of analysis before they made those recommendations and conclusions.

Thank you.

COMMISSIONER SIMPSON: And I'm saying, right now, we could use more bridge inspectors in-house. I want to make that clear.

But the point is that you really need to do a full analysis. We have the report. The report is a couple of years old. We have been doing an analysis. We have not-- We're doing a whole bunch of analyses. You just can't do them all overnight. So at a future date we'd be able to get back to this Committee and tell you the results.

ASSEMBLYWOMAN WATSON COLEMAN: Thank you, Commissioner. You know, as a former employee of the Department of Transportation in my young life, I found the workforce exceptionally competent.

COMMISSIONER SIMPSON: Me too. Thank you.

ASSEMBLYWOMAN WATSON COLEMAN: Thank you.

Thank you, Mr. Chairman.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblywoman.

I'm going to go to Assemblyman Rumpf.

But one of the things that you have to help us with, Commissioner, Congressman, is that a lot of the answers are that these things take analysis, they take time. Fair point. We're a quarter of the way through a budget year that anticipates \$50 million in savings from these things that take time and take analysis. And so I need somebody to

reconcile with the-- What do you mean these things take time? Because you've got only three-quarters of a budget year left to come up with \$50 million. Are you talking about this takes six months, does it take nine months? Because then you're going to be into the next budget year.

COMMISSIONER SIMPSON: You know, as the Commissioner of Transportation, I come to work every day--

ASSEMBLYMAN WISNIEWSKI: I would hope so.

COMMISSIONER SIMPSON: --under those pressures, knowing that I want to get this done. So I share your concerns as well. Our goal is to get there.

You know, the first thing we did was we--

ASSEMBLYMAN WISNIEWSKI: Commissioner, I appreciate that. And I don't mean to cut you off. I don't want this to sound the wrong way, but I feel like we're dancing here. Because the question is: If it takes time, how much time? Because you've got nine months left to come up with \$50 million. If it doesn't take that much time, then the discussion about all these things are complicated-- For instance, the issue about bringing bridge inspection back into the DOT-- I've been in the Assembly 15 years. I've been made aware of that report probably over a decade ago. And then there's been subsequent reports done both by the DOT and done outside the DOT that come to those same conclusions. So if a decade of studying this issue is not sufficient, how do we get nine months to come up with \$50 million?

COMMISSIONER SIMPSON: Well, you know, like anything else-- And I'm not saying this, but I'm saying it. If, at the end of the day, we don't-- I'm speaking for myself now. If I can't make that number, then

I failed a certain part of the-- We try. We set up a number. I think this is probably a conversation for a future point in time to see how we finally vet this.

ASSEMBLYMAN WISNIEWSKI: So my understanding, if I'm correct, is that that number is kind of an estimate. It may not be real.

COMMISSIONER SIMPSON: Right. It was a goal.

ASSEMBLYMAN WISNIEWSKI: Okay. It's in the budget, and just-- We would assume that when we're voting on things in the budget that they're real.

Assemblyman Rumpf.

ASSEMBLYMAN RUMPF: There we go. (referring to PA microphone)

Congressman--

CONGRESSMAN ZIMMER: One second.

ASSEMBLYMAN RUMPF: Sure, go ahead.

CONGRESSMAN ZIMMER: When we were calculating the savings, as a Task Force we assumed that they wouldn't kick in until January 1 on the average. So to get to \$50 million, we actually recommended \$100 million for the first year. So there is time for this to happen. And as I said, I don't have the specific progress report as to the savings to date. But I'm quite confident that more than \$50 million will be realized in savings.

COMMISSIONER SIMPSON: (speaking off mike) And this includes-- And I'm looking at this--

ASSEMBLYMAN RUMPF: Turn your mike on, Commissioner.

COMMISSIONER SIMPSON: Some of these numbers include the authorities that don't hit the general budget. So they're outside of the budget, but they're still savings.

ASSEMBLYMAN WISNIEWSKI: As we speak today, am I correct in understanding that you don't have a number that you can tell me?

COMMISSIONER SIMPSON: No, I don't have a number that I can tell you today. And you know what? Part of this process is this process that we have-- You know what? My hearing, when I confirmed back in February or March -- and also at my budget hearing -- when I talked about doing away with ESP, there was a firestorm of controversy on both sides of the aisle: "What do you mean? What are you doing?" So there's a whole bunch of listening, and, "Maybe we're going to craft it a little bit differently, and maybe it's not going to be all privatization, if you will." So some of this stuff has been give and take, which I think is part of the process.

I mean, I alluded to the fact earlier that we may not just do away with ESP. We may do a more concentrated program where we have inquiries and try to get a subsidy. So we started, when we put this together-- I think we were 60 days into the administration. So as part of the process with stakeholders, including this legislative body, things are subject to change. So that \$12 million that we're counting on at some point in time may wind up only being \$7 million or \$8 million. I hope that answers your question.

ASSEMBLYMAN WISNIEWSKI: I think the answer I'm getting is that, as we sit and speak here today on September 16, we don't

have a definitive answer on where we're at in coming up with the \$100 million annual basis savings that would result in a \$50 million savings for the current fiscal year.

COMMISSIONER SIMPSON: We don't have an answer, but we're on our way.

ASSEMBLYMAN WISNIEWSKI: Okay.

Thank you, Commissioner.

Assemblyman Rumpf.

ASSEMBLYMAN RUMPF: Thank you.

Congressman, I wanted to thank you and your Commissioner for putting together this report. I believe it does contain a number of innovative ideas. I believe we're in an era where we have to be creative, thinking outside the box. Privatization, as everyone has stated, is very potentially a part of that solution.

One of my problems, quite frankly, with Executive Order 17, which created your commission, is it empowered you to analyze the savings that might be achievable within State government. Right now we are sitting here on September 16. The Legislature, back in July, passed a 2 percent cap affecting all of our counties and municipalities and, quite frankly, without the toolkit items that are so desperately needed. Each and every town within my district -- and I'm sure all of my colleagues are hearing the same thing -- government is not going to work at the local level either. I would like to have seen Executive Order 17 extended to allow you to share with our regional and local governments the ability and the potential that might be there for many of our localities to also benefit from some cost savings. Because we all know it certainly is going to be needed.

And if the message could be taken back to the commission, should you meet following your dissolution on May 31, I would, quite frankly, like to see your mission expanded.

CONGRESSMAN ZIMMER: Could I respond to that, Assemblyman?

ASSEMBLYMAN RUMPF: Sure.

CONGRESSMAN ZIMMER: It may not have been explicitly in the Executive Order, but it was something that we focused on because amongst our membership were a former freeholder, former councilwoman. And we realized that the municipalities, counties, and school districts are under tremendous budget pressure.

We met with the League of Municipalities, School Board Association, the counties and asked them explicitly to identify impediments to privatization that they saw. And other than civil service, and collective bargaining agreements, and prevailing wage legislation, they really couldn't identify any impediments. The more candid of them said that the principal impediments to privatizing at their level were political.

So if you contract out for a service that is publicly paid for at the local level, you get the individuals who have the jobs and all their families showing up at your next council meeting and denouncing you. So we did focus on it. The reason why the report doesn't include recommendations for counties, municipalities, and school boards is because they weren't able to identify anything other than those items that I mentioned to you.

ASSEMBLYMAN RUMPF: So what you're saying is that once we get working on those toolkit items, if you will -- collective bargaining,

and civil service, etc. -- privatization techniques may well aid the local municipalities, school boards, and counties.

CONGRESSMAN ZIMMER: They'd be of better use.

But I will tell you, there are privatization initiatives at the local and county level involving water supply, corrections, etc., etc. When I spoke to some legislators about the work of the Task Force, they bragged about what was going on -- and these are Democrats -- they bragged about what was going on in their counties or their municipalities in the area of privatizing services. And so there is a lot of activity going on, and I think it should be shared amongst the municipalities, the counties, and school boards so that others can do it.

ASSEMBLYMAN RUMPF: Thank you.

Commissioner, one of the recommendations that is particularly intriguing, in my view, is the performance-based maintenance contracts. Presently, we do not have any such arrangement existing within this State. Is that correct?

COMMISSIONER SIMPSON: I'm sorry, which contract?

ASSEMBLYMAN RUMPF: Performance-based maintenance contracts for DOT. I find that to be particularly intriguing. I understand Virginia has implemented such a system and has found success with it. And as I understand the Virginia story, the success is not just with the 6 to 20 percent cost savings, it is also with the quality of the work being performed and the roadways, quite frankly, being in better shape by virtue of the letting out of those privatized contracts.

COMMISSIONER SIMPSON: Right. Yes, that's something that we plan on looking at as well. It's a relatively new procurement

procedure. Virginia does have rather -- does have good success with it. So we're looking at that as well. We don't have numbers yet on that. But it would be something to consider.

ASSEMBLYMAN RUMPF: Would you look to try a test case along a particular roadway?

COMMISSIONER SIMPSON: Yes. We wouldn't want to go to the whole state. We'd want to try-- We've got a very-- Our traffic and our highways are much more congested than Virginia's, except for the northern Virginia area. So we would do something in a controlled environment that we would experiment with. And if we have good success, then we could expand it -- a section of interstate highway -- let's say maybe from 80, from the Pennsylvania border to Morristown, or something like that we might do.

ASSEMBLYMAN RUMPF: All right, appreciate that.

And with regard to the issue of vehicle inspections, it's my understanding that, presently, when we pay our registration fee that a portion of that registration fee is designated for the vehicle inspection. And, in fact, it gets passed along to Parsons who performs the inspections.

In terms of any privatization in which we get rid of the State-run inspection stations, what is to preclude us from holding steady that same registration fee and simply sending the vehicle owner a voucher to take to a private shop?

COMMISSIONER SIMPSON: While I serve on the DMV Board, I'm not involved in the day-to-day, so I couldn't answer that question. I can get that for you though. I'd be more than happy to provide that to you.

ASSEMBLYMAN RUMPF: I'd appreciate that.

COMMISSIONER SIMPSON: And can I state for the record, particularly for Assemblywoman Coleman, that 50 percent of our bridge inspections are done in-house, and obviously the other 50 percent are done outside.

ASSEMBLYMAN RUMPF: Thank you, Chair.

ASSEMBLYMAN WISNIEWSKI: So which percent does a better job?

COMMISSIONER SIMPSON: I'll get back to you. I don't know.

CONGRESSMAN ZIMMER: They both do a great job.

ASSEMBLYMAN WISNIEWSKI: That's what I figured the answer would be.

Assemblyman Prieto.

ASSEMBLYMAN PRIETO: Thank you, Chairman.

Good morning, Congressman.

Good morning, Commissioner.

Thank you so much for the testimony today.

There's been a lot of talk, and I may repeat a couple of things. There's one thing-- We talked about the successes of public-private partnerships, which I think is a little bit different than total privatization. We don't know the actual cost. But have we looked at what it would actually take to reverse it? I've read reports that over 50 percent of the time when you do have privatization it's taken back because there are problems -- cost overruns. It's not good for the general public, so we have to step back in. Has it been thought out -- of any of this -- what would be

the impact and the cost of taking it back? And either one -- if anybody wants to--

CONGRESSMAN ZIMMER: I'm unfamiliar with that 50 percent figure. But one of the reasons we're proposing that there be a centralized oversight of the vetting process and the cost-benefit analysis is to make sure that we do it right the first time, rather than incur the cost of reintegrating the service into the public workforce. And one of the recommendations that we included in our report is that, wherever possible, public employees be given the option to bid against a proposed private contractor. And in many cases throughout the country and at the Federal level where that is provided -- that opportunity -- the public employees win. In fact, far more than half the time at the Federal level, when they're given that opportunity, they prevail. But they very often come back with a much more efficient delivery system, sometimes doing away with middle management, that serves the public at a lower cost.

ASSEMBLYMAN PRIETO: But sometimes what happens is, to project so far into the future is very difficult. Sometimes we create legislation-- And being a legislator yourself, you know that sometimes you have to do additional legislation even to correct that, even in the short-term. So we're talking here about long-term. When we talked a couple of years ago about monetization of the Turnpike, those were challenges that we talked about. So I think those are concerns.

One other thing that I'm a little perplexed-- We talk about -- and the Commissioner talked about there's a bill about savings for toll collectors privatizing. And then I hear we're talking about being able to keep the same workforce. It's not getting rid of the workforce. So if that's

there, why wouldn't we be trying to be more efficient, save money? Because we're going to be outsourcing it to somebody who wants to make a profit. So why not have that here? Why couldn't we implement that if we're thinking of keeping these jobs and saving these toll collectors?

COMMISSIONER SIMPSON: That's really a good question. And we are doing that. We are injecting the -- call it entrepreneurial government, if you will. We're trying to operate all of these agencies with the best practices of good government and the best practices of the private sector.

It gets to a whole bunch of things, but let me answer your specific question. We have not made a decision that those part-time toll collectors are going to, somehow, disappear, and it's going to wind up in the hands of the private sector. That's an analysis that has to happen. But if you look at changing technology-- I've been on the record saying we're going to go to an all electronic toll at the South Jersey Transportation Authority in a little over a year. And at some point in time I can envision, in the not too distant future, the Garden State Parkway going to an all electronic toll where you don't need those toll collectors at all. What do you do with them? They've been-- Technology has changed the job where they're not needed anymore. So the goal is -- and I've had conversations with the unions that -- "Hey, can we take those folks and maybe let them fix guide rails or do other things within the agency?" So those are the kinds of things that this Administration would look to do. We don't just want to cast people out on the street because they've been outsourced to technology in that case. It's not even a privatization of people, it's a technology change.

ASSEMBLYMAN PRIETO: And with technology also, there are always glitches. So you always have to have people. And that probably would be a backup. So toll collectors -- probably on the whole you could never get rid of them. And I know people who, to this day, tell me that there is no way they'll have an E-ZPass, which I don't understand why. But that's a thing to consider. So technology may not-- The human workforce -- there's a need for it.

Just the last point that I want to make is: On the local level, on the municipal level that I work in, I've always seen that when you tend to do things in-house, a lot of times they are a lot cheaper. And I know we talked about the bridge inspections and all of that. But if you do it right-- And I know working government, as a business, is very difficult, because there are a lot of challenges there. But if you make the changes to be able to do that, doing things in-house always seems to work out the best, and you can keep control of it. Because when you go outside, you still need to have that layer of oversight. Does that become a bigger layer, as one of my colleagues mentioned before-- that you then may be taking people who were doing some job; creating that job, so you're creating more work for them, and give that-- So that needs to be thought out correctly before we proceed.

Thank you, Mr. Chairman.

COMMISSIONER SIMPSON: Agreed.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblyman.

Assemblyman Rudder.

ASSEMBLYMAN RUDDER: Thank you, Chairman.

Just generally, philosophically speaking, when you approach looking at public-private partnerships or privatization, what main programs

do you look at? Is it services, is it something from a capital perspective? I mean, as you're approaching these tasks, and read your report, and as you're looking at these things, what do you find to be the easiest solution? What's the hardest solution? What are lessons learned from the E-ZPass, Parsons debacles when they were first initiated? And then also, should public employee unions be concerned through this process? What level of interaction are you engaging in our current state workforce?

CONGRESSMAN ZIMMER: As far as which proposals -- which functions of government should be considered for privatization, we took the advice of the former mayor of Indianapolis, Mr. Goldsmith, who was recently hired by Mayor Bloomberg of New York City to be his Deputy Mayor for Operations. He was a pioneer in privatization. And he's applied what he called the *Yellow Pages test*. If a service or function is listed in the Yellow Pages or is otherwise commercially available, it should be a candidate for privatization. You should have an effective cost-benefit analysis to make sure that it makes sense in this particular context.

But we should look at the whole range of activities of State government. There are some that are inappropriate that-- The Governor told us we should not look at the State Police, for instance, as a subject for privatization. I suppose you could outsource it to Blackwater. I don't think that would be advisable.

On the other hand, there are a whole lot of services that generally you don't consider to be subjects for privatization, which have successfully been privatized in other states and municipalities. New Jersey, which was a leader in this area when it passed the pilot legislation in 1997, is way behind a lot of other states now. And so I would not try to-- I would

have the broadest net possible for candidates for privatization. But as I said, before you move forward, you've got to analyze what in Florida is called a *business case analysis*, and look very carefully to make sure you're doing it -- you're making the right decision.

As far as engaging the labor unions, most -- virtually all the public employee unions did participate in our process. And the CWA was very active at our hearings. And a number of their recommendations ended up in our report. It's been the experience, starting with mayor Goldsmith of Indianapolis, and throughout the history of privatization, that the most successful efforts of privatization have been collaborative -- working with the state, or municipal, or county employees rather than in an adversarial relationship.

In some cases, there are bound to be disagreements. But especially when employees are given the option to have a fair opportunity to compete against a proposed private contractor, and to point out how, in specific cases, they can be more efficient; and to create more efficiencies in the process than currently exist, because they know the process better than anybody else -- that's when privatization works the best.

ASSEMBLYMAN RUDDER: Great, thank you.

Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblyman.
Assemblyman Milam.

ASSEMBLYMAN MILAM: Commissioner, Congressman, welcome. I thank you for being here. You, maybe after this, won't thank us for you being here.

But, Commissioner, the road service kind of peaked my interest. I see it on the road, because they kind of service the southern part of 42, 55, 295. What is the size of that fleet, that department?

COMMISSIONER SIMPSON: It's about 60 or 70 vehicles and about 97 individuals. It's less than 100.

ASSEMBLYMAN MILAM: Are motorists charged for those services?

COMMISSIONER SIMPSON: No.

ASSEMBLYMAN MILAM: How come?

COMMISSIONER SIMPSON: I didn't set it up. I would charge them, quite honestly.

ASSEMBLYMAN MILAM: Has it ever been considered? I mean, I know you talked about outsourcing it. Is that part of the consideration? If you keep it, they're going to be charged?

COMMISSIONER SIMPSON: No. Probably the Administration, to charge them-- It would cost more than they charge. And I don't think we want to get into that business. And it's already there. It's like the Congressman said, if you find it in the Yellow Pages, why not look at outsourcing?

To me, the private sector is already there. This service, if you will, is actually -- it's subsidized by the taxpayer, and it's competing with private-sector companies that are already paying income tax that have plants and facilities. We're competing with tow truck operators and repair shops. And the taxpayers are paying for it, and we're providing a marginal service. So to me, I don't know if that's the business of government.

ASSEMBLYMAN MILAM: When was it started, do you know?

COMMISSIONER SIMPSON: This is part of a Federal program that allowed-- I don't know when, but it's been around for a while -- at least 10 years. It's a Federal program that is used-- Excuse me, it's a Federal program. And the money is flexible. You can use it for different sources. And this was started as a congestion mitigation kind of a thing. You have a car break down; and as a result of a car breaking down, you have fender benders, and slow traffic because people are rubber-necking and the like. So it sort of morphed from there. And it's one of those things that has never been analyzed. "Hey, it's good. The Feds are paying for it. Nobody is paying for it. Let's do it." And in good times, you could argue that it made sense. It was an extra service that you were giving to the taxpayer, but it's not a full service.

ASSEMBLYMAN MILAM: But it's a cost now to the Department, right?

COMMISSIONER SIMPSON: What it is, is an opportunity cost. The opportunity cost of providing that service is not providing more asphalt, and filling broken roads, and such.

ASSEMBLYMAN MILAM: So is the Federal government paying for the service then?

COMMISSIONER SIMPSON: We're really paying for it. We get a formula of money that we send to the Feds, and then the Feds send it back to us, and they tell us how we can spend it. So there isn't any such thing as a free lunch. We're paying for it, as taxpayers. It's a matter of: How else could you use those funds to get the biggest bang for the buck?

And the way we look at it is, we'd rather have that money go toward something else that improves the performance of the roads, let the private sector do it; or, as I said, through this -- through the stakeholder outreach and all of that -- and the legislators -- maybe there's a hybrid that we could create that may be a better model.

ASSEMBLYMAN MILAM: Did you say it earlier -- if you did, I missed it -- the cost of that operation -- just that operation?

COMMISSIONER SIMPSON: It's between \$10.5 million and \$12 million a year.

ASSEMBLYMAN MILAM: I know on the -- to privatize that, or whatever the word is -- the Turnpike example.

COMMISSIONER SIMPSON: We're not talking about the Turnpike and the Parkway.

ASSEMBLYMAN MILAM: I'm going to though. I'm going to make a point of what could happen here.

New Jersey Turnpike -- you break down. I'm going to even go into the commercial vehicle side from personal experiences, other experiences I hear from colleagues in my own business as well. You break down, a tow truck is dispatched to you. There is a regulated fee. I'm going to say -- I think it's \$450 to get you off that Turnpike; \$450 is spent now. Now you're off the Turnpike. The tow truck has paid his toll. Now you are, because you're hooked to that truck, under his per-mile, per-hour, per-day storage, per-day -- they're out of control. This could happen here. There has to be real tight regulations of what they could charge someone for that \$2.65 gallon of gas that they gave them to get them to the next station. Are they going to charge them \$450? I really would like to think that that

was going to be a real control factor just for our general motoring public. I'm not talking about commercial now. I'm talking what happens on the Turnpike. Yes, they'll be there, they'll tow that vehicle, they'll get them to the garage, they'll maybe take advantage of someone that's not as mechanically inclined and say, "You need this, this, and this." You could just see this happening if it would continue.

COMMISSIONER SIMPSON: No, we're not towing, so your example--

ASSEMBLYMAN MILAM: No, no, no.

COMMISSIONER SIMPSON: Well, your example is saying that-- Nothing changes. If you need a tow right now, ESP is not towing you. So you're having the private provider or two, or your own AAA, or whomever come out to take care of that. So nothing is changing. As a matter of fact, one could argue that the time you are broken down would be -- the time you're on the right-of-way is going to be lessened because-- Like in my case, you wait an hour for the ESP truck, the ESP truck can't help you. Then you have to call for a tow. So the next thing you know -- and this is a worst-case scenario -- you might be sitting out there two hours when you could have called a tow truck, the tow truck would have been there. You see that. I mean, I would argue that it would be a better service if we were towing, but that's a more expensive service.

ASSEMBLYMAN MILAM: How many calls a day do you think they do?

COMMISSIONER SIMPSON: I can get back to you on that.

ASSEMBLYMAN MILAM: I'm just curious. One hundred, 200, 50?

COMMISSIONER SIMPSON: I used to know those numbers. But there are so many numbers-- I'm getting older, I can't remember them all.

ASSEMBLYMAN MILAM: I listened also (indiscernible) the E-ZPass subject came up. I'm not going to really hit on it much. But they said it was just a bad disaster when it first started, this and that. Who is E-ZPass? I mean, who are they? Where are they? Are they in Chicago, are they in New York? I mean, I know they have the New York-New Jersey one. They have this-- Who are they? Where are they?

COMMISSIONER SIMPSON: E-ZPass is a consortium of, like, the New York MTA, the New Jersey Turnpike, the Pennsylvania authorities. And we have this umbrella organization that's sort of like a trade mark -- E-ZPass. Then behind the scenes that does all the processing -- you have several companies that do it in the market. This is all outsourced. This is all private. This is not government doing it. And it's a great example, because it makes sense. It's not what the Turnpike does, it's not what New York MTA does. So you could achieve economies of scale. You've got one person who does it -- one company rather. There is a company that does it for the Turnpike -- AET. They also do it for the Port Authority, New York MTA, and some points south. So we're able to -- and I don't know if we did this last time or not -- you bundle. We go out to bid together in some cases. We pretty much all know what's going on. This allows that company, which is now owned by Xerox -- that's one of their core competencies. Ours is not the processing and all of that. So that's a perfect privatization thing.

Also, if you're going to have a regional product like an E-ZPass, do you want to have five E-ZPasses -- one for New York, one for New Jersey, one for Pennsylvania, and so on? This allows those kinds of things. And it's best handled by a private operator that does it for all of the different authorities -- all the different public authorities.

ASSEMBLYMAN MILAM: They don't have a say in the increase in tolls.

COMMISSIONER SIMPSON: I'm sorry?

ASSEMBLYMAN MILAM: They don't have a say in the increase.

COMMISSIONER SIMPSON: They have no say. It's the cost-- It's one of our costs of doing business.

ASSEMBLYMAN MILAM: So they collect \$10. Are they giving the Turnpike Authority \$9 back? It's just an example. I just used Turnpike.

COMMISSIONER SIMPSON: I'm sorry, can you say that again? I was interrupted. I was reading a note that was passed to me.

ASSEMBLYMAN MILAM: If they collect \$10, are they giving the Turnpike Authority \$9? How are they making their money?

COMMISSIONER SIMPSON: They're collecting this in the pennies they get for a transaction. It goes by transaction.

ASSEMBLYMAN MILAM: It is? Okay, by a transaction number, not a dollar amount.

COMMISSIONER SIMPSON: Let me tell you, we're spending on the Turnpike-- We take in almost a billion dollars. I think we're spending \$85 million for toll collectors -- close to \$100 million; \$70 million

for toll collection on the electronic format. But that's about 70 percent of the transactions. So you can do the math. If 70 percent of the transactions are costing you \$70 million, and it's about the same thing for a human interaction that handles the other 30 percent, you can see where the economies are through technology.

ASSEMBLYMAN MILAM: What's the size of the DOT, the Department of Transportation? How many people work there today?

COMMISSIONER SIMPSON: A little over 3,000 -- 3,301.

ASSEMBLYMAN MILAM: How come we haven't heard anything -- and I haven't, since I've been up here for almost four years now -- of reverse outsourcing? Assemblyman Prieto started to touch on it. I've never heard anyone say, "You know what? We paid a consultant to study a highway when we could have done it in-house, and we could have saved this dollar." I don't think we're hearing enough about it. Because I think we have very, very qualified people who work for the State in all the different departments. We have very honorable people, very loyal people. I don't think we're hearing enough about reverse. How much are we paying consultants, and architects, and everyone else? I don't hear enough about it. Is it ever considered -- a reverse outsourcing? Bring it back home.

I did it in my own business, saved bundles of money. I'm not paying a consultant for the Department of Transportation, I'm not paying this, we're doing it in-house. Because I had people willing to do it. All you had to do was ask. Sometimes people, as a human frailty, do not reach out. But when you ask them to do it, they're more than glad. It makes their day go shorter because they are busier. That's what I want to hear more about. I don't have to hear it today, but I really think it -- this Committee, along

with the total Legislature -- ought to have every department do a study on reverse outsourcing.

COMMISSIONER SIMPSON: You know, it goes in line with my comments about the ability to really appraise, and manage, and have the flexibility to move the workforce around. If you could do a lot of those things, I think it would go a long way to have the conversation and more support for in-sourcing. And I've been on the record -- when I was a Federal official, a senior level official in Washington -- talking to an engineering group about in-sourcing rather than outsourcing. But the Federal government really has the mechanism for appraisals, and performance, and goals, and strategy that we're trying to implement here as well. But we could go a long way. It's a labyrinth of rules and regulations that make it very difficult, once somebody's employed in this organization, to move them around and do other things with them. But I hear your comment, and you're right on target.

ASSEMBLYMAN MILAM: Thank you, Mr. Chairman.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblyman.

Just as a follow-up to that question, Congressman, the report-- In the deliberations of the committee, or the fact-finding, did the committee consider I guess what's been called *in-sourcing*, or is it just simply looking at outsourcing?

CONGRESSMAN ZIMMER: We weren't charged to do that, but I think it was-- In the spirit of the report, we don't take a position whether any particular function of government should end up being inside -- in-sourced or outsourced. It should be done on a case-by-case analysis. And just as it's a pragmatic decision to ship a function out of government, it

should be a similarly pragmatic and nonideological decision to bring it in when it makes sense. And there are cases when it does.

ASSEMBLYMAN WISNIEWSKI: The name of the Task Force was the Privatization Task Force.

CONGRESSMAN ZIMMER: Exactly.

ASSEMBLYMAN WISNIEWSKI: I was just curious as to whether you had any debates in saying, "Well, maybe we ought to put a section in here saying, 'All the things that -- such as bridge inspections -- that could be brought in--'" But that really wasn't something you looked at.

CONGRESSMAN ZIMMER: No. As far as we went was to point out the success of programs where the public employees were given the opportunity to compete for -- candidates for outsourcing. But our logic does extend to in-sourcing. And people shouldn't be rigidly opposed to in-sourcing any more than they should be rigidly opposed to privatization, in principle.

ASSEMBLYMAN WISNIEWSKI: Thank you.

Assemblyman Amodeo.

I appreciate your forbearance before so your colleague could ask some questions.

ASSEMBLYMAN AMODEO: Not a problem, Chairman.

Thank you.

And, gentlemen, it's still morning, so good morning to both of you, although we are approaching the noon hour.

Congressman and Commissioner, it was -- it's great to see you. And I want to thank the Congressman specifically for taking the time out of his private and professional life, and from his family time, to do the diligent

work you were charged with through Executive Order 17 to help the Governor study the issue of privatization.

CONGRESSMAN ZIMMER: Thank you.

ASSEMBLYMAN AMODEO: Naturally, as we move forward, one specific question I have is-- You had mentioned, as we approach July 1 of '11, our Transportation Trust Fund is -- I'm not going to use the term *bankrupt*. We're not going to have any future funding for infrastructure in the state, which is of great concern, I'm sure, to everybody in the room.

As we look forward with the public-private partnerships, how can that system or form -- if it is privatization -- work toward keeping people employed in the State of New Jersey?

CONGRESSMAN ZIMMER: I think it can work toward keeping people employed in many different ways. First of all, to the extent that we have a capital shortage, the private sector can provide the capital upfront. Secondly, because the bidding process is streamlined-- In fact, the Federal agency has concluded that the Hudson-Bergen Light Rail was completed eight years before it would have been completed using normal procurement. That will get more jobs and more steel moving faster, with ultimate better results sooner for the taxpayers, and drivers, and rail passengers.

And finally, the private sector is able to be innovative. It is freer to come up with different approaches than are typical in the public sector. And that applies not just to construction techniques, but also to financing techniques. So at a time when we're going to need a lot of imagination, and there's going to be a lot of pain involved in continuing to meet the transportation needs of our citizens and qualifying for the Federal

match, this has got to be an element of the solution. Which is why I would urge this Committee to consider P3 legislation expeditiously so it can be keyed up in time for the revision -- renewal of the Transportation Trust Fund.

ASSEMBLYMAN AMODEO: Thank you for that question.

Chairman, may I ask our Commissioner a question?

ASSEMBLYMAN WISNIEWSKI: Please.

ASSEMBLYMAN AMODEO: Thank you.

Commissioner, I think we might have had this conversation, but I'm not sure, and I'm not a proponent of the cashless toll system on SJTA. I know it's been implemented on that interchange, and I did send out a press release denouncing it, because I do have feelings. I honor our public workforce. I feel that that is the State's most valued asset, not a cashless machine. I understand that even more recently, before the cashless system was implemented on Interchange 17, we had a \$0.50 toll raise on South Jersey Transportation Authority's Atlantic City Expressway. And at the same time, over the past three years, we had 35 percent raises amongst administration with that same agency. So those are all concerns I have.

And going back to the cashless, it seems like we're taking it out on our hard-working employees who have been dedicated, have chosen that lifestyle to support their families. They live in the communities, they pay their taxes, they go to work every day because they want to work. And we're leading -- with technology, and I'm not against technology -- in a fashion-- I believe you need cashless in areas, but I think you still have to implement personnel to satisfy the needs of people who don't believe in E-

ZPass, even though it might be a small number. So how can we just say we're going to go totally cashless?

COMMISSIONER SIMPSON: First of all, I apologize for the toll increase, but a lot of that toll increase goes for the subsidy that the Atlantic City Expressway pays to the Airport, which is, as you know -- and you're a big proponent of that -- is a big economic engine for the region, not only Atlantic City.

I share your concerns about the workforce. Once again, we would look for opportunities to maybe in-house some things and not toll collection. If we take those toll collectors off -- and maybe they can do guide rails or something along those lines. Obviously, they're part of the family of Transportation.

And I also understand how people want to have the ability to be anonymous or just not have an E-ZPass. That's one of the rights we have in this great country. We will have a mechanism for people who don't want to have an E-ZPass account to get through the toll lane. It will be part of an automated -- it might be a throw-away E-ZPass or something along those lines. And those fine details have not been worked out 100 percent yet -- the privacy issues and the other things. So we're almost there. We kind of believe it's -- you'll stop just before the toll plaza, pick up -- or go to a grocery store, even, and pick up an anonymous E-ZPass. We're working out the glitches. Just use it, throw it away, and that's the end of it.

So it's a concern. I don't have a definitive answer on that, because there are some privacy issues that other folks are looking at in the state as well.

ASSEMBLYMAN AMODEO: Thank you, sir.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblyman.

COMMISSIONER SIMPSON: One last thing: There have been no raises under the Christie Administration.

ASSEMBLYMAN AMODEO: I was aware of that.

COMMISSIONER SIMPSON: Okay.

ASSEMBLYMAN WISNIEWSKI: We don't want to go into the other fees and stuff though.

Assemblyman Mainor.

ASSEMBLYMAN MAINOR: Chairman, I thank you for that.

Gentlemen, I thank you. I thank you for coming before us.

I really wish that you were coming here to tell us how this was going to lower the tolls, but that's just wishful thinking.

My main concern is the workers, the employees. I have to ask, and you probably answered it: Will there be any jobs eliminated because of this?

COMMISSIONER SIMPSON: I don't know.

ASSEMBLYMAN MAINOR: You don't know?

COMMISSIONER SIMPSON: No.

ASSEMBLYMAN MAINOR: About the status of the employees who do remain: Will they still be considered State workers? Will they still have a union in place, their seniority, and all that? Will that still be there, or is that something that's going to be eliminated also?

COMMISSIONER SIMPSON: There's no proposal right now that's out there that is going to change anything other than the part-time toll collectors who have no status whatsoever except part-time.

ASSEMBLYMAN MAINOR: Okay.

How many toll collectors do -- how many part-time toll collectors do we have?

COMMISSIONER SIMPSON: On the Garden State Parkway and Turnpike it's in the vicinity of 500-some-odd, and maybe 75 or 80 at the South Jersey Transportation Authority.

ASSEMBLYMAN MAINOR: How many in total?

COMMISSIONER SIMPSON: Total full-time and part-time?

ASSEMBLYMAN MAINOR: Yes.

COMMISSIONER SIMPSON: For the Turnpike, we've got 315, Garden State Parkway is 173. Those are full-time. And about 500 seasonal. And on the South Jersey Transportation Authority, 37 full-time and 81 part-time.

ASSEMBLYMAN MAINOR: See, my concern is -- and I hope I'm not being wrong by saying this -- is that if this was to go through, everybody's status would be changed to part-time, and then everyone would be private. That's a little concern that I have.

I understand that we're doing this here because we want to save money.

Mr. Chairman, I'm going to end it with this here, just by saying that I'm a firm believer that sometimes-- The information that you brought today is a little vague, and you really didn't have the information that we really need to really understand what you're saying. Some questions were asked, and you didn't have answers for them.

So that leaves me, like, where are we going? I feel like we're shooting in the dark here. And this makes me feel that the savings that you

speak of today is just going to cost us a lot more tomorrow. And I'm just concerned.

COMMISSIONER SIMPSON: Could you be a little more specific, because I don't understand?

ASSEMBLYMAN MAINOR: It's all right.

COMMISSIONER SIMPSON: I don't understand your comment. I really don't. We're talking about moving the State forward. We don't have anything hard on the table. And I just don't understand.

ASSEMBLYMAN MAINOR: That's what I'm saying. You don't have anything hard on the table, so I don't know why we're here. You're not bringing us any information. My colleagues have asked questions, and you didn't have answers for them.

And I'm really concerned about the employees. In this day and age, when jobs are being lost, I'm really concerned about that. But I thank you for coming.

COMMISSIONER SIMPSON: Thank you.

ASSEMBLYMAN MAINOR: Thank you, Chairman.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblyman.
Assemblyman Rumana.

ASSEMBLYMAN RUMANA: Thank you, Mr. Chairman.

First of all, I want to thank Congressman Zimmer and Commissioner Simpson for being here today. You've done a great job in your presentation.

I want to reflect back on one thing that was noted earlier -- and just to sympathize with your position, Commissioner, in the fact that I was a mayor. I led an administration of a fairly sizable town. And I

understand-- I appreciate and understand what you mean by being hamstrung by certain government policies that have been in place for many years. It's one of the reasons why those toolkit items need to be looked at. Because we have to have flexibility to change government to meet what is now modern-day workforce realities throughout the entire state, and that includes the private sector as well as the public sector.

The debate going back and forth-- I don't think anybody sitting up here today, and everybody out in the audience, and even yourselves would say that, as a blanket rule, privatization, public-private partnerships are going to work across the board on everything. And I want to just make sure we have the playing field leveled back out. We can point to examples of privatization failures and maybe public-private partnerships failures. We can point to many failures in government too. We know for years there have been instances of waste, fraud, abuse, and failures across the board in the public sector. So it's not an absolute that privatization is bad and public is always going to be good. There's going to be instances of failures in both. And the job is to try to do what we're supposed to do to make it work, whether it is privatization or a public-private partnership.

And that kind of leads me to an example of something that comes from my own hometown. While mayor, we were working with NJ TRANSIT to try to get a parking garage built. It was going to be a five-level deck. This happened under the Corzine Administration, or maybe spanning McGreevey's and Corzine's administrations.

And just for the Committee's standpoint, the bid went out for the project. It came in \$10 million over the estimate. They went back-- They retooled the project, they went back out for bid again, and it came in

\$12 million over the estimate. It couldn't work in the public sector. It could not work. So we came up with an idea to work out a public-private partnership, which is now being advanced.

And, Commissioner, if you look into this you'd find out that we're looking to have a developer come in to build that parking facility and also have a development on top of that project, which will bring us a ratable. So it's good for the tax base. It's not a publicly owned property any longer, or it wouldn't be at least at that aspect of the project. And you ultimately are going to get the parking deck for the services that we need for the citizens who have to use mass transit, which -- it's serving a bus and rail facility -- as well creating the jobs not only to build it, but the jobs that will be in the hotel, and retail center, and whatever else goes into this office space that would be in the development part of the garage.

The point is: It can work, we just have to manage it right. And, again, I appreciate the report that you've written.

Just on one note: We do have many challenges, and it's been expressed from many different speakers today. New Jersey has a record of having a high cost per mile for road construction and maintenance. Is there any plan that you envision, through this effort, that would maybe get us to a place where we can try to reduce the cost, make it less expensive for us to be able to provide that service and maintain our road system -- transportation network?

COMMISSIONER SIMPSON: There are a whole bunch of reasons why our road prices are higher than most of the states. Some is that we have such a high concentration of traffic volume, so they get beat up a lot quicker and we have to resurface more than usual; and the heavy

truck volume. But we do things that only-- We pay for the relocation of utilities. Only one other state does that. That adds probably 5 percent or 10 percent to the cost of construction projects. We do things like we pay prevailing wage, and we've got unions -- which I'm not knocking in any way whatsoever. So the cost of doing business in New Jersey, like New York and Pennsylvania, is a lot greater than Alaska, Wyoming, and such. But we're always diligent in looking for new mixes and new ways, new technology and new asphalts that give us a longer, more durable life. We're looking to do more things in preventative maintenance that will help us get more longevity from our projects and assets. But it's just-- We have the most densely populated roads in the country, so it's a difficult proposition.

ASSEMBLYMAN RUMANA: Thank you, Commissioner.

Thank you, Mr. Chairman.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblyman.

Commissioner, you mentioned prevailing wage. Does the Department have a position on paying prevailing wage?

COMMISSIONER SIMPSON: I'm not sure.

ASSEMBLYMAN WISNIEWSKI: Thank you.

COMMISSIONER SIMPSON: I can get back to you for the record on that.

ASSEMBLYMAN WISNIEWSKI: I appreciate that.

COMMISSIONER SIMPSON: Thank you.

ASSEMBLYMAN WISNIEWSKI: Assemblywoman Rodriguez.

ASSEMBLYWOMAN RODRIGUEZ: Hello, gentlemen.

Congressman, Commissioner, thank you for your testimony this morning.

Good afternoon.

Just for a point of clarification, I'm a little confused -- and not to be redundant.

Early in your testimony, Commissioner, you talked about the cost savings for privatizing sectors. But also you could not rely -- maybe I'm mistaken -- you could not rely on your State employees for performance, for accountability.

Now, as I understand it, you're going to create an entity from the same group of people who are now employees to supervise or manage this private function. Now, how can we rely on them supervising these people when we can now not rely on their capability or their performance?

COMMISSIONER SIMPSON: I didn't say that we couldn't rely on their capabilities. What we really have are fully functioning people at the DOT working in a dysfunctional environment. The dysfunctional environment is the work rules and the procedures that encumber management from being flexible. And that's a statement that I -- as a former Federal official, and a former private sector employee (*sic*) with hundreds of employees in the State of New Jersey, it's a far departure. Coming to the New Jersey DOT was like-- I feel like I'm, I don't know, back in Russia in 1950, particularly having come from the Federal government -- the United States Department of Transportation, which is light years ahead of this State.

So what I'm saying is, as we move forward to reform the State with this Committee and with other committees, we really need to take a look at the work rules and how we can redeploy our employees when necessary. We need to look at performance appraisal and how we can really

define performance appraisal, not just a pass/fail structure. So as someone who -- my DNA, as a private sector entrepreneur -- my DNA says, "Even if it was cheaper, I don't want to put new employees into this catacomb of rules and procedures that are like 60 or 70 years old. It takes us back to another era. We really want to do--" I'd like to have the United States Department of Transportation as a model for the New Jersey Department of Transportation. We'd do so much more -- to do all the things that we want to do. I don't envision this big, new entity to somehow oversee our public-private partnership initiative, which I think has been sort of muddied today. Because I think the things that are really a hot button for all of us here are outsourcing jobs or contracting out services.

That really-- The way I see it -- I'm speaking for myself as the Commissioner of Transportation -- we need to look at that on a one-on-one basis. And I believe that if we can do the right things for the DOT, to bring the DOT -- to make the DOT-- What I'm really saying is, the DOT is not competitive if you wanted to look at an outsource model. We should try to really protect our structure at the DOT, because we need that institutional knowledge. We should do all the things that give management the flexibility to run the place like a business. We should also have the private sector where it makes sense. And that's just the-- We can do all that right now without any legislation. So the kinds of things that I'm talking about are more about the big infrastructure stuff that we need to do for the big money that we don't talk about.

You know, we spend billions upon billions of dollars in this State every year for Transit and highway infrastructure. We need the ability to be able -- and the perfect example is the Scudder Falls Bridge -- to

be able to say, almost overnight, “We want to design and build a bridge, and get it done right away, and we want to get it done as quickly as possible.” Now, if you look at that Board structure, they never built a bridge before, so you don’t have the subject matter expertise at that authority to go out and build a bridge.

Then you’ve got a Board of Directors. The next thing you know is, they’re not going to design it to budget, they’re going to design it to dreams or they’re going to try to build an edifice. And then by the time you do the procurement process you have to bid the architectural and engineering, then you’ve got to bid the contract. By the time you go through that whole process, you’ve lost years. And maybe not in this economy, but generally we were seeing pricing of construction projects going up 10 percent or 15 percent a year. Time is money.

So we’re looking for a way where we can say, “Look, private sector. This is the traffic flow. We need a nine-lane bridge with a bike path. Be smart, be innovative. You all go out and design the best thing that you can design that will last us the longest, that is going to give us the kind of performance we need, and bring it in at the lowest cost. And oh, by the way, if you’re not right on your money with the cost, then you’re responsible. You’re at risk.” We transfer the risk from the public sector.

So think how easy it is for us now. We’ve got this company that does that. We know the performance that we want, we know the specifications. They go out and do it. And by the way, we don’t have to go out and bond for it. Maybe they’ll go out and finance it, and we’ll just give them some of the toll revenue, or we’ll give them an availability payment.

That's what we're looking to do to move the State forward. That's the big thing. Because the other stuff we can do every day. And I think it's getting lost about toll takers, and outsourcing, and doing all those things.

So if I leave you with nothing else today, I just want to leave you with the fact that the big picture is the infrastructure. We used to have that ability in New Jersey. We had this pilot program for six or seven projects that sort of-- It was in the '90s when things were going bad. Who wanted to take another chance? I don't blame anybody.

So we look around at our states, and we look around-- We have to be competitive with the rest of the globe. We need to do that. We need to have this legislation -- this broad legislation to allow us to go out and do that. And if we do it incorrectly, then you'll haul us up here, you'll tell us -- you beat us up, and you tell us we did a bad job, and we didn't have the proper oversight. But I don't see this other big public entity in order to do that. Maybe a small group of people in the Executive Branch who have some experience, who can be as an oversight-- This Committee would be great oversight for it. But that's what we're looking for. We're looking to change the procurement -- the way we go out and procure these big infrastructure projects.

ASSEMBLYWOMAN RODRIGUEZ: All right, thank you on that.

But I have a comment: Maybe on that big scale it works. But being involved in local government for many years--

Example: graffiti removal, garbage collection. It's a lot more costly to privatize. I can get two guys in a truck with chemicals and go

remove graffiti off a wall. Now, if I'm going to contract somebody to go out and-- It's at least \$800 or \$900 for one site. So maybe I'm narrow-minded in that sense, but that's what the expertise is about. Maybe on a big scale of the State it works, but for a local government it never did.

COMMISSIONER SIMPSON: And it's not every job. We're not going to design every bridge that way. It's just to have the ability and the availability to look at that as an alternative to the current way of doing things. And I hear what you're saying, as also a taxpayer and resident. And you get your bills in from different-- And having lived in several different states, you get these bills for services that you thought were free.

ASSEMBLYWOMAN RODRIGUEZ: Right. Thank you.

COMMISSIONER SIMPSON: Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblywoman.

Congressman, thank you for being here today.

Commissioner, thank you.

I would ask, if you can, stay around. We have a lot of people who have signed up to testify. There might be some follow-up questions afterwards.

And then, Commissioner, you know on Monday the Transportation Committee is going to take up the issue of NJ TRANSIT. And the initial scope of the hearing was to talk about the delays; but obviously there's a new wrinkle that's come up -- is ARC Tunnel -- and we'd love to have your testimony on Monday as well.

COMMISSIONER SIMPSON: Okay. Thank you.

ASSEMBLYMAN WISNIEWSKI: I'd like to call, first up, Eric Richard, New Jersey AFL-CIO.

Thank you, Eric.

ERIC RICHARD: It's quite all right.

Chairman, I just personally want to thank you for holding this hearing. The State AFL-CIO just commends the Committee for coming together to take a close look at the Zimmer report, and we're appreciative of that. And we thank you for the opportunity to come before the Committee and share our thoughts.

First and foremost, I just want to say at the outset, we're not discrediting everything that-- We didn't want to come in front of the Committee and say the AFL-CIO is blanketly opposed to everything and anything that's being mentioned here. That's simply not the case. We understand there's a role for the private sector, we understand there's a role for the P3, and we respect that. We just want to make sure when we move forward that we're bringing our concerns to you, as legislators, of course about the specifics relevant to the workforce. That's our membership, that's our primary concern.

But I'm also a resident of the State of New Jersey, I'm also a taxpayer of the State of New Jersey, so I'm sensitive to a lot of the arguments. Our members are sensitive to a lot of the arguments that are being presented to you today -- because we all understand that we're in a difficult economy, we all understand that we need to move forward. And taxpayers need to be front and center when we try to look for some of these efficiencies.

With that being said, we have three primary concerns about the Zimmer report. The AFL-CIO has concerns specific not just to the transportation-related subjects that we're talking about today. And, of course, many of them have been referenced today. And that ranges from the emergency service patrols, to the toll takers on the Turnpike, to NJ TRANSIT -- the bus routes that we've been working on. And we've been opposed to some of the privatization efforts on the bus routes for quite some time. And basically we have some categories of concern that we would like to bring to the Committee's attention that we think address all of those various recommendations within the Zimmer report.

First: Inside the report there are continuous references to transparency, best practices, oversight, and other key words used to instill trust to move toward private systems. Transparency, best practices, and oversight, of course, are good public policy, and we recognize the report was released only two months ago. But we're anxious how these systems to implement these best practices are developing. This is of particular importance in light of the estimated savings included of \$50 million -- which has been referenced by the Committee several times -- in the most recent budget. That's about a quarter of the total amount that the Zimmer report has estimated in savings -- that \$50 million.

This sends us, as organized labor, a clear message that privatization efforts are on a fast track here in the State. And so our concerns are that these best practices that are being discussed in the report will not be developed or implemented prior to moving forward with various privatization efforts.

The New Jersey State AFL-CIO believes that if we're serious about transparency, if we're serious about best practices, and if we're serious about oversight, then we should not be putting the cart before the horse, announcing anticipated savings in an annual budget from privatized projects without any details on systems seeking to enhance transparency, best practices, or oversight.

Second, the report speaks to involving public sector employees in the process. And the New Jersey State AFL-CIO appreciates that. However, our question is: Is this actually happening? Has the Administration, in fact, reached out to public employees and their representatives to try to become involved in the process? A whole host of savings inside the report, of course, are labor related. Who better to come forward and speak to the Administration about potential cost savings, when it comes to labor costs, than labor officials. If they're serious about that, as Congressman Zimmer mentioned in the report, are those conversations happening? I don't believe that they are. We interact with over 400 local unions, many of which are public employee unions, and none of that has been brought to our attention thus far about whether or not any of those conversations are being had with public employee representatives regarding efficiencies.

Therefore, if officials are serious about input from public employees and their representatives, then let's have a genuine conversation. Let's put our numbers on the table and see how labor and management can work together to provide exactly what the report has requested: cost-effective options, rather than turning all operations simply over to the private sector.

Elaborating on that point: If we're to have a serious conversation about savings from labor costs, we must bring to your attention the lack of details in the report concerning savings amounts. We would respectfully ask that the research and data used to establish these savings estimates be made public so we can take a close look at them and see that they add up.

Finally, let's have an honest dialogue about what savings actually are. The example of Motor Vehicle inspections savings specified in the report reminds me of the extensive discussion the Legislature just had about the property tax cap and how it will lead to an explosion of user fees. When officials make recommendations like this one in the Zimmer report, they are simply substituting user fees for existing revenues. The Zimmer report estimates \$28 million in savings, but it's easy to see, as a *Star-Ledger* columnist recently pointed out, that the plan is pennywise and dollar foolish. This money will now come directly out of taxpayers' pockets for private inspections rather than from what they pay in motor vehicle fees. And it is estimated that the actual per-vehicle inspection cost to residents could increase five fold. I personally would not consider that a savings.

In closing, everyone recognizes that often when services are privatized they are done in a way to transition to a union-free employer. They also often reduce wages and benefits for workers. These labor savings are then rolled into a bid for services and espoused as efficiencies. We believe that's the classic race to the bottom that the New Jersey State AFL-CIO has been so critical about over the last several decades.

Therefore, we respectfully urge the Legislature to keep a close eye on privatization developments and stand with workers to oppose efforts

that simply cut workers' wages and benefits without implementing any true, realistic, meaningful, and long-term reforms.

Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you, Eric.

Just a quick question: Representing the AFL-CIO and President Wowkanech, were you or your organization contacted for input or to answer any questions in the development of this report?

MR. RICHARD: We were solicited for testimony, and we did testify before the Zimmer commission. We were not interviewed or brought in to make any recommendations, if that's your question.

ASSEMBLYMAN WISNIEWSKI: Okay. Thank you.

Anyone else have questions?

Assemblywoman.

UNIDENTIFIED MEMBER OF COMMITTEE: I would just like to make a comment in regard to privatization. I live in a town where we privatized one of the services. The first call I got after the town privatized one of the services was a call from a senior citizen couple who got hit with a fee. It was a user-fee, and it was outrageous -- in order to use the service which once the town had provided. And we have to be very, very cautious when we privatized, because this cost is definitely being translated to our citizens, and some of our citizens are deciding to not obey the law because they can't afford the user fee. So there is something that we do have to remain very cautious-- And I thank you for bringing that out.

ASSEMBLYMAN WISNIEWSKI: Thank you, Assemblywoman.

Seeing no other questions--

MR. RICHARD: Thank you, Chairman.

ASSEMBLYMAN WISNIEWSKI: --thank you for your testimony.

From CWA Local 1032, Bill Ricci and Paul Pologruto. I'm not sure if it's your handwriting or my eyes.

Whoever wants to proceed.

Please hit the button so the red light is on.

P A U L P O L O G R U T O: Good afternoon, Chairman and Committee. Thank you for the opportunity to offer some input on this privatization report.

Frankly, we think this is not really a balanced report. It's more like an ideological statement in favor of privatization. The report is very vague. It makes claims that it does not back up with any studies. It lists no studies that were performed. It has no footnotes. The report says that "studies show that." What studies show that? I mean, they cite examples of -- in the early 1990s -- that privatizing maintenance in Australia and New Zealand was a good idea. Well, there are two things wrong with that: Australia and New Zealand are not New Jersey, and I don't know what happened from the early '90s until now. They cite examples of other states, particularly Virginia and Florida for some reason. Apparently they're in the vanguard of privatization, I guess. I don't hear-- They didn't cite Idaho, Wisconsin, or any other states. But they seem to be really respectful of Florida and Virginia. And they make the same assertions: These programs are working well; but they don't have any data to back it up.

We have data. We have a report here that was sent to all the people on this Committee. It's a report that was commissioned by the

Department of Transportation. This report analyzed three areas: bridge inspection, construction inspection, and also design. And in all areas, it came back with at least a 40 percent difference between using consultants and using DOT employees.

Mr. Ricci, who is the Vice President of our Local, will speak more to that. But, I mean, it was really shocking for me to hear the Commissioner basically trash those reports that were written by the Department of Transportation itself. He basically said, "Well, the data is not right, and the methodology used wasn't correct." And he did the typical thing. When you don't like the results of a report that was commissioned in your own department, you just trash the results, you trash the methodology.

The other thing I'd like to take serious issue with is his characterization of our members as deadwood -- as in, "We cannot get rid of the deadwood." I don't know what deadwood he's speaking of. Basically in bridge inspection, we do about 8 percent of bridge inspection in the State of New Jersey, not 50 percent as he said. His testimony was riddled with inaccuracies, it was riddled with general statements. He maintains that he cannot effectively manage the Department of Transportation because he can't get rid of the deadwood. That's one of the key words that you hear in privatization. "I can't get rid of the deadwood because of civil service regulations." Well, frankly, people get fired from the Department of Transportation for not performing all the time. I mean, I represent them. If I won every case, I'd like my picture up on the wall here. Unfortunately I don't win every case. If the Department does its homework and builds a

case, they win. If they don't do that, because the manager is too lazy or otherwise occupied, well that's not the fault of the civil service regulation.

That's the other thing about this report. This report-- Just about every example of things that would block privatization deal with employee protections -- either through civil service regulations, statutes like the perk statute, where contractual -- contractual items that were negotiated between the union. So basically what they're saying is, "Hey, these union protections for employees, these protections that were instituted after years of experience where these employees were not treated correctly -- all of these are impediments to privatization." This kind of statement is-- I really do resent him characterizing our members as that.

And as far as his testimony on the Emergency Service Patrol, I would like to say this: After there was a service -- a dedication for an employee in the Emergency Service Patrol-- After that service, the Commissioner asked to meet with the employees of the ESP. He met with them, and he told them that ESP was doing well, and things were fine, "We're not going to lay people off," etc., etc. Then he comes here and testifies. He testifies and spends about 10 minutes trashing ESP, 1 minute saying the good parts of it, and then 9 minutes talking about how ESP is inefficient and how the employees basically just ride around looking for work to do. He can be assured that I'll be carrying that back to our members back in-- And I'm sure the other union will do the same.

I think that the problem here is that this report, in itself, is contradictory. It says, "Well, we didn't have enough time to conduct thorough studies. We didn't have enough time to really look at this privatization issue in depth because of the deadlines. So we can only give

you estimates.” Then they give you an estimate of \$210 million in savings. They just about come out -- if you read the report -- and say they can-- “Our estimate is that the State can save \$210 million.” This is after they admit that they didn’t have the time, the resources, or even enough information to do their report correctly.

So the question arises: What is the rush here? Why is this Administration rushing to privatize? Why don’t they allow it to be put under the microscope to be studied? The one thing that report doesn’t talk about is-- That report does not talk about what happens if you privatize a service and then, down the line, it does not work, it turns out to be a bad idea. At that point in time, you’ve lost the capability to perform that service. It’s difficult to turn around and just say, “Five years from now.” They talk about maintenance -- letting out maintenance contracts for highways for five years. You’re not going to be able to bring that work back in-house except at great expense, because you’ll have to re-buy the equipment, you’ll have to rehire the employees. Once you do this kind of thing, you’re pretty much stuck in that direction. So before the taxpayers, before this State proceeds to do that, I think they owe the taxpayers at least the courtesy of doing a thorough study and a study that’s analyzed by you folks up there as well, since you have to vote on the appropriations and everything. This is pretty much what I have to say.

One last thing I want to say is, I had the good fortune to be born and raised in Pennsylvania. I know live in New Jersey, and I’m a proud resident of New Jersey. Unfortunately, I did deal with the inspection system in the state of Pennsylvania, which is essentially what they’re proposing. Here’s what you do when you want your car inspected in the

state of Pennsylvania. You bring your car to the dealer, or you bring your car to a mechanic's shop who will inspect your car. You have two choices at that point. You can sit there and wait for hours and lose a half-day's pay while they do the work; or you get your spouse, your best friend, your significant other to drive you to the office. At the end of the day they have to come back and pick you up, and then you go get your car and you find out that there were some things wrong with your car that you really -- you didn't know that headlight was out or that rear brake light was out. This is the system that they have in Pennsylvania.

In New Jersey, they have convenient hours. You can drive in. People complain maybe, "Oh, I waited an hour to get my car inspected." Go over to Pennsylvania where you wait five hours, four hours, whatever for the dealer to inspect your car, and then to tell you that you need repair work done and he can't put the sticker on until the repair work is done. This is the system they want to put in the State of New Jersey.

Frankly, having been under both of them, I love the system in the State of New Jersey. There are agencies that are open I can go to that have convenient hours. Although my local doesn't have members in Motor Vehicles, I really feel that having lived in Pennsylvania and done both systems, it's ridiculous for them to think that that system is better and cheaper. It is not cheaper. You pay much more money in Pennsylvania to get your car inspected than you do in the State of New Jersey.

Thank you for your time.

ASSEMBLYMAN WISNIEWSKI: Thank you.

B I L L R I C C I: I'd just like to make a-- I just have a couple comments.

Thank you all very much for just a little bit of your time.

ASSEMBLYMAN WISNIEWSKI: Sure.

MR. RICCI: Our Local, of course, did provide testimony in front of the Privatization Task Force back in April. Our testimony really was based on a very detailed cost analysis that was prepared in 2007 by an independent agency. We also provided evidence -- which was based on the Governor's own transition team's report in the transportation area -- which basically indicated that in construction, and in maintenance, and in design, and in engineering services in the Department of Transportation, it is much more cost-effective and cheaper to do the work in-house. But none of this was provided in the testimony or in the report by the Privatization Task Force.

And if this is really with the best interest of the taxpayers in mind -- that every dollar counts -- why wasn't that part of the report? I know each and every one of you here. And I thank you very much. You pretty much hit on that topic.

I strongly suggest-- We have the report right here. Those reports are not just done in 2007. I know, Assemblyman, you indicated they go back almost a decade. Really, 2002, 2007, 2009 -- in Department of Transportation. We could relatively-- And we could answer the \$50 million question, right? We could solve that question right here. If we bring back work in the areas of just bridge inspection, construction inspection, and design, we could save about \$90 million per year instantly.

I am offended. I am a principle engineer for the New Jersey Department of Transportation. I manage and oversee consultants. They work under me. And I'm offended by the Commissioner's statement that

we are not and do not have the experience and expertise to manage these areas. That is a completely inaccurate statement. Consultants work for us, work under us. And to make a statement like that-- I am very much offended by that statement. I have successfully managed over 10 construction projects -- multimillion construction projects over the last 10 years, and that is a false statement.

And the Commissioner also indicated that we now do 50 percent of the bridge work in-house. Well, in 2009 -- August of 2009, we were only doing 9 percent of the bridge work in-house. So now we're doing 50 percent of the bridge work in-house, but we're not capable of managing our bridge inspection unit. That is another completely false statement. And he was able to accomplish going from 9 percent to 50 percent without hiring one single DOT employee. So I ask you one -- and not laying off one single consultant contract. So I ask you: How was this accomplished? If he was able to accomplish it-- I guess the 40 percent savings we're looking at, bringing work back in-house -- that might be 80 percent if he was able to accomplish what he was talking about.

So I'm a little lost when he said we're not capable of bringing bridge work back in-house. We were doing 9 percent a year ago, now we're doing 50 percent of the work less than nine months or a year ago (*sic*). So that needs to be straightened out. And if that was accomplished, why are we not moving forward to go 100 percent? Because it's not a 40 percent savings any longer. It's well up into 80 percent savings, and those savings are probably in upwards of a couple hundred million dollars. So I just want to mention that.

I also want to mention, he laid out an example for our ESP unit -- that he waited there for one hour. To give my own example, I was driving home on Route 80. It was snowing out. I received a flat tire, and before I could look in my rearview mirror there was an ESP driver behind me asking me what was wrong and what help I needed. Quickly changed my tire. I was able to get moving. The focus of ESP is -- there's two main reasons: keep the traveling public moving forward without delays, and public safety. Every disabled vehicle that's left in our lanes or on our shoulders are dangerous obstructions. As a construction engineer, I don't allow the contractor to park a vehicle on the shoulder without proper safety behind it. It is a dangerous obstruction. This program saves lives every single day, and they put their lives at risk doing so. Unfortunately, that recently happened. I don't want to get into that at all.

Talk about \$12 million here-- He talks about refocusing that money towards asphalt. You can't really justify that, because that \$12 million is maybe one single bridge structure, maybe a couple miles of paving on Route 280 where it's four lanes wide. You can't really offset that cost and jeopardize public safety by saying you're going to pave a few miles of roadway. I think that's completely unacceptable. Our ESP drivers are trained in first aid, they're trained in CPR, they're trained in traffic control, they're trained in handling safety, handling incidents. You're not comparing apples to apples, you're comparing apples to oranges here. And that's what really needs to be discussed.

But I don't want to take up too much of your time. The one question I do have for each of you is -- from my understanding -- question to Commissioner -- there's \$300 million in Federal money that has to be

authorized by October 1 that has not been authorized, as far as I'm aware. If we do not authorize that money, we're going to lose that money. So the question should be: Where is that \$300 million going? We're talking about making cuts -- \$12 million. We're having problems authorizing some Federal money here.

And I think that's a question for the Commissioner. And it's also a question for each and every one of you. I think you would find it very interesting-- Did the Privatization Task Force-- I know there were questionnaires -- I believe there were questionnaires that went out to each department in regards to privatization of different units and functions. Did you receive that questionnaire from the Privatization Task Force that specifically indicated -- in each one of those functions we're talking about, to bring work back in-house -- that there's big savings there in each and every one of those units? And I have no problem discussing those further at another date and time.

But the focus here should be to save taxpayer money. That should be the number one goal. If it's a case to bring work back in-house to save taxpayer money, that's what we should be doing. And just for the record, I have consultants working for me. I am overall responsible for handling those construction projects. Each and every consultant makes much more than I do.

Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you for your testimony.

You referred to the reports that I believe you have sitting next to you on the table -- that they may have been submitted to the Committee.

As I sit here today, I'm not aware that we've received them. There may not have been enough copies to distribute it. If you could make sure that you get them to the Committee Aides--

MR. RICCI: We have a couple extra reports of the detailed cost analysis performed in 2007. If anybody is looking for that, we'd be glad to--

ASSEMBLYMAN WISNIEWSKI: Two other things: You had said you had statistics that showed only 9 percent of the work -- the bridge inspection.

MR. RICCI: Yes, we do.

ASSEMBLYMAN WISNIEWSKI: If you could make that material available to us--

MR. RICCI: I will.

ASSEMBLYMAN WISNIEWSKI: And then if you could also provide us more detail on the \$300 million that needs to be authorized--

MR. RICCI: I do not have that detail. I mean, that is really -- I think should be a question to the Commissioner of Transportation, to find out if that \$300 million has been authorized. It's just a question to ask.

ASSEMBLYMAN WISNIEWSKI: We'll look into it.

I appreciate your testimony. Thank you, both.

MR. RICCI: Thank you very much.

Any other questions?

ASSEMBLYMAN WISNIEWSKI: I think we're good.

If you wouldn't mind sticking around, there may be others.

MR. RICCI: Great.

ASSEMBLYMAN WISNIEWSKI: And just for the record, I never had the opportunity to use the ESP service, but I have called -- I won't mention their name -- private services, and I've waited an hour for service too. So I'm not sure that private service is going to be any quicker.

MR. RICCI: I'd gladly do that sort of analysis (indiscernible).

ASSEMBLYMAN WISNIEWSKI: Thank you.

From IFPTE Local 195, I'd like to call Lisa Ciccone, Steve Sharp, and Dante Scoleri.

You're not going to read all that, are you? (laughter)

L I S A C I C C O N E: No, no, no. But there's a purpose to my madness.

ASSEMBLYMAN WISNIEWSKI: If you would just, before you start speaking, identify yourself. Leave the red light on. (referring to PA microphone) Red means go here, for whatever reason.

Please.

MS. CICCONE: Good afternoon.

I am Lisa Ciccone, Business Representative for Local 195 IFPTE. And I have with me today Steve Sharp right here, who works for the State Police. He is a public safety telecommunicator. And I also have Dante Scoleri, who actually is an ESP driver within DOT.

So thank you very much for the opportunity to testify today.

On behalf of the 6,500 members of Local 195, we ask that you take a firm and unambiguous stand against selling off and eliminating the Emergency Service Patrol. The Emergency Service Patrol is about 90-plus emergency service patrollers who have saved the lives of our fellow citizens. They have made the roads they patrol safer, less congested, and have helped

more than 250,000 New Jersey citizens in the last 15 years. The program has been around for 15 years.

Some have suggested today that ESP can be easily replaced by private towing services or AAA. This is totally false and misleading. There is absolutely no comparison. ESP are not tow truck drivers. They do far more, and they do it for free. The ESP program is 100 percent Federally funded. Even the Privatization Task Force report confirms this fact. It's on Page 42 of the Privatization Task Force's report. The Privatization Task Force report suggests doing away with this program and falsely claims that private vendors can provide these services. A private vendor like a tow truck or even AAA can't do what these patrollers do for free. To start, private vendors do not patrol the roadway looking to help stranded or broken-down motorists, because they're not patrolling. If called, a private vendor will come and tow your broken down car. We discussed that.

What ESP does specifically: They are the first responders, not the State Police. They are trained in Hazmat, they're trained in fire fighting, trained in emergency first aid. They redirect traffic, and they actually close down lanes. They set up areas that are safe for emergency vehicles: fire, EMT, State Police. They remove debris from live lanes. They apply stay-dry compounds to slick or oily road surfaces. They have a direct line to the State Police. That's important -- a direct line to the State Police. They clean up debris from accident scenes. They give out maps and directions to lost motorists. They take occupants of disabled vehicles to a safe location and provide a phone. They repair vehicles. They're just not a towing service like stipulated today. They repair vehicles right on the spot -- the get-up-and-go kinds like wipers, and blades, and hoses, and clamps,

vacuum lines, leakage. They fix a flat or provide a little gas. They push vehicles off live lanes. They check for Amber Alerts. They call in aggressive or reckless drivers -- again, safety. They remove downed trees from live lanes. They close bridges in case of accidents or even jumpers. They even get stuck tractor trailers out of overpasses. They assist people when they walk along the highway when their car does break down. In fact, everyone should have a copy, I hope, of a July 29, 2010, letter from Captain William Robb, from the Blackwood Fire Department; and Sergeant Joe Zito, from the Delaware River Port Authority, in which he (*sic*) wrote a letter to Commissioner James Simpson, from DOT, saying that New Jersey's DOT ESP are the nation's model. "This model saves lives," to paraphrase his letter.

I would also like to submit, for the record, a letter that I hope everybody has in regard to our President Junemann, from IFPTE International -- wrote a letter to the Honorable Ray LaHood, Secretary of the U.S. Department of Transportation in which, I quote, "IFPTE is aware that before diverting funds from the successful, efficient, and desperately needed service, the State of New Jersey must first seek permission from the U.S. Department of Transportation and/or the FHA to move that money to other projects. In this regard, IFPTE asks that you reject New Jersey's effort to eliminate the ESP program."

I just now need to call attention to the Congestion Buster Task Force's final report of 2002, presented to then-Governor McGreevey and the Assembly Transportation Committee. On Page 7, key recommendation No. 20, Paragraph 5 -- and, again, later in detail in the report of another key recommendation, No. 24, Page 8 -- it states, "ESP service should be

increased.” It concludes, “Since a vast majority of accidents are not crashes, this has the potential of reducing congestion significantly, thereby increasing public safety on the road without a cost to the motoring public and no State dollars used.”

In another report by the Federal Highway Administration -- report of 2008 -- writes, “The FHWA encourages the largest metropolitan jurisdictions and their states to establish or upgrade their service patrols.” Paraphrasing, “While these various names--” they call them various names -- “Every patrol should be prepared to handle contingencies, thus creating the term *full-function*” -- and what our ESP drivers are.

The program should not be eliminated, but expanded: everywhere, around the clock. The State should seek to expand the program and its hours of operation. It will not cost the State a dime, and it's 100 percent federally funded.

IFPTE Local 195 pledges to work with you to expand the hours in valuable services provided here. If the State cannot immediately get more dollars, we will work with you again to change or modify the service. But it needs to be intact. It's a valuable service. Do not eliminate it.

There are some even here today who have said that ESP are not the first responders, the State Police are. Again, this is not true. The NJDOT operation North and South report -- and which this Committee, hopefully, has a copy of. Again, I submitted it today. It stipulates the fact that ESP North, in 2009 -- the number of calls that were actually dispatched by the State Police -- it's only about 2 percent, in 2009, that actually showed up to them. More importantly, our guys and women were 94 percent -- that were actually found. They were found by ESP on the

road -- 94 percent. In the northern area, in 2010, dispatched by the State Police -- again, 2 percent; but found by ESP -- 92 percent of the time by our drivers. ESP South 2009 -- dispatched by the State Police, about 8 percent, because that dispatch is with State Police and DOT. But ESP found people 92 percent of the time. And in 2010 -- dispatched by the State Police and DOT, about 9 percent of the time and found by ESP 91 percent of the time. Overall, 90 percent of our ESP drivers arrive first and assist drivers in need.

ESP patrollers patrol over 400 miles of roadway on Routes 42, 195, 676, 55, 76, 287, 295, 78, 80, 24, and 440; basically all major north, south, east, west, heavily traveled highways in New Jersey. But the public is involved. When we help someone, they get to rate the employees. Every time that they provide a service and stop somebody -- they're actually given a card to rate them on, basically, their performance, and the length of service, and the time. The testimonials and rating cards show this service really works, and that it saves lives and makes us more secure.

Now for the box. (speaking off mike) I have-- Basically I just want to visually show everybody. It was difficult getting these, because they go right to DOT. But we got our hands on only a few. These are just cards and surveys in regard to satisfied, safe, and secure citizens up and down. Because New Jersey is the East Corridor for Pennsylvania, New York, Philadelphia. So it justifies the service.

And if I may, I just want to read maybe one or two very quick.

ASSEMBLYMAN WISNIEWSKI: Sure, we're running out of time.

MS. CICCONE: I know. I will read just one. "I'm very happy with the service. I had been waiting for--" Wait, excuse me. I'll read this one, it's shorter. "I think there is very much a need for this. Not everyone has AAA or a cell phone." That hits home, especially in this economy.

ASSEMBLYMAN WISNIEWSKI: Sure.

MS. CICCONE: We'll continue. In the respective joint letter -- and I will come to a close very soon. In the respective joint letter from Captain William Robb and Sergeant Zito, I quote, "We believe that the service of the dedicated ESP personnel have saved the lives not only of those responders, but also the lives of the motoring public. Additionally, many incidents have been prevented by ESPs' vigilant patrol, actions such as debris removal and their relocation of stalled or accident-damaged vehicles from the live-travel lanes." Obviously, we concur with their statements.

We ask for you, again, to make sure that this program stays in existence.

I personally thank you for listening. I also have tons of other letters, but I want my guys to speak.

Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you.

S T E V E S H A R P: Good afternoon.

My name is Steve Sharp. I'm a dispatcher -- Public Safety Telecommunicator, as referred to earlier by Lisa.

I come today to speak about the Emergency Service Patrol, ESP.

ASSEMBLYMAN WISNIEWSKI: Can I just-- I would appreciate it, to the extent you can, if you have written remarks -- if you could just summarize them. Because I have a dozen people still here who need to speak.

MR. SHARP: Okay. No problem.

How -- I want to explain -- it is that the ESP is the first responder. I get calls continually about incidents where roads are closed, lanes are closed, there's some type of emergency situation -- be it medical, be it a vehicle broke down, a vehicle crash, whatever. I get the calls, I dispatch the State Police, I dispatch emergency medical if needed. These guys are already on the scene. They're the ones calling us and telling us what's going on out there, what we need out there. It's important to know that these guys are really one of the first responders in most incidents. They're really like the unsung heroes of the highways.

If you speak to the State Troopers who are in their areas of service, they can't stop singing their praises about all the times they helped them when the lanes were closed or whatever might happen.

You heard a lot about the vehicle breakdowns. There are other things done by them. I can't tell you how many times they've removed couches, car parts, children's playhouses from the roadways in lanes that are being used by motorists at the time. I can't tell you how many times they call us with an abandoned vehicle which is, I understand, mandated under the Homeland Security Act on the interstates. They call them into us, they give us the information. We check to see if there are (indiscernible) warrants or if the vehicle is stolen. Get the guys off the road, get the cars back to their owners. A lot of different things they do.

It's not just the motor (indiscernible), it's not the abandoned vehicles, it's not just the traffic control and the debris removal, it's-- And Dante here is a friend of mine. He'll tell you about one incident he had on the roadway. But this is just one of many.

Just to sum this up, I just want to tell you that these guys are the first responders. These guys are really the guys that we need out on the roadway. They're saving the State a lot of money just being out there. Because if they weren't there and we had these vehicle breakdowns, the State Police would be answering them. If we had cars stuck in lanes, the State Police would have to go and answer to them. If we had debris in the roadway, the State Police would be out there. The State Police get at least double their salary. So would you rather pay those salaries, or would you rather pay these salaries? And the fact that they're offset with Federal government moneys, I don't see the reason behind doing away with the ESP.

That's all I have for you today. I'll introduce you to Dante.

ASSEMBLYMAN WISNIEWSKI: Thank you.

Dante.

DANTE SCOLERI: Good afternoon.

I'd like to thank the Committee for allowing me to speak. I'm representing ESP -- all 90 of us -- north, south, and central.

This a little rough. I'm the guy who's out there doing the work. I'm not usually speaking in front of a panel.

On April 20, 2006, I had the opportunity to save someone's life through ESP. I was patrolling and came up on a vehicle. The gentleman had stopped breathing. We administered CPR and saved his life. That

happens countless times on our highways. ESP personnel are out there patrolling, roaming.

The Commissioner made a statement that we ride around and do nothing. That's untrue. We ride around and our eyes are always open. We see abandoned vehicles, we see vehicles in the lane of traffic. We move the vehicle; it's now off the roadway. Any time you have a vehicle on the roadway as a fixed object, it creates a major hazard.

I'd just like to say in reference to outsourcing or privatization-- Most of your private operators are 90 minutes and more to come out and respond. Our time limit, if your on one of our roadways within our region -- South region -- is 20 minutes. We have roamers and we have patrolmen who go back and forth. You should sit no more than 20 minutes. The Commissioner said he sat for an hour. I find that hard to believe unless it was in between the shift change. And he would know the time of a shift change. And he had the opportunity to call to dispatch -- Cherry Hill headquarters, or wherever he was at. I find it hard to believe he sat for an hour.

Also, I'd like to just make a statement that there have been times when I came up on motor vehicles, and the people have told me they called AAA. AAA is now -- they will call our dispatch and dispatch us to the stop where the person is disabled. So, therefore, AAA is taking the money, but we're doing the service. That is going on right now, and that is a problem that has to be addressed. Whether it's being addressed through the State or -- how it's going about it, I don't know. But there are a lot of issues here as far as outsourcing and privatizing. It's costing-- It will cost-- The taxpayers, right now, are getting the service for free, basically. But

when you outsource it, now you're paying for a tow truck, you're paying to get your car off the road. You're causing the taxpayer more expense. This service is one of the opportunities the State has to show the citizens of the State of New Jersey, "This is a program we have for you, to your service." We're providing the service for our residents, our citizens of the State of New Jersey.

ASSEMBLYMAN WISNIEWSKI: Thank you.

Assemblywoman Watson Coleman.

MR. SCOLERI: That's all I have.

ASSEMBLYMAN WISNIEWSKI: Thank you.

ASSEMBLYWOMAN WATSON COLEMAN: I found the information, as it was shared with us here and before regarding the Emergency Service personnel, very illuminating. I had no idea.

Two questions: What is the vehicle that you drive in? How is it distinguishable? And the other is: Are you on non-toll roads, or are you on the Parkway, and the Turnpike, and Atlantic City -- just non-toll roads.

MS. CICCONE: Major state arteries.

MR. SHARP: No, the Atlantic City Expressway has an Emergency Service Patrol system of their own. I'm not sure of their function -- if they pay for it or not. We patrol State highways. It will be State-- They're listed on our cards -- our response cards.

ASSEMBLYWOMAN WATSON COLEMAN: Non-toll roads.

MR. SCOLERI: It's the interstate highways: 295, 76, 676.

ASSEMBLYWOMAN WATSON COLEMAN: And what are you in? What are you driving?

MR. SCOLERI: We drive F250s, utility body trucks. It's a pickup truck.

ASSEMBLYWOMAN WATSON COLEMAN: I mean, are they yellow, DOT? What are they?

MR. SCOLERI: They're white and marked red and white with New Jersey DOT on the side of them.

MR. SHARP: Clearly marked.

ASSEMBLYMAN WISNIEWSKI: Assemblyman Prieto.

ASSEMBLYMAN PRIETO: Chairman, just a comment. And I actually -- when they referred to -- on the report, Page 42. I actually just looked at it. And these are the things I find troubling when you do things like this. You don't equate -- and you equate \$12.3 million that are totally funded, and then I hear that it's maybe two miles of paving roads. Then I hear a story about somebody's life getting saved in 2006, and God knows how many more. You can't -- you have to see that it makes-- It says here that the recommendations -- DOT should dismantle this program immediately and cease -- and giving it out to private-sector roadside assistance entities. Cease competing, right. And it doesn't make sense.

So these are the things that, when you look at this-- And that's why we need comments like yours, because obviously this is a worthwhile program. And you sort of educated me of where the roads are when you gave -- they're up by me -- north. So I just want to thank you for enlightening me also.

MS. CICCONE: Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you.

Any other questions from the Committee?

Assemblyman.

UNIDENTIFIED MEMBER OF COMMITTEE: Dante, tell me your hours.

MR. SCOLERI: I'm sorry, sir. I've been with ESP -- let me go back here a little bit -- for 10 years. I've worked Thursday, Friday, Saturday, and Sunday for the past 10 years from 10:00 a.m. until 8:30 p.m. That's the weekend in the southern region.

UNIDENTIFIED MEMBER OF COMMITTEE: The Commissioner alluded to the fact that the coverage isn't 24 hours. Is that true? Is it not 24 hours?

MR. SCOLERI: No, coverage is not 24 hours. And I believe that--

UNIDENTIFIED MEMBER OF COMMITTEE: But it's seven days a week, right?

MR. SCOLERI: Excuse me?

UNIDENTIFIED MEMBER OF COMMITTEE: It's seven days. Because if you're working a shift like that--

MR. SCOLERI: Only in the southern region though. They just downsized, and we're the only region that still has the weekend coverage.

MS. CICCONE: It's fragmented.

MR. SCOLERI: There's a unit -- a 10-hour unit.

ASSEMBLYMAN WISNIEWSKI: Let me just jump in here, because we do have to move it along.

But you were just downsized? The program was downsized?

MR. SCOLERI: I wouldn't say downsized.

ASSEMBLYMAN WISNIEWSKI: Let me rephrase the question. In response to the Assemblyman's question about is it a 24-hour program, you said no. And then seven days a week, you said, "Well, in the southern area it is." And then you said something about down-- Had it been seven days a week statewide until recently?

MR. SCOLERI: At one point there was -- the crews were-- How can I explain it. There are two different types of crew. You have your 8-hour employee, and you have your 10-hour. For the past 10 years, I've been a 10-hour employee, work four days a week. So they take those 10-hour employees and work them Thursday, Friday, Saturday, Sunday; or Saturday, Sunday, Monday, and Tuesday, with Wednesday being the middle day. They just now, in the -- well, recently in the northern and central units -- divisions -- dismantled the weekend crew because they didn't have the manpower to correctly operate it.

ASSEMBLYMAN WISNIEWSKI: All right. So the answer is yes, they just recently downsized.

MR. SCOLERI: I wouldn't say *downsized*. They kept the employees. They just integrated them within--

ASSEMBLYMAN WISNIEWSKI: Downsized the service. The service is now not seven days.

MR. SCOLERI: Correct.

ASSEMBLYMAN WISNIEWSKI: Any other questions?

UNIDENTIFIED MEMBER OF COMMITTEE: I'm still trying to get my hands around it. Is this fully funded by the Federal government or not? I mean, I hear conflicting stories. If they, say, did

away with it, they're going to save -- how are they going to save \$10 million or \$12 million if--

UNIDENTIFIED SPEAKER: It's not my area of expertise, but from what I've read--

ASSEMBLYMAN WISNIEWSKI: Can you try and get us that information? I don't--

MS. CICCONE: I have some information.

ASSEMBLYMAN WISNIEWSKI: I don't want to be a pain, but I was just informed that at 2:00 another group of Assembly members are going to come in to use this room. They're going to be upset that we're sitting in their seats. So I need to move it along.

UNIDENTIFIED SPEAKER: The Federal government allows approximately \$12.3 million. There's a little over \$1 million, to my understanding, that's used from the State, and that's for fuel costs and some hand tools cost.

MS. CICCONE: For equipment.

UNIDENTIFIED SPEAKER: That type of thing.

ASSEMBLYMAN WISNIEWSKI: If you could supply us that information that would be very helpful.

MS. CICCONE: That's fine.

UNIDENTIFIED SPEAKER: It's about \$12.3 million. And there's nothing that I could find that said that this \$12.3 million would be available to the State any other place, if we weren't using the Transportation Highway Funds someplace else.

ASSEMBLYMAN WISNIEWSKI: Thank you.

Thank you very much for your testimony. We appreciate it.

MS. CICCONE: Thank you.

ASSEMBLYMAN WISNIEWSKI: Next, I'd like to call up Lizette Delgado, Director of SEIU State Council.

UNIDENTIFIED SPEAKER FROM AUDIENCE:
(indiscernible)

ASSEMBLYMAN WISNIEWSKI: Okay. You don't look like Lizette Delgado. (laughter)

B O B A N G E L O: Thanks.

My name is Bob Angelo. I represent SEIU State Council. I want to spend just a second on the recommendation to allow the auto emissions testing to be done in private garages.

SEIU has represented the motor vehicle inspectors in New Jersey since they were organized -- well, not -- actually since the '50s. We went through the transition to the Parsons Corporation under the privatization of 1997, during the Whitman Administration. We currently represent the employees of Parsons, as well as about 250 motor vehicle monitors and other personnel.

We just want to state for the record that we absolutely disagree with the recommendation to force motorists to go to a local garage or dealer to have their emission testing performed. We have always maintained, we continue to maintain that there's a conflict between someone who is doing an inspection and may potentially be doing the repair. The motorists of New Jersey, in our view, should have the absolute right to go to an independent evaluation -- whether it's emission testing or, in the past, safety inspections. If they choose to go to a garage, that's their choice. But we think it's absolutely essential that the State continue to offer motorists a

service which they've already paid for, through their car registration, to have their emission testing done at a central station. That emission testing is now available, of course, at the Parsons stations. And we urge the Committee to look closely at any recommendation that would change the current system.

One hundred and twenty SEIU members lost their jobs when the Legislature voted to eliminate mandatory automobile inspections. More of our jobs are at risk if this recommendation would be followed. But we certainly strongly advocate that there has to be an option for motorists to go to an independent testing center like the ones that are currently operated by Parsons.

ASSEMBLYMAN WISNIEWSKI: Thank you, Bob.

Any questions? (no response)

You're good. Thank you.

MR. ANGELO: Thank you.

ASSEMBLYMAN WISNIEWSKI: I'd like to next call Fran Ehret, IFPTE Local 194 President; Marc Fluet, if he'd like to come up with you. You're all from IFPTE, so we're going to get you all at once.

Jim Fragé and Frank Forst, IFPTE Local 194.

F R A N K F O R S T: (speaking from audience) I submitted some written testimony. I would have elaborated on it, but since everybody's already left, I'm going to pass.

ASSEMBLYMAN WISNIEWSKI: So we'll just take your written statement. No need to testify.

Thank you, Mr. Forst.

Fran.

F R A N C E L I N E E H R E T: Thank you, Mr. Chairman, members of the Committee.

I appreciate the opportunity to sit here before you today.

As Assemblyman Wisniewski said, my name is Fran Ehret. I'm the President of the New Jersey Turnpike Employees union. I represent all the tolls, maintenance, trades, technicians, part-time and full-time toll collectors on the Turnpike.

There was an awful lot said here today, and I'm not going to drag you through all my comments that I was going to make. But there are a few that I think need to be pointed out.

The Turnpike is the most important heavily traveled road in the entire Northeast. And it is the main artery connecting New York, Philadelphia, Boston, and Washington, D.C. It was Chris Christie, when he was the U.S. Prosecutor, who originally said that the Elizabeth Corridor of the New Jersey Turnpike is the most dangerous piece of roadway in the country. And this was reiterated by Michael Chertoff, who used to be the Director of U.S. Homeland Security. And this is because of its proximity to Newark Airport, our ports, chemical facilities, chlorine tanks, storage tanks on the side of the road, and so forth. If this area was attacked, it could kill millions of people.

The Turnpike does intensive background checks on its employees, the State Police does background checks on our employees. We don't know if a private operator would do background checks on our employees or the private workers that they would be hiring. And post 9/11, I think to be privatizing our infrastructure and something as important as the New Jersey Turnpike is putting our whole state at risk. And I think

that's something that really needs to be looked at and taken very seriously. Our toll collectors and maintenance workers are trained eyes and ears, very familiar with who belongs there and who doesn't.

The chairman (*sic*) originally said earlier, I think, that our workers don't do guide rails, and line striping, and so forth in the maintenance department. I wanted to clarify that, yes, they do. In addition to that, they do the majority of the maintenance work out on the road. The esprit de corps of our maintenance and office workers who plow the snow is well-known throughout the region. Our motto is: Clear and Dry. And when there is a snow or ice event, everyone knows the Turnpike is the road you want to be on. That is because we have a very qualified, in-house staff who are there to respond right away to all snow and ice events. And there's no lag time. You don't have to wait for contractors to get there. Our people are there. They respond right away.

The Turnpike and the Parkway are both designated evacuation routes. There was a legislative hearing earlier this week where legislation was discussed and voted out of committee that would help ensure these evacuation routes are more effective. I think putting evacuation routes in private hands is something that we should not be doing.

I just want to make a point. Dick Zimmer -- Congressman Zimmer was quoted, I think last week, in the *Philadelphia Inquirer* as saying all our toll collectors do is make change. We take umbrage with that. It's the most dangerous place in the world to make change. Most of our toll plazas were built 50 years ago with the intent that every vehicle would stop and pay a toll. They're not that wide. There are about six or eight inches of clearance on either side. When vehicles are flying through at 40 miles an

hour -- these trucks and buses -- they roar when they come through. Your whole toll booth shakes. And you're just wondering: Is today the day that it's going to come right through you?

A couple of months ago, Fay Stoddard (phonetic spelling), who is a toll collector at the northern end, had her booth hit. It was flipped backwards. All of the equipment came crashing down on her. They had to rip off the bottom of her toll booth to get her out. She was injured. She's, thankfully, back to work now. But it's a very dangerous place to work. And our toll booths get hit all the time. The windows get busted when trucks come through, and buses, and hit the mirrors and glass comes flying down on them. People stick guns in our faces and rob us. We have absolutely no protection out there for robberies -- the State Police can't be everywhere -- and we're frequently robbed. And our employees are constantly putting themselves at risk where they sit.

And if you look at the Turnpike Commission's report every month, there is a report by Troops D and E that they submit to the Commissioners that talk about all the criminals who are running around out there on our toll roads. There are people with guns, there are kidnapers, there are drug--

So we're out there. It's the main artery -- people going up to the City and Philadelphia -- drug runners are using it. And our workers are constantly confronted by road rage. We try to deal with these situations as best we can. There's a hearing today on road rage somewhere in this building. I heard that on my way in today -- and about making sure that road rage -- when people are hit and struck by vehicles, that it's a higher crime. I think it was sponsored by Assemblywoman Linda Greenstein.

So I think that we get paid fair wages. We get a living wage. New Jersey is an expensive place to live. I think a lot of what you heard here today was to depress the wages and benefits of the workers. And that's something, in this economy, we really can't afford. Outsourcing and privatizing is going to put people out on the unemployment line at a time when so many people are already struggling and out of work. And we're just middle-class people here trying to earn a living, not hurting anybody.

I want to make a couple more points, and I apologize. I'm going to try to rush through it as best I can. But this idea of cashless tolls that the chairman is talking about doing-- I want you to-- This is a very important point.

ASSEMBLYMAN WISNIEWSKI: You mean the Commissioner.

MS. EHRET: The Commissioner. I'm sorry, Mr. Chairman. I apologize.

ASSEMBLYMAN WISNIEWSKI: I just realized that there are people listening over the internet, and I don't want them to get it wrong.

MS. EHRET: You're right. I apologize, Mr. Chairman.

A tractor trailer that gets on at Interchange 1, goes the full length of the Turnpike, it's \$32. Every time one of them runs the Turnpike it's \$32. That's a significant amount of money. In 2009, the Turnpike lost \$17,547,505. That's how much money people ran through the Turnpike alone. Now, chasing that money down trying to get it back, they got back about \$8 million on just the Turnpike. So they didn't even get half their money back chasing down the people who ran the lanes on the Turnpike. On the Parkway, they lost \$11.5 million, recovered about almost \$5

million. That's a net loss for 2009 of more than \$16 million, because they didn't have people in those lanes to collect the tolls. That's because we've automated, and people are running the E-ZPass lanes. Now, that doesn't include how much it costs to chase that money down and hopefully get it back. At the end of every single day, our toll collectors are collecting cash. You have cash at the end of the day. That's money you could leverage, that's money you could gain interest on. You're not gaining interest on money you haven't found yet that you have to go chase down and hope you get back. And you don't have to fight somebody in court and everything else you have to go through to get that money back. So I think that's a very important point to make when we talk about cashless tolls.

The Privatization Task Force also recommends merging our maintenance department with the DOT and then privatizing that. I just want to point out that this would result in a serious deterioration in both the Turnpike and Parkway. We will have to compete with other State roads as to what projects get done. How is that fair to toll payers? Who is going to prioritize whether it's 287 that's getting done, or 295, or the New Jersey Turnpike? The toll payers are paying a toll, and they're expecting that that road is going to be maintained. Who knows what kind of standards they're going to maintain. Who is going to oversee all these roads? I think we're creating a monstrous transportation department and a bureaucratic nightmare that could put the public safety at risk.

Mr. Zimmer is not accurate, as I said before, about the guide rails and line striping. I don't want to-- We do both of those things well.

And on the Turnpike and the Parkway-- If you're going to privatize work, you're going to have to pay prevailing wages. That's the

law. So how much are we really saving? What are we talking about here? I don't think the report is accurate in the amount of savings that they would get. We all know about the E-ZPass debacle and how WorldCom went out of business, and they lost millions and millions of dollars. And I don't think we can afford to put our transportation infrastructure at risk. This is a vital artery for the whole Northeast region.

And in conclusion, I just want to thank the Committee for having this hearing today, giving us this opportunity. We would appreciate that you don't support the outsourcing and privatizing of jobs, and this race to the bottom, as Eric Richard originally spoke about.

We have always worked with the administration when they had a problem. I heard them talk about flexibility, and their inability to do things, and inability to move workers and so forth, and things that are encumbering them to get the job done. I want to tell you that no one has come to me and said that. No one has come to me and said, "Hey, Fran, we have a problem. We need to do something. We can't get something done." We have not had that discussion. Whenever we have gone to the bargaining table and management has asked us to help them solve a problem -- whether it was in negotiations or in between -- we have always sat down and tried to come up with reasonable solutions to try to work out their issues. Now, the Turnpike is 122 miles long. I don't think you'd want to send a toll collector from Exit 1 all the way up to 18W. But within certain ranges of miles, they can move them around. We have those kinds of rules. So I'm not really sure what they're talking about when it comes to that.

Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you very much.

Whoever wants to go next.

J I M F R A G É: Good afternoon, Mr. Chairman and members of the Committee.

My name is Jimmy Fragé. I'm 39 years old. I've been working at the New Jersey Turnpike Authority for the last 16 years in the capacity of toll technician/coin machine specialist, and I'm currently in the position of System Technician.

Our job entails dealing with the State Police, installing everything in the vehicle from cameras to the MDT, which is the motor data terminal -- which is the computer -- from the printers. We do camera security -- every- and anything that deals with electronics we're responsible for. And if you would just unclog your ears -- I know you heard a lot of testimony today. I just hope and pray that you -- this sinks in, what I'm about to share with you.

I'm talking from the heart and I'm talking in the capacity of what we do. We're at the bottom, and a lot of times we're not heard. The first example I want to share with you in regard to why privatization, as far as I'm concerned, doesn't work.

I tend to sense that we lose sight of people. I've heard politicians talk, I've heard budgets, I've heard saving. But I've yet to hear -- what about the people who sit behind the positions that they're talking about eliminating? As a systems technician, the first incident I want to bring out is the new Interchange 1 on the New Jersey Turnpike that was done under the Administration of Governor McGreevey. They hired an outside contractor to do our work, as far as running data cables, which is

network for computers. They hired an outside contractor to run telephone cables. And what happened was, there was a deadline placed by the Governor on when he wanted to open the plaza for the ribbon cutting. I don't know if you remember that. When that deadline was placed, the contractors could not meet that deadline. And a lot of times, when they do contracts, they may add different things on which will cost more money, because certain things weren't taken into consideration -- one of which was telephones in the elevators which exist at Interchange 1.

Well, we were asked to come in and bail out the contractors who couldn't complete the project. We went in, and within a two-week span we were able to run over 5,000 feet of cable. Mind you, over the last five years we've lost about seven technicians. But we're still placed in a position to follow through and come through when we're called upon. And we did complete the job. We ran the cable, we mounted the telephones as was requested. And, again, there's a difference between bringing someone outside into your home as opposed to you taking care of your home. And we all know no one can take care of your home better than you can.

The next example I want to talk about is State Police. The State Police involves, for us, complete installation. What they did was, they brought in an outside contractor to install complete installation-- Now, we're only talking about the computer now. Like I said, with the State Police, we're in charge of computers, the SPEN radio, the maintenance radio, the camera, the DIVR (*sic*), the printer, and the thermal printer which they use to print tickets in the vehicle.

What happens is this: They hired Winner Ford to do 14 or so vehicles. It was an astronomical amount of money they were asking to get

the job done. What they did was, they asked us to go and see if we could do the job. Of course we could. I went to school at DeVry. We're all qualified. We have our diplomas in electronics. And we've been, since then, doing complete installations for the State Police.

And something else that's very important when you're dealing with the State Police -- in their safety, in the safety of the motorists that drive the Turnpike -- is this: Because we're on-site, and because they have constant issues with different aspects of the equipment in the vehicle, it is so convenient for them to drive into our garage, say they have a problem, and within 30 minutes they're back out on the road. The response time is also an issue. When you privatize the State Police, the people dealing with the public, a 24-hour turnaround is not good enough. It has to be done immediately. There are times there is a Trooper who is going out on a call because they're on a chase. Their camera is down. They come in -- pull right in, and we fix it. They're back out in 15 minutes. They're able to assist and potentially save someone's life.

And the last thing I want to bring out is Interchange 6: again, hired an outside contractor to do complete installation of the camera system which is used to monitor things that are happening, whether it be an accident or the toll collector's safety. And they hired a contractor. Again, they weren't able to complete the job when they expected to open the plaza. So, again, they called us. Although we're short-manned, we take pride in our home. And that's what I want to stress. When you privatize, it's not the same as someone that's living within the establishment of the New Jersey Turnpike. And we followed through and completed the task of putting the cameras in.

And mind you, there have been a lot of different plazas that have been outsourced where they have done the cameras. Plaza 6 is the only one that is still fully operational, where all the others that have been outsourced -- they fall by the wayside.

That's all I have to say.

ASSEMBLYMAN WISNIEWSKI: Thank you. Thank you for your testimony.

MARC FLUET: Good morning, Mr. Chairman and Committee.

First, let me thank you for allowing me to address you today.

My name is Marc Fluet. I'm a New Jersey licensed electrician. I've been working on the Turnpike for 19 years now. Prior to that, I worked as an electrician in the private sector. I'd just like to briefly speak with you on the downsides of privatizing, and share with you experiences that I've had with working with outside contractors on the Turnpike. I just want to touch on four quick points.

Number one: cost-effectiveness in keeping in-house tradesmen. Number two: the quality of work performed by in-house tradesmen against outside contractors. Number three: the qualifications of in-house tradesmen over outside contracting firms, employees. And lastly: the response time of in-house tradesmen over outside contracting firms.

I have some information that might be technical. If I'm not clear, please ask me to elaborate. And also, because I've been working on the Turnpike for so long, I certainly -- and we don't have much time here -- I certainly couldn't reference all the experience I've had. So I've just chosen a quick, representative few to illustrate my point.

The first one has to deal with the cost-effectiveness of keeping tradesmen in-house. In 2004, a contract bid was put out to put up 223 roadway lighting poles that had been knocked down in traffic accidents. Now, traditionally this work was performed exclusively by Turnpike electricians. A number of tradesmen approached the Director of Maintenance, who at that time was Dan McNamara, to inquire why this decision was made. At that time our shops were running about 33 percent less workers than when I had been hired, mostly due to not filling positions when tradesmen retired. They said that this would be a one-time contract to catch up because we were understaffed. And we asked them if we could do a cost analysis on how much work -- how much money it would cost us to do it on overtime. And we assured him that we could significantly come under whatever price would be bid by an outside firm. We figured that the total job for the Turnpike employees to produce the job on overtime would have been \$570,000 compared to the lowest contracting bid of \$1.1 million. So it would have cost the Authority about half the contractor's bid price to keep that job in-house. The job was still performed by an outside firm in contract R1473. And the reason why that was done was because Mr. McNamara stated the money was available in the capital improvement budget or construction budget and not in the roadway maintenance budget, and that the funds couldn't be transferred. But the point stands that privatizing and outsourcing services are not necessarily synonymous with saving money. As a matter of fact, right now our electricians are currently installing new, uninterrupted power supplies for E-ZPass's mainframe computers at all of our interchanges, because the Authority realized the significant cost savings after soliciting estimates for the project.

I'd also like to address the quality of contractors' work versus in-house tradesmen. And I could reference that pole installation project. A great number of those poles put up during that contract didn't even work. Some of the wiring coming up from manholes feeding those poles were damaged. And although it would have taken less than a half-hour for the contractor to repair those wires, the contractor left those poles inoperable. Also, there were a number of defective splices that were made that left others inoperable. A large punch list was generated by a Turnpike trades supervisor, finding 20 percent of the poles either inoperable or violating Turnpike construction specifications. The contractor didn't return to repair or complete his work. And we went out on straight time to get those poles operating.

In the 20 years I've been there -- almost 20 years -- I've seen manhole fires caused by improper waterproofing of splices. I've seen building transformers burn because of improperly torqued connections; important fire safety components and our HVAC system bypassed rather than being replaced; emergency generator transfer switches not functioning because they were not properly wired; expensive sewer injector pumps burn because of improperly wired control circuits; HVAC control components burn because of insufficiently sized wiring. There are many, many examples of poor work, that are really too numerous to mention, that we've repaired after the contractors have been paid and gone.

Now, I'm certainly not saying that all contractors perform shoddy work. I've seen excellent work done by outside firms. But what I am saying is that the faster the job is completed, the higher the profit margin; the cheaper the materials used, the higher the profit margin. And

that really creates a real temptation for contractors to cut corners any time they can. And I've seen that done many times over the last 18 years.

Thirdly, I'd like to just compare the qualifications of our in-house tradesmen and those of outside contractors. Traditionally, most contracting firms have one license holder. And he's the most qualified man in the company. But his main focus is generally on running the business. In the field he'll have a supervisor, a foreman maybe, some journeymen, and some apprentices who are actually performing the work. Yet the majority of maintenance electricians employed by the combined Turnpike Authority and Parkway are licensed electricians. And the majority of those who aren't have gone through a federally approved Department of Labor apprenticeship program and received their journeyman certification. Right now, we have one apprentice currently in that program. So on any given job, our electricians are actually more qualified than the average contractor's employees. Not only that, but many electrical contractors specialize in one or two areas of the industry while Turnpike electricians who have worked there for a long period of time are familiar with all aspects of the--

ASSEMBLYWOMAN STENDER: Can you wrap up? Because we're really starting to run out of time.

MR. FLUET: Oh, I'm sorry. Okay.

You know what? Let me just say this: The scope of our work is huge, our response time is phenomenal, we respond to emergencies continually. Contractors don't have the same response time that we have.

And lastly-- It's a shame. I have a lot of information here. But lastly I just want to say this -- and this is going to sound corny and melodramatic -- but I love my job, I love the Turnpike, I love my coworkers.

I've had a great-- I've met a great many talented, interesting people. It's been like a big family with this job. I've purchased my house in a safe neighborhood, raised my three wonderful boys with my health benefits. They paid for my eldest son's medical bills. He's a juvenile cancer survivor who turned 24 this year. And without this job, I could have never paid any of those medical bills, and I probably would have lost everything. I've always been grateful to the Authority for my job, and to the State. And because of that, I give it my best. It's my family's hope and my prayer that I'll still have the privilege and the pleasure to continue working for the Authority.

And we appreciate your consideration and any help you could give us in this matter.

Thank you very much.

ASSEMBLYMAN WISNIEWSKI: Thank you.

Thank you, all three of you, for your testimony. We appreciate it very much.

Eric DeGesero, Fuel Merchants.

Thank you, Eric.

ERIC DeGESERO: Thank you, Chairman Wisniewski.

Eric DeGesero, Fuel Merchants Association.

You've spent the last three-and-a-half hours discussing recommendations in the report for ways that -- for the State to do things that it currently does better, cheaper, faster. And there's been a lot of discussion as to whether or not the way to do it is the way it's done currently or possibly another way.

I'd like to discuss something that hasn't been discussed, and it's a recommendation in the report that is actually going to get the State into something it currently doesn't do and, quite frankly, doesn't need to do. And that has to do with commercialization of rest areas or the commercialization of the rights-of-way on the interstate highway system in the state.

Since 1960-- The Federal Interstate Highway System comes into being in the late '50s. Since January 1, 1960, there's been a prohibition in Federal law for there to be any commercialization of a rest area along an interstate highway system. Exempt from that are toll roads, which is why you see them on the State roads, as well as the fact that the State roads predated it. And any other -- such as the one on Route 95 in Baltimore -- just north of Baltimore, the Chesapeake House -- predated the establishment -- or the prohibition in the Interstate Highway System.

The proposal here is to have the government get into the business of creating commercialized rest areas along the rights-of-way, and then lease them out to a business to run. Unfortunately, those businesses -- there's generally two of them. One of the two, that runs the Parkway, the Expressway -- Atlantic City Expressway -- and Turnpike, is HMS Host. And it's business-- It isn't the local restaurant or the local gas station that has put decades of not only financial equity, but sweat equity into their properties at the interchanges that are going to be impacted -- that they're not going to be the individuals running those entities along the rest stops.

Currently, there are about 2,000 -- a little under 2,000 exit-based businesses in the state employing nearly 20,000 people and paying

over \$14 million in local property taxes. What's going to happen to that investment when the State comes in and competes with it?

I have also provided a study. Some suggest that the reason -- a reason to do this is safety. Truckers, as you may be aware, have to live within certain hours of service regulations of the Federal government; and that maybe this would allow for more parking spaces for truckers to have rest areas. I've submitted a report from the National Association of Truck Stop Operators, NATSO, that did a comparison in the 14 states that have commercialized rest areas against the rest of them -- the rest of the states in the country that do not, showing that on a per-mile basis there was actually more truck rest areas -- more parking spaces for trucks in states that do not commercialize the right-of-way, because there's an incentive for business to get involved. And the government gets involved and gives -- was able to have the choice real estate handed over to somebody. It's sort of a disincentive for a private entrepreneur to get involved.

Lastly, specifically the recommendation in the Task Force requests -- or suggests that the State should petition the Federal Highway Administration for a waiver to participate in a pilot program. There is no such authority under current Federal law to do such. There is no pilot program specifically at 23 U.S.C. Section 111. It is prohibited. I've submitted a letter from Chairman Oberstar of the U.S. House of Representatives Committee on Transportation and Infrastructure explicitly reiterating that fact. And actually, the current FHWA Administrator Victor Mendez sent a letter to Arizona Governor Jan Brewer in June reiterating this fact; so that actually the recommendation in the Task Force isn't even legal. There is no provision under current law. There have been, certainly,

a number of instances where Congress has looked to repeal this, and that is the only way there can be a new commercialized right-of-way on an interstate -- is for Congress to change the law. The specific recommendation in this report is not -- does not comport with existing law.

ASSEMBLYMAN WISNIEWSKI: How easy do you think it is to change the existing Federal law?

MR. DeGESERO: How easy do I think it is? Well, it's been tried a number of times.

ASSEMBLYMAN WISNIEWSKI: Has it?

MR. DeGESERO: Yes, we-- Congressman Frank Wolf, from Virginia, is the chief proponent of wanting to allow commercialization of rest areas. And every time there is a transportation bill, he looks to have an amendment to it to allow it. And lots of small businesses fight the amendment every time that it comes up.

ASSEMBLYMAN WISNIEWSKI: Thank you.

MR. DeGESERO: Thank you.

ASSEMBLYMAN WISNIEWSKI: Thank you for your testimony.

I'd like to next call up -- if they don't mind sharing the table -- John Costa, ATU Chairman; Dan O'Connell, UTU.

Whoever is ready can start.

J O H N C O S T A: Good afternoon, Chairman, Committee members.

I'm going to make this short. I know you're short for time.

I listened to the Commissioner's comments, I should say, and it sounds like we're being taken for a ride. Me being from the bus area, I like to use that line.

But it's been the ATU's experience that mandated privatization of public transit through competitive bidding serves to reduce the standard of living for workers and diminishes the transportation service provided by the communities. ATU's priorities on this issue are simple: One, we always strive to protect the jobs of our members who continue to provide the safest, most reliable, and cost-effective service. Two, we seek to ensure that the potential cost savings are properly measured and weighed against potential adverse affects on safety and services.

Many times when transit agencies in the U.S. fall into financial difficulty due to declining ridership, increased fuel costs, and a decreasing tax base, privatization proponents come forth with outrageous claims about how others have saved money by contracting out bus services. Such claims are based on discredited economic assumptions, substandard wages, and a mythical notion that private firms will respond to competitive market pressures and provide better services at lower costs.

A report issued by the Federal Transportation Research Board has dispelled this myth. For those agencies that do contract out their bus work, the report found that that privatizing transit services resulted in fewer, rather than more, bidders. Cost savings, moreover, were far slimmer than projected, and they decreased over time. Also, nearly 40 percent of those transit properties that do contract out report that service quality and customer service -- is a negative impact, on privatizing services.

Safety, maintenance concerns, and high employee turnover all contribute to this negative impact on service quality when services are privatized, the report notes. Transit privatization often backfires as big

companies deliberately low-ball initial bids and then start jacking costs up after they have eliminated the competition.

Comparing public transit with private service can be deceptive because it often ignores the capital investment in the public system, adds to the cost of monitoring private firms and ensuring that the level of service is maintained, and savings often disappear. Experience shows that expected savings from forced privatization have not materialized and, in fact, the opposite is true.

We have materials for the Committee to consider regarding numerous Transit privatization schemes across the nation that have failed miserably. I notice they mentioned something about Indianapolis, saying that it was a model or something for privatization. I just wanted to quote -- just do a quick quote in the *Indianapolis Star*. "Route 31 was handed over to Ryder/ATE with no rider input. Buses were purchased at a cost of \$130,000 as opposed to \$250,000, the cost of an IndyGo Bus." And this is a quote: "We have survived months of riding buses with no air conditioning, back doors and bells that don't work, and exposed wiring. These buses have regularly broken down or have been pulled off the route for every imaginable problem. No matter how many times we call, none of these problems have ever been solved." I have more articles like this for you.

Thank you.

ASSEMBLYMAN WISNIEWSKI: John, I'd love to see them if you could provide them to the Committee Aide.

Dan.

DANIEL J. O'CONNELL: Good afternoon, Chairman, members of the Committee.

I will be brief at the suggestion of the Chairman.

My name is Daniel J. O'Connell. I'm the New Jersey State Legislative Director for the United Transportation Union. The UTU represents rail and bus employees. We represent more than 1,000 rail employees at NJ TRANSIT.

We would like to first state to this Committee -- and many of you may already know this -- NJ TRANSIT was created due to the terrible state of bus and rail transportation when it was in private hands. While there's nothing in the Task Force's report that would affect our members at the rail, we do note statements in the Task Force's report that, due to time constraints, there may have been other privatization initiatives that they just didn't have time to consider.

Enclosed with our testimony you will note an editorial from the July 18, 2010, *Philadelphia Inquirer*. I'll just mention one quote which was critical, actually, of the privatization proposals. And I quote, "That's because the State already has some disastrous and relatively recent experience with privatization, much of it in the areas singled out by the Task Force."

There's no doubt -- and we've previously testified before this Committee -- of the terrible economic times in which New Jersey, the United States, and indeed around the world finds itself. We fear there are those who would use these dire circumstances to promote an agenda that would enrich some at the expense of others.

Finally, since today seems to be the day of the quote, in closing we would ask this Committee and the Legislature to look long and hard before privatizing various State services. There's an old adage that speaks of those who know the price of everything and the value of nothing. It would be a shame if in an effort to save taxpayer dollars we ended up costing them more and a poorer quality of life.

Mr. Chairman, I'd like to personally thank our brother and Assemblyman John Amodeo, and also Assemblyman Mainor for their comments about employees. Too often that downside of privatization isn't discussed. And you heard the electrician from the Turnpike. I worked in this industry for 36 years. I take a lot of pride in what I did. It's provided me with a wonderful life. But you know, a lot of these people who will be downsized -- they're residents of this state, they're taxpayers of this state, they're people who play by the rules. And to just toss them aside, I think, would be a terrible, terrible thing.

Mr. Chairman, thank you very much for the opportunity.

ASSEMBLYMAN WISNIEWSKI: John, thank you.

Dan, thank you. We appreciate your testimony.

Just one comment on what you said. Oversimplification sometimes makes for great sound bytes and can be terribly painful. Undoubtedly in every occupation there is someone you wish weren't in the occupation. But by far, you've got so many good people working for the State. And to have one person make a criticism of State employees because of a bad actor does a disservice, as you said, to the people who have been working hard for so many years and take pride in what they do.

I appreciate your testimony.

Next, I'd like to call Zoe Baldwin, Tri-State Transportation Campaign; and Rick Zitarosa, New Jersey Turnpike Supervisors Local 200.

Zoe, thank you for being here. You may begin.

Z O E B A L D W I N: Sure. Thank you for having me.

I'm going to keep this incredibly short, but hopefully touch on some points that no one else has really brought up.

I've been waiting all afternoon to say my quippy line, so I'm going to say it anyway. The Commissioner referenced privatization as a tool that we can use. But the thing that we really have to make sure is that there is a safety on this chainsaw. See, I was very excited.

ASSEMBLYMAN WISNIEWSKI: Wonderful. Good job.

MS. BALDWIN: All right. Tri-State -- we're remaining neutral on this conversation right now because there is absolutely no reference to the fiscal or customer service implications of these plans. If they haven't been able to come up with a figure for how much revenue they intend to get from privatizing our bus lines, they have absolutely not looked into the implications of allowing the service to be privatized. The private bus lines -- while I have ridden many of them, and they are a good service -- there are more problems. They are less regulated. They can raise fares as they please and they can change routes without as much notice. We need to ensure that, going forward, New Jersey has -- is able to ensure that we are offering the best and most cost-effective transportation service, but not at the detriment of people's mobility.

I think some of the main concerns that Tri-State has with this -- the transportation recommendations in the privatization report -- are that they really miss the real issue. None of these plans, especially the ones that

don't have price tags attached to them -- they are not going to change the fact or fill the gaps in the financing problems that we have in this State.

This is kind of silly, but it's like we're throwing deck chairs off the Titanic. The TTF is about to run out of money, and we're proposing plans that do not have -- have not been thought out and-- We have a spotty history with privatization. We shouldn't be jumping into things beforehand.

And then just to end real quick: We do need to change the way we do conduct business in New Jersey in transportation. There's no doubt to that. But you're going to go a lot farther -- we're going to save a lot more money in the long run if we're able to adopt a fix-it-first policy so we get on the good side of the repair curve. The longer we put off the maintenance, the more expensive it is.

Hit multiple goals at once: We need to set some actual goals and stop focusing on the numbers. Focus on shortening our commutes, making it affordable, reducing obesity, and reducing -- hitting environmental goals by reducing greenhouse gases. These are the goals that are going to move the State forward and lead us in the right direction; not by arbitrarily saying, "Hey, what happens if we get rid of some of our responsibility?" It's about the services we offer, and the usability and economic viability of our State -- not on downsizing arbitrary and, quite frankly, what's seemingly minutia within our transportation system.

So thank you.

ASSEMBLYMAN WISNIEWSKI: Zoe, thank you for your testimony. As always, I appreciate you being patient and waiting for this late hour in the day.

MS. BALDWIN: It happens. I hope you guys get lunch soon.

ASSEMBLYMAN WISNIEWSKI: Thank you.

We have no one else who has signed up to testify. I'd like to thank the members of the Committee who were able to hang with us. I know that other members have different committee obligations, so some of them had to leave early.

I'd like to thank Congressman Zimmer for staying and listening to all the testimony. I appreciate you listening to it. Hopefully it will help formulate some additional thoughts on the process of privatization in the State.

Ladies and gentlemen, thank you for being here.

Just to remind you, the Transportation Committee will meet again on Monday. At that time we will take up the issue of delays on NJ TRANSIT and the current 30-day hold on the ARC Tunnel.

Thank you for being here.

We're adjourned.

(MEETING CONCLUDED)

APPENDIX

- **NJ TRANSIT has contracts with private bus carriers to operate routes that would be too expensive for NJ TRANSIT to handle;**
- **NJT has contracts with private companies for maintenance on the Atlantic City Rail Line and at the Secaucus Junction and Newark Penn Station, and**
- **It has leases with private retailers that generate revenue and provide a variety of products and services for passengers using our stations and terminals.**

The examples I have mentioned are success stories. There can be many more in the future.

Governor Christie created the New Jersey Privatization Task Force and directed it to undertake a “fair and independent evaluation” of new opportunities to achieve cost savings, deliver projects in a timelier manner, and take advantage of the private sector’s expertise and spirit of innovation.

The Task Force had two recommendations for the Department of Transportation that it believes could save more than \$13 million.

One focused on our Emergency Service Patrol Program; the other on the operation of rest stops in Knowlton on I-80 in Warren County and in Deepwater on I-295 in Salem County.

The Task Force also had recommendations for our sister agencies.

It urged the New Jersey Turnpike Authority and the South Jersey Transportation Authority – as well as the NJDOT – to use “performance-based” highway maintenance contracts.

It further suggested that the Turnpike Authority and SJTA privatize manual toll collections. In several weeks, the SJTA will send out an RFP to privatize 80 part-time toll collectors.

It asked the SJTA to consider advertising and naming rights and a shift to “cashless tolls.” The SJTA is doing both.

Finally, the Task Force recommended that New Jersey Transit privatize parking facilities, bus maintenance and bus routes.

With that, Mr. Chairman, I would be happy to answer any questions.

COMMUNICATIONS WORKERS OF AMERICA, LOCAL 1032

**COST SAVINGS BY BRINGING CAPITAL PROGRAM
ENGINEERING BACK IN-HOUSE AT THE DOT**

Construction Inspection

Average Annual Expenditures for Consultants
In five fiscal years from FY 2003 thru FY 2007
(Data provided by DOT Commissioner) **\$37.19 million**

Savings by doing work in-house
(DOT Cost Study, 2007) **39.5%**

Annual Dollar Savings by doing work in-house **\$14.69 million**
(\$37.19 million X 39.5%)

Engineering Design

Average Annual Expenditures for Consultants
In five fiscal years from FY 2003 thru FY 2007
(Data provided by DOT Commissioner) **\$99.76 million**

Savings by doing work in-house
(DOT Cost Study, 2008) **54%**

Annual Dollar Savings by doing work in-house **\$53.87 million**
(\$99.76 million X 54%)

Bridge Inspection

Average Annual Expenditures for Consultants
In five fiscal years from FY 2003 thru FY 2007
(Data provided by DOT Commissioner) **\$10.12 million**

Savings by doing work in-house **45%**

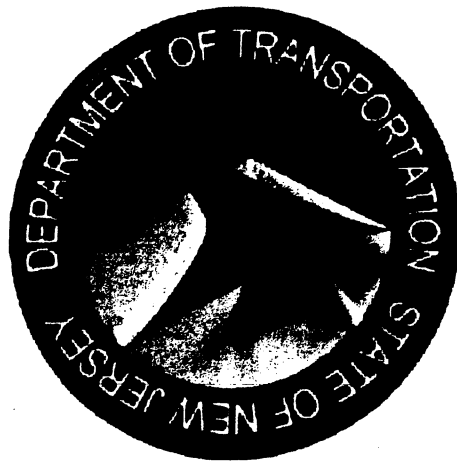
Annual Dollar Savings by doing work in-house **\$4.55 million**

Total Annual Dollar Savings by doing the work in-house **\$73.21 million**

*All calculations are based on the FY 2007 Advisability Studies prepared by the Division of
Budget, Bureau of Program Analysis*

**ADVISABILITY STUDY
FY 2007**

**NEW JERSEY DEPARTMENT OF
TRANSPORTATION**



**Construction Inspections
*In-house vs. Consultant Costs***

Prepared by

*Division of Budget
Bureau of Program Analysis*

November 2007

EXECUTIVE SUMMARY

The Division of Budget, Bureau of Program Analysis was asked to determine whether it is more cost effective to conduct the function of construction inspection using in-house forces or consultant forces. The scope of this study analyzes six completed construction inspection projects. Three projects consisted of 100% consultant participation and the remaining three projects were a combination DOT/consultant effort. The scope of this review is also confined to cost-related issues only. Although other non-cost related issues impacting the decision to use in-house or consultant forces are listed in this report, we did not attempt to validate or weigh these factors against cost related criteria.

We used the Reason Foundation report "How to Compare Costs Between In-House and Contracted Services" as the basis for what costs and factors should be included in this type of analysis. We have used this model for about 14 years since it is the only detailed and comprehensive approach to conducting such studies that we have been able to find in literature. We supplemented that methodology with a Transportation Research Board publication ("In House Versus Consultant Design Costs in State Departments of Transportation," Record 1654, Paper 99-1403) that suggests different methods for making "apples to apples" comparisons when the two groups have not worked on comparable projects or programs. In those instances, TRB indicates that actual costs for one group can be compared with simulated costs of the other group on the same project or program.

The Actual Consultant vs. Simulated In-house is the methodology used for this study. This methodology compares actual consultant costs to simulated in-house costs on the same project. This methodology assumes that the staff-hours required are equal and isolates salary and overhead cost differentials. Under the Department's current contracting system, construction inspection consultants are specifically told how many inspectors need to be on the job, their qualifications, hours of work, etc. There does not appear to be any opportunity for the consultants to have an influence on cost other than the direct salaries paid to employees and the overhead/profit they charge. Since these costs are the only real variable under the construction inspection consultant's control, the Actual Consultant vs. Simulated In-house methodology is the most feasible option when compared with the other methodologies.

The Bureau of Program Analysis, working with the Bureau of Construction Engineering, identified the consultant/NJDOT construction inspection projects to be analyzed. The source for the project selection was the Monthly Status of Construction Project Reports for fiscal years 2005 - 2006. Upon completing our search, we were able to identify six 100% completed projects that had either 100%

consultant participation or a combination of DOT/consultant participation that we were able to use for cost comparison.

We computed both “avoidable” cost and fully allocated costs for both. Avoidable costs are those that represent real out-of-pocket budget savings versus fully allocated costs, which include certain components, such as overhead, that are not easily reduced or eliminated in the short term. The use of fully allocated in-house costs vs. fully allocated consultant costs is not appropriate for estimating actual cost savings. The avoidable and fully allocated costs per construction inspection project are shown in Table A. The table also shows the cost differential between the fully allocated cost of consultants and in-house forces for the six selected projects:

Table A
Total Costs for In-House/Consultant
Construction Inspections

Job #	Description Consultant	Consultant Performance Costs		In-House Performance Costs		Full Cost Allocation Difference
		Avoidable Cost *	Full Cost Allocation *	Avoidable Cost	Full Cost Allocation	
2203518	Kupper Associates	\$251,556	\$251,556	\$180,080	\$233,569	7.7%
1810531	Kupper Associates	\$1,426,622	\$1,426,622	\$972,288	\$1,269,873	12.3%
1815516	Schoor DePalma, Inc.	\$460,878	\$460,878	\$191,360	\$250,377	84.1%
1332509	DMJM Harris Inc.	\$635,732	\$635,732	\$348,057	\$456,894	39.1%
2203917	Cherry, Weber & Associates	\$295,968	\$295,968	\$198,950	\$258,965	14.3%
1018508	Greenman – Pedersen, Inc.	\$467,712	\$467,712	\$249,742	\$325,683	30.4%

*Consultant Performance Costs (Avoidable & Full Cost Allocated) have been adjusted to reflect taxes paid by the consultant to the State.

The results of our analysis show cost differences between conducting construction inspections using in-house forces based on both the avoidable cost, and fully allocated cost method. Because these services are predominantly paid for using Federal and Transportation Trust Fund dollars, there are however additional considerations that factor into any determination as to “savings” to be achieved by the State.

Because of the small sample size of projects, we decided to perform an analysis of hourly wage rates for consultants approved for construction inspection work for comparison with NJDOT salary rates. With assistance from the Division of Accounting and Auditing, we determined that a total of fifteen firms had actual construction inspection wage rates on file. The main cost components for consultants are hourly wage rates, overhead rates and fixed fee or profit margin, which represent the only real cost under the control of the consultants. While at

NJDOT, the main cost components are hourly wage rates, fringe benefits, leave time, and indirect costs. We found that when we compared the average consultant hourly wage rates adjusted to include overhead and fixed fee to the NJDOT hourly wage rates adjusted for fringe and leave additives plus indirect cost that the NJDOT adjusted salary rates were significantly lower than those of the consultants. This analysis of salary rates for consultant firms performing construction inspection parallels the results obtained from the six completed construction inspection projects that were analyzed in this study.

If it is determined that an expansion of the in-house construction inspection effort is desirable based on this cost analysis, we recommend that new in-house construction inspectors be hired to reduce the number of consultant inspectors working on Construction Inspection Projects.

As noted, there are factors other than cost that would have to be weighed in making decisions about how the Department might assign future work. Specialized personnel are necessary for the construction inspection of complex/segmented bridges. Bridge painting inspection also requires personnel with specialized knowledge who must have hazmat training and must be certified. All bridge painting inspectors need to have a baseline blood test on file and subsequent monitoring. In addition, they also need to be fitted with specialized equipment such as a respirator. Specialized engineers such as mechanical, electrical and bridge painting inspectors may not be readily available for hire.

Finally, we recommend that the Division of Construction Services & Materials institute controls to ensure that correct job numbers and proper function codes are used on timesheets. This is critical to identifying costs to an in-house or consultant project because the same job number is used for both. Additionally, the responsible unit(s) in CPM should provide job numbers and function codes to other Departmental units charging construction inspection job numbers to ensure that all costs relative to a particular consultant or in-house project are accounted for.

CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

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I. INTRODUCTION

A. Purpose

Compare costs of performing construction inspections using in-house forces or consultant forces. This study updates a study conducted by the Division of Budget, Bureau of Program Analysis in 2003. The study is being updated to comply with the CWA union contract. The same methodology is used in this 2007 study as was used in the 2003 study.

B. Background

The Division of Construction Services & Materials is responsible for the overall function of construction inspection. In 1984, NJDOT performed all construction inspections by using only in-house staff. The following table, provided by the Bureau of Construction Engineering, represents historical data of NJDOT and Consultant personnel, the total number of projects and the total project cost from 1996 until present.

Table 1
NJDOT & Consultant Field Inspection Staffing and Project History
FY 1996-2007

Date	Personnel		Total No. Projects	Total Project Cost in Millions
	Consultant	NJDOT Constr.		
Apr-96	116	371	151	\$1,448.331
Apr-97	80	349	133	\$1,484.394
Apr-98	75	304	104	\$1,146.497
Apr-99	79	276	83	\$979.358
Apr-00	73	254	93	\$1,121.478
Apr-01	67	248	85	\$1,304.931
Apr-02	95	231	69	\$1,405.311
Apr-03	124	216	92	\$1,735.333
Apr-04	103	227	94	\$1,570.308
Apr-05	103	224	81	\$1,955.069
Apr-06	96	238	88	\$2,382.139
Apr-07	162	235	129*	\$1,498.774
Average	92	267	98	\$1,503.014

- Includes Construction Inspection and Maintenance - Active projects only.
- Prior to November 2006 the project cost included both active and inactive projects

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The above table shows a definite downward trend in the number of field inspection positions in the Division of Construction Services and Materials. Various factors (i.e. attrition, early retirements, hiring freezes, lack of qualified recruits) have all contributed to this decrease and have resulted in the Department being unable to maintain an adequate staff level to administer the entire construction inspection program.

In order to meet the demand of the inspection program, NJDOT has had to rely on outside consultants. The consultants provide the same services that the in-house personnel provide on a construction project. These services include inspection of construction procedures and occasionally materials for conformance to plans and specifications, maintenance of records, payment to contractors, calculation of as-builds and safety to the public.

Consultant engineering firms are selected at NJDOT based on their professional qualifications, as opposed to bidding on a contract and the contract being awarded to the lowest bidder. An engineer at NJDOT analyzes each construction project and a cost estimate is developed. The selected consultant develops a cost proposal, which is subject to audit approval. Some negotiation of the consultant's proposal may occur if the costs are not near the engineer's estimate of costs. The cost of the consultant contract is not fixed and may be modified during the contract to adjust for any unforeseen circumstances.

C. Scope

This study will analyze and compare inspection costs of six completed construction inspection projects. Three projects consisted of 100% consultant participation and the remaining three projects were a combination DOT/consultant effort. Factors other than cost were not part of the scope of this report. However, non-cost factors should be weighed as part of the decision process and some are included in the report. No conclusions were made regarding the validity or importance of these non-cost factors because it was not an element of this project. Also included in the scope of this project is an examination of how our current procurement system for construction inspection consultants impacts our costs.

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D. Methodology

The Division of Budget uses a Reason Foundation report, "How to Compare Costs Between In-house and Contracted Services" as the basis for in-house vs. consultant cost comparisons. We have used this as our core methodology for identifying appropriate costs that should be collected and analyzed when comparing in-house and contract costs. We have used this model for about 14 years since it is the only detailed and comprehensive approach to conducting such studies that we have been able to find in literature. The methodology emphasizes a comprehensive listing of costs, particularly in-house costs that are associated with procurement and management of contracts. Also emphasized are the overhead support costs that are embedded in the contractor's fee but must be calculated separately when estimating the cost of performing a function with in-house staff.

The methodology also requires that costs be classified as either avoidable or fully allocated. Avoidable costs are those that represent real out-of-pocket budget savings versus fully allocated costs, which include certain components, such as overhead, that are not easily reduced or eliminated in the short term. The use of fully allocated in-house costs vs. fully allocated consultant costs is not appropriate for estimating actual cost savings. The Reason Foundation report recommends the fully allocated cost method be applied whenever the government agency is implementing a new program and considering how it should be delivered. Avoidable costs are usually used where a change in the delivery of an existing program is contemplated. The cost comparison tables in the Appendix include separate columns for fully allocated and avoidable costs.

We also made use of a Transportation Research Board (TRB) publication "In House Versus Consultant Design Costs in State Departments of Transportation", Record 1654, Paper 99-1403 that suggests different methods for making "apples to apples" comparisons when the two groups have not worked on comparable projects or programs. In those instances, the TRB report indicates that actual costs for one group can be compared with simulated costs of the other group on the same project or program. As a result, we have identified several different tools that can be used for making cost comparisons depending on the individual circumstances of the projects being examined (See Appendix for Cost Comparison Methods table). These cost comparison methods are as follows:

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1. Comparable Project
2. Actual Consultant vs. Simulated In-house
3. Actual In-house vs. Simulated Consultant
4. Total Cost Per Production Hour

The Actual Consultant vs. Simulated In-house is the methodology used for this study. This methodology compares actual consultant costs to simulated in-house costs on the same project. This methodology assumes that the staff-hours required are equal and isolates salary and overhead cost differentials. Under the Department's current contracting system, construction inspection consultants are specifically told how many inspectors need to be on the job, their qualifications, hours of work, etc. There does not appear to be any opportunity for the consultants to have an influence on cost other than the direct salaries paid to employees and the overhead/profit they charge. Since these costs are the only real variable under the construction inspection consultant's control, the Actual Consultant vs. Simulated In-house methodology is the most feasible option when compared with the other methodologies. See Appendix for description of other cost comparison methods.

The Bureau of Program Analysis, working with the Bureau of Construction Engineering, identified the consultant/NJDOT construction inspection projects to be analyzed. The Bureau of Construction Engineering prepares a Monthly Status of Construction Projects, which contains the status of ongoing and completed construction projects. This document served as the primary source for project selection, we reviewed two fiscal years 2005 and 2006. We concentrated our search on finding 100% completed projects with 100% consultant participation. Upon completing our search, we identified 18 possible projects that had either 100% consultant participation or a combination of DOT/consultant participation. We discovered during the search process that the preponderance of projects that are 100% consultant were still active. In consultation with the Bureau of Construction Engineering, of the 18 possible projects, the majority of the projects were eliminated for various reasons including:

- ♦ follow-up analysis revealed that consultants were not utilized for inspection duties

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- ◆ consultant payment invoices are older and are in off-site storage and not readily available
- ◆ projects deemed inconsistent with typical construction inspection activity as determined by the Bureau of Construction Engineering

Several projects were rejected by the Bureau of Construction Engineering for various reasons including: third party agreement, other agency projects such as New Jersey Transit or South Jersey Transportation Authority, and design-build.

From the initial pool of 18 possible projects, we were left with only six projects to analyze for our study. Three projects consisted of 100% consultant participation and the remaining three projects were a combination of NJDOT/consultant effort.

Stripped Activity Reports by function code were used to identify cost components, hours worked, and percentage of consultant participation. Consultant invoices were obtained electronically from File Net and from the files in the Division of Accounting and Auditing. All invoices for each project were reviewed, costs were extracted and detailed spreadsheets were created for each invoice. Costs attributed to all individuals associated with consultants and sub-consultants were identified. The amounts paid to the consultants for overhead and fixed fee were also included in the cost detail spreadsheets. The actual overhead rates were provided by the Division of Accounting, and Auditing. Direct expenses from consultant projects were not included in this analysis because we were unable to determine equitable in-house direct expenses.

The first step in determining simulated in-house costs was to convert the job titles of the consultant's staff into equivalent NJDOT titles. The Bureau of Construction Engineering and the Bureau of Construction Services Procurement provided tables for the conversion of consultant job titles to NJDOT equivalents. The simulated in-house methodology is based on the assumption that the same number of hours worked by each consultant person would be converted into NJDOT equivalent hours. To calculate a base payroll cost, the hourly rate in effect at the time of the project as stated in the Department of Personnel Compensation Compendium Guide was used. We used the maximum 9th pay step for each title range for Fiscal Year 2006 due to the senior work force within The Division of Construction Services and Materials. We also computed premium time and applied a fringe and leave additive and indirect cost rate to the base payroll.

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An average hourly rate was calculated for all consultant and in-house titles by project. These salary rate tables are included in the Appendix.

To determine the Indirect Cost, for the purpose of this study, the Division of Budget calculated a single composite overhead rate for Construction Engineering based upon the methodology used in a TRB Study. The overhead was calculated at several organizational levels. Step one was to determine a department-wide overhead rate using the NJDOT FY 2006 Cost Allocation Plan for General and Administrative costs plus risk management costs. Step two identified the costs of upper management (Assistant Commissioner CPM), second tier management (CPM support units), and third tier management (Division Director) that provided supervision to Construction Engineering. Step three determined the non-project time of Construction Engineering unit including training, and administrative. By incorporating unproductive (down) time into the overhead, the impact of unreliable in-house cost data can be minimized. Step three cost estimates were added to the two previous steps and used to calculate a single composite overhead rate of 64.92 percent for Construction Engineering that incorporates all three levels (see Appendix for calculations). This overhead rate is applied to direct salary.

Because of the small sample size of projects, we decided to perform an analysis of hourly wage rates for consultants approved for construction inspection work for comparison with NJDOT salary rates. With assistance from the Division of Accounting and Auditing, we determined that a total of fifteen firms had actual construction inspection wage rates on file. The hourly wage rates were obtained from a listing of individual employee wage rates by title and ASCE Grade applicable to NJDOT construction inspection projects. These listings are submitted by consultants to the Division of Accounting and Auditing for approval. Using the six completed construction inspection projects as a basis, we were able to identify twelve unique job titles. The current overhead rates for the fifteen firms were obtained from the Division of Accounting and Auditing and an average overhead rate was calculated. From this data, we were able to calculate an average hourly rate for each title. Using the average hourly wage rates as the base, we applied the average overhead rate. Finally, an average fixed fee of 10.5% was applied to the total of the average hourly wage rate plus overhead.

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The Bureau of Construction Engineering provided tables for the conversion of consultant job titles to NJDOT equivalents. In order to equate the consultant rates to NJDOT rates, we extracted the hourly wage rates for comparable titles from the Department of Personnel Compensation Compendium Guide for Fiscal Year 2006. We used the 9th step of the comparable range for each title. The Department's FY 2006 fringe benefit and leave additives plus the single composite overhead rate for Construction Engineering were applied to the NJDOT wage rates.

II. FINDINGS

A. Consultant Construction Inspection Procurement Process

Consultants are awarded a Cost Plus Fixed Fee contract for construction inspections. Construction inspection selections follow the Qualification Based System (QBS) used by NJDOT's Consultant Selection Committee. The firms are selected based on qualifications and technical merit. Once the selection is made, the contract cost is negotiated based on the audit advisory report. There is no price competition in the selection process. The selected firm only has to be reasonable enough in price that the Department does not stop the negotiations and go to the second ranked firm.

The construction inspection function has become a very well defined and standardized function due to the very detailed requirements established by NJDOT. Just about any engineering firm that is pre-qualified and has suitably trained employees can perform construction inspections for NJDOT in an acceptable manner.

B. Consultant Construction Inspection Cost

The cost components for a Cost Plus Fixed Fee contract are direct consultant labor costs, consultant overhead costs, profit margin or fixed fee, and direct consultant expenses. The source of this cost data is invoices submitted by the consultant, which were used to determine the consultant component of the inspection costs.

In addition to the consultant costs, there are in-house administration costs associated with consultant contracts. NJDOT uses a system called CEMM (Construction Engineering Manpower Management) to estimate planned person-hour allotments and skill level guidelines for each project. There are costs to negotiate a consultant contract and provide support to the consultant, costs to monitor a consultant contract, costs to perform pre-award and audit consultant costs, costs to process a consultant agreement and costs to pay a consultant. Other costs associated with consultant contracts includes work required to select consultants such as posting solicitations, rating technical proposals, preparing

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consultant selections, debriefing consultants, etc. In-house salary costs associated with consultant contracts can be identified through timesheet charges to the construction engineering job number. Notwithstanding that the contract administration costs appear to be low, for this analysis an assumption will be made that all costs charged to the six consultant contracts selected are accurate. These contract administration costs are as follows:

Table 2
Contract Administration Costs
By Consultant

Job Number	Consultant Name	Contract Administration Salary Costs	Percent of Total Consultant Invoice Cost
2203518	Kupper Associates	\$2,827	1.1%
1810531	Kupper Associates	\$17,754	0.8%
1815516	Schoor DePalma	\$1,867	0.4%
1332509	DMJM Harris	\$12,102	1.9%
2203917	Cherry, Weber	\$5,649	1.9%
1018508	Greenman - Pedersen	\$1,981	0.4%

According to the Reason Foundation, a reasonable estimate for contract administration costs is between 10 and 20 percent of consultant costs. Based upon the above table, the contract administration costs for the six consultants are significantly below this range.

C. Actual Consultant vs. Simulated In-house Inspection Costs

A total of six construction inspections by five consultants were selected for comparison using the Actual Consultant vs. Simulated In-House methodology. The construction inspection jobs were identified with the assistance of the Division of Construction Services & Materials. A comparison of the fully allocated direct and indirect costs associated with the six projects inspected by in-house/consultant staff revealed that it was more cost effective to use in-house staff in all six projects. An analysis of the six projects is as follows:

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1. **Job Number:** 2203518
Consultant: Kupper Associates

Project Description: This project consisted of the removal and disposal of lead paint and repair of six (6) Bridges on Rt. I-280 in Kearney and Harrison, County of Hudson. The consultant's effort consisted of providing a qualified Resident Engineer, an Assistant Resident Engineer/Inspector and an Inspector from a sub-consultant. Since this was a 100% consultant effort, the State provided only supervisory and oversight functions to support the consultant's inspection work. The project began in October 2005 and was completed in August 2006.

Cost Summary Tables:
Cost Summary - Consultant Services

Expense Item	Cost
Consultant Costs	
Payroll (Kupper Associates)	\$104,357
Overhead	\$107,488
Premium Time	\$11,048
Subtotal (Kupper Associates)	\$222,893
Fixed Fee	\$23,060
Total (Kupper Associates)	\$245,953
Subconsultant:	
Amercom Corp. (Includes All Costs)	\$4,850
TOTAL CONSULTANT	\$250,803
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$308
Procurement (Base Pay)	\$496
Civil Rights Contract Compliance (Base Pay)	\$875
Fringe & Leave (68.46%)	\$1,149
TOTAL (CONSULTANT & In-House)	\$253,630

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Cost Summary – NJDOT

Expense Item	Cost
Payroll	\$95,449
Fringe & Leave Additive (68.46%)	\$65,344
Premium Time	\$10,092
NJDOT Supervision (Base Pay)	\$308
Fringe & Leave (68.46%)	\$211
Subtotal (Salary Costs)	\$171,404
Indirect Cost (64.92%)	\$62,165
TOTAL	\$233,569

- 2. Job Number: 1810531**
Consultant: Kupper Associates

Project Description: This project is located in the Township of Hillsborough, Boroughs of Somerville and Rariton, Somerset County from south of Brooks Boulevard to Frelinghuysen Avenue. The work consists of the dualization and widening of Rt. 206 mainline and the construction of several jug handles. And new bridge crossing of the Raritan River with scenic views along the river banks, and a bicycle/multipurpose trail for the length of the project. The consultant's effort consisted of providing a qualified Resident Engineer, an Assistant Resident Engineer/Inspector and an Inspector from a sub-consultant. Since this was a 100% consultant effort, the State provided only supervisory and oversight functions to support the consultant's inspection work. The project began in January 2001 and was completed in May 2005.

CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

November 2007

Cost Summary Tables:
Cost Summary - Consultant Services

Expense Item	Cost
Consultant Costs	
Payroll (Kupper Associates)	\$436,598
Overhead	\$427,866
Premium Time	\$16,675
Subtotal (Kupper Associates)	\$881,139
Fixed Fee	\$101,662
Total (Kupper Associates)	\$982,801
Subconsultants:	
HAKS Engineers (Includes All Costs)	\$180,000
AmerCom (Includes All Costs)	\$150,260
Armand Corp. (Includes All Costs)	\$103,621
Stacie A. Davis (Includes All Costs)	\$1,336
TOTAL CONSULTANT	\$1,418,018
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$3,997
Procurement (Base Pay)	\$1,561
Civil Rights Contract Compliance (Base Pay)	\$4,981
Fringe & Leave (68.46%)	\$7,215
TOTAL (CONSULTANT & In-House)	\$1,435,773

Cost Summary – NJDOT

Expense Item	Cost
Payroll	\$528,737
Fringe & Leave Additive (68.46%)	\$361,973
Premium Time	\$26,578
NJDOT Supervision (Base Pay)	\$3,997
Fringe & Leave (68.46%)	\$2,737
Subtotal (Salary Costs)	\$924,022
Indirect Cost (64.92%)	\$345,851
TOTAL	\$1,269,873

CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

November 2007

3. Job Number: 1815516
Consultant: Schoor DePalma, Inc.

Project Description: This project is located in the Townships of Bedminster, Bernard and Borough of Far Hills, Somerset County. The work consisted of milling and paving from north of Burnt Mill Road to Passaic River. The consultant's effort consisted of providing a qualified Resident Engineer, an Assistant Resident Engineer/Inspector and an Inspector from a sub-consultant. Since this was a 100% consultant effort, the State provided only supervisory and oversight functions to support the consultant's inspection work. The project began in October 2005 and was completed in August 2006.

Cost Summary Tables:
Cost Summary - Consultant Services

Expense Item	Cost
Consultant Costs	
Payroll (Schoor DePalma)	\$135,149
Overhead	\$247,030
Premium Time	\$6,241
Subtotal (Schoor DePalma)	\$388,420
Fixed Fee	\$26,919
Subtotal (Schoor DePalma)	\$27,028
Subconsultant:	
Kupper Assoc. (Includes All Costs)	\$46,094
TOTAL CONSULTANT	\$461,432
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$122
Procurement (Base Pay)	\$566
Civil Rights Contract Compliance (Base Pay)	\$421
Fringe & Leave (68.46%)	\$759
TOTAL (CONSULTANT & In-House)	\$463,300

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CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

November 2007

Cost Summary – NJDOT

Expense Item	Cost
Payroll	\$105,530
Fringe & Leave Additive (68.46%)	\$72,246
Premium Time	\$3,807
NJDOT Supervision (Base Pay)	\$122
Fringe & Leave (68.46%)	\$83
Subtotal (Salary Costs)	\$181,788
Indirect Cost (64.92%)	\$68,589
TOTAL	\$250,377

4. **Job Number:** 1332509
Consultant: DMJM Harris, Inc.

Project Description: This project is located on Rt. 33B from the vicinity of NJ Transit to the vicinity of Crowhill Road and Halls Mill/Kozloski Rd. from NJ Transit to Thoreau Drive. This project will replace the current at-grade intersection with a grade-separated interchange. All turning movements will be provided by a combination of slip ramps, clover type loops and dedicated turn lanes. A signal is proposed at 33B/ modified Asbury Avenue intersection. The consultant's inspection staff consisted of a Inspector III and Inspector II. In addition, the consultant billed for direct services rendered by a clerk typist. A sub-consultant and NJDOT staff augmented the consultant's staff in performing inspection duties. The project began in August 2004 and was completed in October 2006.

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CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

November 2007

Cost Summary Tables:
Cost Summary - Consultant Services

Expense Item	Cost
Consultant Costs	
Payroll (CTE Engr/DMJM Harris)	\$173,881
Overhead	\$227,785
Premium Time	\$6,439
Subtotal (CTE Engr/DMJM Harris)	\$408,104
Fixed Fee	\$27,821
Total (CTE Engr/DMJM Harris)	\$435,925
Subconsultant:	
IH Engineers (Includes All Costs)	\$190,208
TOTAL CONSULTANT	\$626,133
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$2,675
Procurement (Base Pay)	\$1,095
Civil Rights Contract Compliance (Base Pay)	\$3,414
Fringe & Leave (68.46%)	\$4,918
TOTAL (CONSULTANT & In-House)	\$638,236

Cost Summary - NJDOT

Expense Item	Cost
Payroll	\$192,164
Fringe & Leave Additive (68.46%)	\$131,556
Premium Time	\$2,179
NJDOT Supervision (Base Pay)	\$2,675
Fringe & Leave (68.46%)	\$1,831
Subtotal (Salary Costs)	\$330,405
Indirect Cost (64.92%)	\$126,489
TOTAL	\$456,894

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CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

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- 5. Job Number: 2203917**
Consultant: Cherry, Weber & Associates

Project Description: This project is located in the Townships of Readington, Branchburg and Bridgewater, Hunterdon and Somerset Counties. The work consisted of milling and paving of Rt. 202 SB, from Mile Post 17.032 to mile Post 22.258. The consultant's inspection staff consisted of PVI, ETV, ETIV, ETII, ETIII. NJDOT staff augmented the consultant's staff in performing inspection duties. The project began in May 2005 and was completed in June 2006.

Cost Summary Tables:
Cost Summary - Consultant Services

Expense Item	Cost
Consultant Costs	
Payroll (Cherry Weber)	\$105,254
Overhead	\$162,091
Premium Time	\$7,650
Subtotal (Cherry Weber)	\$274,995
Fixed Fee	\$16,838
TOTAL CONSULTANT	\$291,833
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$3,354
Procurement (Base Pay)	\$0
Civil Rights Contract Compliance (Base Pay)	\$0
Fringe & Leave (68.46%)	\$2,296
TOTAL (CONSULTANT & In-House)	\$297,483

CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

November 2007

Cost Summary - NJDOT

Expense Item	Cost
Payroll	\$104,084
Fringe & Leave Additive (68.46%)	\$71,256
Premium Time	\$8,226
NJDOT Supervision (Base Pay)	\$3,354
Fringe & Leave (68.46%)	\$2,296
Subtotal (Salary Costs)	\$189,214
Indirect Cost (64.92%)	\$69,748
TOTAL	\$258,962

6. **Job Number:** 1018508
Consultant: Greenman – Pedersen, Inc.

Project Description: This project is located in the Township of Clinton and Readington, Borough of Lebanon, Hunterdon County. The work was designated as an emergency resurfacing project due to pavement condition from Route 31 Interchange to Potterstown Oldwick Road. The consultant's inspection staff consisted of a PV, PII, ETII, inspectors, plus an additional inspector was utilized from a sub-consultant. NJDOT staff augmented the consultant's staff in performing inspection duties. This project began in October 2005 and was completed in January 2007.

Cost Summary Tables:
Cost Summary - Consultant Services

Expense Item	Cost
Consultant Costs	
Payroll (Greenman Pedersen)	\$96,664
Overhead	\$3,697
Premium Time	\$137,264
Subtotal (Greenman Pedersen)	\$237,625
Fixed Fee	\$21,066
Subtotal (Greenman Pedersen)	\$258,691
Subconsultant:	
KS Engineers. (Includes All Costs)	\$208,936
TOTAL CONSULTANT	\$469,608
In-House Consultant Support Costs	

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In-house vs. Consultant Costs

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Consultant Supv. (Base Pay)	\$189
Procurement (Base Pay)	\$566
Civil Rights Contract Compliance (Base Pay)	\$421
Fringe & Leave (68.46%)	\$805
TOTAL (CONSULTANT & In-House)	\$471,529

Cost Summary – NJDOT

Expense Item	Cost
Payroll	\$135,760
Fringe & Leave Additive (68.46%)	\$92,941
Premium Time	\$8,405
NJDOT Supervision (Base Pay)	\$189
Fringe & Leave (68.46%)	\$130
Subtotal (Salary Costs)	\$237,426
Indirect Cost (64.92%)	\$88,258
TOTAL	\$325,684

Based upon the cost tables for the six projects above, which examined the actual consultant fully allocated cost for construction inspection on a project and compared it to simulated in-house fully allocated cost on the same project; in all six projects it is more cost effective to perform the inspections with in-house staff than with consultants.

Of the six projects analyzed, the overhead rate varied from a low of 103% to a high of 154%. The table below shows the overhead rate approved for each project analyzed.

Table 3
Consultant Overhead Rate

Job Number	Consultant	Overhead Rate
2203518	Kupper Associates	103%
1810531	Kupper Associates	105%
1815516	Schoor DePalma, Inc.	131%
1332509	DMJM Harris Inc.	128%
2203917	Cherry, Weber & Associates	154%
1018508	Greenman – Pedersen, Inc.	129%

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CONSTRUCTION INSPECTIONS
In-house vs. Consultant Costs

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D. Project Cost Component Analysis

In addition to the five consultants for the six projects that we analyzed, Accounting and Auditing provided an additional ten consultant firms that had pre-qualified inspection title wage rates on file. The main consultant cost components on a construction inspection project are hourly wage rates, overhead rates and fixed fee or profit margin.

Hourly Wage Rates - For the fifteen consultant firms that had actual construction inspection wage rates, we determined that the average hourly wage rates for the NJDOT comparable titles were lower than the consultant wage rates. See Appendix for hourly wage rate table.

Overhead Rate - The current average consultant overhead rate, as reported to the Division of Accounting, Audit Bureau, for the fifteen pre-qualified firms to perform construction inspection is 135%. The overhead rate ranges from a high of 172% to a low of 89% with a median of 139%. The current reported overhead rate for the consultant firms on the six projects analyzed in this study are shown as shaded in the table below.

Table 4
Listing of Firms Overhead Rate

	Firm Name	Overhead Rate	As of Date
1	Amercom Corp.	106%	CY 2006
2	Cherry Weber & Associates	144%	CY 2006
3	Dewberry-Goodkind Inc.	122%	CY 2006
4	DMJM Harris, Inc.	130%	CY 2006
5	Edwards and Kelcey, Inc	151%	CY 2006
6	Garnett Fleming, Inc.	155%	CY 2006
7	Greenman-Pedersen, Inc.	144%	CY 2006
8	KS Engineers, P.C.	124%	CY 2006
9	Kupper Associates	89%	CY 2006
10	Lichtenstein Consulting Engineers, Inc.	159%	CY 2006
11	Louis Berger Group, Inc.	139%	CY 2006
12	Maitra Associates, PC	118%	CY 2006
13	Michael Baker Jr. , Inc.	152%	CY 2006
14	Schoor, DePalma, Inc.	172%	CY 2006
15	Urbitran Associates, Inc.	125%	CY 2006
	Average	135%	
	Median	139%	

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In-house vs. Consultant Costs

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While the average consultant overhead rate is 135%, the Construction Engineering comparable overhead rate (fringe + leave + indirect) is 133%.

Fixed Fee or Profit Margin - In addition to the hourly wage rate and overhead rate the consultants are paid a fixed fee or profit margin. The fixed fee is a negotiated percentage of the original contract estimate for direct consultant labor costs. The negotiated amount must fall within the allowable Federal Regulations Range of 6 to 15 percent of the direct consultant labor costs plus consultant overhead. We used an average fixed fee of 10.5%, applied to direct consultant labor costs plus consultant overhead.

As stated earlier, the main consultant cost components are hourly wage rates, overhead rates and fixed fee, while at NJDOT, the main cost components are hourly wage rates, fringe, leave and indirect costs. We compared the consultant costs of the twelve job titles used on construction inspection projects to NJDOT costs for comparable titles. We first compared the consultants' average hourly wage rates to NJDOT hourly wage rate equivalents. We found that in all twelve titles the NJDOT wage rate is lower. Secondly, we compared the consultants' average hourly wage rates adjusted for average overhead cost to NJDOT hourly wage rates adjusted for overhead (fringe + leave + indirect). Thirdly, we compared the consultants' average hourly wage rates adjusted for average overhead and average fixed fee to NJDOT hourly wage rates adjusted for overhead (fringe + leave + indirect). In the third comparison, we found that in all twelve titles the NJDOT hourly wage rates with overhead (fringe + leave + indirect) are significantly lower than the consultants'. It should be noted that salary differences are more pronounced in the inspector titles where the majority of consultant time is charged. Table 5 shows the comparison using average consultant hourly rates by title adjusted for average overhead and fixed fee. See Appendix for tables showing comparisons for each title by consultant using actual wage rates and actual overhead rates.

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Table 5
Comparison of Hourly Wage Rate + Overhead Rate + Fixed Fee

ASCE GRADE	TITLE	Consultant Hourly Wage (Avg. of 15)	Consultant Hrs + Overhead (135%)	Consultant Hrs + Overhead + Fixed Fee (145.5%)	DOT Hourly Wage Equivalents	DOT Hrs + Overhead (133%)	DOT Difference Hourly Rate	DOT Difference Hrs + Over.	DOT Difference Hrs + Over. +FF
Principal	P IX	\$79.89	\$188.01	\$207.75	\$65.93	\$153.62	(\$13.96)	(\$34.39)	(\$54.13)
Proj. Manager	P VI	\$50.41	\$118.63	\$131.09	\$42.88	\$99.91	(\$7.53)	(\$18.72)	(\$31.18)
Res. Engineer	P V	\$45.65	\$107.43	\$118.71	\$40.27	\$93.83	(\$5.38)	(\$13.60)	(\$24.88)
Engineer	P IV	\$38.86	\$91.45	\$101.05	\$35.00	\$81.55	(\$3.86)	(\$9.90)	(\$19.50)
Engineer	P III	\$32.61	\$76.74	\$84.80	\$30.44	\$70.93	(\$2.17)	(\$5.82)	(\$13.87)
Engineer	P II	\$28.44	\$66.93	\$73.96	\$26.51	\$61.77	(\$1.93)	(\$5.16)	(\$12.19)
Chief Inspector	ET-5	\$36.39	\$85.64	\$94.63	\$29.07	\$67.73	(\$7.32)	(\$17.90)	(\$26.90)
Sr. Inspector	ET-4	\$30.20	\$71.07	\$78.53	\$25.31	\$58.97	(\$4.89)	(\$12.10)	(\$19.56)
Inspector	ET-3	\$25.91	\$60.97	\$67.38	\$23.08	\$53.78	(\$2.83)	(\$7.20)	(\$13.60)
Inspector	ET-2	\$21.52	\$50.64	\$55.96	\$21.07	\$49.09	(\$0.45)	(\$1.55)	(\$6.87)
Tech. Typist	CL	\$21.08	\$49.61	\$54.82	\$22.04	\$51.35	\$0.96	\$1.74	(\$3.46)
OVERHEAD RATE & FIXED FEE		*145.5%			133%				

* The overall percentage rate that results when applying the overhead rate and fixed fee to the hourly wage rate.

The above table shows that differences in straight hourly wage rates are the driving force behind this cost comparison. Although the consultant multiplier of 145.5% (overhead plus fixed fee) is close to the NJDOT multiplier of 133% (fringe plus leave plus indirect), the difference is magnified by the disparity in hourly wage rates. This analysis of current average wage rates for the fifteen consultant firms performing construction inspection parallels the results obtained from the six completed construction inspection projects that were analyzed in this study. Based upon the findings of this analysis, it is highly unlikely that a larger sample size of projects would produce different results.

E. Additional Findings

According to the Bureau of Construction Engineering, it would be difficult for the Division of Construction Services & Materials to convert their entire

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current consultant program to in-house. Specialized personnel are necessary for the construction inspection of complex/segmented bridges. Bridge painting inspection also requires personnel with specialized knowledge who must have hazmat training and are certified. All bridge painting inspectors need to have a baseline blood test on file and subsequent monitoring. In addition, they also need to be fitted with specialized equipment such as respirators. Specialized engineers such as mechanical and electrical and bridge painting inspectors may not be readily available for hire. Based on our discussions with the Bureau of Construction Engineering there are also concerns about the availability of experienced civil engineers and the dearth of recent college graduates with civil engineering degrees.

A major beneficial factor to consider in using in-house forces for construction inspection projects is the "flexibility factor". The Division of Construction Services and Materials has the ability to assign staff to multiple projects concurrently; whereas consultant forces are limited to the project(s) covered under the Cost Plus Fixed Fee contract. An example of this "flexibility factor" occurs when inclement weather or other factors interrupt a project. In-house staff can be reassigned to other related duties or projects, while the consultant staff is project specific, reassignment is not an option.

In analyzing the Stripped Activity Reports, it is important to note that there may have been inaccuracies in recording the proper function codes on time sheets related to field supervision. There was no distinction between charged-time for supervision of NJDOT inspection staff vs. supervision of consultant inspection staff. In order to determine the actual cost related to supervise consultant inspection staff, we calculated the percentage of consultant participation on each project and applied that percentage to the total cost for supervision.

We also note that clerical support staff did not charge time to the projects included in this study. This may indicate that clerical support is not being charged properly.

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III. Summary, Conclusions, and Recommendations

A. Summary and Conclusions

In summary, the results of our analysis show cost differences between conducting construction inspections using in-house forces based on both the avoidable costs, and fully allocated cost method. Because these services are predominately paid for using Federal and Transportation Trust Fund dollars, there are however additional considerations that factor into any determination as to "savings" to be achieved by the State.

Avoidable costs are those that represent real out-of-pocket budget savings versus fully allocated costs, which include certain components, such as overhead, that are not easily reduced or eliminated in the short term. The use of fully allocated in-house costs vs. fully allocated consultant costs is not appropriate for estimating actual cost savings. The avoidable and fully allocated costs per construction inspection project are shown in Table 7. The table also shows the cost differential between the fully allocated cost of consultants and in-house forces for the six selected projects:

Table 7
Total Costs for In-House/Consultant
Construction Inspections

Job #	Description Consultant	Consultant Performance Costs		In-House Performance Costs		Full Cost Allocation Difference
		Avoidable Cost *	Full Cost Allocation *	Avoidable Cost	Full Cost Allocation	
2203518	Kupper Associates	\$251,556	\$251,556	\$180,080	\$233,569	7.7%
1810531	Kupper Associates	\$1,426,622	\$1,426,622	\$972,288	\$1,269,873	12.3%
1815516	Schoor DePalma, Inc.	\$460,878	\$460,878	\$191,360	\$250,377	84.1%
1332509	DMJM Harris Inc.	\$635,732	\$635,732	\$348,057	\$456,894	39.1%
2203917	Cherry, Weber & Associates	\$295,968	\$295,968	\$198,950	\$258,965	14.3%
1018508	Greenman - Pedersen, Inc.	\$467,712	\$467,712	\$249,742	\$325,683	30.4%

*Consultant Performance Costs (Avoidable & Full Cost Allocated) have been adjusted to reflect taxes paid by the consultant to the State.

CONSTRUCTION INSPECTIONS
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In addition to the five consultants for the six projects that we analyzed, Procurement provided an additional ten consultant firms that had pre-qualified inspection title wage rates on file. Our analysis of these fifteen consultants shows that when we compared the average consultant hourly wage rate adjusted for average overhead and fixed fee to the NJDOT hourly wage rates adjusted for overhead (fringe+ leave+ indirect) that NJDOT rates are significantly lower than the consultants' rates. This analysis parallels the results obtained from the six completed construction inspection projects that were analyzed in this study.

Clearly on a cost basis alone, construction inspections are generally more cost effective when accomplished with in-house forces. Capital program funding allocated for construction inspections could be lowered if the State added additional qualified and trained construction inspectors.

According to the Bureau of Construction Engineering, specialized engineers such as mechanical and electrical and bridge painting inspectors could be difficult to hire. There are also concerns regarding the availability of experienced civil engineers and the dearth of civil engineering graduates.

B. Recommendations

1. Other factors relevant to staffing increases should be considered before hiring additional qualified State construction inspectors.
2. Continue to perform construction inspections that require specialized engineers with consultants.
3. Institute better controls to ensure that proper function codes are included on timesheets. Additionally, the responsible unit(s) in CPM should provide job numbers to other Departmental units to ensure we account for all costs related to a particular project.

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Glossary of Terms for Consultant Contract

1. **Direct Consultant Labor Costs** - Actual costs taken from the final invoice submitted by the consultant.
2. **Overhead Consultant Costs** - Actual costs taken from the final invoice submitted by the consultant. This percentage of the Direct Consultant Labor Costs is based upon the consultant's approved indirect cost rate. The overhead rates for the six consultants used in this study are as follows:

Job #	Consultant	Overhead Rate
2203518	Kupper Associates	103%
1810531	Kupper Associates	105%
1815516	Schoor DePalma, Inc.	131%
1332509	DMJM Harris Inc.	128%
2203917	Cherry, Weber & Associates	154%
1018508	Greenman - Pedersen, Inc.	129%

3. **Fixed Fee/Profit Margin** - Actual costs taken from the final invoice submitted by the consultant. The fixed fee is a negotiated percentage of the original contract estimate for Direct Consultant Labor Costs. The negotiated amount must fall within the allowable Federal Regulations Range of 6 to 15 percent of Direct Consultant Labor Costs plus Consultant Overhead.
4. **Consultant Expenses** - Actual costs taken from the final invoice submitted by the consultant.

Job #	Consultant	Expenses *
2203518	Kupper Associates	\$1,925
1810531	Kupper Associates	\$7,448
1815516	Schoor DePalma, Inc.	\$109
1332509	DMJM Harris Inc.	\$2,189
2203917	Cherry, Weber & Associates	\$422
1018508	Greenman - Pedersen, Inc.	\$1,157

*These costs were not included in the consultant project cost tables since a comparable estimate was not available for in-house expenses.

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Glossary of Terms for Consultant Contract (cont'd)

5. **Total Consultant Invoice Cost** - The total of Direct Consultant Labor, Overhead, Profit Margin. Consultant expenses were not included for reasons discussed in the report.
6. **In-house Cost to Negotiate Contract & Support Consultant** - The source of this data is the Stripped Activity Reports by Job Number for Budget Codes DHAA and DRAA.
7. **In-house Cost to Monitor Contract** - The source of this data is the Stripped Activity report by Job Number by Function Code for the M250 function code.
8. **In-house Cost to Pay Consultant and Process Agreement** - The Stripped Activity Report for these job numbers did not identify any costs charged to these activities.
9. **In-house Cost to Audit Consultant Costs** - The Stripped Activity Report for these job numbers did not identify any costs charged to these activities.
10. **Fringe and Leave Additive** - The NJDOT fringe and leave additive was obtained from the Stripped Activity Reports by job number.
11. **Taxes Paid by Consultant to State** - 9 percent of the consultant Profit Margin.

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Glossary of Terms for In-house Project

1. **Direct Labor Salary Costs** – An assumption was made that the same number of hours worked by each consultant staff person would be converted into NJDOT equivalent hours. To calculate a direct labor cost, the hourly rate at the 9th step in effect for FY 2006 at the time of the project as stated in the Department of Personnel Compensation Compendium Guide was used.
2. **Leave and Fringe Additive** - The NJDOT fringe and leave additive of .6846 was applied to the Direct Labor Salary Costs.
3. **Direct Labor Overtime** - To calculate a direct labor overtime cost, the hourly rate (9th step for FY 2006) in effect at the time of the project as stated in the Department of Personnel Compensation Compendium Guide was multiplied by 150%.
4. **Direct Labor Supply and Material Costs** - An estimate of these costs was not included because of the simulated methodology chosen for this analysis.
5. **Direct Supervision** - This cost was obtained from the Stripped Activity Reports by Job Number for Budget Center ECA (Division of Construction Services & Materials) by function code number M250.
6. **Direct Clerical Support** - (units charging time to project) - clerical support costs could not be identified to a consultant or in-house project because the project job number was not charged.
7. **Direct Support** (outside units charging time to project) - Outside support costs could not be identified to a consultant or in-house project because the project job number was not charged.
8. **Fringe & Leave Additive on #5** - The fringe and leave additive, as applied, was obtained from the Stripped Activity Reports.
9. **Overhead Rate** - an overhead rate for the Division of Construction Services & Materials was calculated and applied to direct salary. See Appendix for calculation.

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APPENDIX

List of Attachments:

Cost Summaries by Consultant

Attachment #1	Kupper Associates
Attachment #2	Kupper Associates
Attachment #3	Schoor DePalma, Inc
Attachment #4	DMJM Harris, Inc.
Attachment #5	Cherry, Weber & Associates
Attachment #6	Greenman – Pedersen, Inc.

Calculation of Bureau of Construction Engineering Overhead Rate

Cost Comparison Methods

Salary Cost Comparison – Average Hourly Rates for Six Completed Projects

Hourly Rate + Overhead Rate + Fixed Fee Comparisons

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Construction Inspection	Date: July 2007	Prepared by: Program Analysis
Consultant: Kupper Associates	Avoidable Cost	Full Cost Allocation
Job Name: Removal of lead paint and repair of six bridges Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$120,255	\$120,255
2. Consultant Overhead Costs	\$107,488	\$107,488
3. Consultant Profit Margin	\$23,060	\$23,060
4. Consultant Expenses		
5. Total Consultant Invoice Costs	\$250,803	\$250,803
6. In-house Cost to Negotiate Contract	\$496	\$496
7. In-house Cost to Monitor Contract	\$1,183	\$1,183
8. In-house Cost to pay consultant and process agreement		
9. In-house Cost to do pre-award & audit consultant cost		
10. Fringe & Leave Additive on In-house Costs	\$1,149	\$1,149
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$2,075	-\$2,075
Total Consultant Costs	\$251,556	\$251,556
In-House Performance Costs		
1. Direct Labor Salary Costs	\$95,449	\$95,449
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$65,344	\$65,344
3. Direct Labor Overtime	\$10,092	\$10,092
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$308	\$308
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervisor, Clerical & Support	\$211	\$211
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$8,676	\$8,676
Total In-House Costs	\$180,080	\$233,569

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Construction Inspection		Date: July 2007	
Consultant: Kupper Associates		Prepared by: Program Analysis	
Job Name: Grading, Paving and Structures Maintenance	Type of Cost	Avoidable Cost	Full Cost Allocation
Consultant Performance Costs			
1. Direct Consultant Labor Costs		\$888,490	\$888,490
2. Consultant Overhead Costs		\$427,866	\$427,866
3. Consultant Profit Margin		\$101,662	\$101,662
4. Consultant Expenses			
5. Total Consultant Invoice Costs		\$1,418,018	\$1,418,018
6. In-house Cost to Negotiate Contract		\$1,561	\$1,561
7. In-house Cost to Monitor Contract		\$8,978	\$8,978
8. In-house Cost to pay consultant and process agreement			
9. In-house Cost to do pre-award & audit consultant cost			
10. Fringe & Leave Additive on In-house Costs		\$7,215	\$7,215
11. Subtract Taxes paid by Consultant to State (% of profit margin)		-\$9,150	-\$9,150
Total Consultant Costs		\$1,426,622	\$1,426,622
In-House Performance Costs			
1. Direct Labor Salary Costs		\$528,737	\$528,737
2. Fringe & Leave Additive on Direct Labor Salary Costs		\$361,973	\$361,973
3. Direct Labor Overtime		\$26,578	\$26,578
4. Direct Labor Supply and Material Costs			
5. Direct Supervision		\$3,997	\$3,997
6. Direct Clerical Support			
7. Direct Support (outside units charging time to project)			
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support		\$2,737	\$2,737
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)		\$48,266	\$345,851
Total In-House Costs		\$972,288	\$1,269,873

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Construction Inspection		Date: July 2007	
Consultant: Schoor DePalma, Inc.		Prepared by: Program Analysis	
Job Name: Milling and Paving	Type of Cost	Avoidable Cost	Full Cost Allocation
Consultant Performance Costs			
1.	Direct Consultant Labor Costs	\$187,484	\$187,484
2.	Consultant Overhead Costs	\$247,030	\$247,030
3.	Consultant Profit Margin	\$26,919	\$26,919
4.	Consultant Expenses		
5.	Total Consultant Invoice Costs	\$461,433	\$461,433
6.	In-house Cost to Negotiate Contract	\$566	\$566
7.	In-house Cost to Monitor Contract	\$543	\$543
8.	In-house Cost to pay consultant and process agreement		
9.	In-house Cost to do pre-award & audit consultant cost		
10.	Fringe & Leave Additive on In-house Costs	\$759	\$759
11.	Subtract Taxes paid by Consultant to State (% of profit margin)	-\$2,423	-\$2,423
	Total Consultant Costs	\$460,878	\$460,878
In-House Performance Costs			
1.	Direct Labor Salary Costs	\$105,530	\$105,530
2.	Fringe & Leave Additive on Direct Labor Salary Costs	\$72,246	\$72,246
3.	Direct Labor Overtime	\$3,807	\$3,807
4.	Direct Labor Supply and Material Costs		
5.	Direct Supervision	\$122	\$122
6.	Direct Clerical Support		
7.	Direct Support (outside units charging time to project)		
8.	Fringe & Leave Additive on Direct Supervisor, Clerical & Support	\$83	\$83
9.	Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$9,572	\$68,589
	Total In-House Costs	\$191,360	\$250,377

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Construction Inspection		Date: July 2007	
Consultant: DMJM Harris, Inc.		Prepared by: Program Analysis	
Job Name: Intersection Improvements	Type of Cost	Avoidable Cost	Full Cost Allocation
Consultant Performance Costs			
1. Direct Consultant Labor Costs		\$370,528	\$370,528
2. Consultant Overhead Costs		\$227,785	\$227,785
3. Consultant Profit Margin		\$27,821	\$27,821
4. Consultant Expenses			
5. Total Consultant Invoice Costs		\$626,134	\$626,134
6. In-house Cost to Negotiate Contract		\$1,095	\$1,095
7. In-house Cost to Monitor Contract		\$6,089	\$6,089
8. In-house Cost to pay consultant and process agreement			
9. In-house Cost to do pre-award & audit consultant cost			
10. Fringe & Leave Additive on In-house Costs		\$4,918	\$4,918
11. Subtract Taxes paid by Consultant to State (% of profit margin)		-\$2,504	-\$2,504
Total Consultant Costs		\$635,732	\$635,732
In-House Performance Costs			
1. Direct Labor Salary Costs		\$192,164	\$192,164
2. Fringe & Leave Additive on Direct Labor Salary Costs		\$131,556	\$131,556
3. Direct Labor Overtime		\$2,179	\$2,179
4. Direct Labor Supply and Material Costs			
5. Direct Supervision		\$2,675	\$2,675
6. Direct Clerical Support			
7. Direct Support (outside units charging time to project)			
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support		\$1,831	\$1,831
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)		\$17,652	\$126,489
Total In-House Costs		\$348,057	\$456,894

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Construction Inspection		Date: July 2007	
Consultant: Cherry Webber		Prepared by: Program Analysis	
Job Name: Maintenance Resurfacing	Type of Cost	Avoidable Cost	Full Cost Allocation
Consultant Performance Costs			
1.	Direct Consultant Labor Costs	\$112,904	\$112,904
2.	Consultant Overhead Costs	\$162,091	\$162,091
3.	Consultant Profit Margin	\$16,838	\$16,838
4.	Consultant Expenses		
5.	Total Consultant Invoice Costs	\$291,833	\$291,833
6.	In-house Cost to Negotiate Contract	\$0	\$0
7.	In-house Cost to Monitor Contract	\$3,354	\$3,354
8.	In-house Cost to pay consultant and process agreement		
9.	In-house Cost to do pre-award & audit consultant cost	\$2,296	\$2,296
10.	Fringe & Leave Additive on In-house Costs	-\$1,515	-\$1,515
11.	Subtract Taxes paid by Consultant to State (% of profit margin)	\$295,968	\$295,968
	Total Consultant Costs		
In-House Performance Costs			
1.	Direct Labor Salary Costs	\$104,084	\$104,084
2.	Fringe & Leave Additive on Direct Labor Salary Costs	\$71,256	\$71,256
3.	Direct Labor Overtime	\$8,226	\$8,226
4.	Direct Labor Supply and Material Costs		
5.	Direct Supervisor	\$3,354	\$3,354
6.	Direct Clerical Support		
7.	Direct Support (outside units charging time to project)		
8.	Fringe & Leave Additive on Direct Supervisor, Clerical & Support	\$2,296	\$2,296
9.	Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$9,734	\$69,749
	Total In-House Costs	\$198,950	\$258,965

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Construction Inspection		Date: July 2007	
Consultant: Greenman Pedersen, Inc.		Prepared by: Program Analysis	
Job Name: Resurfacing	Type of Cost	Avoidable Cost	Full Cost Allocation
Consultant Performance Costs			
1.	Direct Consultant Labor Costs	\$442,864	\$442,864
2.	Consultant Overhead Costs	\$3,697	\$3,697
3.	Consultant Profit Margin	\$21,066	\$21,066
4.	Consultant Expenses		
5.	Total Consultant Invoice Costs	\$467,627	\$467,627
6.	In-house Cost to Negotiate Contract	\$566	\$566
7.	In-house Cost to Monitor Contract	\$610	\$610
8.	In-house Cost to pay consultant and process agreement		
9.	In-house Cost to do pre-award & audit consultant cost		
10.	Fringe & Leave Additive on In-house Costs	\$805	\$805
11.	Subtract Taxes paid by Consultant to State (% of profit margin)	-\$1,896	-\$1,896
	Total Consultant Costs	\$467,712	\$467,712
In-House Performance Costs			
1.	Direct Labor Salary Costs	\$135,760	\$135,760
2.	Fringe & Leave Additive on Direct Labor Salary Costs	\$92,941	\$92,941
3.	Direct Labor Overtime	\$8,405	\$8,405
4.	Direct Labor Supply and Material Costs		
5.	Direct Supervision	\$189	\$189
6.	Direct Clerical Support		
7.	Direct Support (outside units charging time to project)		
8.	Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$130	\$130
9.	Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$12,317	\$88,258
	Total In-House Costs	\$249,742	\$325,683

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Single Composite Overhead Rate for Construction Inspection Unit

Develop a DOT wide support services overhead rate

G&A Direct Labor	\$3,399,000
G&A Indirect Labor	\$18,621,000
Total G&A Labor	\$22,020,000

G&A Leave	\$5,480,000
G&A Fringe	\$9,029,000

Total G&A Labor plus additives	\$36,529,000
G&A non-salary	\$14,372,000
Statewide Cost Allocation	\$5,478,000
Risk Management Costs	\$2,187,000
Total G&A Costs	\$58,566,000

Direct Labor Salary Costs	\$117,212,000
Direct Leave	\$36,145,000
Direct Fringe	\$58,001,000
Total Direct Labor Costs	\$211,358,000

<u>Total G&A Costs</u>	<u>\$58,566,000</u>	=	27.71% DOT wide OH rate
Total Direct Labor Costs	\$211,358,000		

Data Source: NJDOT Cost Allocation Plan FY 2006

2A. Allocate share of Assistant Commissioner CPM to all units

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Share Of Assistant Comm. Salary
ECA	50101	\$402,667	0.48%	\$5,799
ECA	50141	\$4,734,471	5.69%	\$68,183
ECA	50151	\$1,512,230	1.82%	\$21,778
ECA	50152	\$6,502,200	7.82%	\$93,640
ECA	50153	\$5,097,000	6.13%	\$73,404
ECA	50154	\$5,597,035	6.73%	\$80,605
ECA	50156	\$1,659,925	2.00%	\$23,905
ECA	50157	\$1,633,881	1.97%	\$23,530
ECA	50158	\$1,199,682	1.44%	\$17,277
EDA	50901	\$400,121	0.48%	\$5,762
EDA	50904	\$229,388	0.28%	\$3,303
EDA	50910	\$616,939	0.74%	\$8,885
EDA	50912	\$1,021,978	1.23%	\$14,718
EDA	50913	\$2,569,387	3.09%	\$37,003
EDA	50914	\$2,918,669	3.51%	\$42,033
EDA	50920	\$195,034	0.23%	\$2,809
EDA	50927	\$2,456,313	2.95%	\$35,374
EDA	50928	\$120,745	0.15%	\$1,739
EDA	50929	\$866,521	1.04%	\$12,479
EDA	50930	\$228,757	0.28%	\$3,294
EDA	50931	\$4,198,962	5.05%	\$60,471
EDA	50933	\$403,510	0.49%	\$5,811
EDA	50934	\$1,056,546	1.27%	\$15,216
EDA	50935	\$401,854	0.48%	\$5,787
EDA	50936	\$906,246	1.09%	\$13,051
EDA	50937	\$1,262,521	1.52%	\$18,182
EDA	50940	\$127,516	0.15%	\$1,836
EDA	50941	\$1,588,602	1.91%	\$22,878
EDA	50947	\$2,664,813	3.20%	\$38,377
EDA	50950	\$445,417	0.54%	\$6,415
EDA	50951	\$1,230,483	1.48%	\$17,721
EDA	50952	\$600,712	0.72%	\$8,651
EKA	51001	\$351,904	0.42%	\$5,068
EKA	51004	\$1,141,531	1.37%	\$16,440
EKA	51005	\$1,458,701	1.75%	\$21,007
EKA	51006	\$1,473,255	1.77%	\$21,217
EKA	51007	\$1,404,419	1.69%	\$20,226
EKA	51008	\$1,626,094	1.96%	\$23,418
EKA	51009	\$835,512	1.00%	\$12,033
EYA	50801	\$388,054	0.47%	\$5,589
EYA	50802	\$1,482,044	1.78%	\$21,343
EYA	50803	\$2,855,441	3.43%	\$41,122
EYA	50804	\$1,902,540	2.29%	\$27,399
EZA	50810	\$353,580	0.43%	\$5,092

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EZA	50811	\$2,177,252	2.62%	\$31,355
EZA	50812	\$2,260,058	2.72%	\$32,548
EZA	51021	\$1,289,901	1.55%	\$18,576
EZA	51022	\$1,544,545	1.86%	\$22,244
EWA	51023	\$1,416,906	1.70%	\$20,405
EWA	51024	\$1,917,246	2.31%	\$27,611
EWA	51025	\$1,707,602	2.05%	\$24,592
EWA	51026	\$229,934	0.28%	\$3,311
EWA	51027	\$481,936	0.58%	\$6,941
Total		\$83,148,580	100.00%	\$1,197,452
EAA	52101	\$937,707	x1.2771	\$1,197,452

2A. Calculate CPM Adjusted Payroll Expenses to include DOT wide OH rate and share of Asst.

Commissioner CPM

Budget Center	Payroll Unit	Base Salary	Base x 0.277 OH	Share of Asst. Comm Salary	CPM Adjusted PR Expenses
ECA	50101	\$402,667	\$111,539	\$5,799	\$520,005
ECA	50141	\$4,734,471	\$1,311,448	\$68,183	\$6,114,102
ECA	50151	\$1,512,230	\$418,888	\$21,778	\$1,952,896
ECA	50152	\$6,502,200	\$1,801,109	\$93,640	\$8,396,950
ECA	50153	\$5,097,000	\$1,411,869	\$73,404	\$6,582,273
ECA	50154	\$5,597,035	\$1,550,379	\$80,605	\$7,228,019
ECA	50156	\$1,659,925	\$459,799	\$23,905	\$2,143,629
ECA	50157	\$1,633,881	\$452,585	\$23,530	\$2,109,996
ECA	50158	\$1,199,682	\$332,312	\$17,277	\$1,549,271
EDA	50901	\$400,121	\$110,834	\$5,762	\$516,717
EDA	50904	\$229,388	\$63,540	\$3,303	\$296,232
EDA	50910	\$616,939	\$170,892	\$8,885	\$796,716
EDA	50912	\$1,021,978	\$283,088	\$14,718	\$1,319,784
EDA	50913	\$2,569,387	\$711,720	\$37,003	\$3,318,110
EDA	50914	\$2,918,669	\$808,471	\$42,033	\$3,769,173
EDA	50920	\$195,034	\$54,024	\$2,809	\$251,867
EDA	50927	\$2,456,313	\$680,399	\$35,374	\$3,172,086
EDA	50928	\$120,745	\$33,446	\$1,739	\$155,930
EDA	50929	\$866,521	\$240,026	\$12,479	\$1,119,026
EDA	50930	\$228,757	\$63,366	\$3,294	\$295,417
EDA	50931	\$4,198,962	\$1,163,112	\$60,471	\$5,422,545
EDA	50933	\$403,510	\$111,772	\$5,811	\$521,093
EDA	50934	\$1,056,546	\$292,663	\$15,216	\$1,364,425
EDA	50935	\$401,854	\$111,314	\$5,787	\$518,955
EDA	50936	\$906,246	\$251,030	\$13,051	\$1,170,327
EDA	50937	\$1,262,521	\$349,718	\$18,182	\$1,630,421
EDA	50940	\$127,516	\$35,322	\$1,836	\$164,674
EDA	50941	\$1,588,602	\$440,043	\$22,878	\$2,051,523
EDA	50947	\$2,664,813	\$738,153	\$38,377	\$3,441,343
EDA	50950	\$445,417	\$123,381	\$6,415	\$575,212
EDA	50951	\$1,230,483	\$340,844	\$17,721	\$1,589,047
EDA	50952	\$600,712	\$166,397	\$8,651	\$775,760
EKA	51001	\$351,904	\$97,477	\$5,068	\$454,449
EKA	51004	\$1,141,531	\$316,204	\$16,440	\$1,474,175
EKA	51005	\$1,458,701	\$404,060	\$21,007	\$1,883,768
EKA	51006	\$1,473,255	\$408,092	\$21,217	\$1,902,563
EKA	51007	\$1,404,419	\$389,024	\$20,226	\$1,813,669
EKA	51008	\$1,626,094	\$450,428	\$23,418	\$2,099,940
EKA	51009	\$835,512	\$231,437	\$12,033	\$1,078,981
EYA	50801	\$388,054	\$107,491	\$5,589	\$501,133
EYA	50802	\$1,482,044	\$410,526	\$21,343	\$1,913,914
EYA	50803	\$2,855,441	\$790,957	\$41,122	\$3,687,520
EYA	50804	\$1,902,540	\$527,004	\$27,399	\$2,456,943
EZA	50810	\$353,580	\$97,942	\$5,092	\$456,614
EZA	50811	\$2,177,252	\$603,099	\$31,355	\$2,811,706

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EZA	50812	\$2,260,058	\$626,036	\$32,548	\$2,918,642
EWA	51021	\$1,289,901	\$357,303	\$18,576	\$1,665,780
EWA	51022	\$1,544,545	\$427,839	\$22,244	\$1,994,627
EWA	51023	\$1,416,906	\$392,483	\$20,405	\$1,829,794
EWA	51024	\$1,917,246	\$531,077	\$27,611	\$2,475,934
EWA	51025	\$1,707,602	\$473,006	\$24,592	\$2,205,200
EWA	51026	\$229,934	\$63,692	\$3,311	\$296,937
EWA	51027	\$481,936	\$133,496	\$6,941	\$622,373
Total		\$83,148,580	\$23,032,157	\$1,197,452	\$107,378,188
EAA	52101	\$937,707	x 1.2771	\$1,197,452	

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2B. Allocate share of EYAA to all CPM units

	Payroll Unit	CPM Adjusted PR Expense	% of Payroll	Share of EYAA Payroll
EYA	50801	\$501,134		
EYA	50802	\$1,913,913		
EYA	50803	\$3,687,520		
EYA	50804	\$2,456,943		
Total EYA		\$8,559,510		
ECA	50101	\$520,005	0.53%	\$45,042
ECA	50141	\$6,114,102	6.19%	\$529,593
ECA	50151	\$1,952,896	1.98%	\$169,157
ECA	50152	\$8,396,949	8.50%	\$727,330
ECA	50153	\$6,582,273	6.66%	\$570,146
ECA	50154	\$7,228,019	7.31%	\$626,079
ECA	50156	\$2,143,629	2.17%	\$185,678
ECA	50157	\$2,109,996	2.14%	\$182,764
ECA	50158	\$1,549,271	1.57%	\$134,195
EDA	50901	\$516,717	0.52%	\$44,757
EDA	50904	\$296,231	0.30%	\$25,659
EDA	50910	\$796,716	0.81%	\$69,010
EDA	50912	\$1,319,784	1.34%	\$114,317
EDA	50913	\$3,318,110	3.36%	\$287,409
EDA	50914	\$3,769,173	3.81%	\$326,480
EDA	50920	\$251,867	0.25%	\$21,816
EDA	50927	\$3,172,086	3.21%	\$274,761
EDA	50928	\$155,930	0.16%	\$13,506
EDA	50929	\$1,119,026	1.13%	\$96,928
EDA	50930	\$295,417	0.30%	\$25,589
EDA	50931	\$5,422,545	5.49%	\$469,692
EDA	50933	\$521,093	0.53%	\$45,136
EDA	50934	\$1,364,425	1.38%	\$118,184
EDA	50935	\$518,955	0.53%	\$44,951
EDA	50936	\$1,170,327	1.18%	\$101,372
EDA	50937	\$1,630,421	1.65%	\$141,224
EDA	50940	\$164,674	0.17%	\$14,264
EDA	50941	\$2,051,523	2.08%	\$177,699
EDA	50947	\$3,441,343	3.48%	\$298,083
EDA	50950	\$575,213	0.58%	\$49,824
EDA	50951	\$1,589,048	1.61%	\$137,641
EDA	50952	\$775,760	0.79%	\$67,195
EKA	51001	\$454,449	0.46%	\$39,364
EKA	51004	\$1,474,175	1.49%	\$127,691
EKA	51005	\$1,883,768	1.91%	\$163,169
EKA	51006	\$1,902,564	1.93%	\$164,797
EKA	51007	\$1,813,669	1.84%	\$157,097
EKA	51008	\$2,099,940	2.13%	\$181,893
EKA	51009	\$1,078,982	1.09%	\$93,460

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EZA	50810	\$456,614	0.46%	\$39,551
EZA	50811	\$2,811,706	2.85%	\$243,545
EZA	50812	\$2,918,642	2.95%	\$252,808
EWA	51021	\$1,665,780	1.69%	\$144,287
EWA	51022	\$1,994,628	2.02%	\$172,771
EWA	51023	\$1,829,794	1.85%	\$158,494
EWA	51024	\$2,475,934	2.51%	\$214,461
EWA	51025	\$2,205,200	2.23%	\$191,011
EWA	51026	\$296,937	0.30%	\$25,720
EWA	51027	\$622,373	0.63%	\$53,909
Total		\$98,818,680	100.00%	\$8,558,610

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2C. Allocate share of ECAA Director's Office to ECAA payroll units

Budget Center	Payroll Unit	Director's Office	ECAA Payroll	% of ECAA Payroll	Share of Director
ECAA	50101	\$520,005			
ECAA	50141		\$4,734,471.00	16.95%	\$88,127
ECAA	50151		\$1,512,230.00	5.41%	\$28,148
ECAA	50152		\$6,502,200.00	23.27%	\$121,031
ECAA	50153		\$5,097,000.00	18.24%	\$94,875
ECAA	50154		\$5,597,035.00	20.03%	\$104,182
ECAA	50156		\$1,659,925.00	5.94%	\$30,898
ECAA	50157		\$1,633,881.00	5.85%	\$30,413
ECAA	50158		\$1,199,682.00	4.29%	\$22,331
			\$27,936,424	100%	\$520,005

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3. Develop a section overhead rate for Construction Inspection

Construction Inspection Base Payroll	\$18,708,467	
Construction Inspection Project Payroll	\$14,130,127	
Construction Inspection non-Project Payroll	\$964,316	includes non-project leave time
Construction Inspection non-Project Payroll	\$964,316	
x Fringe Benefits	<u>132.75%</u>	
Construction Inspection non-Project charges	\$1,280,129	
Construction Inspection non-Project charges	\$1,280,129	
Base salary x DOT wide OH rate	\$5,182,245	From Step 2A
Share of CPM Asst. Commissioner	\$269,427	From Step 2A
Share of EYAA costs	\$2,092,710	From Step 2B
Share of ECAA Director	<u>\$348,236</u>	From Step 2C
Total Non Project Charges & Overhead	\$9,172,747	
Total Non Project PR Charges & Overhead	\$9,172,747	
Divided by Project PR charges	\$14,130,127	
Equals Construction Inspection Overhead rate	64.92%	

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Cost Comparison Methods

Method #	Short Title	Description	Used By:	Comments
1	Comparable Project	Actual costs for different projects that are considered to be of similar size, scope and complexity	Generic	Sometimes difficult to find adequate sample size of comparable projects.
2	Actual Consultant vs Simulated In-House	Actual consultant costs on a project are compared to simulated in-house costs on the same project.	Louisiana	Assumes the staff hours used are equal. Isolates staff and overhead cost differentials.
3	Actual In-House vs Simulated Consultant	Actual in-house costs on a project are compared with simulated consultant costs on the same project using normal formulas used to estimate consultant contract costs.	Louisiana and Missouri	Allows the staff hours to differ. Requires reliable cost estimation model for consultant costs.
4	Total Cost Per Production Hour	Actual costs for different projects relative to staff hours expended.	Louisiana	Assumes staff hours are equal. Isolates staff and overhead cost differentials but does not rely on simulated costs like Method 2.
5	Design Costs as a % of Construction Costs	Compares ratio of design costs to total construction costs. Sometimes done with paired projects of similar complexity and other times done on project pools without regard to complexity	California, Texas, Missouri, Others	Uses actual costs for different projects but attempts to eliminate the effect of size by comparing to construction costs. However, other design effort factors which do not impact construction costs have made this measure unreliable.

Kupper Associates
Job Number: 2203518
Job Name: Maintenance Bridge Contract 2001-6
Function Code: Y525
Agreement Number: 2003 BCE 01

Straight Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Kupper Associates			
Project Manager Resident Engineer	6.5	\$60.90	\$395.20
Chief Inspector	60.0	\$31.90	\$1,914.00
Inspector	1,941.5	\$29.32	\$56,915.45
Amercom Corp.	2,023.5	\$22.30	\$45,132.65
Inspector	79.5	\$25.75	\$2,047.13
Total	4,111.0	\$25.98	\$106,404.43

Straight Time Total by Title - NJDOT (FY2003/04)

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Supervising Engineer	6.5	\$41.14	\$267.41
Senior Engineer	60.0	\$28.44	\$1,706.40
Assistant Engineer	1,941.5	\$24.76	\$48,071.54
Const. & Maint. Tech 3	2,023.5	\$21.59	\$43,687.37
Const. & Maint. Tech 3	79.5	\$21.59	\$1,716.41
Total	4,111.00	\$23.22	\$95,449.12

Premium Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Kupper Associates			
Chief Inspector	506.5	\$14.68	\$7,437.13
Inspector	322.5	\$11.20	\$3,610.78
Amercom Corp.			
Inspector	31.5	\$12.88	\$405.56
Total	860.5	\$13.31	\$11,453.46

Premium Time Total by Title - NJDOT (FY2003/04)

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Assistant Engineer	506.5	\$12.38	\$6,270.47
Const. & Maint. Tech 3	322.5	\$10.80	\$3,481.39
Const. & Maint. Tech 3	31.5	\$10.80	\$340.04
Total	860.5	\$11.73	\$10,091.90

528

Kupper Associates
Job Number: 1810531
Job Name: Route 206, Section 15J
Function Code: Y536

Straight Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Kupper Associates			
ASCE IX	3.0	\$63.00	\$189.00
P-26	4,463.0	\$34.19	\$152,569.58
ET-2	11,630.3	\$24.32	\$282,806.56
AmerCom			
ET-2	2,695.0	\$19.20	\$51,733.20
ER-2	579.0	\$21.23	\$12,294.00
HAKS Engineers			
ET-2	2,530.0	\$26.60	\$67,309.99
Armand			
ET-2	1,900.5	\$20.95	\$39,821.36
Stacie A. Davis			
P-23	19.0	\$30.00	\$570.00
Total	23,619.8	\$25.50	\$607,293.69

Straight Time Total by Title - NJDOT (FY2003-04)

Title	Summary	Range	Hours	Avg. Hourly Rate	Total Employee Cost
Supervising Engineer		M-31	3.0	\$41.14	\$123.42
Principal Engineer		P-28	4,463.0	\$32.69	\$145,695.47
Const. & Maint. Tech 4		I-15	11,630.3	\$19.71	\$229,233.21
Const. & Maint. Tech 4		I-15	2,695.0	\$19.71	\$53,118.45
Const. & Maint. Tech 3		I-17	579.0	\$21.59	\$12,500.61
Const. & Maint. Tech 4		I-15	2,530.0	\$19.71	\$49,866.30
Const. & Maint. Tech 4		I-15	1,900.5	\$19.71	\$37,458.86
Senior Engineer		P-23	19.0	\$28.44	\$540.36
Total			23,619.8	\$22.20	\$526,736.68

Kupper Associates
Job Number: 1810531
Job Name: Route 206, Section 15J
Function Code: Y536

Premium Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Kupper Associates			
P-28	214.6	\$16.75	\$3,593.70
ET-2	1,024.5	\$12.76	\$13,068.87
AmerCom			
ET-2	40.0	\$12.25	\$490.00
ER-2	35.0	\$9.00	\$315.00
HAKS Engineers			
ET2	346.0	\$13.75	\$4,757.50
Armand			
ET2	125.5	\$10.42	\$1,307.59
Total	1,785.6	\$13.18	\$23,532.85

Premium Time Total by Title - NJDOT (FY2003-04)

Title	Summary		Hours	Avg. Hourly Rate	Total Employee Cost
	Range	Hours			
Principal Engineer	P-26	214.6	\$20.57	\$4,414.32	
Const. & Maint. Tech 4	I-15	1,024.5	\$16.35	\$16,745.45	
Const. & Maint. Tech 4	I-15	40.0	\$9.86	\$394.20	
Const. & Maint. Tech 3	I-17	35.0	\$10.80	\$377.83	
Const. & Maint. Tech 4	I-15	346.0	\$9.86	\$3,409.83	
Const. & Maint. Tech 4	I-15	125.5	\$9.86	\$1,236.80	
Total		1,785.6	\$12.88	\$26,578.43	

Schoor DePalma, Inc.
Job Number: 1815516
Job Name: SOL #578 - I- 287 NB Resurfacing
CI
Function Code: Y525

Straight Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Schoor DePalma			
P-II	2,522.5	\$38.30	\$96,607.47
P-III	275.5	\$27.61	\$7,605.70
P-VI	12.0	\$44.00	\$528.00
P-VII	214.8	\$40.32	\$8,659.46
P-VIII	67.0	\$45.59	\$3,054.86
ET-2	894.0	\$20.90	\$18,685.52
R-13	0.5	\$15.00	\$7.50
Kupper Associates			
Inspector	620.0	\$33.08	\$20,510.60
Total	4,606.25	\$33.79	\$155,659.10

Straight Time Total by Title - NJDOT (FY2006)

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Summary			
Title	Range		
Const. & Maint. Tech 4	I-15	\$20.66	\$52,114.85
Const. & Maint. Tech 3	I-17	\$22.64	\$6,237.32
Principal Engineer	R-26	\$34.65	\$415.80
Supervising Engineer	M-31	\$42.46	\$9,118.29
Director	M-36	\$54.18	\$3,630.06
Const. & Maint. Tech 4	I-15	\$20.66	\$18,470.04
	0.5		\$0.00
Const. & Maint. Tech 2	R-19	\$25.07	\$15,543.40
Total	4,606.25	\$22.91	\$105,529.76

Premium Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Schoor DePalma			
P-II	272.5	\$20.38	\$5,553.74
P-III	50.0	\$13.75	\$687.50
Kupper Associates			
Inspector	34.0	\$12.29	\$417.70
Total	356.5	\$18.68	\$6,658.94

Premium Time Total by Title - NJDOT (FY2006)

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Summary			
Title	Range		
Const. & Maint. Tech 4	I-15	\$10.33	\$2,814.93
Const. & Maint. Tech 3	I-17	\$11.32	\$566.00
Const. & Maint. Tech 2	R-19	\$12.54	\$426.19
Total	356.5	\$10.68	\$3,807.12

Consoer Townsend Envirodyne Engineers, Inc. / DMJM Harris, Inc.

Job Number: 1332509

Job Name: Construction Inspection Services for Route 33 Halls Mill/Kosloski Road

Function Code: Y536

Agreement Number: 2005 BCE 525R

Straight Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
CTE Engineers			
Associate Vice President	16.0	\$64.81	\$1,037.00
Program Manager	25.0	\$59.48	\$1,487.00
Inspector	2,531.5	\$34.16	\$86,478.97
Inspector II	497.0	\$24.44	\$12,146.68
Inspector III	1,999.0	\$32.15	\$64,272.43
Scheduler	228.3	\$37.06	\$8,459.19
IH Engineers			
Inspector	2,005.5	\$28.94	\$58,032.90
Typist	445.0	\$28.75	\$12,793.20
Total	7,747.25	\$31.59	\$244,707.37

Straight Time Total by Title - NJDOT (FY2006)

Title	Summary		Hours	Avg. Hourly Rate	Total Employee Cost
	Range				
Director	M-36		16.0	\$54.18	\$866.88
Supervising Engineer	M-31		25.0	\$42.46	\$1,061.50
Assistant Engineer	P-20		2,531.5	\$26.25	\$66,451.86
Const. & Maint. Tech 3	I-17		497.0	\$22.64	\$11,252.08
Assistant Engineer	P-20		1,999.0	\$26.25	\$52,473.75
Senior Engineer	P-23		228.3	\$30.14	\$6,879.46
Const. & Maint. Tech 3	I-17		2,005.5	\$22.64	\$45,404.52
Senior Clerk Typist	A-08		445.0	\$17.47	\$7,774.15
Total			7,747.25	\$30.25	\$192,164.21

Premium Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
CTE Engineers			
Inspector	208.5	\$16.70	\$3,481.87
Inspector II	41.0	\$12.22	\$501.02
Inspector III	131.0	\$16.26	\$2,130.08
IH Engineers			
Inspector	192.5	\$14.53	\$2,796.65
Typist	4.5	\$14.00	\$63.00
Total	577.5	\$15.54	\$8,972.63

Premium Time Total by Title - NJDOT (FY2006)

Title	Summary		Hours	Avg. Hourly Rate	Total Employee Cost
	Range				
Assistant Engineer	P-20		208.5	\$13.13	\$2,736.56
Const. & Maint. Tech 3	I-17		41.0	\$11.32	\$464.12
Assistant Engineer	P-20		131.0	\$13.13	\$1,719.38
Const. & Maint. Tech 3	I-17		192.5	\$11.32	\$2,179.10
Senior Clerk Typist	A-08		4.5	\$8.74	\$39.31
Total			577.5	\$11.53	\$7,138.47

Cherry Weber & Associates, P.C.
 Job Number: 2203917
 Job Name: Maintenance Resurfacing Contract #
 241
 Function Code: Y536
 Agreement Number: 2005BCE499C

Straight Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Cherry Weber			
PIX	0.3	\$67.31	\$20.19
PIV	34.4	\$38.34	\$1,318.86
ETV	1,391.0	\$33.95	\$47,220.68
ETIV	2,270.5	\$22.65	\$51,432.65
ETII	125.5	\$18.50	\$2,321.75
ETIII	147.0	\$20.00	\$2,940.00
Total	3,968.70	\$26.52	\$105,254.13

Premium Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Cherry Weber			
ETV	55.0	\$17.34	\$953.64
ETIV	527.5	\$11.31	\$5,967.13
ETIII	53.0	\$10.00	\$530.00
ETII	21.5	\$9.25	\$198.88
Total	657.0	\$11.64	\$7,649.64

Straight Time Total by Title - NJDOT (FY2006)

Title	Summary		Hours	Avg. Hourly Rate	Total Employee Cost
	Range				
Director	M-36		0.3	\$54.18	\$16.25
Principal Engineer	P-26		34.4	\$34.65	\$1,191.96
Const. & Maint. Tech 1	S-22		1,391.0	\$28.78	\$40,032.98
Const. & Maint. Tech 2	R-19		2,270.5	\$25.07	\$56,921.44
Const. & Maint. Tech 4	I-15		125.5	\$20.66	\$2,592.83
Const. & Maint. Tech 3	I-17		147.0	\$22.64	\$3,328.08
Total			3,968.70	\$26.23	\$104,083.54

Premium Time Total by Title - NJDOT (FY2006)

Title	Summary		Hours	Avg. Hourly Rate	Total Employee Cost
	Range				
Const. & Maint. Tech 1	S-22		55.0	\$14.39	\$791.45
Const. & Maint. Tech 2	R-19		527.5	\$12.54	\$6,612.21
Const. & Maint. Tech 3	I-17		53.0	\$11.32	\$599.96
Const. & Maint. Tech 4	I-15		21.5	\$10.33	\$222.10
Total			657.0	\$12.52	\$8,225.72

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Greenman Pedersen, Inc.

Job Number: 1018508

Job Name: Route 78 Resurfacing, Clinton Twp. MP 18.0 to

23.1

Function Code: Y536

Agreement Number: 2006 BCE 584

Straight Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Greenman Pedersen			
PV	1,469.5	\$40.89	\$60,086.05
PII	471.5	\$29.00	\$13,673.50
ETII	1,022.5	\$22.40	\$22,904.90
KS Engineers			
Inspector	991.5	\$36.24	\$35,931.96
Inspector	530.5	\$31.50	\$16,710.75
Total	4,485.50	\$33.29	\$149,307.16

Premium Time Total by Employee Class - Consultant Services

Summary	Hours	Avg. Hourly Rate	Total Employee Cost
Greenman Pedersen			
PV	91.5	\$19.97	\$1,827.43
PII	91.5	\$14.50	\$1,326.75
ETII	51.5	\$10.53	\$542.35
KS Engineers			
Inspector	186.5	\$18.12	\$3,379.38
Inspector	158.5	\$15.94	\$2,526.80
Total	579.5	\$16.57	\$9,602.70

Straight Time Total by Title - NJDOT (FY2006)

Summary		Hours	Avg. Hourly Rate	Total Employee Cost
Title	Range			
Project Engineer	S-29	1,469.5	\$39.87	\$58,588.97
Senior Engineer	P-23	471.5	\$30.14	\$14,211.01
Const. & Maint. Tech 4	I-15	1,022.5	\$20.66	\$21,124.85
Const. & Maint. Tech 1	S-22	991.5	\$28.78	\$28,535.37
Const. & Maint. Tech 2	R-19	530.5	\$25.07	\$13,299.64
Total		4,485.50	\$30.27	\$135,759.83

Premium Time Total by Title - NJDOT (FY2006)

Summary		Hours	Avg. Hourly Rate	Total Employee Cost
Title	Range			
Project Engineer	S-29	91.5	\$19.94	\$1,824.05
Senior Engineer	P-23	91.5	\$15.07	\$1,378.91
Const. & Maint. Tech 4	I-15	51.5	\$10.33	\$532.00
Const. & Maint. Tech 1	S-22	186.5	\$14.39	\$2,683.74
Const. & Maint. Tech 2	R-19	158.5	\$12.54	\$1,986.80
Total		579.5	\$14.50	\$8,405.49

HOURLY RATE + OVERHEAD + FIXED FEE COMPARISONS

Firm Name	OVERHEAD RATE	Hr. Rate		Hr.+Overhead		Hr.+Over.+FF	
		Principal P-IX	Principal P-IX	Principal P-IX	Principal P-IX	Project Manager P-VI	Project Manager P-VI
Amercom Corp	106%						
Cherry Weber & Associates	144%	\$67.31	\$164.24	\$181.48	\$47.53	\$97.91	\$106.19
Dewberry-Goodkind Inc.	122%	\$82.92	\$184.08	\$203.41	\$44.62	\$108.87	\$120.30
DMJM Harris, Inc.	130%				\$50.42	\$111.93	\$123.69
Edwards & Kelcey, Inc.	151%				\$54.34	\$124.98	\$136.11
Garnett Fleming, Inc.	155%				\$47.57	\$119.40	\$131.94
Greenman - Pedersen, Inc.	144%				\$56.40	\$143.82	\$158.92
KS Engineers, P.C.	124%	\$100.00	\$224.00	\$247.52	\$55.78	\$136.10	\$150.39
Kupper Associates	89%	\$60.63	\$114.59	\$126.82	\$68.02	\$152.36	\$166.36
Lichtenstein Consulting Engineers, Inc.	159%	\$86.54	\$224.14	\$247.67	\$43.80	\$82.78	\$91.47
Louisberger Group, Inc.	139%	\$77.70	\$185.70	\$205.20	\$46.76	\$121.11	\$133.82
Maitra Associates, P.C.	118%						
Michael Baker Jr., Inc.	152%	\$88.98	\$224.23	\$247.77	\$49.86	\$108.69	\$120.11
Schoor DePalma, Inc.	172%				\$52.26	\$131.70	\$145.52
Urbitran Associates, Inc.	125%	\$75.03	\$168.82	\$186.54	\$40.17	\$109.26	\$120.73
Summary:					\$48.22	\$108.50	\$119.89
Average	135%	\$79.89	\$188.00	\$207.75	\$50.41	\$118.63	\$131.09
Median	139%	\$80.31	\$191.94	\$212.09	\$49.04	\$117.21	\$129.51

*** Wage rate table shows PIV = Senior Inspector & PIII = Inspector

NJDOT

133% \$65.93 \$153.62 \$153.62 \$42.86 \$99.91 \$99.91

DOT Difference

-2% (\$13.96) (\$34.39) (\$54.13) (\$7.53) (\$18.72) (\$31.18)

59x

HOURLY RATE + OVERHEAD + FIXED FEE COMPARISONS

Firm Name	OVERHEAD RATE	Hr. Rate		Hr.+Overhead		HR.+Over.+FF		
		Resident Engr. P-V	Resident Engr. P-V	Resident Engr. P-V	Resident Engr. P-V	Engineer P-IV	Engineer P-IV	Engineer P-IV
Amercom Corp	106%	\$44.20	\$91.05	\$100.61	\$42.50	\$87.55	\$96.74	
Cherry Weber & Associates	144%				\$33.20	\$81.01	\$89.51	
Dewberry-Goodkind Inc.	122%	\$44.55	\$88.90	\$109.29	\$40.01	\$88.82	\$98.15	
DMJM Harris, Inc.	130%	\$49.02	\$112.75	\$124.58	\$43.93	\$101.04	\$111.65	
Edwards & Kelcey, Inc.	151%	40.86	\$102.56	\$113.33	\$33.67	\$84.51	\$93.39	
Garnett Fleming, Inc.	155%	\$46.01	\$117.33	\$129.64	\$37.10	\$94.61	\$104.54	
Greenman - Pedersen, Inc.	144%	\$45.98	\$112.19	\$123.97	\$39.57	\$96.55	\$106.69	
KS Engineers, P.C.	124%	\$64.56	\$144.61	\$159.80	\$43.92	\$98.38	\$108.71	
Kupper Associates	89%	\$46.90	\$88.64	\$97.95	\$39.95	\$75.51	\$83.43	
Lichtenstein Consulting Engineers, Inc.	159%	\$47.28	\$122.46	\$135.31	\$38.58	\$99.92	\$110.41	
Louis berger Group, Inc.	139%	\$44.81	\$107.10	\$118.34				
Maltra Associates, P.C.	118%	\$47.94	\$104.51	\$115.48	\$42.97	\$93.67	\$103.51	
Michael Baker Jr., Inc.	152%	\$38.46	\$86.92	\$107.10	\$39.86	\$100.45	\$110.99	
Schoor DePalma, Inc	172%	\$35.64	\$86.94	\$107.12	\$30.95	\$84.18	\$93.02	
Urbitran Associates, Inc.	125%	\$42.87	\$86.46	\$106.59	\$37.77	\$84.98	\$93.91	
Summary:								
Average	135%	\$45.65	\$107.43	\$118.71	\$38.86	\$91.44	\$101.04	
Median	139%	\$45.40	\$108.49	\$119.89	\$39.72	\$94.92	\$104.89	

*** Wge rate table shows PIV = Senior Inspector & PIII = Inspector

NJDOT	133%	\$40.27	\$93.83	\$93.83	\$35.00	\$81.55	\$81.55	
DOT Difference	-2%	(\$5.38)	(\$13.60)	(\$24.88)	(\$3.86)	(\$9.69)	(\$19.49)	

HOURLY RATE + OVERHEAD + FIXED FEE COMPARISONS

Firm Name	OVERHEAD RATE	Hr. Rate			Hr.+Overhead			HR.+Over.+FF		
		Engineer P-III	Engineer P-III	Engineer P-III	Engineer P-III	Engineer P-III	Engineer P-III	Engineer P-III	Engineer P-III	Engineer P-III
Amercom Corp	106%	\$34.00	\$70.04	\$77.39	\$32.94	\$67.86	\$74.98			
Cherry Weber & Associates	144%	\$29.50	\$71.98	\$79.54						
Dewberry-Goodkind Inc.	122%	\$34.83	\$77.32	\$85.44	\$29.98	\$66.56	\$73.54			
DMJM Harris, Inc.	130%	\$34.41	\$79.14	\$87.45	\$30.05	\$69.12	\$76.37			
Edwards & Kecey, Inc.	151%	\$31.06	\$77.96	\$86.15						
Garnett Fleming, Inc.	155%	\$34.67	\$88.41	\$97.69	\$27.91	\$71.17	\$78.64			
Greenman - Pedersen, Inc.	144%	\$34.86	\$85.06	\$93.99	\$32.20	\$78.57	\$86.82			
KS Engineers, P.C.	124%	\$36.81	\$82.45	\$91.11	\$31.47	\$70.49	\$77.89			
Kupper Associates	89%									
Lichtenstein Consulting Engineers, Inc.	159%	\$30.36	\$78.63	\$86.89	\$26.65	\$69.02	\$76.27			
Louis Berger Group, Inc.	139%	\$26.11	\$62.40	\$68.96	\$24.40	\$58.32	\$64.44			
Maltra Associates, P.C.	118%	\$34.63	\$75.49	\$83.42	\$26.00	\$56.68	\$62.63			
Michael Baker Jr., Inc.	152%	\$34.07	\$85.86	\$94.87						
Schoor DePalma, Inc	172%	\$29.43	\$80.05	\$88.45	\$26.53	\$72.16	\$79.74			
Urbitran Associates, Inc.	125%	\$31.84	\$71.64	\$79.16	\$24.70	\$55.58	\$61.41			
Summary:										
Average	135%	\$32.61	\$76.75	\$84.81	\$28.44	\$66.93	\$73.95			
Median	139%	\$34.04	\$81.34	\$89.88	\$27.91	\$66.70	\$73.71			

*** Wge rate table shows PIV = Senior Inspector & PIII = Inspector

NJDOT

DOT Difference

133%	\$30.44	\$70.93	\$70.93	\$26.51	\$61.77	\$61.77
-2%	(\$2.17)	(\$5.82)	(\$13.88)	(\$1.93)	(\$5.16)	(\$12.19)

HOURLY RATE + OVERHEAD + FIXED FEE COMPARISONS

Firm Name	OVERHEAD RATE	Hr. Rate			Hr.+Overhead			Hr.+Over.+FF		
		Chief Inspector ET-5	Chief Inspector ET-5	Chief Inspector ET-5	Chief Inspector ET-5	Chief Inspector ET-5	Chief Inspector ET-5	Sr. Inspector ET-4	Sr. Inspector ET-4	Sr. Inspector ET-4
Amercom Corp	106%	\$32.81	\$67.59	\$74.69	\$30.36	\$62.54	\$69.11			
Cherry Weber & Associates	144%	\$33.47	\$81.67	\$90.24	\$23.33	\$56.93	\$62.90			
Dewberry-Goodkind Inc.	122%	\$36.06	\$80.05	\$88.46	\$29.39	\$65.25	\$72.10			
DMJM Harris, Inc.	130%	\$29.79	\$68.52	\$75.71	\$33.39	\$76.80	\$84.86			
Edwards & Kelcey, Inc.	151%				\$33.00	\$82.83	\$91.53			
Garnett Fleming, Inc.	155%	\$37.65	\$96.01	\$106.09	\$26.37	\$67.24	\$74.30			
Greenman - Pedersen, Inc.	144%	\$38.95	\$95.04	\$105.02	\$33.18	\$80.96	\$89.46			
KS Engineers, P.C.	124%	\$39.32	\$88.08	\$97.32	\$32.27	\$72.28	\$79.87			
Kupper Associates	89%	\$34.11	\$64.47	\$71.24	\$31.49	\$59.52	\$65.77			
Lichtenstein Consulting Engineers, Inc.	159%	\$32.71	\$84.72	\$93.61	\$25.97	\$67.26	\$74.32			
Louis Berger Group, Inc.	139%	\$35.74	\$85.42	\$94.39	\$28.12	\$67.21	\$74.26			
Maitra Associates, P.C.	118%	\$44.11	\$96.16	\$106.26	\$38.08	\$83.01	\$91.73			
Michael Baker Jr., Inc.	152%				\$27.18	\$68.49	\$75.69			
Schoor DePalma, Inc	172%									
Urbiran Associates, Inc.	125%	\$41.95	\$94.39	\$104.30	\$30.60	\$68.85	\$76.08			
Summary:										
Average	135%	\$36.39	\$85.64	\$94.63	\$30.20	\$71.06	\$78.52			
Median	139%	\$35.90	\$85.80	\$94.81	\$30.48	\$72.85	\$80.50			

*** Wge rate table shows PIV =Senior Inspector & PIII = Inspector

NJDOT	133%	\$29.07	\$67.73	\$67.73	\$25.31	\$58.97	\$58.97
DOT Difference	-2%	(\$7.32)	(\$17.90)	(\$26.89)	(\$4.89)	(\$12.09)	(\$19.55)

HOURLY RATE + OVERHEAD + FIXED FEE COMPARISONS

Firm Name	OVERHEAD RATE	Hr. Rate		Hr.+Overhead		HR.+Over.+FF	
		Inspector ET-3	Inspector ET-3	Inspector ET-3	Inspector ET-3	Inspector ET-3	Inspector ET-3
Amercom Corp	106%	\$25.91	\$53.37	\$58.98	\$17.30	\$35.64	\$39.38
Chery Weber & Associates	144%				\$19.40	\$47.34	\$52.31
Dewberry-Goodkind Inc.	122%	\$29.11	\$64.62	\$71.41	\$22.33	\$49.57	\$54.78
DMJM Harris, Inc.	130%	\$26.75	\$61.53	\$67.99	\$25.99	\$59.78	\$66.05
Edwards & Kelcey, Inc.	151%	\$20.10	\$50.45	\$55.75			
Garnett Fleming, Inc.	155%	\$22.50	\$57.38	\$63.40	\$16.60	\$42.33	\$46.77
Greenman - Pedersen, Inc.	144%	\$26.03	\$63.51	\$70.18	\$19.67	\$47.99	\$53.03
KS Engineers, P.C.	124%	\$28.80	\$64.51	\$71.29	\$26.63	\$59.65	\$65.91
Kupper Associates	89%	\$27.85	\$52.64	\$58.16	\$24.81	\$46.89	\$51.81
Lichtenstein Consulting Engineers, Inc.	159%	\$23.51	\$60.89	\$67.28	\$23.43	\$60.66	\$67.06
Louis bergier Group, Inc.	139%	\$24.10	\$57.60	\$63.65	\$15.91	\$38.02	\$42.02
Maitra Associates, P.C.	118%	\$32.86	\$71.63	\$79.16			
Michael Baker Jr., Inc.	152%						
Schoor DePalma, Inc	172%				\$22.85	\$62.15	\$68.68
Urbiran Associates, Inc.	125%				\$23.29	\$52.40	\$57.90
Summary:							
Average	135%	\$25.91	\$60.97	\$67.38	\$21.52	\$50.64	\$55.95
Median	139%	\$26.03	\$62.21	\$68.74	\$22.59	\$53.99	\$59.66

... Wge rate table shows PIV =Senior Inspector & PIII = Inspector

NJDOT	133%	\$23.08	\$53.78	\$53.78	\$21.07	\$49.09	\$49.09
DOT Difference	-2%	(\$2.83)	(\$7.20)	(\$13.60)	(\$0.45)	(\$1.54)	(\$6.86)

62

HOURLY RATE + OVERHEAD + FIXED FEE COMPARISONS

Firm Name	OVERHEAD RATE	Hr. Rate			Hr.+Overhead			HR.+Over.+FF		
		Tech. Typist CL	Tech. Typist CL	Tech. Typist CL	Tech. Typist CL	Tech. Typist CL	Tech. Typist CL	Tech. Typist CL	Tech. Typist CL	Tech. Typist CL
Amercom Corp	108%	\$16.53	\$34.05	\$37.63	\$34.05	\$37.63	\$37.63	\$37.63	\$37.63	
Cherry Weber & Associates	144%	\$18.30	\$44.65	\$49.34	\$44.65	\$49.34	\$49.34	\$49.34	\$49.34	
Dewberry-Goodkind Inc.	122%									
DMJM Harris, Inc.	130%	\$32.03	\$73.67	\$81.40	\$73.67	\$81.40	\$81.40	\$81.40	\$81.40	
Edwards & Kelcey, Inc.	151%	\$23.41	\$58.76	\$64.93	\$58.76	\$64.93	\$64.93	\$64.93	\$64.93	
Garnett Fleming, Inc.	155%	\$17.38	\$44.32	\$48.97	\$44.32	\$48.97	\$48.97	\$48.97	\$48.97	
Greenman - Pedersen, Inc.	144%	\$24.37	\$59.46	\$65.71	\$59.46	\$65.71	\$65.71	\$65.71	\$65.71	
KS Engineers, P.C.	124%	\$19.90	\$44.58	\$49.26	\$44.58	\$49.26	\$49.26	\$49.26	\$49.26	
Kupper Associates	89%									
Lichtenstein Consulting Engineers, Inc.	159%									
Louis berger Group, Inc.	139%									
Maitra Associates, P.C.	118%	\$21.22	\$46.26	\$51.12	\$46.26	\$51.12	\$51.12	\$51.12	\$51.12	
Michael Baker Jr., Inc.	152%	\$21.14	\$53.27	\$58.87	\$53.27	\$58.87	\$58.87	\$58.87	\$58.87	
Schoor DePalma, Inc	172%									
Urbitran Associates, Inc.	125%	\$16.50	\$37.13	\$41.02	\$37.13	\$41.02	\$41.02	\$41.02	\$41.02	
Summary:										
Average	135%	\$21.08	\$49.60	\$54.81	\$49.60	\$54.81	\$54.81	\$54.81	\$54.81	
Median	139%	\$20.52	\$49.04	\$54.19	\$49.04	\$54.19	\$54.19	\$54.19	\$54.19	

*** Wge rate table shows PIV =Senior Inspector & PIII = Inspector

NJDOT	133%	\$22.04	\$51.35	\$51.35	\$51.35	\$51.35	\$51.35	\$51.35	\$51.35
DOT Difference	-2%	\$0.96	\$1.75	(\$3.46)	\$1.75	(\$3.46)	(\$3.46)	(\$3.46)	(\$3.46)

Call x

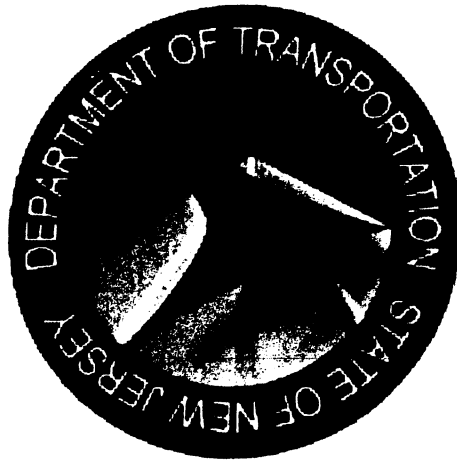
Principal	P IX	\$79.89	\$188.01	\$207.75	\$65.93	\$153.62	(\$13.96)	(\$34.39)	(\$54.13)
Project Manager	P VI	\$50.41	\$118.63	\$131.09	\$42.88	\$99.91	(\$7.53)	(\$18.72)	(\$31.18)
Resident Engineer	P V	\$45.65	\$107.43	\$118.71	\$40.27	\$93.83	(\$5.38)	(\$13.60)	(\$24.88)
Engineer	P IV	\$38.86	\$91.45	\$101.05	\$35.00	\$81.55	(\$3.86)	(\$9.90)	(\$19.50)
Engineer	P III	\$32.61	\$76.74	\$84.80	\$30.44	\$70.93	(\$2.17)	(\$5.82)	(\$13.87)
Engineer	P II	\$28.44	\$66.93	\$73.96	\$26.51	\$61.77	(\$1.93)	(\$5.16)	(\$12.19)
Chief Inspector	ET-5	\$36.39	\$85.64	\$94.63	\$29.07	\$67.73	(\$7.32)	(\$17.90)	(\$26.90)
Sr. Inspector	ET-4	\$30.20	\$71.07	\$78.53	\$25.31	\$58.97	(\$4.89)	(\$12.10)	(\$19.56)
Inspector	ET-3	\$25.91	\$60.97	\$67.38	\$23.08	\$53.78	(\$2.83)	(\$7.20)	(\$13.60)
Inspector	ET-2	\$21.52	\$50.64	\$55.96	\$21.07	\$49.09	(\$0.45)	(\$1.55)	(\$6.87)
Tech. Typist	CL	\$21.08	\$49.61	\$54.82	\$22.04	\$51.35	\$0.96	\$1.74	(\$3.46)
OVERHEAD RATE & FIXED FEE				*145.5%					
						133%			

* Represents 10.5% fixed fee based on consultant hourly rate and overhead

125x

**ADVISABILITY STUDY
FY 2007**

**NEW JERSEY DEPARTMENT OF
TRANSPORTATION**



BRIDGE INSPECTIONS
In-house vs. Consultant Costs

Prepared by

*Division of Budget
Bureau of Program Analysis*

November 2007

EXECUTIVE SUMMARY

The Division of Budget, Bureau of Program Analysis was asked to determine whether it is more cost effective to conduct the function of bridge inspection using in-house forces or consultant forces. The scope of this study includes all State owned bridges over 20 feet in length. The scope of this review is also confined to cost-related issues only. Although other non-cost related issues impacting the decision to use in-house or consultant forces are listed in this report, we did not attempt to validate or weigh these factors against cost related criteria.

We used the Reason Foundation report "How to Compare Costs Between In-House and Contracted Services" as the basis for what costs and factors should be included in this type of analysis. We have used this model for over 14 years since it is the only detailed and comprehensive approach to conducting such studies that we have been able to find in literature. We supplemented that methodology with a recent Transportation Research Board publication ("In House Versus Consultant Design Costs in State Departments of Transportation," Record 1654, Paper 99-1403) that suggests different methods for making "apples to apples" comparisons when the two groups have not worked on comparable projects or programs. In those instances, TRB indicates that actual costs for one group can be compared with simulated costs of the other group on the same project or program. However, in the case of bridge inspection, we were able to identify a sufficiently large sample of similar scope projects performed by in-house and consultant forces that no simulation of costs was necessary. In this study, we compared the actual cost of eight bridge inspection contracts totaling 284 bridges with the actual cost of performing 453 similar bridge inspections using in-house staff. We computed both "avoidable" cost and fully allocated costs for both. Avoidable costs are those that represent real out-of-pocket budget savings versus fully allocated costs which include certain components, such as overhead, that are not easily reduced or eliminated in the short term.

The results of our analysis show cost differences between, conducting bridge inspections using in-house forces based on both the avoidable cost, and fully allocated cost method. Because these services are predominantly paid for using federal dollars, there are however additional considerations that factor into any determination as to "savings" to be achieved by the State.

**Table A
In-House vs. Consultant Bridge Inspection
Cost Per Bridge**

Description	Avoidable Cost Per Bridge	Fully Allocated Cost Per Bridge
In-House Forces	\$1,943	\$2,552
Consultant Forces		
Cherry Weber	\$3,537	\$3,537
B & H Engineering	\$2,765	\$2,765
Parsons Brinckerhoff	\$3,137	\$3,137
Churchill	\$2,631	\$2,631
Arora & Associates	\$3,815	\$3,815
Polytran Engineering	\$5,267	\$5,267
KS Engineers	\$3,609	\$3,609
Parsons Brinckerhoff	\$3,191	\$3,191
Average	\$3,494	\$3,494

As noted, there are factors other than these direct cost factors that would have to be weighed in making decisions about how the Department might assign future work. These factors need to be considered in addition to the amount of State budget savings relative to direct state costs. Some of these additional factors are as follows:

1. Specialized personnel are necessary for the inspection of complex/movable bridges. These personnel (specialized mechanical and electrical engineers, and divers) cannot be hired and their availability is limited to existing staff which limits the number of complex/movable bridges that can be inspected in-house.
2. The average inspection crew consists of a Principal Engineer and another staff member. To satisfy the National Bridge Inspection Standards (NBIS), team leaders must meet NBIS qualifications and there is only a limited number of in-house staff that meet these standards. Hiring this type of experience may be very difficult.
3. Support from Materials staff would be necessary for the inspection of fracture critical bridges. Current materials support is very limited.

If it is determined that an expansion of the in-house bridge inspection effort is desirable based on this direct cost analysis we recommend that new in-house bridge inspectors be hired to reduce the number of State bridges inspected by consultants. However, please note that an initial review has determined that other factors are relevant to any potential staffing increase and need to be considered.

In such event, the authorized staffing level could include existing field inspection staff, new bridge inspectors and current Structural Evaluation consultant monitoring staff that could need to be shifted to bridge inspection field work as a result of the reduced reliance on consultants, as well as other potential savings resulting from ways in which the work is performed.

Another recommendation is to continue to utilize consultants for most special or complex bridges but assign some of these inspections to in-house staff so that Structural Evaluation maintains expertise. The Department now has a term contract which provides access to bridge inspection equipment and traffic safety. This contract relieves a previous difficulty with in-house inspections.

Finally, we recommend that the Bureau of Structural Evaluation institute controls to ensure that appropriate function codes and sub-jobs are included on timesheets. Such controls are critical to fully identifying costs relevant to an in-house or consultant project because the same job number is used for both. Additionally, Structural Evaluation should provide sub-job codes to other Departmental units charging bridge inspection job numbers to ensure that all costs relative to a particular consultant or in-house project are accounted for. This is essential because such reviews must be ongoing.

BRIDGE INSPECTIONS
In-house vs. Consultant Costs

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I. INTRODUCTION

A. Purpose

Compare costs of performing bridge inspections using in-house forces or consultant forces. This study updates a study conducted by the Division of Budget, Bureau of Program Analysis in 2003. The study is being updated to comply with the CWA union contract. The same methodology is used in this 2007 study as was used in the 2003 study.

B. Background

NJDOT is required by National Bridge Inspection Standards (NBIS) to do a biennial safety inspection of all State owned bridges over 20 feet in length. There are approximately 2,500 bridges that meet this criterion. The annual workload of 1,250 bridges is divided up between consultants and in-house staff. The percentage of inspections performed by in-house forces over the last thirteen years has dropped from a high of 47 percent down to a low of 15 percent. However the actual number of bridges inspected by in-house forces has been on an upswing since the low in Fiscal Year 2003.

Table 1
State Owned Bridges Over 20 Feet

Fiscal Year	# of Bridges by Consultant	% of Bridges by Consultant	# of Bridges by In-house	% of Bridges by In-house	Total Bridges
1995	516	53%	463	47%	979
1996	700	61%	450	39%	1150
1997	680	69%	300	31%	980
1998	778	70%	339	30%	1117
1999	900	75%	300	25%	1200
2000	928	79%	249	21%	1177
2001	1014	80%	250	20%	1264
2002	972	77%	286	23%	1258
2003	1155	85%	200	15%	1355
2004	788	64%	435	36%	1223
2005	1013	70%	435	30%	1448

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2006	920	69%	416	31%	1336
2007	747	58%	541	42%	1288

Source: Transportation Systems Improvement Program Data (evaluation data) contained in the State Budget Message.

Some of the decrease through the years can be explained by a steady reduction of staff available to the Bureau of Structural Evaluation. Adjusting for the transfer of three moveable bridge engineering staff into the unit in 2000, staffing has declined by 17 positions or 25 percent from June 1994 to June 2006:

Table 2
Bureau of Structural Evaluation
Staffing History FY 95-2007

As of date	Filled Positions
June 1994	57
June 1995	52
June 1996	47
June 1997	47
June 1998	45
June 1999	43
June 2000*	44
June 2001*	45
June 2002*	43
June 2003*	44
June 2004*	41
June 2005 *	44
June 2006 *	43
June 2007*	47**

Source: Master File Listing of Filled Positions by Budget Code & Payroll Unit.

* includes 3 movable bridge engineering staff transferred into unit.

** includes 10 Civil Engineer Trainees (CETs) hired in June 2007.

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The remainder of the decline in in-house inspections can be explained by other factors that have limited the number of staff that can actually be assigned to performing inspections. A number of new Federal mandates and NJDOT initiatives have diverted staff to other related functions as shown below:

Table 3
New FHWA/NJDOT
Program Requirements

Name of Program	In-house	Consultant
Scour critical evaluation		X
Special fracture critical evaluations		X
Pontis Bridge Management System	X	X
Seismic evaluations	X	X
Load Factor capacity ratings	X	X
Inspection of bridges less than 20 ft		X
Inspection of high mast light poles		X
Inspection of overhead sign structures		X

The 43 current employees of the Structural Evaluation bureau are assigned as follows based on the FY 2006 Final Budget Implementation Plan:

Table 4
Allocation of Structural Evaluation Staff
By Function

Major Activities	Person Years
Maintain NBIS Compliance & Safety of State owned bridges in-house staff inspection	11.0
Maintain NBIS Compliance & Safety of State owned bridges monitoring of consultant inspections	19.0
Moveable Bridge Engineering Group	3.5
Analysis of routing for overweight permit vehicles	2.5
Bridge Management System	1.0
Other Structural Evaluation Functions	6.0
Total	43

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In-house vs. Consultant Costs

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Consultant engineering firms are selected at NJDOT based on their professional qualifications, as opposed to bidding on a contract and the contract being awarded to the lowest bidder. Fixed Price (Lump Sum) Agreements are used for bridge inspection projects in addition to Cost Plus Fixed Fee Agreements. The decision as to the type of agreement is negotiated with the consultant at the scope-of-work meeting. The Cost Plus Fixed Fee agreement requires the consultant to submit to NJDOT a cost proposal plus a fixed fee. Some negotiation of the proposal may occur if the costs are not near the engineer's estimate of costs. The cost of the consultant contract is not fixed and may be modified during the contract to adjust for any unforeseen circumstances. FHWA has approved the use of Fixed Price Agreements since the scope-of-work for bridgework is well defined. Complex or movable bridge inspection work is invariably Cost Plus rather than Fixed Price. The advantage to Fixed Price is in the consultant's invoicing that is much simpler and results in a reduction in their overhead costs. In addition, the back-up information provided to the Department is less resulting in a more efficient review process. Since 2005, all bridge inspection agreements have been negotiated as Fixed Price (Lump Sum) projects. The only remaining Cost Plus Fixed Fee agreements were negotiated prior to 2005. Some of these earlier Cost Plus Fixed Fee agreements are still in effect for the second cycle inspections, which could potentially have an effect on the equation.

Beginning in the first quarter of the 2003 calendar year, Capital Program Management instituted an initiative that impacted the amount of work that is contracted to consultants. This initiative was a reduction in the review process for bridge inspection projects. Rather than performing complete reviews of work submitted by consultants for State bridge inspection projects, a reduced review process was instituted that focuses on making the consultant responsible for the accuracy of the work submitted. The reviews that will continue to be conducted are designed to allow the assignment of proper Consultant Evaluation System (CES) ratings rather than to assure the accuracy of the work. To this end, 20 percent of State bridge inspection reports (10 percent for county bridges) will be reviewed. In addition, approximately 10 percent of the bridges will be verified in the field for accuracy. The manpower that was freed-up by the reduced reviews was utilized to conduct inspections of State bridges which accounts for the large

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increase in the number of bridges inspected by in-house staff from FY 2003 to FY 2004.

In addition, Structural Evaluation has implemented Pontis Lite which allows consulting engineers to submit bridge inspection data updates to the Department electronically. The electronic submissions allow the in-house staff previously tasked to manually performing the data updates to be redirected to performing additional in-house inspections.

The Department has also instituted revisions to reduce the scope of bridge inspection reports that reduce overall bridge inspection program costs. The primary reductions are in the areas of documentation of defects: minor defects will no longer be noted, photographs of minor defects will no longer be required, and CADD drawing requirements will be reduced. The resulting reports will only document significant deficiencies with notations, photographs, and other bridge data. These reductions will not affect the high quality of the inspection program but will reduce costs by eliminating information from the reports that is not critical to our needs.

To assist in the problem area of equipment availability, Structural Evaluation has developed statewide vendor contracts for bridge inspection access equipment and traffic safety to serve in-house needs. This proposal will allow our in-house staff to conduct inspections of bridges requiring such equipment that was not possible in the past without involving our limited resources in Operations.

It should also be noted that Structural Evaluation has identified a problem with inconsistencies between NJ Civil Service requirements and Federal requirements regarding certification for bridge inspectors. This situation is currently under review, once a determination has been made regarding these requirements, additional comparison may be required relative to potential savings.

C. Scope

This study will analyze and compare in-house and consultant inspection

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costs for State owned bridges over 20 feet in length. Bridges under 20 feet in length and county bridges, which are inspected exclusively by consultants, were not considered. Factors other than cost were not part of the scope of this report. However, non-cost factors should be weighed as part of the decision process and some are included in the report. No conclusions were made regarding the validity or importance of these non-cost factors because it was not an element of this project. Also included in the scope of this project is an examination of how our current procurement system for bridge inspection consultants impacts our costs.

D. Methodology

The Division of Budget uses a Reason Foundation report "How to Compare Costs Between In-house and Contracted Services" as the basis for in-house vs. consultant cost comparisons. We have used this as our core methodology for identifying appropriate costs that should be collected and analyzed when comparing in-house and contract costs. We have used this model for over 14 years since it is the only detailed and comprehensive approach to conducting such studies that we have been able to find in literature. The methodology emphasizes a comprehensive listing of costs, particularly in-house costs that are associated with procurement and management of contracts. Also emphasized are the overhead support costs that are embedded in the contractor's fee but must be calculated separately when estimating the cost of performing a function with in-house staff.

The methodology also requires that costs be classified as either avoidable or fully allocated. Avoidable costs are those that represent real out-of-pocket budget savings versus fully allocated costs, which include certain components, such as overhead, that are not easily reduced or eliminated in the short term. The use of fully allocated in-house costs versus fully allocated consultant costs is not appropriate for estimating actual cost savings. The Reason Foundation report recommends the fully allocated cost method be applied whenever the government agency is implementing a new program and considering how it should be delivered. Avoidable costs are usually used where a change in the delivery of an existing program is contemplated. The cost comparison tables in the Appendix include separate columns for fully allocated and avoidable costs.

We also made use of a recent Transportation Research Board (TRB) publication "In House Versus Consultant Design Costs in State Departments of Transportation", Record 1654, Paper 99-1403 that suggests different

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methods for making “apples to apples” comparisons when the two groups have not worked on comparable projects or programs. In those instances, the TRB report indicates that actual costs for one group can be compared with simulated costs of the other group on the same project or program. As a result we have identified several different tools that can be used for making cost comparisons depending on the individual circumstances of the projects being examined (See appendix for Cost Comparison Methods table). These cost comparison methods are as follows:

1. Comparable Project
2. Actual Consultant vs. Simulated In-house
3. Actual In-house vs. Simulated Consultant
4. Total Cost Per Production Hour

The comparable project method was selected for this study because of the sufficient sample size of comparable projects. The comparable project method is preferable to other methods, which require simulation of costs because it compares actual cost to actual cost.

The Bureau of Structural Evaluation identified the consultant-inspected bridges that are comparable to the bridges inspected by in-house staff based upon physical characteristics and complexity. The criteria used by Structural Evaluation for the identification of comparable bridges is as follows:

- a. Relatively simple state owned bridges (excludes moveable bridges, and large structures and viaducts)
- b. No specialized access is required
- c. Consultant direct expenses were low
- d. Hands on inspection of fracture critical structure (in jeopardy of failure if one support is required)

For the purpose of this study, the Division of Budget calculated a single composite overhead rate for the Structural Evaluation unit based upon the methodology used in the TRB Study. The overhead was calculated at several

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organizational levels. Step one was to determine a department-wide overhead rate using the NJDOT FY 2006 Cost Allocation Plan for General and Administrative costs plus risk management costs. Step two identified the costs of upper management (Assistant Commissioner CPM), second tier management (CPM support units), and third tier management (Division Director) that provided supervision to Structural Evaluation. Step three determined the non-project time of the Structural Evaluation unit including leave, training, and administrative. By incorporating unproductive (down) time into the overhead, the impact of unreliable in-house cost data can be minimized. Step three cost estimates were added to the two previous steps and used to calculate a single composite overhead rate of 73.4 percent for Structural Evaluation (see Appendix for calculations). This overhead rate is applied to direct salary.

II. FINDINGS

A. In-House Bridge Inspection Costs

The fully allocated direct and indirect costs associated with the 453 projects inspected by in-house staff was \$1,156,000 or about \$2,600 per bridge. The matching avoidable cost calculation was about \$1,900 per bridge. A breakout by cost component is provided below:

Table 5
Total Costs for In-House
Bridge Inspections
453 Selected Projects

Description	Avoidable Costs	Fully Allocated Costs
Direct Labor Salary Costs		
Inspection Staff	\$443,242	\$443,242
Fringe and Leave	\$300,518	\$300,518
Overtime	0	0
Direct Labor Material Costs	0	0
Direct Supervision	\$24,317	\$24,317
Direct Clerical Support	\$11,893	\$11,893
Direct Outside Support	(A)	(A)
Fringe and Leave on Direct Supervision, Clerical, & Support	\$24,544	\$24,544
Structural Evaluation Overhead	\$76,104	\$351,918
Total Cost	\$880,618	\$1,156,432
Number of Bridges	453	453
Average Cost Per Bridge	\$1,943	\$2,552

Footnote A: No outside support costs were charged to the in-house sub-job.

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B. Consultant Bridge Inspection Costs

A total of 284 bridges (279 on-system and 5 off-system) inspected by eight consultants were selected for comparison with the bridges inspected in-house. The bridges were identified with the assistance of the Bureau of Structural Evaluation to ensure that the consultant-inspected bridges were comparable to the bridges inspected by in-house staff.

The 279 on-system and 5 off-system bridges inspected by consultants were as follows:

Table 6
Number of Bridges by Consultant Contract
8 Selected Contracts

Consultant Name	# On-System	# Off-System	Total
Cherry Weber	25	1	26
B & H Engineering	24	1	25
Parsons Brinckerhoff	56	1	28
Churchill	42	0	42
Arora & Associates	25	1	57
Polytran Engineering	26	0	57
KS Engineers	24	1	26
Parsons Brinckerhoff	57	0	26
Total	279	5	284

These 284 bridges (279 on-system and 5 off-system) were inspected by consultants for the inspection period beginning June 2002. The inspections have been completed and the final invoices have been received. These inspections also cover the same time period as the in-house inspections.

Consultants are awarded a cost-plus or fixed price contract for bridge inspections. The cost components for both types of contracts are direct consultant labor costs, overhead consultant costs, profit margin or fixed fee, and expenses. The source of this cost data is invoices submitted by the consultant. Invoices for fixed price contracts are billed as a percentage of jobs complete except for direct expenses. These invoices combine consultant salary, overhead, and profit margin into one lump sum amount. Consultant expenses include job related travel, postage, reproduction costs, permit costs, and equipment rental. Since similar costs for in-house projects could not be identified, these costs were excluded from this cost analysis.

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In-house vs. Consultant Costs

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In addition to the consultant costs, there are in-house administration costs associated with consultant contracts. These are costs to negotiate a consultant contract and provide support to the consultant, costs to monitor a consultant contract, costs to perform pre-award and audit consultant costs, costs to process a consultant agreement and costs to pay a consultant. The costs associated with consultant contracts includes work required to select consultants such as posting solicitations, rating technical proposals, preparing consultant selections, debriefing consultants, etc. It also includes work associated with updating data in the bridge inspection records (Structure Inventory and Appraisal—SI&A and Pontis Bridge Management System—BMS). In-house salary costs associated with consultant contracts assigned the same job number and an individual sub-job number can be identified through timesheets. For this analysis an assumption will be made that all costs charged to the eight consultant contracts selected are accurate. These contract administration costs are as follows:

Table 7
Contract Administration Costs
By Consultant

Consultant Name	Contract Administration Salary Costs	Percent of Total Consultant Invoice Cost
Cherry Weber	\$ 5,347	8%
B & H Engineering	4,725	8%
Parsons Brinckerhoff	22,401	16%
Churchill	11,130	12%
Arora & Associates	9,776	12%
Polytran Engineering	10,660	9%
KS Engineers	5,150	6%
Parsons Brinckerhoff	18,354	12%

According to the Reason Foundation, a reasonable estimate for contract administration costs is between 10 and 20 percent of consultant costs. Based upon the above table, the contract administration costs for four of the eight consultants fall within this range. Salary costs to monitor consultant contracts are dependent upon the quality of the consultants' work and the ability of the engineer doing the review. There are also instances where engineers are being trained to review consultant work, which requires a second review, by an experienced engineer.

BRIDGE INSPECTIONS
In-house vs. Consultant Costs

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The total avoidable/fully allocated costs charged by the consultant and by in-house staff responsible for contract management are provided below:

Table 8
Total Costs for Consultant
Bridge Inspections
284 Selected Bridges

Consultant Name	Total Consultant Invoice Costs (A)	In-House Contract Mgmt Other	Total Costs	# of Units	Cost Per Unit
Cherry Weber	\$81,581	\$10,374	\$91,955	26	\$3,537
B & H Engineering	61,528	\$7,600	\$69,128	25	\$2,765
Parsons Brinckerhoff	143,232	\$35,568	\$178,800	57	\$3,137
Churchill	92,235	\$18,270	\$11,505	42	\$2,631
Arora & Associates	83,209	\$15,990	\$99,199	26	\$3,815
Polytran Engineering	119,313	\$17,628	\$136,941	26	\$5,267
KS Engineers	82,047	\$8,175	\$90,222	25	\$3,609
Parsons Brinckerhoff	151,776	\$30,096	\$181,872	57	\$3,191

Footnote A: Includes Consultant Labor, Overhead and Fixed Fee & Excludes Consultant Expenses.

C. Consultant Bridge Inspection Procurement Process

One reason that consultant bridge inspection costs appear to be high compared with in-house costs is the method of procurement. Bridge inspection selections follow the Qualification Based System used by NJDOT's Consultant Selection Committee. The firms are selected first based on qualifications alone. Once the selection is made, contract cost is negotiated. There is no price competition in the selection process. The selected firm only has to be reasonable enough about price that the Department does not stop the negotiations and go to the second ranked firm--a very rare event.

III. Summary, Conclusions, and Recommendations

A. Summary and Conclusions

In summary, the avoidable and fully allocated costs per bridge are as follows:

Table 10
In-House vs. Consultant Bridge Inspection
Cost Per Bridge

Description	Avoidable Cost Per Bridge	Fully Allocated Cost Per Bridge
In-House Forces	\$1,943	\$2,552
Consultant Forces		
Cherry Weber	\$3,537	\$3,537
B & H Engineering	\$2,765	\$2,765
Parsons Brinckerhoff	\$3,137	\$3,137
Churchill	\$2,631	\$2,631
Arora & Associates	\$3,815	\$3,815
Polytran Engineering	\$5,267	\$5,267
KS Engineers	\$3,609	\$3,609
Parsons Brinckerhoff	\$3,191	\$3,191
Average	\$3,494	\$3,494

Based upon the results of this analysis, which examined the inspection of similar State owned bridges over 20 feet; it is more cost effective to perform the inspections with in-house staff than with consultants. As can be seen, there is a fairly wide range for actual consultant contract costs per bridge, ranging from Churchill at \$2,631 per bridge to Polytran Engineering in excess of \$5,200 per

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In-house vs. Consultant Costs

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bridge. We do not know what factors are involved in this range of results. However, the overall average of \$3,494 per bridge is 37 percent higher than the fully allocated cost per bridge of in-house forces, and 80 percent higher than the avoidable costs associated with the in-house bridge inspection function.

Clearly on a cost basis alone, routine bridge inspections are cost effectively accomplished with State forces alone. Capital program funding allocated for bridge inspections could be lowered if the State added additional qualified and trained bridge inspectors.

According to the Bureau of Structural Evaluation, it would be impossible to convert their entire current consultant program to in-house for the following reasons:

1. Specialized personnel are necessary for the inspection of complex/movable bridges. These personnel (specialized mechanical and electrical engineers, and divers) cannot be hired and their availability is limited to existing staff which limits the number of complex/movable bridges that can be inspected in-house.
2. The average inspection crew consists of a Principal Engineer and another staff member. To satisfy the National Bridge Inspection Standards (NBIS), team leaders must meet NBIS qualifications and there is only a limited number of in-house staff that meet these standards. Hiring this type of experience would be very difficult.
3. Support from Materials staff would be necessary for the inspection of fracture critical bridges. Current materials support is very limited.

B. Recommendations

1. Other factors relevant to staffing increases should be considered before hiring additional qualified State bridge inspectors.
2. Continue to perform most special or complex bridge inspections using consultant forces but assign some of these inspections to in-house staff so that Structural Evaluation maintains expertise. The Department now has a term contract which provides access to bridge inspection equipment and traffic safety.

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In-house vs. Consultant Costs

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3. Investigate the reason(s) for the inconsistencies between NJ Civil Service requirements and Federal requirements regarding certification for bridge inspectors.
4. Institute better controls to ensure that sub-jobs and appropriate function codes are included on timesheets. Additionally, Structural Evaluation should ensure that sub-job codes are provided to other Departmental units charging bridge inspection job numbers to account for all costs related to a particular project.
5. The specific level of staffing to be hired shall be determined based upon the cost differences described herein and the other factors that have also been noted.

Glossary of Terms for Consultant Contract

- 1A. Direct Consultant Labor Costs** – Actual costs taken from the final invoice submitted by the consultant. Some invoices reviewed for this study had combined totals for labor, overhead, and profit margin (fixed fee) because the contracts are fixed price (lump sum).
- 1B. Overhead Consultant Costs** – Actual costs taken from the final invoice submitted by the consultant. This percentage of the Direct Consultant Labor Costs is based upon the consultant’s approved indirect cost rate. Some invoices reviewed for this study had combined totals for labor, overhead, and profit margin (fixed fee) because the contracts are fixed price (lump sum). The overhead rates for the eight consultants used in this study are as follows:

Consultant Name	Overhead Rate
Cherry Weber	145%
B & H Engineering	121%
Arora & Associates	143%
Churchill	135%
Parsons Brinckerhoff (2)	143%
KS Engineers	123%
Polytran	190%

- 1C. Profit Margin (Fixed Fee)** – Actual costs taken from the final invoice submitted by the consultant. The profit margin is a negotiated percentage of the original contract estimate for Direct Consultant Labor Costs. The fixed fee for the contracts included in this study was 18 percent. This amount does not fluctuate if the actual direct consultant labor costs are more or less than the original estimate. Some invoices reviewed for this study had combined totals for labor, overhead, and profit margin (fixed fee) because the contracts are fixed price (lump sum).

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In-house vs. Consultant Costs

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Glossary of Terms for Consultant Contract (Cont'd)

Consultant Name	Fixed Fee
Cherry Weber	\$5,587
B & H Engineering	\$ 4,634
Arora & Associates	\$5,738
Churchill	\$6,562
Parsons Brinckerhoff	\$9,934
Parsons Brinckerhoff	\$10,469
KS Engineers	\$6,128
Polytran	\$6,973

2. **Consultant Expenses** – Actual costs taken from the final invoice submitted by the consultant.

Consultant Name	Expenses
Cherry Weber	\$11,232
B & H Engineering	\$7,882
Arora & Associates	\$8,552
Churchill	\$500
Parsons Brinckerhoff	\$24,756
Parsons Brinckerhoff	\$21,645
KS Engineers	\$14,669
Polytran	\$7,182

3. **Total Consultant Invoice Cost** – The total of Direct Consultant Labor, Overhead, Profit Margin. Consultant expenses were not included for reasons discussed in the report.
4. **In-house Cost to Negotiate Contract & Support Consultant** – The source of this data is the Stripped Activity Reports by Job Number 2203871 (on-system) and 2203872 (off-system). Each consultant has a separate sub-job.

BRIDGE INSPECTIONS
In-house vs. Consultant Costs

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Glossary of Terms for Consultant Contract (Cont'd)

5. **In-house Cost to Monitor Contract** - The source of this data is the Stripped Activity report by Job Number for the sub job numbers assigned to each of the consultants used in this study.
6. **In-house Cost to Pay Consultant and Process Agreement** - These costs could not be determined.
7. **In-house Cost to Audit Consultant Costs** - The source of this data is the Stripped Activity Report by Job Number for Budget Code DFAA (Accounting) and the auditing function code. The auditors do not have a bridge inspection job number for the pre-award.
8. **Fringe and Leave Additive** – The actual NJDOT fringe and leave costs from the Stripped Activity Reports.
9. **Taxes Paid by Consultant to State** – 9 percent of the consultant Profit Margin.

BRIDGE INSPECTIONS
In-house vs. Consultant Costs

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Glossary of Terms for In-house Project

1. **Direct Labor Salary Costs** - This cost was obtained from the Stripped Activity Reports by Job Number for Budget Center EDAA (Structural Evaluation) by sub job number DDDD and Function Code K 802 Direct Labor Bridge Inspection.
2. **Leave and Fringe Additive** – The actual NJDOT fringe and leave costs from the Stripped Activity Report.
3. **Direct Labor Overtime** – No overtime was included in the Stripped Activity Reports by Job Number for Budget Center EDAA (Structural Evaluation) sub job number DDD.
4. **Direct Labor Supply and Material Costs** - This cost was not available from the Stripped Activity Reports by Job Number for Budget Center EDAA (Structural Evaluation) by sub job number DDDD.
5. **Direct Supervision** - This cost was obtained from the Stripped Activity Reports by Job Number for Budget Center EDAA (Structural Evaluation) by sub job number DDDD and Function Code K 800 Direct Supervision Bridge Inspection.
6. **Direct Clerical Support** - This cost was obtained from the Stripped Activity Reports by Job Number for Budget Center EDAA (Structural Evaluation) by sub job number DDDD and Function Code K 801 Direct Clerical Bridge Inspection.
7. **Direct Support** (outside units charging time to project) - Outside support costs could not be identified to a consultant or in-house project because no sub job number was used.
8. **Fringe & Leave Additive on #5, #6, #7** - The actual NJDOT fringe and leave costs from the Stripped Activity Report.
9. **Overhead Rate** – an overhead rate of 73.4 % for Structural Evaluation was calculated and applied to direct salary. See Appendix for calculation.

BRIDGE INSPECTIONS
In-house vs. Consultant Costs

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APPENDIX

List of Attachments

Cost Summaries by Consultant

Attachment #1	Cherry Weber
Attachment #2	B & H Engineering
Attachment #3	Parsons Brinckerhoff
Attachment #4	Churchill
Attachment #5	Arora & Associates
Attachment #6	Polytran Engineers
Attachment #7	KS Engineers
Attachment #8	Parsons Brinckerhoff

Calculation of Structural Evaluation Overhead Rate

Cost Comparison Methods

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Bridge Inspection		Date: June 2007	
Consultant : B&H Engineering		Prepared by: Program Analysis	
Number of Bridges: 25	Avoidable Cost	Full Cost Allocation	
Type of Cost			
Consultant Performance Costs			
1. Consultant Labor , Overhead, Fixed Fee	\$2,461		\$2,461
2. Consultant Expenses	\$0		\$0
3. Total Consultant Invoice Costs	\$2,461		\$2,461
4. In-house Cost to Negotiate Contract & Support Consul	\$15		\$15
5. In-house Cost to Monitor Contract	\$142		\$142
6. In-house Cost to pay consultant and process agreement	\$0		\$0
7. In-house Cost to audit consultant cost	\$32		\$32
8. Fringe & Leave Additive on In-house Costs	\$132		\$132
9. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$17		-\$17
Consultant Cost per Bridge	\$2,765		\$2,765
In-House Performance Costs			
1. Direct Labor Salary Costs	\$978		\$978
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$663		\$663
3. Direct Labor Overtime	\$0		\$0
4. Direct Labor Supply and Material Costs	\$0		\$0
5. Direct Supervision	\$54		\$54
6. Direct Clerical Support	\$26		\$26
7. Direct Support (outside units charging time to project)			
8. Fringe & Leave Additive on #5,#6,#7	\$54		\$54
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$168		\$777
In-house Cost per Bridge	\$1,943		\$2,552

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Bridge Inspection

Date: June 2007

Consultant : Parsons Brinckerhoff

Prepared by:

Program Analysis

Number of Bridges: 57

Type of Cost

Avoidable Cost

Full Cost Allocation

Consultant Performance Costs

1. Consultant Labor , Overhead, Fixed Fee	\$2,663	\$2,663
2. Consultant Expenses	\$0	\$0
3. Total Consultant Invoice Costs	\$2,663	\$2,663
4. In-house Cost to Negotiate Contract & Support Consul	\$19	\$19
5. In-house Cost to Monitor Contract	\$271	\$271
6. In-house Cost to pay consultant and process agreement	\$0	\$0
7. In-house Cost to audit consultant cost	\$32	\$32
8. Fringe & Leave Additive on In-house Costs	\$223	\$223
9. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$17	-\$17

Consultant Cost per Bridge

\$3,191

\$3,191

In-House Performance Costs

1. Direct Labor Salary Costs	\$978	\$978
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$663	\$663
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs	\$0	\$0
5. Direct Supervision	\$54	\$54
6. Direct Clerical Support	\$26	\$26
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on #5,#6,#7	\$54	\$54
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$168	\$777

In-house Cost per Bridge

\$1,943

\$2,552

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Bridge Inspection		Date: June 2007	
Consultant : Churchill		Prepared by:	Program Analysis
Number of Bridges: 42	Avoidable Cost	Full Cost Allocation	
Type of Cost			
Consultant Performance Costs			
1. Consultant Labor , Overhead, Fixed Fee	\$2,196		\$2,196
2. Consultant Expenses	\$0		\$0
3. Total Consultant Invoice Costs	\$2,196		\$2,196
4. In-house Cost to Negotiate Contract & Support Consul	\$10		\$10
5. In-house Cost to Monitor Contract	\$223		\$223
6. In-house Cost to pay consultant and process agreement	\$0		\$0
7. In-house Cost to audit consultant cost	\$32		\$32
) Fringe & Leave Additive on In-house Costs	\$184		\$184
9. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$14		-\$14
Consultant Cost per Bridge	\$2,631		\$2,631
In-House Performance Costs			
1. Direct Labor Salary Costs	\$978		\$978
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$663		\$663
3. Direct Labor Overtime	\$0		\$0
4. Direct Labor Supply and Material Costs	\$0		\$0
5. Direct Supervision	\$54		\$54
6. Direct Clerical Support	\$26		\$26
7. Direct Support (outside units charging time to project)			
8. Fringe & Leave Additive on #5,#6,#7	\$54		\$54
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$168		\$777
In-house Cost per Bridge	\$1,943		\$2,552

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Bridge Inspection

Date: June 2007

Consultant : Arora & Associates

Prepared by:

Program Analysis

Number of Bridges: 26

Type of Cost

Avoidable Cost

Full Cost Allocation

Consultant Performance Costs

1. Consultant Labor , Overhead, Fixed Fee	\$3,200	\$3,200
2. Consultant Expenses	\$0	\$0
3. Total Consultant Invoice Costs	\$3,200	\$3,200
4. In-house Cost to Negotiate Contract & Support Consul	\$23	\$23
5. In-house Cost to Monitor Contract	\$321	\$321
6. In-house Cost to pay consultant and process agreement	\$0	\$0
7. In-house Cost to audit consultant cost	\$32	\$32
8. Fringe & Leave Additive on In-house Costs	\$259	\$259
9. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$20	-\$20

Consultant Cost per Bridge

\$3,815

\$3,815

In-House Performance Costs

1. Direct Labor Salary Costs	\$978	\$978
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$663	\$663
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs	\$0	\$0
5. Direct Supervision	\$54	\$54
6. Direct Clerical Support	\$26	\$26
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on #5,#6,#7	\$54	\$54
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$168	\$777

In-house Cost per Bridge

\$1,943

\$2,552



Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Bridge Inspection		Date: June 2007	
Consultant : Polytran Engineering		Prepared by:	Program Analysis
Number of Bridges: 26	Avoidable Cost	Full Cost Allocation	
Type of Cost			
Consultant Performance Costs			
1. Consultant Labor , Overhead, Fixed Fee	\$4,589		\$4,589
2. Consultant Expenses	\$0		\$0
3. Total Consultant Invoice Costs	\$4,589		\$4,589
4. In-house Cost to Negotiate Contract & Support Consul	\$101		\$101
5. In-house Cost to Monitor Contract	\$277		\$277
6. In-house Cost to pay consultant and process agreement	\$0		\$0
7. In-house Cost to audit consultant cost Fringe & Leave Additive on In-house Costs	\$32 \$292		\$32 \$292
9. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$24		-\$24
Consultant Cost per Bridge	\$5,267		\$5,267
In-House Performance Costs			
1. Direct Labor Salary Costs	\$978		\$978
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$663		\$663
3. Direct Labor Overtime	\$0		\$0
4. Direct Labor Supply and Material Costs	\$0		\$0
5. Direct Supervision	\$54		\$54
6. Direct Clerical Support	\$26		\$26
7. Direct Support (outside units charging time to project)			
8. Fringe & Leave Additive on #5,#6,#7	\$54		\$54
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$168		\$777
In-house Cost per Bridge	\$1,943		\$2,552

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Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Bridge Inspection

Date: June 2007

Consultant : KS Engineers

Prepared by:

Program Analysis

Number of Bridges: 25

Type of Cost

Avoidable Cost

Full Cost Allocation

Consultant Performance Costs

1. Consultant Labor , Overhead, Fixed Fee	\$3,282	\$3,282
2. Consultant Expenses	\$0	\$0
3. Total Consultant Invoice Costs	\$3,282	\$3,282
4. In-house Cost to Negotiate Contract & Support Consul	\$28	\$28
5. In-house Cost to Monitor Contract	\$146	\$146
6. In-house Cost to pay consultant and process agreement	\$0	\$0
7. In-house Cost to audit consultant cost	\$32	\$32
8. Fringe & Leave Additive on In-house Costs	\$143	\$143
9. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$22	-\$22
Consultant Cost per Bridge	\$3,609	\$3,609

In-House Performance Costs

1. Direct Labor Salary Costs	\$978	\$978
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$663	\$663
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs	\$0	\$0
5. Direct Supervision	\$54	\$54
6. Direct Clerical Support	\$26	\$26
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on #5,#6,#7	\$54	\$54
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$168	\$777

In-house Cost per Bridge

\$1,943

\$2,552



Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Bridge Inspection

Date: June 2007

Consultant : Parsons Brinckerhoff

Prepared by:

Program Analysis

Number of Bridges: 57

Type of Cost

Avoidable Cost

Full Cost Allocation

Consultant Performance Costs

1. Consultant Labor , Overhead, Fixed Fee	\$2,513	\$2,513
2. Consultant Expenses	\$0	\$0
3. Total Consultant Invoice Costs	\$2,513	\$2,513
4. In-house Cost to Negotiate Contract & Support Consul	\$6	\$6
5. In-house Cost to Monitor Contract	\$355	\$355
6. In-house Cost to pay consultant and process agreement	\$0	\$0
7. In-house Cost to audit consultant cost Fringe & Leave Additive on In-house Costs	\$32 \$247	\$32 \$247
9. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$16	-\$16

Consultant Cost per Bridge

\$3,137

\$3,137

In-House Performance Costs

1. Direct Labor Salary Costs	\$978	\$978
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$663	\$663
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs	\$0	\$0
5. Direct Supervision	\$54	\$54
6. Direct Clerical Support	\$26	\$26
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on #5,#6,#7	\$54	\$54
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$168	\$777

In-house Cost per Bridge

\$1,943

\$2,552

Single Composite Overhead Rate for Bridge Inspection Unit

1. Develop a DOT wide support services overhead rate

G&A Direct Labor	\$3,399,000	
G&A Indirect Labor	\$18,621,000	
Total G&A Labor	\$22,020,000	
G&A Leave	\$5,480,000	
G&A Fringe	\$9,029,000	
Total G&A Labor plus additives	\$36,529,000	
G&A non-salary	\$14,372,000	
Statewide Cost Allocation	\$5,478,000	
Risk Management Costs	\$2,187,000	
Total G&A Costs	\$58,566,000	
Direct Labor Salary Costs	\$117,212,000	
Direct Leave	\$36,145,000	
Direct Fringe	\$58,001,000	
Total Direct Labor Costs	\$211,358,000	
<u>Total G&A Costs</u>	<u>\$58,566,000</u>	= 27.71% DOT wide OH rate
Total Direct Labor Costs	\$211,358,000	

Data Source: NJDOT Cost Allocation Plan FY 2006



2A. Allocate share of Assistant Commissioner CPM to all CPM units

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Share Of Assistant Comm. Salary
ECA	50101	\$402,667	0.48%	\$5,799
ECA	50141	\$4,734,471	5.69%	\$68,183
ECA	50151	\$1,512,230	1.82%	\$21,778
ECA	50152	\$6,502,200	7.82%	\$93,640
ECA	50153	\$5,097,000	6.13%	\$73,404
ECA	50154	\$5,597,035	6.73%	\$80,605
ECA	50156	\$1,659,925	2.00%	\$23,905
ECA	50157	\$1,633,881	1.97%	\$23,530
ECA	50158	\$1,199,682	1.44%	\$17,277
EDA	50901	\$400,121	0.48%	\$5,762
EDA	50904	\$229,388	0.28%	\$3,303
EDA	50910	\$616,939	0.74%	\$8,885
EDA	50912	\$1,021,978	1.23%	\$14,718
EDA	50913	\$2,569,387	3.09%	\$37,003
EDA	50914	\$2,918,669	3.51%	\$42,033
EDA	50920	\$195,034	0.23%	\$2,809
EDA	50927	\$2,456,313	2.95%	\$35,374
EDA	50928	\$120,745	0.15%	\$1,739
EDA	50929	\$866,521	1.04%	\$12,479
EDA	50930	\$228,757	0.28%	\$3,294
EDA	50931	\$4,198,962	5.05%	\$60,471
EDA	50933	\$403,510	0.49%	\$5,811
EDA	50934	\$1,056,546	1.27%	\$15,216
EDA	50935	\$401,854	0.48%	\$5,787
EDA	50936	\$906,246	1.09%	\$13,051
EDA	50937	\$1,262,521	1.52%	\$18,182
EDA	50940	\$127,516	0.15%	\$1,836
EDA	50941	\$1,588,602	1.91%	\$22,878
EDA	50947	\$2,664,813	3.20%	\$38,377
EDA	50950	\$445,417	0.54%	\$6,415
EDA	50951	\$1,230,483	1.48%	\$17,721
EDA	50952	\$600,712	0.72%	\$8,651
EKA	51001	\$351,904	0.42%	\$5,068
EKA	51004	\$1,141,531	1.37%	\$16,440
EKA	51005	\$1,458,701	1.75%	\$21,007
EKA	51006	\$1,473,255	1.77%	\$21,217
EKA	51007	\$1,404,419	1.69%	\$20,226
EKA	51008	\$1,626,094	1.96%	\$23,418
EKA	51009	\$835,512	1.00%	\$12,033
EKA	50801	\$388,054	0.47%	\$5,589

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EYA	50802	\$1,482,044	1.78%	\$21,343
EYA	50803	\$2,855,441	3.43%	\$41,122
EYA	50804	\$1,902,540	2.29%	\$27,399
EZA	50810	\$353,580	0.43%	\$5,092
EZA	50811	\$2,177,252	2.62%	\$31,355
EZA	50812	\$2,260,058	2.72%	\$32,548
EWA	51021	\$1,289,901	1.55%	\$18,576
EWA	51022	\$1,544,545	1.86%	\$22,244
EWA	51023	\$1,416,906	1.70%	\$20,405
EWA	51024	\$1,917,246	2.31%	\$27,611
EWA	51025	\$1,707,602	2.05%	\$24,592
EWA	51026	\$229,934	0.28%	\$3,311
EWA	51027	\$481,936	0.58%	\$6,941
Total		\$83,148,580	100.00%	\$1,197,452
EAA	52101	\$937,707	x 1.2771	\$1,197,452



2A. Calculate CPM Adjusted Payroll Expenses to include DOT wide OH rate and share of Asst.

Commissioner CPM

Budget Center	Payroll Unit	Base Salary	Base x 0.277 OH	Share of Asst. Comm. Salary	CPM Adjusted PR Expenses
ECA	50101	\$402,667	\$111,539	\$5,799	\$520,005
ECA	50141	\$4,734,471	\$1,311,448	\$68,183	\$6,114,102
ECA	50151	\$1,512,230	\$418,888	\$21,778	\$1,952,896
ECA	50152	\$6,502,200	\$1,801,109	\$93,640	\$8,396,950
ECA	50153	\$5,097,000	\$1,411,869	\$73,404	\$6,582,273
ECA	50154	\$5,597,035	\$1,550,379	\$80,605	\$7,228,019
ECA	50156	\$1,659,925	\$459,799	\$23,905	\$2,143,629
ECA	50157	\$1,633,881	\$452,585	\$23,530	\$2,109,996
ECA	50158	\$1,199,682	\$332,312	\$17,277	\$1,549,271
EDA	50901	\$400,121	\$110,834	\$5,762	\$516,717
EDA	50904	\$229,388	\$63,540	\$3,303	\$296,232
EDA	50910	\$616,939	\$170,892	\$8,885	\$796,716
EDA	50912	\$1,021,978	\$283,088	\$14,718	\$1,319,784
EDA	50913	\$2,569,387	\$711,720	\$37,003	\$3,318,110
EDA	50914	\$2,918,669	\$808,471	\$42,033	\$3,769,173
EDA	50920	\$195,034	\$54,024	\$2,809	\$251,867
EDA	50927	\$2,456,313	\$680,399	\$35,374	\$3,172,086
EDA	50928	\$120,745	\$33,446	\$1,739	\$155,930
EDA	50929	\$866,521	\$240,026	\$12,479	\$1,119,026
EDA	50930	\$228,757	\$63,366	\$3,294	\$295,417
EDA	50931	\$4,198,962	\$1,163,112	\$60,471	\$5,422,545
EDA	50933	\$403,510	\$111,772	\$5,811	\$521,093
EDA	50934	\$1,056,546	\$292,663	\$15,216	\$1,364,425
EDA	50935	\$401,854	\$111,314	\$5,787	\$518,955
EDA	50936	\$906,246	\$251,030	\$13,051	\$1,170,327
EDA	50937	\$1,262,521	\$349,718	\$18,182	\$1,630,421
EDA	50940	\$127,516	\$35,322	\$1,836	\$164,674
EDA	50941	\$1,588,602	\$440,043	\$22,878	\$2,051,523
EDA	50947	\$2,664,813	\$738,153	\$38,377	\$3,441,343
EDA	50950	\$445,417	\$123,381	\$6,415	\$575,212
EDA	50951	\$1,230,483	\$340,844	\$17,721	\$1,589,047
EDA	50952	\$600,712	\$166,397	\$8,651	\$775,760
EKA	51001	\$351,904	\$97,477	\$5,068	\$454,449
EKA	51004	\$1,141,531	\$316,204	\$16,440	\$1,474,175
EKA	51005	\$1,458,701	\$404,060	\$21,007	\$1,883,768
EKA	51006	\$1,473,255	\$408,092	\$21,217	\$1,902,563
EKA	51007	\$1,404,419	\$389,024	\$20,226	\$1,813,669
EKA	51008	\$1,626,094	\$450,428	\$23,418	\$2,099,940
EKA	51009	\$835,512	\$231,437	\$12,033	\$1,078,981

EYA	50801	\$388,054	\$107,491	\$5,589	\$501,133
EYA	50802	\$1,482,044	\$410,526	\$21,343	\$1,913,914
EYA	50803	\$2,855,441	\$790,957	\$41,122	\$3,687,520
EYA	50804	\$1,902,540	\$527,004	\$27,399	\$2,456,943
EZA	50810	\$353,580	\$97,942	\$5,092	\$456,614
EZA	50811	\$2,177,252	\$603,099	\$31,355	\$2,811,706
EZA	50812	\$2,260,058	\$626,036	\$32,548	\$2,918,642
EWA	51021	\$1,289,901	\$357,303	\$18,576	\$1,665,780
EWA	51022	\$1,544,545	\$427,839	\$22,244	\$1,994,627
EWA	51023	\$1,416,906	\$392,483	\$20,405	\$1,829,794
EWA	51024	\$1,917,246	\$531,077	\$27,611	\$2,475,934
EWA	51025	\$1,707,602	\$473,006	\$24,592	\$2,205,200
EWA	51026	\$229,934	\$63,692	\$3,311	\$296,937
EWA	51027	\$481,936	\$133,496	\$6,941	\$622,373
Total		\$83,148,580	\$23,032,157	\$1,197,452	\$107,378,188
EAA	52101	\$837,707.00	x1.2771	\$1,197,452	

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2B. Allocate share of EYAA costs to all CPM units

	Payroll Unit	CPM Adjusted PR Expenses	% of Payroll	Share of EYAA Payroll
EYA	50801	\$501,134		
EYA	50802	\$1,913,913		
EYA	50803	\$3,687,520		
EYA	50804	\$2,456,943		
Total EYA		\$8,559,510		
ECA	50101	\$520,005	0.53%	\$45,042
ECA	50141	\$6,114,102	6.19%	\$529,593
ECA	50151	\$1,952,896	1.98%	\$169,157
ECA	50152	\$8,396,949	8.50%	\$727,330
ECA	50153	\$6,582,273	6.66%	\$570,146
ECA	50154	\$7,228,019	7.31%	\$626,079
ECA	50156	\$2,143,629	2.17%	\$185,678
ECA	50157	\$2,109,996	2.14%	\$182,764
ECA	50158	\$1,549,271	1.57%	\$134,195
EDA	50901	\$516,717	0.52%	\$44,757
EDA	50904	\$296,231	0.30%	\$25,659
EDA	50910	\$796,716	0.81%	\$69,010
EDA	50912	\$1,319,784	1.34%	\$114,317
EDA	50913	\$3,318,110	3.36%	\$287,409
EDA	50914	\$3,769,173	3.81%	\$326,480
EDA	50920	\$251,867	0.25%	\$21,816
EDA	50927	\$3,172,086	3.21%	\$274,761
EDA	50928	\$155,930	0.16%	\$13,506
EDA	50929	\$1,119,026	1.13%	\$96,928
EDA	50930	\$295,417	0.30%	\$25,589
EDA	50931	\$5,422,545	5.49%	\$469,692
EDA	50933	\$521,093	0.53%	\$45,136
EDA	50934	\$1,364,425	1.38%	\$118,184
EDA	50935	\$518,955	0.53%	\$44,951
EDA	50936	\$1,170,327	1.18%	\$101,372
EDA	50937	\$1,630,421	1.65%	\$141,224
EDA	50940	\$164,674	0.17%	\$14,264
EDA	50941	\$2,051,523	2.08%	\$177,699
EDA	50947	\$3,441,343	3.48%	\$298,083
EDA	50950	\$575,213	0.58%	\$49,824
EDA	50951	\$1,589,048	1.61%	\$137,641
EDA	50952	\$775,760	0.79%	\$67,195
EDA	51001	\$454,449	0.46%	\$39,364

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EKA	51004	\$1,474,175	1.49%	\$127,691
EKA	51005	\$1,883,768	1.91%	\$163,169
EKA	51006	\$1,902,564	1.93%	\$164,797
EKA	51007	\$1,813,669	1.84%	\$157,097
EKA	51008	\$2,099,940	2.13%	\$181,893
EKA	51009	\$1,078,982	1.09%	\$93,460
EZA	50810	\$456,614	0.46%	\$39,551
EZA	50811	\$2,811,706	2.85%	\$243,545
EZA	50812	\$2,918,642	2.95%	\$252,808
EWA	51021	\$1,665,780	1.69%	\$144,287
EWA	51022	\$1,994,628	2.02%	\$172,771
EWA	51023	\$1,829,794	1.85%	\$158,494
EWA	51024	\$2,475,934	2.51%	\$214,461
EWA	51025	\$2,205,200	2.23%	\$191,011
EWA	51026	\$296,937	0.30%	\$25,720
EWA	51027	\$622,373	0.63%	\$53,909
Total		\$98,818,680	100.00%	\$8,559,510

2C. Allocate share of EDAA Director's Office to EDAA payroll units

Budget Center	Payroll Unit	Director's Office	EDAA Payroll	% of EDAA Payroll	Share of Director
EDA	50901	\$516,717			
EDA	50904		\$229,388.00	0.88%	\$4,539
EDA	50910		\$616,939.00	2.36%	\$12,209
EDA	50912		\$1,021,978.00	3.91%	\$20,224
EDA	50913		\$2,569,387.00	9.84%	\$50,846
EDA	50914		\$2,918,669.00	11.18%	\$57,758
EDA	50920		\$195,034.00	0.75%	\$3,860
EDA	50927		\$2,456,313.00	9.41%	\$48,609
EDA	50928		\$120,745.00	0.46%	\$2,389
EDA	50929		\$866,521.00	3.32%	\$17,148
EDA	50930		\$228,757.00	0.88%	\$4,527
EDA	50931		\$4,198,962.00	16.08%	\$83,095
EDA	50933		\$403,510.00	1.55%	\$7,985
EDA	50934		\$1,056,546.00	4.05%	\$20,908
EDA	50935		\$401,854.00	1.54%	\$7,952
EDA	50936		\$906,246.00	3.47%	\$17,934
EDA	50937		\$1,262,521.00	4.84%	\$24,984
EDA	50940		\$127,516.00	0.49%	\$2,523
EDA	50941		\$1,588,602.00	6.08%	\$31,437
EDA	50947		\$2,664,813.00	10.21%	\$52,735
EDA	50950		\$445,417.00	1.71%	\$8,814
EDA	50951		\$1,230,483.00	4.71%	\$24,350
EDA	50952		\$600,712.00	2.30%	\$11,888
			\$26,110,913	100.00%	\$516,717

3. Develop a section overhead rate for Bridge Inspection

Bridge Inspection Base Payroll	\$2,918,669	
Bridge Inspection Project Payroll	\$2,146,701	
Bridge Inspection non-Project Payroll	\$256,832	includes non-project leave time
Bridge Inspection non-Project Payroll x Fringe Benefits	\$256,832 <u>132.75%</u>	
Bridge Inspection non-Project charges	\$340,944	
Bridge Inspection non-Project charges	\$340,944	
Base salary x DOT wide OH rate	\$808,471	From Step 2A
Share of CPM Asst. Commissioner	\$42,033	From Step 2A
Share of EYAA costs	\$326,479	From Step 2B
Share of EDAA Director	<u>\$57,758</u>	From Step 2C
Total Non Project Charges & Overhead	\$1,575,685	
Total Non Project PR Charges & Overhead	\$1,575,685	
Divided by Project PR charges	\$2,146,701	
Equals Bridge Inspection Overhead rate	73.40%	

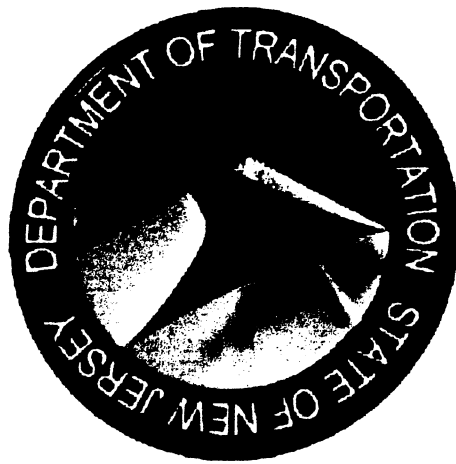
Cost Comparison Methods

Method #	Short Title	Description	Used By:	Comments
1	Comparable Project	Actual costs for different projects that are considered to be of similar size, scope and complexity	Generic	Sometimes difficult to find adequate sample size of comparable projects.
2	Actual Consultant vs Simulated In-House	Actual consultant costs on a project are compared to simulated in-house costs on the same project.	Louisiana	Assumes the staff hours used are equal. Isolates staff and overhead cost differentials.
3	Actual In-House vs Simulated Consultant	Actual in-house costs on a project are compared with simulated consultant costs on the same project using normal formulas used to estimate consultant contract costs.	Louisiana and Missouri	Allows the staff hours to differ. Requires reliable cost estimation model for consultant costs.
4	Total Cost Per Production Hour	Actual costs for different projects relative to staff hours expended.	Louisiana	Assumes staff hours are equal. Isolates staff and overhead cost differentials but does not rely on simulated costs like Method 2.
5	Design Costs as a % of Construction Costs	Compares ratio of design costs to total construction costs. Sometimes done with paired projects of similar complexity and other times done on project pools without regard to complexity	California, Texas, Missouri, Others	Uses actual costs for different projects but attempts to eliminate the effect of size by comparing to construction costs. However, other design effort factors which do not impact construction costs have made this measure unreliable.

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**ADVISABILITY STUDY
FY 2007**

**NEW JERSEY DEPARTMENT OF
TRANSPORTATION**



DESIGN PROJECTS
In-house vs. Consultant Costs

Prepared by

*Division of Budget
Bureau of Program Analysis*

January 2008

EXECUTIVE SUMMARY

During 2003, the Division of Budget, Bureau of Program Analysis, was asked to determine whether it is more cost effective to design road and bridge projects using in-house forces or consultant forces. The 2007 labor agreement between CWA and the State contains a clause that required the NJDOT to "update" the cost study for the design of road and bridge projects. The scope of the 2003 and 2007 studies analyzes completed design projects.

We used the Reason Foundation report "How to Compare Costs Between In-House and Contracted Services" as the basis for what costs and factors should be included in this type of analysis. We have used this model for about 14 years since it is the only detailed and comprehensive approach to conducting such studies that we have been able to find in literature. We supplemented that methodology with a recent Transportation Research Board (TRB) publication ("In House vs. Consultant Design Costs in State Departments of Transportation," Record 1654, Paper 99-1403) that suggests different methods for making "apples to apples" comparisons when the two groups have not worked on comparable projects or programs. In those instances, TRB indicates that actual costs for one group can be compared with simulated costs of the other group on the same project or program.

The TRB report suggested using multiple methods for design work since each method has strengths and weaknesses. Accordingly, we applied the two primary methods recommended by TRB. Actual Consultant vs. Simulated In-house was the first methodology applied. This methodology compares actual consultant costs to simulated in-house costs using the same project. The methodology assumes the staff-hours required are equal and isolates salary and overhead cost differentials. Actual In-house vs. Simulated Consultant was the second methodology used. This methodology compares costs for designs from completed in-house projects to the costs that would have been paid to consultants if the work had been contracted out. The consultant costs and hours were estimated using the Department's Independent Cost Estimating System (ICES).

The Bureau of Program Analysis, working with the Bureaus of Design Services and Program Support Services identified the consultant/NJDOT design projects to be analyzed. The source for the project selection was a listing of design projects completed by in-house staff and consultants during fiscal years 2006 and 2007.

We computed both "avoidable" cost and fully allocated costs. Avoidable costs are

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those that represent real out-of-pocket budget savings versus fully allocated costs, which include certain components, such as overhead, that are not easily reduced or eliminated in the short term. The use of fully allocated in-house costs vs. fully allocated consultant costs is not appropriate for estimating actual cost savings.

The avoidable and fully allocated costs per design project are shown in Table A. The table also shows the cost differential between the fully allocated cost and avoidable cost of consultants and in-house forces for the six selected simulated in-house projects. All projects were cheaper using in-house forces except for the Parsons BFG project using the full cost allocation method:

**Table A
Total Costs for Actual Consultant versus Simulated In-House
Design Projects**

Job #	Description Consultant	Consultant Performance Costs		In-House Performance Costs		Avoidable Full Cost	
		Avoidable Cost *	Full Cost Allocation *	Avoidable Cost	Full Cost Allocation	Cost Difference	Allocation Difference
1809508	French & Parrello	\$417,731	\$417,731	\$220,497	\$289,838	47.22%	30.62%
5707312	Arora	\$945,261	\$945,261	\$536,501	\$704,375	43.24%	25.48%
0722509	HNTB	\$535,178	\$535,178	\$335,259	\$441,143	37.36%	17.57%
1021509	ParsonsBFG	\$865,193	\$865,193	\$730,153	\$960,758	15.61%	(11.05)%
1402522	Cherry Weber	\$557,047	\$557,047	\$342,244	\$450,335	38.56%	19.16%
0101519	Taylor Wiseman & Taylor	\$327,697	\$327,697	\$199,628	\$262,153	39.08%	20.00%

*Consultant Performance Costs (Avoidable & Full Cost Allocated) have been adjusted to reflect taxes paid by the consultant to the State.

3,648,107

2,354,782

1,283,825

3,108,602

539,505

35%
in house
15%

Table B shows the fully allocated cost and avoidable cost comparison of simulated consultant versus actual in-house for the five selected in-house projects. All projects were cheaper using in-house staff when using both the avoidable cost and full cost allocation methods.

**Table B
Total Costs for Simulated Consultant vs. Actual In-House
Design Projects**

Description	ICES Hours	Consultant Avoidable Cost *	Consultant Full Cost Allocation *	DOT Hours	In-house Avoidable Cost	In-House Full Cost Allocation	Avoidable Cost Difference	Full Cost Allocation Difference
Rt. 50 over South River	3,509	\$332,301	\$332,301	3,129	\$183,464	\$241,605	44.79%	27.29%
West Oak St. Bridge	7,824	\$740,929	\$740,929	3,774	\$221,283	\$291,408	70.13%	60.67%
Rt. 130 Kinkora Bridge	17,790	\$1,684,704	\$1,684,704	14,937	\$875,809	\$1,153,357	48.01%	31.54%
Pedestrian Bridge Rt. 38	10,837	\$1,026,258	\$1,026,258	11,669	\$684,194	\$901,019	33.33%	12.20%
Garretson Rd Bridge	14,233	\$1,347,858	\$1,347,858	6,683	\$393,106	\$517,683	70.83%	61.59%

*Consultant Performance Costs (Avoidable & Full Cost Allocated) have been adjusted to reflect taxes paid by the consultant to the State.

5,127,050

2,357,836

2,774,194

54.1%

-100 per 100

Because of the small sample size of projects, we decided to perform an analysis of hourly wage rates for consultants approved for design work for comparison with NJDOT salary rates. With assistance from the Division of Accounting and Auditing, we determined that 38 firms had current design wage rates on file. The main cost components for consultants are hourly wage rates, overhead rates and fixed fee or profit margin. At NJDOT, the main cost components are hourly wage rates, fringe benefits, leave time, and indirect costs. We found that when we compared the average consultant hourly wage rates adjusted to include overhead and fixed fee to the NJDOT hourly wage rates adjusted for fringe and leave additives plus indirect cost that the NJDOT adjusted salary rates were lower than those of the consultants across most job titles. This analysis of salary rates for consultant firms performing design work supports the results obtained from the eleven completed design projects that were analyzed in this study.

Care should be exercised if a major shift of work is contemplated. While the NJDOT overhead costs used in the full cost allocation method are generally fixed and not of concern, a major increase in in-house staff could create actual incremental overhead costs. For example, if the number of staff to be hired creates the need to lease additional space, there would be an out-of-pocket budgetary impact. Similarly, it might be necessary to hire additional human resource staff and

DESIGN PROJECTS
In-house vs. Consultant Costs

January 2008

I. INTRODUCTION

A. Purpose

Compare costs of designing road and bridge projects using in-house forces or consultant forces. This study updates a study conducted by the Division of Budget, Bureau of Program Analysis in 2003. The study is being updated to comply with the CWA union contract. The same methodology is used in this 2007 study as was used in the 2003 study.

B. Background

In order to meet the demands of the Department's Capital Program, NJDOT has had to rely on outside consultants for design services. Consultants provide basically the same services that the in-house personnel provide on a design project. The following table, provided by Capital Program Management (CPM), shows historical data of NJDOT and consultant personnel including the total number of projects and total construction award cost from Fiscal Years 1998 to 2007.

**TOTAL COST OF AWARDED CONSTRUCTION PROJECTS
 & NUMBER OF PROJECTS BY DESIGNER**

FISCAL YEAR	IN-HOUSE DESIGN AWARD AMOUNT \$	CONSULTANT DESIGN AWARD AMOUNT \$	NUMBER OF PROJECTS IN HOUSE	NUMBER OF PROJECTS BY CONSULTANT
1998	\$15,200,000	\$291,100,000	18	33
1999	\$18,300,000	\$278,400,000	16	28
2000	\$16,500,000	\$349,400,000	9	39
2001	\$43,800,000	\$354,000,000	10	33
2002	\$24,600,000	\$332,000,000	5	24
2003	\$22,400,000	\$400,600,000	6	21
2004	\$14,700,000	\$215,600,000	6	24
2005	\$77,300,000	\$514,500,000	17	35
2006	\$58,900,000	\$490,300,000	14	26
2007 **	\$210,000,000	\$383,000,000	30	46

** ESTIMATE

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Consultant design firms are selected at NJDOT based on their professional qualifications, as opposed to bidding on a contract and the contract being awarded to the lowest bidder. Under the Department's current contracting system for obtaining design services qualified consultants submit proposals that contain cost estimates that detail the number of hours and costs that will be needed to achieve the objectives provided in the Solicitation for Technical Proposals. The Department then negotiates with the selected consultant to ensure that the consultant estimate is in line with the Department's estimates (ICES). Design consultants are normally reimbursed through a cost plus fixed fee agreement. This agreement reimburses the consultant for costs (salary, overhead, direct expenses) in addition to a negotiated amount known as a fixed fee.

C. Scope

This study will analyze and compare design costs of completed design projects. Consultants completed six projects and in-house staff completed five projects. Factors other than cost were not part of the scope of this report. However, non-cost factors should be weighed as part of the decision process, some are included in the report. No conclusions were made regarding the validity or importance of these non-cost factors because it was not an element of this project.

D. Methodology

The Division of Budget uses a Reason Foundation report, "How to Compare Costs Between In-house and Contracted Services" as the basis for in-house vs. consultant cost comparisons. We have used this as our core methodology for identifying appropriate costs that should be collected and analyzed when comparing in-house and contract costs. We have used this model for about 14 years since it is the only detailed and comprehensive approach to conducting such studies that we have been able to find in literature. The methodology emphasizes a comprehensive listing of costs, particularly in-house costs that are associated with procurement and management of contracts. Also emphasized are the overhead support costs that are embedded in the contractor's fee but must be calculated separately when estimating the cost of performing a function with in-house staff.

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The methodology also requires that costs be classified as either avoidable or fully allocated. Avoidable costs are those that represent real out-of-pocket budget savings versus fully allocated costs, which include components such as overhead that are not easily reduced or eliminated in the short term. The use of fully allocated in-house costs vs. fully allocated consultant costs is not appropriate for estimating actual cost savings. The Reason Foundation report recommends the fully allocated cost method be applied whenever the government agency is implementing a new program and considering how it should be delivered. Avoidable costs are typically used where a change in the delivery of an existing program is contemplated. The cost comparison tables in the Appendix include separate columns for fully allocated and avoidable costs.

We also made use of a recent Transportation Research Board (TRB) publication "In House Versus Consultant Design Costs in State Departments of Transportation," Record 1654, Paper 99-1403 that suggests different methods for making "apples to apples" comparisons when the two groups have not worked on comparable projects or programs. In those instances, the TRB report indicates that actual costs for one group can be compared with simulated costs of the other group on the same project or program. As a result, we have identified several different tools that can be used for making cost comparisons depending on the circumstances of the projects being examined (See Appendix for Cost Comparison Methods table).

These cost comparison methods are as follows:

1. Comparable Project
2. Actual Consultant vs. Simulated In-house
3. Actual In-house vs. Simulated Consultant
4. Total Cost Per Production Hour

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The comparable project methodology compares actual costs for different projects that are considered to be of similar size, scope and complexity. In the prior study, a request was made to Project Management to match in-house projects with comparable consultant projects. This could not be done for two reasons: NJDOT staff are generally designing less complex projects and because each design project is "unique" making project matching extremely difficult.

The Actual Consultant vs. Simulated In-house is one methodology used for this study. This methodology compares actual consultant costs to simulated in-house costs on the same project. It assumes that the staff-hours required are equal and isolates salary and overhead cost differentials. In addition, the Actual In-house vs. Simulated Consultant methodology was used. This methodology compares costs for designs from completed in-house projects to the costs that would have been paid to consultants if the work had been contracted out. The consultant costs and hours were estimated using the Department's Independent Cost Estimating System (ICES).

The population of projects used to identify the samples for this study were designs completed in fiscal years 2006 and 2007. The Bureau of Program Analysis working with the Bureau of Design Services and Capital Program Support identified 15 projects completed by diverse consultants and 6 projects completed by in-house staff. The sample population of 15 consultant projects was reviewed and design projects involving signing, and landscaping, improvements were purged. Special projects, such as, park and ride lots and pedestrian crossings were also purged. The remaining consultant projects were reviewed to determine if exceptional environmental or engineering work was required during design and those projects were removed from the consultant sample population reducing the pool to 6. Further these projects were analyzed for work in the preliminary engineering or final phase. Several projects in the pool had invoices going back to 1998 and work may have been suspended over the time period. Therefore the study attempted to limit work to design activities to target work that was completed recently. The sample population of in-house projects was reviewed and 5 projects represent the type of design work that is similar to the type of design work that consultants are performing.

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For the Actual Consultant vs. Simulated In-house methodology, Stripped Activity Reports by Job Number were used to identify invoice payments to consultants. Consultant invoices were obtained either electronically from File Net or from the files in the Division of Accounting and Auditing. All invoices for each project were reviewed, costs were extracted and a detailed spreadsheet was created for each invoice. Costs attributed to all individuals associated with consultants and sub-consultants were identified. The amounts paid to the consultants for overhead and fixed fee were also included in the cost detail spreadsheets. Direct expenses from consultant projects were not included in this analysis because we were unable to determine equitable in-house direct expenses.

The first step in determining simulated in-house costs was to convert the job titles of the consultant's staff into equivalent NJDOT titles. The Bureau of Construction Services, Division of Procurement provided tables for the conversion of consultant job titles to NJDOT equivalents. The simulated in-house methodology is based on the assumption that the same number of hours worked by each consultant title would be converted into NJDOT equivalent hours. To calculate a base payroll cost, an hourly rates in effect at the time of the project as stated in the Department of Personnel Compensation Compendium Guide was used. Additionally, we used the maximum pay step (9th) for each title range due to the senior work force within the Design units. No premium time or overtime was used for the design projects. A fringe and leave additive and indirect cost rate were applied to the base payroll.

The basis for the Actual In-house vs. Simulated Consultant methodology is the Department's Independent Contract Estimating System (ICES). Using ICES, the Bureau of Program Support Services provides estimates of hours needed and costs by project, which is used for negotiating a contract with a selected consultant. The Bureau of Civil Engineering provided project descriptions, construction costs, scopes of work, and activity schedules for the five selected projects.

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Using this data, ICES calculated the total consultant hours per project. An average FY 2006 wage rate weighted by task group was applied to the estimated consultant hours per project to determine salary costs. An average overhead rate and fixed fee rate were applied to the salary costs to calculate the total estimated consultant costs per project. To ensure an "apples to apples" cost comparison, actual FMIS in-house costs per project were not used. Instead, actual in-house hours were used and an average wage rate weighted by task group was applied to determine the in-house salary costs. Additionally, leave and fringe benefit additives and an overhead rate (roadway or bridge) were applied to calculate a total in-house cost per project.

To determine an indirect cost rate, for the purpose of this study, the Division of Budget calculated a single composite overhead rate based upon the methodology used in a TRB Study. One overhead rate was computed for Roadway Design and another rate for Structural Design. The overhead rates were calculated at several organizational levels. Step one was to determine a Department-wide overhead rate using the NJDOT FY 2006 Cost Allocation Plan for General and Administrative costs plus risk management costs. Step two identified the costs of upper management (Assistant Commissioner CPM), second tier management (CPM support units), and third tier management (Division Director) that provided supervision to the Geometric and Structural Design units. Step three determined the non-project time of both Design units including training, and administration. By incorporating unproductive (down) time into the overhead, the impact of unreliable in-house cost data can be minimized. Step three cost estimates were added to the two previous steps and used to calculate a single composite overhead rate of 108.29 percent for Roadway Design and 81.36 percent for Structural Design that incorporates all three levels (see Appendix for calculations). These overhead rates are applied to direct salary.

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In-house vs. Consultant Costs

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Because of the small sample size of projects, we decided to perform an analysis of hourly wage rates for consultants approved for design work for comparison with NJDOT salary rates. With assistance from the Division of Accounting and Auditing, we determined that a total of 38 firms had current design wage rates on file. The hourly wage rates were obtained from a listing of individual employee wage rates by title and ASCE Grade applicable to NJDOT design projects. These listings are submitted by consultants to the Division of Procurement for approval. Using the six completed consultant design projects as a basis, we were able to identify fifteen unique job titles. The current overhead rates for the 38 firms were obtained from the Division of Accounting and Auditing, Bureau of Auditing, and an average overhead rate was calculated. From this data, we were able to calculate an average hourly rate for each title. Using the average hourly wage rates as the base, we applied the average overhead rate. Finally, an average fixed fee of 24 percent was applied to the average hourly wage rate.

The Bureau of Construction Services, Procurement, provided tables for the conversion of consultant job titles to NJDOT equivalents. In order to equate the consultant rates to NJDOT rates, we extracted the hourly wage rates for comparable titles from the Department of Personnel Compensation Compendium Guide for Fiscal Year 2006. We used the 9th step of the comparable range for each title. The Department's FY 2006 fringe benefit and leave additives plus the single composite overhead rates for Roadway Design and Bridge Design were applied to the NJDOT wage rates.

II. Findings

A. Consultant Design Procurement Process

Consultants are awarded a Cost Plus Fixed Fee contract for design projects. Design selections follow the Qualification Based System (QBS) used by NJDOT's Consultant Selection Committee. The firms are selected based on qualification and technical merit. Once the selection is made, the contract cost is negotiated based on the audit advisory report. There is no price competition in the selection process.

B. Consultant Design Cost

The cost components for a Cost Plus Fixed Fee contract are direct consultant labor costs, consultant overhead costs, profit margin or fixed fee, and direct consultant expenses. The source of this cost data is invoices submitted by the consultant.

In addition to the consultant costs, there are in-house administration costs associated with consultant contracts. NJDOT uses a system called ICES, Independent Consultant Estimating System, to estimate planned person-hour allotments and skill level guidelines for each design project. There are costs to negotiate a consultant contract, costs to monitor a consultant contract, costs to perform pre-award and audit consultant costs, costs to process a consultant agreement and costs to pay a consultant. Other costs associated with consultant contracts include work required to select consultants such as posting solicitations, rating technical proposals, preparing consultant selections, debriefing consultants, etc. In-house salary costs associated with consultant contracts can be identified through timesheet charges to the design job number. Notwithstanding that the contract administration costs appear to be low, for this analysis an assumption will be made that all costs charged to the six consultant contracts selected are accurate. The following table illustrates the contract administration costs as a percentage of total consultant invoice costs for the six consultant projects used in this study:

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In-house vs. Consultant Costs

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Table 1
Contract Administration Costs
By Consultant

Job Number	Consultant Name	Contract Administration Salary Costs	Percent of Total Consultant Invoice Cost
1809508	French & Parrello	\$272	0.06%
5707312	Arora & Associates	\$1,048	0.11%
0722509	HNTB	\$132	0.03%
1021509	ParsonsBFG	\$485	0.05%
1402522	Cherry Weber & Associates	\$19	0.003%
0101519	Taylor Wiseman & Taylor	\$702	0.21%

According to the Reason Foundation, a reasonable estimate for contract administration costs is between 10 and 20 percent of consultant costs. Based on the information contained in the above table, the contract administration costs for the six consultants are significantly below this range.

C. Actual Consultant vs. Simulated In-house Design Costs

A total of six projects designed by six different consultants were selected for comparison using the Actual Consultant vs. Simulated In-House methodology. The design projects were identified with the assistance of the Bureau of Project Support Services. A comparison of the fully allocated direct and indirect costs associated with the six projects revealed that it was generally more cost effective to use in-house staff in five of the six projects.

An analysis of the six projects is as follows;

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1. Job Number: 1809508 Consultant: French and Parrello

Project Description: This project will replace the route 202 structure over Mine Brook. The existing structure has been classified as structurally deficient and functionally obsolete due to poor and substandard width for current traffic volumes.

Cost Summary - Consultant Services

Expense Item	Cost
Payroll (French & Parrello)	\$117,910
Overhead (184%)	\$216,990
Subtotal	\$334,900
Fixed Fee (22%)	\$25,916
Subtotal	\$360,816
Subconsultant:	
Malick	\$52,890
TBE	\$5,881
TOTAL CONSULTANT	\$419,587
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$272
Procurement (Base Pay)	\$0
Contract Auditing (Base Pay)	\$0
Fringe & Leave (68.05%)	\$185
TOTAL (CONSULTANT & In - House)	\$420,044

Cost Summary - NJDOT

Expense Item	Cost
Payroll	\$116,208
Fringe & Leave (68.05%)	\$79,231
Indirect Costs (81.36%)	\$94,547
Total	\$289,986

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In-house vs. Consultant Costs

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2. Job Number: 570312 Consultant: Arora and Associates P.C.

Project Description: Chesterfield – Sykesville Road Bridge over Blacks Creek. This project includes replacement of the historic structure carrying Chesterfield-Sykesville Road over Black’s Creek, as well as roadway improvements to various substandard geometric features.

Cost Summary - Consultant Services

Expense Item	Cost
Payroll (Arora)	\$324,338
Overhead (160%)	\$518,941
Subtotal	\$843,279
Fixed Fee (25.5%)	\$82,544
Subtotal	\$925,823
Subconsultant:	
Greene	\$25,022
TOTAL CONSULTANT	\$950,845
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$1,048
Procurement (Base Pay)	\$0
Contract Auditing (Base Pay)	\$0
Fringe & Leave (69.01%)	\$723
TOTAL (CONSULTANT & In-House)	\$952,616

Cost Summary – NJDOT

Expense Item	Cost
Payroll	\$281,337
Fringe & Leave (69.01%)	\$194,150
Indirect Costs (81.36%)	\$228,896
Total	\$704,383

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In-house vs. Consultant Costs

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3. Job Number: 0722509 Consultant: HNTB

Project Description: Route 46, Section 52 Intersection Improvements. Operational, safety and intersection interim improvements at Rt. 46 / Rt. 159 Clinton Road and Plymouth Street in the township of Fairfield and Montville, Counties of Essex and Morris. Due to the high volume of traffic, inadequate storage and numerous conflict points, traffic backs up within the intersection resulting in a high incidence of accidents and operational deficiencies.

Cost Summary - Consultant Services

Expense Item	Cost
Payroll (HNTB)	\$177,980
Overhead (148%)	\$263,411
Subtotal	\$441,391
Fixed Fee (24%)	\$42,644
Subtotal	\$484,035
Subconsultant:	
Amercom	\$43,904
Taylor Wiseman & Taylor	\$10,844
TOTAL CONSULTANT	\$538,783
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$132
Procurement (Base Pay)	\$0
Contract Auditing (Base Pay)	\$0
Fringe & Leave (66.60%)	\$87
TOTAL (CONSULTANT & In-House)	\$539,002

Cost Summary - NJDOT

Expense Item	Cost
Payroll	\$160,480
Fringe & Leave (66.06%)	\$120,890
Indirect Costs (108.29%)	\$173,984
Total	\$455,354

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4. Job Number: 1021509 Consultant: Parsons Brinkerhoff – FG, Inc

Project Description: Case Blvd / US Rt. 202 NJDOT. This project will provide continuity to Case Boulevard Across Rt. 202. The project will provide traffic relief for heavily congested Rt. 31 corridor north of the Flemington circle in Flemington and Raritan.

Cost Summary - Consultant Services

Expense Item	Cost
Payroll (Parsons)	\$331,777
Overhead (136%)	\$451,549
Subtotal	\$783,326
Fixed Fee (23%)	\$76,588
Subtotal	\$859,914
Subconsultant:	
Carpenter	\$11,440
TOTAL CONSULTANT	\$871,354
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$325
Procurement (Base Pay)	\$0
Contract Auditing (Base Pay)	\$160
Fringe & Leave (66.6%)	\$323
TOTAL (CONSULTANT & In-House)	\$872,162

Cost Summary – NJDOT

Expense Item	Cost
Payroll	\$349,506
Fringe & Leave (66.6%)	\$232,770
Indirect Costs (108.29%)	\$378,480
Total	\$960,756

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In-house vs. Consultant Costs

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5. Job Number: 1402522 Consultant: Cherry Webber

Project Description: Route 10 Drainage Improvements. Drainage and geometric improvements to reduce flooding in the vicinity of milepost 14.20.

Cost Summary - Consultant Services

Expense Item	Cost
Payroll (Cherry Weber)	\$162,601
Overhead (155%)	\$251,870
Subtotal	\$414,471
Fixed Fee (25%)	\$41,089
Subtotal	\$455,560
Subconsultant:	
K & S	\$92,022
Greene	\$13,129
TOTAL CONSULTANT	\$560,711
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$19
Procurement (Base Pay)	\$0
Contract Auditing (Base Pay)	\$0
Fringe & Leave (66.6%)	\$13
TOTAL (CONSULTANT & In-House)	\$560,743

Cost Summary - NJDOT

Expense Item	Cost
Payroll	\$163,824
Fringe & Leave Additive (66.6%)	\$109,106
Indirect Cost (108.29%)	\$177,405
TOTAL	\$450,335

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6. Job Number: 0101519 Consultant: Taylor Wiseman & Taylor

Project Description: Route 9 and Tilton Road City of Northfield. This project calls for the widening of four approaches, signal improvements and the grading and paving of the intersection.

Cost Summary – Consultant Services

Expense Item	Cost
Payroll (Taylor)	\$101,375
Overhead (176%)	\$178,552
Subtotal	\$279,927
Fixed Fee (15.6%)	\$15,794
Subtotal	\$295,721
Subconsultant:	
Greene	\$10,474
Brinkerhoff	\$5,293
Malick	\$16,393
TOTAL CONSULTANT	\$327,881
In-House Consultant Support Costs	
Consultant Supv. (Base Pay)	\$702
Procurement (Base Pay)	\$0
Contract Auditing (Base Pay)	\$0
Fringe & Leave (68.35%)	\$470
TOTAL (CONSULTANT & In-House)	\$329,053

Cost Summary – NJDOT

Expense Item	Cost
Payroll	\$94,763
Fringe & Leave Additive (68.35%)	\$64,770
Indirect Cost (108.29%)	\$102,619
TOTAL	\$262,152

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The cost tables for the six projects above examined the actual consultant fully allocated cost for a design project and compared it to the simulated in-house fully allocated cost on the same project. The table shows in five of the six projects analyzed, it is generally more cost effective to perform the design work with in-house staff rather than with consultants. Of these six projects, the overhead rate varied from a low of 136 percent to a high of 184 percent. The table below shows the overhead rate approved for each of the projects analyzed.

**Table 2
Consultant Overhead Rate**

Job Number	Consultant	Overhead Rate
1809508	French & Parrello	184%
5707312	Arora & Associates	160%
0722509	HNTB	148%
1021509	ParsonsBFG	136%
1402522	Cherry Weber & Associates	155%
0101519	Taylor Wiseman & Taylor	180%

D. Actual In-house Design Costs vs. Simulated Consultant Costs

Five projects designed by In-House forces were selected for comparison using the Actual In-House vs. Simulated Consultant methodology. The design projects were identified with the assistance of the Bureau of Project Support Services. A comparison of the fully allocated direct and indirect costs associated with the five projects indicates that it was more cost effective to use in-house staff. An analysis of the five projects is as follows:

The table shows the cost comparison of recommended consultant costs versus actual in-house costs for the five selected projects.

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Table 3
Total Costs for Simulated Consultant vs. Actual In-House Design Projects

Description	ICES Hours	Consultant Avoidable Cost *	Consultant Full Cost Allocation *	DOT Hours	In-house Avoidable Cost	In-House Full Cost Allocation	Avoidable Cost Difference	Full Cost Allocation Difference
Rt. 50 over South River	3,509	\$332,301	\$332,301	3,129	\$183,464	\$241,605	44.79%	27.29%
West Oak St. Bridge	7,824	\$740,929	\$740,929	3,774	\$221,283	\$291,408	70.13%	60.67%
Rt. 130 Kinkora Bridge	17,790	\$1,684,704	\$1,684,704	14,937	\$875,809	\$1,153,357	48.01%	31.54%
Pedestrian Bridge Rt. 38	10,837	\$1,026,258	\$1,026,258	11,669	\$684,194	\$901,019	33.33%	12.20%
Garretson Rd Bridge	14,233	\$1,347,858	\$1,347,858	6,683	\$393,106	\$517,683	70.83%	61.59%

*Consultant Performance Costs (Avoidable & Full Cost Allocated) have been adjusted to reflect taxes paid by the consultant to the State.

The table above shows that a major determining factor for cost effectiveness is the number of hours. Using fully allocated cost, the five projects in which the number of NJDOT hours is less than the consultant ICES hours are less expensive to design by in-house forces. However the one project in which the number of NJDOT hours exceeds the consultant ICES hours also is less expensive using fully allocated cost. This shows that the main factor affecting project cost is personnel cost per hour. Program Support Services (using our project cost component analysis data) developed an average weighted hourly wage rate for both consultants and in-house staff. The average weighted hourly rates, which are based on an average project staffing mix, are \$35.92 for consultants and \$31.14 for in-house. The difference in the hourly rates is \$4.78. However, when a multiplier of 166 percent (142 percent overhead plus 24 percent fixed fee) is applied to the consultant hourly rate of \$35.92 the adjusted hourly rate is \$95.55. For the in-house calculation, when leave, fringe benefit, and overhead additives are applied to the hourly rate of \$31.14, the adjusted hourly rates are \$85.60 for in-house road design and \$77.13 for in-house bridge design. The hourly differences of \$9.95 for road and \$18.42 for bridge become determining factors when in-house and consultant hours are equal or in proximity of each other.

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E. Project Cost Component Analysis

In addition to the eleven projects that were analyzed, the Division of Procurement provided an additional eighteen consultant firms that had current pre-qualified design title wage rates on file. As discussed earlier in the report, the main consultant cost components on a design project are hourly wage rates, overhead rates and fixed fee.

Hourly Wage Rates – For the eighteen consultant firms that had filed design wage rates with the DOT, in the spring of 2006, We determined that the differences in the average hourly wage rates between NJDOT comparable titles and consultant titles are insignificant across most titles. DOT wage rates in effect at that time were used in the comparison See Appendix for hourly wage rate table.

Overhead Rate - The current average consultant overhead rate for the 68 consultants who have overhead rates filed with the department is 141.8 percent. The overhead rates are from firms that filed in 2006 or an average of the five previous years. The overhead rate ranges from a high of 202 percent to a low of 106 percent with a median of 140 percent. The current overhead rate for the primary consultant firms on the projects analyzed in this study are shown as shaded in the table below.

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Table 4
Listing of Firms Overhead Rate

FIRM NAME	OVERHEAD RATE
Advanced Infrastructure	144%
Abbington Associates, Inc.	161%
Amercom Corp.	106%
Ammann & Whitney Consulting Engineers, P.C.	122%
Arora & Associates, P.C.	150%
BET Engineering	140%
Bergman Associates	150%
Boswell Engineering	129%
Buchart-Horn, Inc.	160%
Chas. H. Sells, Inc.	139%
Cherry Weber & Associates, P.C.	144%
Chilton Engineering, Inc	154%
Churchill, P.C.	137%
Clough Harbour & Associates LLP	159%
CME Assoc.	118%
Dewberry- Goodkind Inc.	122%
DMGM+HARRIS, Inc.	130%
Earth Tech, Inc.	153%
Edwards and Kelcey, Inc	151%
Fay, Spofford & Thorndike, LLC	145%
Figg Bridge Engineers, Inc.	174%
French & Parrello Associates, P.A.	202%
Garnett Fleming, Inc.	155%
Geod Corp.	135%
Gibson Associates, P A.	138%
Greenman-Pedersen, inc.	144%

HAKS Engineering, P.C.	125%
Hardesty & Hanover, LLP	139%
Harold Pellow	125%
HDR Engineering, Inc.	165%
HNTB Corporation	150%
IH Engineers	120%
Infra tech. Assoc.	138%
Jacobs Civil Inc.	121%
Jenny Engineering Corporation, Inc	140%
KMA Consulting Engineers, PC	130%
KS Engineers, P.C.	124%
L. Robert Kimball & Assoc.	186%
Lichtenstein Consulting Engineers, Inc.	154%

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Lord, Worrell & Richter, Inc.	125%
Louis Berger Group, Inc.	139%
Maguire group, Inc.	131%
Maitra Associates, PC	118%
Maser Consulting, P.A.	168%
McCormick Taylor, Inc.	150%
Medina Consultants, P.C.	136%
Michael Baker Jr. , Inc.	152%
Modjeski & Masters, Inc.	156%
Naik Prasad, Inc.	133%
Orth- Rodgers & Associates, Inc.	152%
Parsons Transportation Group, Inc.	122%
Pennoni Associates, Inc.	124%
Pickering, Corts & Summerson, Inc.	168%
Polytran Engineering associates P.C.	166%
QBS International, Inc.	165%
RBA Group, The	108%
Remington & Vernick Engineers, Inc.	119%
Schoor, DePalma, Inc.	172%
Site-Blauvelt Engineers, Inc.	143%
STV Incorporated	122%

T & M Associates	170%
T.Y. Lin International	168%
Taylor, Wiseman & Taylor	180%
Urban Engineers, Inc.	127%
Urbitran Associates, Inc.	125%
URS Corporation	121%
Vollmer Associates LLP	136%
Wilbur Smith & Associates	167%
Total	9742%
Average	141.8
Median	140%

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While the average consultant overhead rate is 142 percent, the NJDOT comparable overhead rate (fringe + leave + indirect) is 175 percent for road design and 148 percent for bridge design projects.

Fixed Fee or Profit Margin - In addition to the hourly wage rate and overhead rate, the consultants are paid a fixed fee or profit margin. The fixed fee is a set amount stated in the agreement. The fixed fee is a negotiated percentage of the original contract estimate for direct consultant labor costs (18 percent –30 percent). For purposes of this study, we used an average fixed fee of 24% applied to direct consultant labor costs.

As stated earlier, the main consultant cost components are hourly wage rates, overhead rates, and fixed fee. At NJDOT, the main cost components are hourly wage rates, fringe, leave, and indirect costs. We compared the consultant costs of the fifteen job titles used on design projects (road and bridge) to NJDOT costs for comparable titles. In road design, we found that in twelve of the fifteen wage grades, the NJDOT rates were lower than the consultants wage rates. For bridge design, fourteen NJDOT rates were lower.

The following table compares the average consultant hourly rates by title adjusted for average overhead and fixed fee to the NJDOT hourly rates by title adjusted for leave and fringe benefit additives and overhead (civil design and bridge design).

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In-house vs. Consultant Costs

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Table 5

Comparison of Hourly Wage Rate + Fixed Fee

Title	ASCE Grade	Consultant			Consult		NJDOT		NJDOT		NJDOT	
		Hourly Wage Rate	Overhead (142%)	Fixed Fee (24%)	Hourly Wage Equiv.	Hourly Overhead (174.89%)	Hourly Overhead (147.96%)	Hourly Wage Diff.	Rate Off (Road)	Rate Off (Bridge)		
Principal	P-IX	\$78.77	\$168.82	\$186.82	\$65.93	\$181.23	\$163.48	(\$12.84)	(\$28.35)	(\$46.10)		
Managing Engr	P VIII	\$68.66	\$153.61	\$169.99	\$61.07	\$167.88	\$151.43	(\$7.59)	\$21.96	\$5.51		
Project Mgr.	P VII	\$57.83	\$137.05	\$151.67	\$52.76	\$145.03	\$130.82	(\$5.07)	(\$3.41)	(\$17.62)		
Project Mgr.	P VI	\$50.62	\$108.50	\$120.07	\$42.88	\$117.87	\$106.33	(\$7.74)	(\$12.18)	(\$23.73)		
Principal Eng	P V	\$44.55	\$96.46	\$106.75	\$40.27	\$110.70	\$99.85	(\$4.28)	(\$6.95)	(\$17.7)		
Engineer	P IV	\$39.17	\$84.98	\$94.05	\$35.00	\$96.21	\$86.79	(\$4.17)	(\$15.48)	(\$24.1)		
Engineer	P III	\$32.26	\$71.64	\$79.28	\$30.44	\$83.68	\$75.48	(\$1.82)	(\$24.24)	(\$32.44)		
Engineer	P II	\$28.36	\$58.57	\$64.81	\$26.51	\$72.87	\$65.73	(\$1.85)	(\$21.94)	(\$29.08)		
Engineer Trainee	P I	\$24.13	\$57.38	\$63.17	\$21.53	\$59.18	\$53.39	(\$2.60)	(\$15.60)	(\$21.40)		
Prin eng Design	ET 5	\$36.38	\$94.39	\$104.46	\$29.07	\$79.91	\$72.08	(\$7.31)	(\$24.06)	(\$31.89)		
Sr Eng. Design	ET 4	\$29.07	\$68.85	\$76.19	\$25.31	\$69.57	\$62.76	(\$3.76)	(\$10.16)	(\$16.98)		
Sr Eng. Design	ET 3	\$26.05	\$56.00	\$61.98	\$23.08	\$63.44	\$57.23	(\$2.97)	(\$15.50)	(\$21.72)		
Engr. Design	ET 2	\$23.29	\$52.40	\$57.99	\$21.07	\$57.92	\$52.25	(\$0.00)	(\$13.10)	(\$18.77)		
Engr. Design	ET 1	\$21.07	\$42.86	\$47.43	\$17.54	\$48.22	\$43.49	\$1.35	\$1.79	(\$2.93)		
Adm. Tech typist	CL	\$16.19	\$37.13	\$41.09	\$22.04	\$60.59	\$54.65	\$0.95	\$1.70	(\$4.23)		
OVERHEAD RATE & FIXED FEE					***166%							

*** Represents 24 percent fixed fee based on consultant hourly wage rate only.

This analysis of current average wage rates for the (38) consultant firms performing design functions supports the results obtained from the eleven completed design projects that were analyzed in this study. Based upon the findings of this analysis, it is highly unlikely that a larger sample size of projects would produce different results.

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E. Additional Findings

1. In-house staff is given first right of refusal for new design projects. The mix of projects to be completed in-house is selected to match staffing levels. In-house design stays away from large projects that require dedicated staff because it reduces their flexibility. In addition, consultants are performing unique projects that require a high degree of public participation and elaborate graphic presentations. Projects that require a high degree of permitting (e.g., Army Corps of Engineers, DEP, etc.) are also being done by consultants.

2. One of the overhead issues in the in-house design units pertains to providing service to the public. In-house staff receive calls and correspondence from the public that are handled internally whether the project is being worked on by in-house staff or consultants.

3. In analyzing the Stripped Activity Reports, it is important to note that there appears to be inaccuracies in recording the proper function codes on time sheets related to costs of contract preparation and contract management as the percentage of contract administration costs to total consultant cost is extremely low. This problem could also be the result of not using the proper job number.

III. Summary, Conclusions, and Recommendations

A. Summary and Conclusions

In summary, our analysis indicates that in ten of the eleven projects it is more cost effective to design projects in-house. The cost differential ranges from a high of 61.59 percent to a low of 12.2 percent for the ten projects that would be less costly to design with in-house forces. For the one project calculated to be less costly to use consultants, the differential was 11.05 percent.

Avoidable costs are those that represent real out-of-pocket budget savings versus fully allocated costs that include certain components, such as overhead, that are not easily reduced or eliminated in the short term. The use of fully allocated in-house costs versus fully allocated consultant costs is not appropriate for estimating actual cost savings. The avoidable and fully allocated costs per design project are shown in Table 6. The table also shows the cost differential between the fully allocated cost and avoidable cost of consultants and in-house forces for the six selected simulated in-house projects:

**Table 6
Total Costs for Actual Consultant vs. Simulated In-House Design Projects**

Job #	Description Consultant	Consultant Performance Costs		In-House Performance Costs			
		Avoidable Cost *	Full Cost Allocation *	Avoidable Cost	Full Cost Allocation	Cost Difference	Allocation Difference
1809508	French & Parrello	\$417,731	\$417,731	\$220,497	\$289,838	47.22%	30.62%
5707312	Arora & Associates	\$945,261	\$945,261	\$536,501	\$704,375	43.24%	25.48%
0722509	HNTB	\$535,178	\$535,178	\$335,259	\$441,143	37.36%	17.57%
1021509	ParsonsBFG	\$865,193	\$865,193	\$730,153	\$960,758	15.61%	(11.05)%
1402522	Cherry Weber	\$557,047	\$557,047	\$342,244	\$450,335	38.56%	19.16%
0101519	Taylor Wiseman & Taylor	\$327,697	\$327,697	\$199,628	\$262,153	39.08%	20.00%

*Consultant Performance Costs (Avoidable & Full Cost Allocated) have been adjusted to reflect taxes paid by the consultant to the State.

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In-house vs. Consultant Costs

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Table 7 shows the fully allocated and avoidable cost comparison of simulated consultant versus actual in-house for the five selected simulated consultant projects. The table also shows the cost differential for fully allocated and avoidable costs.

**Table 7
Total Costs for Simulated Consultant vs. Actual In-House
Design Projects**

Description	ICES Hours	Consultant Avoidable Cost *	Consultant Full Cost Allocation *	DOT Hours	In-house Avoidable Cost	In-House Full Cost Allocation	Avoidable Cost Difference	Full Cost Allocation Difference
Rt. 50 over South River	3,509	\$332,301	\$332,301	3,129	\$183,464	\$241,605	44.79%	27.29%
West Oak St. Bridge	7,824	\$740,929	\$740,929	3,774	\$221,283	\$291,408	70.13%	60.67%
Rt. 130 Kinkora Bridge	17,790	\$1,684,704	\$1,684,704	14,937	\$875,809	\$1,153,357	48.01%	31.54%
Pedestrian Bridge Rt. 38	10,837	\$1,026,258	\$1,026,258	11,669	\$684,194	\$901,019	33.33%	12.20%
Garretson Rd Bridge	14,233	\$1,347,858	\$1,347,858	6,683	\$393,106	\$517,683	70.83%	61.59%

*Consultant Performance Costs (Avoidable & Full Cost Allocated) have been adjusted to reflect taxes paid by the consultant to the State.

The Division of Accounting and Auditing provided the names of eighteen consultant firms that had pre-qualified design title wage rates on file. Our analysis of these consultants shows that when we compared the average consultant hourly wage rate adjusted for average overhead and fixed fee to the NJDOT hourly wage rates adjusted for overhead (fringe + leave + indirect) that NJDOT rates are lower than the consultants' rates across most job titles. This analysis supports the results obtained from the eleven completed design projects that were analyzed in this study.

Care should be exercised if a major shift of work is contemplated. While the NJDOT overhead costs used in the full cost allocation method are generally fixed and not of concern, a major increase in in-house staff could create actual incremental overhead costs. For example, if the number of staff to be hired creates the need to lease additional space, there would be an out-of-pocket budgetary impact.

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In-house vs. Consultant Costs

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Similarly, it might be necessary to hire additional human resource staff and IT staff to support the new staff and associated computers. In order to ensure the cost savings suggested by this report are realized, impacts on support costs need to be assessed if a significant shift of workload is contemplated.

B. Recommendations

1. Other factors relevant to staffing increases should be considered before hiring additional qualified State engineers to perform design work.
2. If the number of engineers to be hired is significant and achievable at current State pay scales, assess the impact on support services that might be impacted such as Human Resources, IT, and Physical Plant.
3. Institute better controls to ensure that proper job numbers and function codes are included on timesheets. Additionally, Design units should ensure that job numbers are provided to other Departmental units so that all costs related to a particular project are accounted for.

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In-house vs. Consultant Costs

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Glossary of Terms for Consultant Contract

1. **Direct Consultant Labor Costs** - Actual costs taken from the final invoice submitted by the consultant.
2. **Overhead Consultant Costs** - Actual costs taken from the final invoice submitted by the consultant. The overhead rates for the six consultants used in this study are as follows:

Job Number	Consultant	Overhead Rate
1809508	French & Parrello	184%
5707312	Arora & Associates	160%
0722509	HNTB	148%
1021509	ParsonsBFG	136%
1402522	Cherry Weber & Associates	155%
0101519	Taylor Wiseman & Taylor	180%

3. **Fixed Fee/Profit Margin** - Actual costs taken from the final invoice submitted by the consultant. The fixed fee or profit margin is a negotiated percentage of the original contract estimate for Direct Consultant Labor Costs (18 percent – 30 percent).
4. **Consultant Expenses** - Actual costs taken from the final invoice submitted by the consultant. These costs were not included in the consultant project cost tables because a comparable estimate was not available for in-house expenses.
5. **Total Consultant Invoice Cost** - The total of Direct Consultant Labor, Overhead, Profit Margin. Consultant expenses were not included for reasons discussed in the report.
6. **In-house Cost to Negotiate Contract & Support Consultant** - The source

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In-house vs. Consultant Costs

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of this data is the Stripped Activity Reports by Job Number for Budget Codes DHAA and DRAA.

7. **In-house Cost to Monitor Contract** - The source of this data is the Stripped Activity report by Job Number, by Function Code.
8. **In-house Cost to Pay Consultant and Process Agreement** - The Stripped Activity Report for these job numbers did not identify any costs charged to these activities.
9. **In-house Cost to Audit Consultant Costs** - The source of this data is the Stripped Activity report by Job Number, by Function Code.
10. **Fringe and Leave Additive** - The NJDOT fringe and leave additive of 66.60% percent was applied to in-house salary costs.
11. **Taxes Paid by Consultant to State** - 9 percent of the consultant Profit Margin.

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In-house vs. Consultant Costs

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Glossary of Terms for In-house Project

1. **Direct Labor Salary Costs** - The assumption was made that the same number of hours worked by each consultant staff person would be converted into NJDOT equivalent hours. To calculate a direct labor cost, the hourly rate at the ninth step in effect at the time of the project as stated in the Department of Personnel Compensation Compendium Guide was used.
2. **Leave and Fringe Additive** - The NJDOT fringe and leave additive of .666 was applied to the Direct Labor Salary Costs.
3. **Direct Labor Overtime** - No overtime on the selected projects.
4. **Direct Labor Supply and Material Costs** - An estimate of these costs was not included because of the simulated methodology chosen for this analysis.
5. **Direct Supervision** - This cost was obtained from the Stripped Activity Reports by Job Number.
6. **Direct Clerical Support** - (units charging time to project) - Clerical support costs could not be identified to an in-house project because the project job number was not charged.
7. **Direct Support** (outside units charging time to project) - Outside support costs could not be identified to an in-house project because the project job number was not charged.
8. **Fringe & Leave Additive** - The NJDOT fringe and leave additive of in-effect during the time of the contract was applied to the Direct Supervision, Clerical Support and Support Salary Costs.
9. **Overhead Rate** - an overhead rate for the Roadway and Structural Design units was calculated and applied to direct salary. See Appendix for calculation.

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In-house vs. Consultant Costs

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APPENDIX List of Attachments:

Cost Summaries by Consultant (Simulated In-house)

- Attachment #1 French & Parrello
- Attachment #2 Arora & Associates
- Attachment #3 HNTB
- Attachment #4 Parsons BFG
- Attachment #5 Cherry Weber & Associates
- Attachment #6 Taylor Wiseman & Taylor

Cost Summaries by Project (Simulated Consultant)

- Attachment #1 Rt. 50 over South River
- Attachment #2 West Oak St. Bridge
over Rt.287
- Attachment #3 Rt. 130 Kinkora Bridge
- Attachment #4 Replacement of
Pedestrian Bride
- Attachment #5 Rt. 280 EB Morris &
Essex RR

Calculation of Civil Eng. Design Overhead Rate

Calculation of Structural Design Overhead Rate

Cost Comparison Methods

Hourly Rate + Overhead Rate + Fixed Fee Comparisons

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In House v Consultant	Date: July 2007	
Consultant: French & Parrello	Prepared by:	Program Analysis
Job Name: Rt 202 over Mine Brook	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$117,910	\$117,910
2. Consultant Overhead Costs	\$216,990	\$216,990
3. Consultant Profit Margin	\$25,916	\$25,916
4. Sub Consultant Costs	\$58,771	\$58,771
5. Total Consultant Invoice Costs	\$419,587	\$419,587
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$272	\$272
8. In-house Cost to pay consultant and process agreement	\$0	\$0
In-house Cost to do pre-award & audit consultant cost		
9. Fringe & Leave Additive on In-house Costs	\$204	\$204
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$2,332	-\$2,332
Total Consultant Costs	\$417,731	\$417,731
In-House Performance Costs		
1. Direct Labor Salary Costs	\$116,208	\$116,208
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$79,083	\$79,083
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$25,205	\$94,547
Total In-House Costs	\$220,497	\$289,838

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In House v Consultant	Date: July 2007	
Consultant: Arora	Prepared by: Program Analysis	
Job Name: Chesterfield Sykesville Rd Bridge	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$324,338	\$324,338
2. Consultant Overhead Costs	\$518,941	\$518,941
3. Consultant Profit Margin	\$82,544	\$82,544
4. Sub Consultant Costs	\$25,023	\$25,023
5. Total Consultant Invoice Costs	\$950,846	\$950,846
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$1,048	\$1,048
8. In-house Cost to pay consultant and process agreement	\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost		
10. Fringe & Leave Additive on In-house Costs	\$796	\$796
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$7,429	-\$7,429
Total Consultant Costs	\$945,261	\$945,261
In-House Performance Costs		
1. Direct Labor Salary Costs	\$281,337	\$281,337
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$194,142	\$194,142
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$61,022	\$228,896
Total In-House Costs	\$536,501	\$704,375

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In House v Consultant	Date: July 2007	
Consultant: HNTB	Prepared by: Program Analysis	
Job Name: Rt 46 Rt 52 Intersection Improvements	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$177,980	\$177,980
2. Consultant Overhead Costs	\$263,411	\$263,411
3. Consultant Profit Margin	\$42,644	\$42,644
4. Sub Consultant Costs	\$54,749	\$54,749
5. Total Consultant Invoice Costs	\$538,784	\$538,784
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$132	\$132
8. In-house Cost to pay consultant and process agreement	\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost		
Fringe & Leave Additive on In-house Costs	\$100	\$100
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$3,838	-\$3,838
Total Consultant Costs	\$535,178	\$535,178
In-House Performance Costs		
1. Direct Labor Salary Costs	\$160,480	\$160,480
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$106,880	\$106,880
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$67,899	\$173,784
Total In-House Costs	\$335,259	\$441,143

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In House v Consultant	Date: July 2007	
Consultant: PBFG	Prepared by: Program Analysis	
Job Name: Rt 202 Case Blvd Intersection Development Design	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$331,777	\$331,777
2. Consultant Overhead Costs	\$451,549	\$451,549
3. Consultant Profit Margin	\$76,588	\$76,588
4. Sub Consultant Costs	\$11,441	\$11,441
5. Total Consultant Invoice Costs	\$871,355	\$871,355
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$325	\$325
8. In-house Cost to pay consultant and process agreement	\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost	\$160	\$160
10. Fringe & Leave Additive on In-house Costs	\$245	\$245
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$6,893	-\$6,893
Total Consultant Costs	\$865,193	\$865,193
In-House Performance Costs		
1. Direct Labor Salary Costs	\$349,506	\$349,506
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$232,771	\$232,771
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$147,876	\$378,480
Total In-House Costs	\$730,153	\$960,751

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Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In House v Consultant	Date: July 2007	
	Prepared by: Program Analysis	
Consultant: Cherry Weber	Avoidable Cost	Full Cost Allocation
Job Name: Rt 10 Drainage Improvements		
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$162,601	\$162,601
2. Consultant Overhead Costs	\$251,870	\$251,870
3. Consultant Profit Margin	\$41,089	\$41,089
4. Sub Consultant Costs	\$105,151	\$105,151
5. Total Consultant Invoice Costs	\$560,712	\$560,712
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$19	\$19
8. In-house Cost to pay consultant and process agreement	\$0	\$0
In-house Cost to do pre-award & audit consultant cost		
1. Fringe & Leave Additive on In-house Costs	\$15	\$15
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$3,698	-\$3,698
Total Consultant Costs	\$557,047	\$557,047
In-House Performance Costs		
1. Direct Labor Salary Costs	\$163,824	\$163,824
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$109,107	\$109,107
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$69,314	\$177,409
Total In-House Costs	\$342,244	\$450,336

Cost Comparison Form

In-House Versus Contract Performance

Service Under Study: Design Projects In House v Consultant		Date: July 2007	
Consultant: Taylor Wiseman & Taylor		Prepared by: Program Analysis	
Job Name: Rt 9 Grading and Paving		Avoidable Cost	Full Cost Allocation
Type of Cost			
Consultant Performance Costs			
1. Direct Consultant Labor Costs		\$101,375	\$101,375
2. Consultant Overhead Costs		\$178,552	\$178,552
3. Consultant Profit Margin		\$15,794	\$15,794
4. Sub Consultant Costs		\$32,160	\$32,160
5. Total Consultant Invoice Costs		\$327,881	\$327,881
6. In-house Cost to Negotiate Contract		\$0	\$0
7. In-house Cost to Monitor Contract		\$702.04	\$702.04
8. In-house Cost to pay consultant and process agreement		\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost		\$0	\$0
Fringe & Leave Additive on In-house Costs		\$535	5
11. Subtract Taxes paid by Consultant to State (% of profit margin)		-\$1,421	-\$1,421
Total Consultant Costs		\$327,697	\$327,697
In-House Performance Costs			
1. Direct Labor Salary Costs		\$94,763	\$94,763
2. Fringe & Leave Additive on Direct Labor Salary Costs		\$64,771	\$64,771
3. Direct Labor Overtime		\$0	\$0
4. Direct Labor Supply and Material Costs			
5. Direct Supervision		\$0	\$0
6. Direct Clerical Support			
7. Direct Support (outside units charging time to project)			
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support		\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)		\$40,094	\$102,619
Total In-House Costs		\$199,628	\$262,153

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French and Parrello

Job Number: 1809508

Job Name: US Rt. 202 over Mine Brook Cont # 0407774

Function Code: Y505

Straight Time Total by Employee Class - Consultant Services

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Summary	Hours	Avg. Hourly Rate
French & Parrello			Title	Range	
Project Manager PVIII	331.5	\$56.41	Director	M-36	331.5
Supervising Eng PVI	260.0	\$46.20	Supv. Eng.	M-31	260.0
Senior Eng. PV	10.5	\$39.25	Project Engineer	S-29	10.5
Engineer IV	1,019.5	\$35.46	Principal Engineer	R26	1,019.5
Engineer III	97.0	\$28.40	Senior Engineer	P-23	97.0
Asst. Engineer II	481.0	\$23.44	Asst. Engineer	P-20	481.0
Asst. Engineer I	45.5	\$20.76	CET	P-95	45.5
Sr. Drafter ET4	952.5	\$28.37	Tech 2	R-19	952.5
Drafter ET3	34.0	\$19.87	Tech 3	A-17	34.0
Drafter ET2	289.0	\$24.88	Tech 4	A-15	289.0
Trainee ET1	8.0	\$14.50	Eng tech 5	A-11	8.0
Clerical	41.5	\$15.58	WP spec2	R-13	41.5
Total	3,570.0		Total	3,570.0	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Summary	Hours	Avg. Hourly Rate
Mallick			Title	Range	
PVI	97.0	\$51.98	Supvr Engineer	S-31	97.0
Pv	2.0	\$39.00	Project Engineer	S-29	2.0
Piii	321.0	\$29.51	Senior Eng	P-23	321.0
et1	8.5	\$16.00	Eng. Tech 5	A-11	8.5
ET3	154.5	\$22.94	Eng. Tech 3	A-17	154.5
Drft tech	59.0	\$14.46	Eng. Tech 5	A-11	59.0
word pro	6.5	\$14.54	Sec Asst	A-15	6.5
Total	648.5		Total	648.5	

Sub Consultant Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Summary	Hours	Avg. Hourly Rate
TBE			Title	Range	
PM (pv)	2.5	\$35.00	Project Engineer	S-29	4.6
SUE Spr (piii)	36.75	\$33.41	Sr. Engineer	P-23	36.75
sue tech2	30.0	\$21.33	Eng tech 4	A 15	41.4
sue tech (et1)	4.6	\$12.00	Eng tech 5	A11	4.6
Total	73.9		Total	87.3	

Arora and Associates P.C.

Job Number: 5707312

Job Name: Chesterfield-Sykesville Rd. Bridge over Blacks Creek

Function Code: Y505

**Straight Time Total by Employee Class -
Consultant Services**

Summary	Hours	Avg. Hourly Rate
Arora		
PVIII	5.0	\$73.00
PVI	672.5	\$53.32
PV	2,546.0	\$43.69
PIII	1,968.5	\$33.12
PI	4,303.5	\$24.28
ET3	383.0	\$18.78
Total	9,878.5	\$0.00

Straight Time Total by Title - NJDOT

Summary	Range	Hours	Avg. Hourly Rate
Title			
Director	M36	5.0	\$59.62
Supvr Engineer	S-31	672.5	\$42.19
Project Engineer	S-29	2,546.0	\$38.41
Principal			
Engineer	R26	1,968.5	\$29.03
CET	P-95	4,303.5	20.75
Eng Tech 3	A17	383.0	\$22.01
Total		\$9,878.50	

Straight Time Sub Consultant

Summary	Hours	Avg. Hourly Rate
Greene		
PIX	9.25	\$78.81
PVI	37.00	\$38.67
PIII	148.50	\$30.94
PII	2.25	\$24.72
ET3	72.50	\$23.26
Cler	28.25	\$16.22
Total	288.50	

Straight Time Total by Title - NJDOT

Summary	Range	Hours	Avg. Hourly Rate
Title			
Asst Comm.	M-98	9.25	\$65.68
Supvr Eng	S-31	37.00	\$42.19
Sr Engineer	P23	148.50	\$29.03
CET	P95	2.25	20.75
Tech 3	A17	72.50	\$22.01
Sec asst	A15	28.25	\$22.97
Total		288.5	

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HNTB

Job Number: 0722509

Job Name: Rt 46, Section 52 Intersection Improvements Cont # 960389

Function Code: Y505

**Straight Time Total by Employee Class -
Consultant Services**

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Summary	Hours	Avg. Hourly Rate
HNTB			Title	Range	
Pvi	492.0	\$48.87	Supvr Engineer	S-31	492.0
Pv	711.0	\$41.35	Project Engineer	S-29	711.0
Piv	24.5	\$39.16	Principal Engineer	R26	24.5
Piii	1,776.3	\$32.77	Senior Engineer	P-23	1,776.3
Pi	429.5	\$26.11	CET	P-95	429.5
et5	59.0	\$39.31	Eng tech 1	S-22	59.0
et4	6.0	\$29.19	Tech 2	R-19	6.0
et2	1,592.8	\$25.14	Tech 4	A-15	1,592.8
et1	162.5	\$16.32	Eng tech 5	A-11	162.5
eng intern	527.0	\$17.00	cet	P-95	527.0
Total	5,780.5		Total	5,780.5	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Summary	Hours	Avg. Hourly Rate
Amercon			Title	Range	
Pv	297.0	\$42.02	Project Engineer	S-29	297.0
Piii	161.5	\$29.82	Sr Engineer	P-23	161.5
Pi	75.0	\$24.63	CET	P-95	75.0
et2	18.0	\$15.56	Tech 4	A-15	18.0
Total	551.5		Total	551.5	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Summary	Hours	Avg. Hourly Rate
TWT			Title	Range	
PV	26.5	\$40.20	Project Engineer	R-29	26.5
PI	4.0	\$25.00	CET	P-95	4.0
ET2	68.0	\$19.44	Tech 4	A-15	68.0
ET1	115.0	\$11.96	Tech 5	A11	115.0
Total	213.5		Total	213.5	

Parsons Brinckerhoff - FG, Inc
Job Number: 1021509
Job Name: Case Blvd / US Rt. 202 NJDOT Contract
Function Code: Y505

**Straight Time Total by Employee Class -
 Consultant Services**

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
PBFG						
Pviii	95.5	\$63.24	Director	M-36	95.5	\$60.29
Pvii	1,056.0	\$54.05	Manager	M-33	1,056.0	\$52.09
Pvi	597.0	\$44.03	Supv. Eng.	S-31	597.0	\$42.66
Pv	2083	\$36.47	Project Engineer	S-29	2,083.0	\$38.84
			Principal			
Piv	567.0	\$31.62	Engineer	R26	567.0	\$33.75
Piii	985.0	\$27.00	Senior Engineer	P-23	985.0	\$29.36
Pii	2,571.0	\$23.37	Asst. Engineer	P-20	2,571.0	\$25.56
Pi	97.5	\$21.05	CET	P-95	97.5	\$20.91
et2	477.0	\$14.08	Tech 4	A-15	477.0	\$20.32
et3	401.5	\$22.01	Tech 3	A-17	401.5	\$22.26
et4	1,041.0	\$21.24	Tech 2	R-19	1,041.0	\$24.41
et5	700.0	\$27.75	Tech 1	S-22	700.0	\$28.03
Cler	125.0	\$21.22	WP spec2	R-13	125.0	\$23.22
Total	10,796.5		Total		10,796.5	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
Carpenter						
Pvii	15.0	\$40.53	Manager	M-33	15.0	\$52.09
Pvi	21.8	\$38.00	Supv. Eng.	S-31	21.8	\$42.66
			Principal			
Piv	41.75	\$0.00	Engineer	R26	41.8	\$33.75
Piii	105.3	\$28.47	Senior Engineer	P-23	105.3	\$29.36
ET5	26.3	\$23.18	WP spec2	R-13	26.3	\$28.03
Total	210.0		Total		210.0	

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Cherry Weber & Associates
Job Number: 14022522
Job Name: Rt 10 Drainage Improvements
Function Code: Y505

**Straight Time Total by Employee Class -
 Consultant Services**

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
Cherry Weber						
PIX	20.4	\$67.31	Asst Comm.	M-98	20.4	\$65.68
PVII	200.0	\$52.38	Manager	M-33	200.0	\$52.69
PVI	459.2	\$48.19	Supvr Engineer	S31	459.2	\$43.49
PV	12.0	\$38.55	Project Engineer	S-29	12.0	\$39.59
PIV	368.2	\$33.55	Principal Engineer	R26	368.2	\$34.40
PIII	1,544.1	\$31.76	Senior Engineer	P-23	1,544.1	\$29.92
PII	505.6	\$25.72	Asst. Engineer	P-20	505.6	\$26.05
ET5	466.3	\$28.13	Eng tech 1	S-22	466.3	\$28.57
ET4	379.5	\$22.04	Tech 2	R-19	379.5	\$24.88
ET3	1,332.9	\$20.21	Tech 3	A17	1,332.9	22.686
ET2	298.30	\$17.31	Tech 4	A-15	298.3	\$20.71
Cler	11.9	\$15.79	Sec asst	P-95	11.9	\$23.67
Total	5,598.4		Total		\$5,598.35	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
KS						
Proj. Man. Pviii	202	\$59.53	Director	M-36	202.0	\$60.98
Eng. PIV	663.5	\$33.48	Prin. Engineer	P-26	663.5	\$34.40
CADD Piii	179.5	\$21.54	Sr. Engineer	P-23	179.5	\$29.92
Survey Chief ET5	1.0	\$55.50	Tech 1	S22	1.0	\$28.57
Total	1,046.0		Total		1,046.0	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
Greene						
PIX	6.5	\$79.38	Asst Comm.	M-98	6.5	\$65.68
PVI	29.0	\$40.36	Supvr Eng.	S-31	29.0	\$43.49
PIII	8.5	\$31.90	Sr. Engineer	P-23	8.5	\$29.92
PII	66.5	\$25.45	Engineer	P20	66.5	\$26.05
ET3	47.5	\$19.93	Tech 3	A17	47.5	\$22.69
Cler	10.5	\$17.75	Sec asst	A15	10.5	\$23.67
Total	168.5		Total		168.5	

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Taylor Wiseman & Taylor
Job Number 0101519
Job Name: Rt 9 & Tilton Rd Northfield Atlantic County
Function Code Y505

Straight Time Total by Employee Class - Consultant Services

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
TWT						
PVII	267.50	\$48.00	Manager	M-33	267.5	\$51.52
PVI	21.5	\$39.83	Supv. Eng.	S-31	21.5	\$42.19
PV	239.5	\$35.88	Project Engineer	S-29	239.5	\$38.41
PIV	24.50	\$34.28	Principal Engineer	R26	24.5	\$33.38
PII	924.0	\$29.87	Senior Engineer	P-23	924.0	\$25.28
PI	1,525.3	\$22.39	CET	P-95	1,525.3	\$20.61
ETIV	20.5	\$27.57	Tech 2	R-19	20.5	\$24.14
ETIII	657.0	\$23.97	Tech 3	A-17	657.0	\$22.01
CLE	13.5	\$13.50	WP spec2	A-15	13.5	\$22.97
Total	3,693.3		Total		3,693.3	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
Greene						
PIX	4.5	\$80.00	Asst Com	M-98	4.5	\$65.68
PVI	43.5	\$38.92	Project Engineer	S-29	43.5	\$42.19
PIII	24.50	\$22.25	Sr Engineer	P-23	24.5	\$29.03
ET3	47.0	\$20.08	Tech 3	A-17	47.0	\$22.01
CLE	21.3	\$17.00	WP spec2	A-15	21.3	\$22.97
Total	140.8		Total		140.8	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
Brinkerhoff						
PIX	2.5	\$55.29	Asst Comm.	M-98	2.5	\$65.68
PIII	69.00	\$24.04	Engineer	P-23	69.0	\$29.03
PI	9.8	\$16.06	CET	P-95	9.8	\$20.61
Total	81.3		Total		81.3	

Straight Time Sub Consultant

Straight Time Total by Title - NJDOT

Summary	Hours	Avg. Hourly Rate	Title	Range	Hours	Avg. Hourly Rate
Malick						
PVI	55.0	\$50.00	Supvr Engineer	S-31	55.0	\$38.41
PV	6.00	\$39.00	Principal Engineer	R26	6.0	\$33.38
PIII	113.00	\$30.23	Sr. Engineer	P23	113.0	\$29.03
CLE	9.00	\$14.00	Sec Asst	A-15	9.00	\$22.97
Total	183.0		Total		183.0	

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In house v Consultant	Date: July 2007	
Consultant: Simulated	Prepared by: Program Analysis	
Job Name: Rt 50 over South River	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs:		
1. Direct Consultant Labor Costs	\$126,043	\$126,043
2. Consultant Overhead Costs	\$178,729	\$178,729
3. Consultant Profit Margin	\$30,250	\$30,250
4. Sub Consultant Costs	\$0	\$0
5. Total Consultant Invoice Costs	\$335,023	\$335,023
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$0	\$0
8. In-house Cost to pay consultant and process agreement	\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost	\$0	\$0
10. Fringe & Leave Additive on In-house Costs	\$0	\$0
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$2,723	-\$2,723
Total Consultant Costs	\$332,301	\$332,301
In-House Performance Costs:		
1. Direct Labor Salary Costs	\$97,437	\$97,437
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$64,893	\$64,893
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$21,134	\$79,275
Total In-House Costs	\$183,464	\$241,605

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In house v Consultant		Date: July 2007	
Consultant: Simulated		Prepared by: Program Analysis	
Job Name: West Oak St. Bridge over Rt 287		Available Cost	Full Cost Allocation
Type of Cost			
Consultant Performance Costs			
1. Direct Consultant Labor Costs		\$281,038	\$281,038
2. Consultant Overhead Costs		\$398,512	\$398,512
3. Consultant Profit Margin		\$67,449	\$67,449
4. Sub Consultant Costs		\$0	\$0
5. Total Consultant Invoice Costs		\$746,999	\$746,999
6. In-house Cost to Negotiate Contract		\$0	\$0
7. In-house Cost to Monitor Contract		\$0	\$0
8. In-house Cost to pay consultant and process agreement		\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost		\$0	\$0
10. Fringe & Leave Additive on In-house Costs		\$0	\$0
11. Subtract Taxes paid by Consultant to State (% of profit margin)		-\$6,070	-\$6,070
Total Consultant Costs		\$740,929	\$740,929
In-House Performance Costs			
1. Direct Labor Salary Costs		\$117,522	\$117,522
2. Fringe & Leave Additive on Direct Labor Salary Costs		\$78,270	\$78,270
3. Direct Labor Overtime		\$0	\$0
4. Direct Labor Supply and Material Costs			
5. Direct Supervision		\$0	\$0
6. Direct Clerical Support			
7. Direct Support (outside units charging time to project)			
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support		\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)		\$25,491	\$95,616
Total In-House Costs		\$221,283	\$291,408

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In house v Consultant	Date: July 2007	
Consultant: Simulated	Prepared by: Program Analysis	
Job Name: Rt 130 Kinkora Bridge	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$639,017	\$639,017
2. Consultant Overhead Costs	\$906,126	\$906,126
3. Consultant Profit Margin	\$153,364	\$153,364
4. Sub Consultant Costs	\$0	\$0
5. Total Consultant Invoice Costs	\$1,698,507	\$1,698,507
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$0	\$0
8. In-house Cost to pay consultant and process agreement	\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost	\$0	\$0
10. Fringe & Leave Additive on In-house Costs	\$0	\$0
Subtract Taxes paid by Consultant to State (% of profit margin)	-\$13,803	-\$13,803
Total Consultant Costs	\$1,684,704	\$1,684,704
In-House Performance Costs		
1. Direct Labor Salary Costs	\$465,138	\$465,138
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$309,782	\$309,782
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$100,888	\$378,436
Total In-House Costs	\$875,809	\$1,153,357

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In house v Consultant	Date: July 2007	
Consultant: Simulated	Prepared by: Program Analysis	
Job Name: Replace Ped Bridge over Rt 38	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$389,265	\$389,265
2. Consultant Overhead Costs	\$551,978	\$551,978
3. Consultant Profit Margin	\$93,424	\$93,424
4. Sub Consultant Costs	\$0	\$0
5. Total Consultant Invoice Costs	\$1,034,666	\$1,034,666
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$0	\$0
8. In-house Cost to pay consultant and process agreement	\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost	\$0	\$0
10. Fringe & Leave Additive on In-house Costs	\$0	\$0
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$8,408	-\$8
Total Consultant Costs	\$1,026,258	\$1,026,258
In-House Performance Costs		
1. Direct Labor Salary Costs	\$363,373	\$363,373
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$242,006	\$242,006
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$78,816	\$295,640
Total In-House Costs	\$684,194	\$901,019

Cost Comparison Form In-House Versus Contract Performance

Service Under Study: Design Projects In house v Consultant	Date: July 2007	
Consultant: Simulated	Prepared by: Program Analysis	
Garretson Rd over Rt 202/206	Avoidable Cost	Full Cost Allocation
Type of Cost		
Consultant Performance Costs		
1. Direct Consultant Labor Costs	\$511,249	\$511,249
2. Consultant Overhead Costs	\$724,952	\$724,952
3. Consultant Profit Margin	\$122,700	\$122,700
4. Sub Consultant Costs	\$0	\$0
5. Total Consultant Invoice Costs	\$1,358,901	\$1,358,901
6. In-house Cost to Negotiate Contract	\$0	\$0
7. In-house Cost to Monitor Contract	\$0	\$0
8. In-house Cost to pay consultant and process agreement	\$0	\$0
9. In-house Cost to do pre-award & audit consultant cost	\$0	\$0
10. Fringe & Leave Additive on In-house Costs	\$0	\$0
11. Subtract Taxes paid by Consultant to State (% of profit margin)	-\$11,043	-\$11,043
Total Consultant Costs	\$1,347,858	\$1,347,858
In-House Performance Costs		
1. Direct Labor Salary Costs	\$208,777	\$208,777
2. Fringe & Leave Additive on Direct Labor Salary Costs	\$139,045	\$139,045
3. Direct Labor Overtime	\$0	\$0
4. Direct Labor Supply and Material Costs		
5. Direct Supervision	\$0	\$0
6. Direct Clerical Support		
7. Direct Support (outside units charging time to project)		
8. Fringe & Leave Additive on Direct Supervision, Clerical & Support	\$0	\$0
9. Overhead Rate (applied to direct salary) including G&A, Unit Upper Management, and Section Overhead Rates)	\$45,284	\$169,861
Total In-House Costs	\$393,106	\$517,683

Single Composite Overhead Rate for Structural Engineering

1. Develop a DOT wide support services overhead rate

G&A Direct Labor	\$3,399,000
G&A Indirect Labor	\$18,621,000
Total G&A Labor	\$22,020,000
G&A Leave	\$5,480,000
G&A Fringe	\$9,029,000
Total G&A Labor plus additives	\$36,529,000
G&A non-salary	\$14,372,000
Statewide Cost Allocation	\$5,478,000
Risk Management Costs	\$2,187,000
Total G&A Costs	\$58,566,000
Direct Labor Salary Costs	\$117,212,000
Direct Leave	\$36,145,000
Direct Fringe	\$58,001,000
Total Direct Labor Costs	\$211,358,000

<u>Total G&A Costs</u>	<u>\$58,566,000</u>	=	27.71%	DOT wide OH rate
Total Direct Labor Costs	\$211,358,000			

Data Source: NJDOT Cost Allocation Plan FY 2006

27.71%

2A. Allocate share of Assistant Commissioner CPM to all CPM units

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Share Of Assistant Comm. Salary
ECA	50101	\$402,667	0.48%	\$5,799
ECA	50141	\$4,734,471	5.69%	\$68,183
ECA	50151	\$1,512,230	1.82%	\$21,778
ECA	50152	\$6,502,200	7.82%	\$93,640
ECA	50153	\$5,097,000	6.13%	\$73,404
ECA	50154	\$5,597,035	6.73%	\$80,605
ECA	50156	\$1,659,925	2.00%	\$23,905
ECA	50157	\$1,633,881	1.97%	\$23,530
ECA	50158	\$1,199,682	1.44%	\$17,277
EDA	50901	\$400,121	0.48%	\$5,762
EDA	50904	\$229,388	0.28%	\$3,303
EDA	50910	\$616,939	0.74%	\$8,885
EDA	50912	\$1,021,978	1.23%	\$14,718
EDA	50913	\$2,569,387	3.09%	\$37,003
EDA	50914	\$2,918,669	3.51%	\$42,033
EDA	50920	\$195,034	0.23%	\$2,809
EDA	50927	\$2,456,313	2.95%	\$35,374
EDA	50928	\$120,745	0.15%	\$1,739
EDA	50929	\$866,521	1.04%	\$12,479
EDA	50930	\$228,757	0.28%	\$3,294
EDA	50931	\$4,198,962	5.05%	\$60,471
EDA	50933	\$403,510	0.49%	\$5,811
EDA	50934	\$1,056,546	1.27%	\$15,216
EDA	50935	\$401,854	0.48%	\$5,787
EDA	50936	\$906,246	1.09%	\$13,051
EDA	50937	\$1,262,521	1.52%	\$18,182
EDA	50940	\$127,516	0.15%	\$1,836
EDA	50941	\$1,588,602	1.91%	\$22,878
EDA	50947	\$2,664,813	3.20%	\$38,377
EDA	50950	\$445,417	0.54%	\$6,415
EDA	50951	\$1,230,483	1.48%	\$17,721
EDA	50952	\$600,712	0.72%	\$8,651

2A. Allocate share of Assistant Commissioner CPM to all CPM units

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Share Of Assistant Comm. Salary
EKA	51001	\$351,904	0.42%	\$5,068
EKA	51004	\$1,141,531	1.37%	\$16,440
EKA	51005	\$1,458,701	1.75%	\$21,007
EKA	51006	\$1,473,255	1.77%	\$21,217
EKA	51007	\$1,404,419	1.69%	\$20,226
EKA	51008	\$1,626,094	1.96%	\$23,418
EKA	51009	\$835,512	1.00%	\$12,033
EYA	50801	\$388,054	0.47%	\$5,589
EYA	50802	\$1,482,044	1.78%	\$21,343
EYA	50803	\$2,855,441	3.43%	\$41,122
EYA	50804	\$1,902,540	2.29%	\$27,399
EZA	50810	\$353,580	0.43%	\$5,092
EZA	50811	\$2,177,252	2.62%	\$31,355
EZA	50812	\$2,260,058	2.72%	\$32,548
EWA	51021	\$1,289,901	1.55%	\$18,576
EWA	51022	\$1,544,545	1.86%	\$22,244
EWA	51023	\$1,416,906	1.70%	\$20,405
EWA	51024	\$1,917,246	2.31%	\$27,611
EWA	51025	\$1,707,602	2.05%	\$24,592
EWA	51026	\$229,934	0.28%	\$3,311
EWA	51027	\$481,936	0.58%	\$6,941
Total		\$83,148,580	100.00%	\$1,197,452
EAA	52101	\$937,707	X 1.2771	\$1,197,452

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2A. Calculate CPM Adjusted Payroll Expenses to include DOT wide OH rate and share of Asst. Commissioner CPM

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Base x 0.277 OH	Share of Asst. Comm Salary	CPM Adjusted PR Expenses
ECA	50101	\$402,667	0.48%	\$111,539	\$5,799	\$520,005
ECA	50141	\$4,734,471	5.69%	\$1,311,448	\$68,183	\$6,114,102
ECA	50151	\$1,512,230	1.82%	\$418,888	\$21,778	\$1,952,896
ECA	50152	\$6,502,200	7.82%	\$1,801,109	\$93,640	\$8,396,950
ECA	50153	\$5,097,000	6.13%	\$1,411,869	\$73,404	\$6,582,273
ECA	50154	\$5,597,035	6.73%	\$1,550,379	\$80,605	\$7,228,019
ECA	50156	\$1,659,925	2.00%	\$459,799	\$23,905	\$2,143,629
ECA	50157	\$1,633,881	1.97%	\$452,585	\$23,530	\$2,109,996
ECA	50158	\$1,199,682	1.44%	\$332,312	\$17,277	\$1,549,271
EDA	50901	\$400,121	0.48%	\$110,834	\$5,762	\$516,717
EDA	50904	\$229,388	0.28%	\$63,540	\$3,303	\$296,232
EDA	50910	\$616,939	0.74%	\$170,892	\$8,885	\$796,716
EDA	50912	\$1,021,978	1.23%	\$283,088	\$14,718	\$1,319,784
EDA	50913	\$2,569,387	3.09%	\$711,720	\$37,003	\$3,318,110
EDA	50914	\$2,918,669	3.51%	\$808,471	\$42,033	\$3,769,173
EDA	50920	\$195,034	0.23%	\$54,024	\$2,809	\$251,867
EDA	50927	\$2,456,313	2.95%	\$680,399	\$35,374	\$3,172,086
EDA	50928	\$120,745	0.15%	\$33,446	\$1,739	\$155,930
EDA	50929	\$866,521	1.04%	\$240,026	\$12,479	\$1,119,026
EDA	50930	\$228,757	0.28%	\$63,366	\$3,294	\$295,417
EDA	50931	\$4,198,962	5.05%	\$1,163,112	\$60,471	\$5,422,545
EDA	50933	\$403,510	0.49%	\$111,772	\$5,811	\$521,093
EDA	50934	\$1,056,546	1.27%	\$292,663	\$15,216	\$1,364,425
EDA	50935	\$401,854	0.48%	\$111,314	\$5,787	\$518,955
EDA	50936	\$906,246	1.09%	\$251,030	\$13,051	\$1,170,327
EDA	50937	\$1,262,521	1.52%	\$349,718	\$18,182	\$1,630,421
EDA	50940	\$127,516	0.15%	\$35,322	\$1,836	\$164,674
EDA	50941	\$1,588,602	1.91%	\$440,043	\$22,878	\$2,051,523
EDA	50947	\$2,664,813	3.20%	\$738,153	\$38,377	\$3,441,343
EDA	50950	\$445,417	0.54%	\$123,381	\$6,415	\$575,212
EDA	50951	\$1,230,483	1.48%	\$340,844	\$17,721	\$1,589,047
EDA	50952	\$600,712	0.72%	\$166,397	\$8,651	\$775,760

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2A. Calculate CPM Adjusted Payroll Expenses to include DOT wide OH rate and share of Asst.
 Commissioner
 CPM

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Base x 0.277 OH	Share of Asst. Comm. Salary	CPM Adjusted PR Expenses
EKA	51001	\$351,904	0.42%	\$97,477	\$5,068	\$454,449
EKA	51004	\$1,141,531	1.37%	\$316,204	\$16,440	\$1,474,175
EKA	51005	\$1,458,701	1.75%	\$404,060	\$21,007	\$1,883,768
EKA	51006	\$1,473,255	1.77%	\$408,092	\$21,217	\$1,902,563
EKA	51007	\$1,404,419	1.69%	\$389,024	\$20,226	\$1,813,669
EKA	51008	\$1,626,094	1.96%	\$450,428	\$23,418	\$2,099,940
EKA	51009	\$835,512	1.00%	\$231,437	\$12,033	\$1,078,981
EYA	50801	\$388,054	0.47%	\$107,491	\$5,589	\$501,133
EYA	50802	\$1,482,044	1.78%	\$410,526	\$21,343	\$1,913,914
EYA	50803	\$2,855,441	3.43%	\$790,957	\$41,122	\$3,687,520
EYA	50804	\$1,902,540	2.29%	\$527,004	\$27,399	\$2,456,943
EZA	50810	\$353,580	0.43%	\$97,942	\$5,092	\$456,614
EZA	50811	\$2,177,252	2.62%	\$603,099	\$31,355	\$2,811,706
EZA	50812	\$2,260,058	2.72%	\$626,036	\$32,548	\$2,918,642
EWA	51021	\$1,289,901	1.55%	\$357,303	\$18,576	\$1,665,780
EWA	51022	\$1,544,545	1.86%	\$427,839	\$22,244	\$1,994,627
EWA	51023	\$1,416,906	1.70%	\$392,483	\$20,405	\$1,829,794
EWA	51024	\$1,917,246	2.31%	\$531,077	\$27,611	\$2,475,934
EWA	51025	\$1,707,602	2.05%	\$473,006	\$24,592	\$2,205,200
EWA	51026	\$229,934	0.28%	\$63,692	\$3,311	\$296,937
EWA	51027	\$481,936	0.58%	\$133,496	\$6,941	\$622,373
Total		\$83,148,580	100%	\$23,032,157	\$1,197,452	\$107,378,188
EAA	52101	\$937,707	X1.2771	\$1,197,452		

162x

2B. Allocate share of EYAA to all CPM units

	Payroll Unit	CPM Adjusted PR Expenses	% of Payroll	Share of EYAA Payroll
EYA	50801	\$501,134		
EYA	50802	\$1,913,913		
EYA	50803	\$3,687,520		
EYA	50804	\$2,456,943		
Total EYA		\$8,559,510		
ECA	50101	\$520,005	0.53%	\$45,042
ECA	50141	\$6,114,102	6.19%	\$529,593
ECA	50151	\$1,952,896	1.98%	\$169,157
ECA	50152	\$8,396,949	8.50%	\$727,330
ECA	50153	\$6,582,273	6.66%	\$570,146
ECA	50154	\$7,228,019	7.31%	\$626,079
ECA	50156	\$2,143,629	2.17%	\$185,678
ECA	50157	\$2,109,996	2.14%	\$182,764
ECA	50158	\$1,549,271	1.57%	\$134,195
EDA	50901	\$516,717	0.52%	\$44,757
EDA	50904	\$296,231	0.30%	\$25,659
EDA	50910	\$796,716	0.81%	\$69,010
EDA	50912	\$1,319,784	1.34%	\$114,317
EDA	50913	\$3,318,110	3.36%	\$287,409
EDA	50914	\$3,769,173	3.81%	\$326,480
EDA	50920	\$251,867	0.25%	\$21,816
EDA	50927	\$3,172,086	3.21%	\$274,761
EDA	50928	\$155,930	0.16%	\$13,506
EDA	50929	\$1,119,026	1.13%	\$96,928
EDA	50930	\$295,417	0.30%	\$25,589
EDA	50931	\$5,422,545	5.49%	\$469,692
EDA	50933	\$521,093	0.53%	\$45,136
EDA	50934	\$1,364,425	1.38%	\$118,184
EDA	50935	\$518,955	0.53%	\$44,951
EDA	50936	\$1,170,327	1.18%	\$101,372
EDA	50937	\$1,630,421	1.65%	\$141,224
EDA	50940	\$164,674	0.17%	\$14,264
EDA	50941	\$2,051,523	2.08%	\$177,699
EDA	50947	\$3,441,343	3.48%	\$298,083
EDA	50950	\$575,213	0.58%	\$49,824
EDA	50951	\$1,589,048	1.61%	\$137,641
EDA	50952	\$775,760	0.79%	\$67,195

	Payroll Unit	CPM Adjusted PPE Expenses	% of Payroll	Share of EYAA Payroll
EK	51001	\$454,449	0.46%	\$39,364
EK	51004	\$1,474,175	1.49%	\$127,691
EK	51005	\$1,883,768	1.91%	\$163,169
EK	51006	\$1,902,564	1.93%	\$164,797
EK	51007	\$1,813,669	1.84%	\$157,097
EK	51008	\$2,099,940	2.13%	\$181,893
EK	51009	\$1,078,982	1.09%	\$93,460
EZA	50810	\$456,614	0.46%	\$39,551
EZA	50811	\$2,811,706	2.85%	\$243,545
EZA	50812	\$2,918,642	2.95%	\$252,808
EWA	51021	\$1,665,780	1.69%	\$144,287
EWA	51022	\$1,994,628	2.02%	\$172,771
EWA	51023	\$1,829,794	1.85%	\$158,494
EWA	51024	\$2,475,934	2.51%	\$214,461
EWA	51025	\$2,205,200	2.23%	\$191,011
EWA	51026	\$296,937	0.30%	\$25,720
EWA	51027	\$622,373	0.63%	\$53,909
Total		\$98,818,680	100.00%	\$8,558,510

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2C. Allocate share of EDAA Director's Office to EDAA payroll units

Budget Center	Payroll Unit	Director's Office	EDAA Payroll	% of EDAA Payroll	Share of Director
EDA	50901	\$516,717			
EDA	50904		\$229,388	0.88%	\$4,539
EDA	50910		\$616,939	2.36%	\$12,209
EDA	50912		\$1,021,978	3.91%	\$20,224
EDA	50913		\$2,569,387	9.84%	\$50,846
EDA	50914		\$2,918,669	11.18%	\$57,758
EDA	50920		\$195,034	0.75%	\$3,860
EDA	50927		\$2,456,313	9.41%	\$48,609
EDA	50928		\$120,745	0.46%	\$2,389
EDA	50929		\$866,521	3.32%	\$17,148
EDA	50930		\$228,757	0.88%	\$4,527
EDA	50931		\$4,198,962	16.08%	\$83,095
EDA	50933		\$403,510	1.55%	\$7,985
EDA	50934		\$1,056,546	4.05%	\$20,908
EDA	50935		\$401,854	1.54%	\$7,952
EDA	50936		\$906,246	3.47%	\$17,934
EDA	50937		\$1,262,521	4.84%	\$24,984
EDA	50940		\$127,516	0.49%	\$2,523
EDA	50941		\$1,588,602	6.08%	\$31,437
EDA	50947		\$2,664,813	10.21%	\$52,735
EDA	50950		\$445,417	1.71%	\$8,814
EDA	50951		\$1,230,483	4.71%	\$24,350
EDA	50952		\$600,712	2.30%	\$11,888
			\$28,110,913	100.00%	\$516,717

11/25x

3. Develop a section overhead rate for Civil Engineering

Civil Engineering Base Payroll	\$13,962,531	
Civil Engineering Project Payroll	\$8,798,528	
Civil Engineering non-Project Payroll	\$2,804,048	includes non-project leave time
Civil Engineering non-Project Payroll x Fringe Benefits	\$2,804,048 <u>132.75%</u>	
Civil Engineering non-Project charges	\$3,722,374	
Civil Engineering non-Project charges	\$3,722,374	
Base salary x DOT wide OH rate	\$3,866,743	From Step 2A
Share of CPM Asst. Commissioner	\$201,065	From Step 2A
Share of EYAA costs	\$1,461,632	From Step 2B
Share of EDAA Director	<u>\$276,285</u>	From Step 2C
Total Non Project Charges & Overhead	\$9,528,099	
Total Non Project PR Charges & Overhead	\$9,528,099	
Divided by Project PR charges	\$8,798,528	
Equals Civil Engineering Overhead rate	108.29%	

Single Composite Overhead Rate for Structural Engineering

1. Develop a DOT wide support services overhead rate

G&A Direct Labor	\$3,399,000
G&A Indirect Labor	\$18,621,000
Total G&A Labor	\$22,020,000

G&A Leave	\$5,480,000
G&A Fringe	\$9,029,000

Total G&A Labor plus additives	\$36,529,000
G&A non-salary	\$14,372,000
Statewide Cost Allocation	\$5,478,000
Risk Management Costs	\$2,187,000
Total G&A Costs	\$58,566,000

Direct Labor Salary Costs	\$117,212,000
Direct Leave	\$36,145,000
Direct Fringe	\$58,001,000
Total Direct Labor Costs	\$211,358,000

<u>Total G&A Costs</u>	<u>\$58,566,000</u>	=	27.71%	DOT wide OH rate
Total Direct Labor Costs	\$211,358,000			

Data Source: NJDOT Cost Allocation Plan FY 2006

2A. Allocate share of Assistant Commissioner CPM to all CPM units

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Share Of Assistant Comm. Salary
ECA	50101	\$402,667	0.48%	\$5,799
ECA	50141	\$4,734,471	5.69%	\$68,183
ECA	50151	\$1,512,230	1.82%	\$21,778
ECA	50152	\$6,502,200	7.82%	\$93,640
ECA	50153	\$5,097,000	6.13%	\$73,404
ECA	50154	\$5,597,035	6.73%	\$80,605
ECA	50156	\$1,659,925	2.00%	\$23,905
ECA	50157	\$1,633,881	1.97%	\$23,530
ECA	50158	\$1,199,682	1.44%	\$17,277
EDA	50901	\$400,121	0.48%	\$5,762
EDA	50904	\$229,388	0.28%	\$3,303
EDA	50910	\$616,939	0.74%	\$8,885
EDA	50912	\$1,021,978	1.23%	\$14,718
EDA	50913	\$2,569,387	3.09%	\$37,003
EDA	50914	\$2,918,669	3.51%	\$42,033
EDA	50920	\$195,034	0.23%	\$2,809
EDA	50927	\$2,456,313	2.95%	\$35,374
EDA	50928	\$120,745	0.15%	\$1,739
EDA	50929	\$866,521	1.04%	\$12,479
EDA	50930	\$228,757	0.28%	\$3,294
EDA	50931	\$4,198,962	5.05%	\$60,471
EDA	50933	\$403,510	0.49%	\$5,811
EDA	50934	\$1,056,546	1.27%	\$15,216
EDA	50935	\$401,854	0.48%	\$5,787
EDA	50936	\$906,246	1.09%	\$13,051
EDA	50937	\$1,262,521	1.52%	\$18,182
EDA	50940	\$127,516	0.15%	\$1,836
EDA	50941	\$1,588,602	1.91%	\$22,878
EDA	50947	\$2,664,813	3.20%	\$38,377
EDA	50950	\$445,417	0.54%	\$6,415
EDA	50951	\$1,230,483	1.48%	\$17,721
EDA	50952	\$600,712	0.72%	\$8,651

11/2/02

2A. Allocate share of Assistant Commissioner CPM to all CPM units

Budget Center	Payroll Unit	Base Salary	% of Base Salary	Share Of Assistant Comm. Salary
EKA	51001	\$351,904	0.42%	\$5,068
EKA	51004	\$1,141,531	1.37%	\$16,440
EKA	51005	\$1,458,701	1.75%	\$21,007
EKA	51006	\$1,473,255	1.77%	\$21,217
EKA	51007	\$1,404,419	1.69%	\$20,226
EKA	51008	\$1,626,094	1.96%	\$23,418
EKA	51009	\$835,512	1.00%	\$12,033
EYA	50801	\$388,054	0.47%	\$5,589
EYA	50802	\$1,482,044	1.78%	\$21,343
EYA	50803	\$2,855,441	3.43%	\$41,122
EYA	50804	\$1,902,540	2.29%	\$27,399
EZA	50810	\$353,580	0.43%	\$5,092
EZA	50811	\$2,177,252	2.62%	\$31,355
EZA	50812	\$2,260,058	2.72%	\$32,548
EWA	51021	\$1,289,901	1.55%	\$18,576
EWA	51022	\$1,544,545	1.86%	\$22,244
EWA	51023	\$1,416,906	1.70%	\$20,405
EWA	51024	\$1,917,246	2.31%	\$27,611
EWA	51025	\$1,707,602	2.05%	\$24,592
EWA	51026	\$229,934	0.28%	\$3,311
EWA	51027	\$481,936	0.58%	\$6,941
Total		\$83,148,580	100.00%	\$1,197,452
EAA	52101	\$937,707	x1.2771	\$1,197,452

2A. Calculate CPM Adjusted Payroll Expenses to include DOT wide OH rate and share of Asst.

Commissioner CPM

Budget Center	Payroll Unit	Base Salary	Base x 0.277 OH	Share of Asst. Comm Salary	CPM Adjusted PR Expenses
ECA	50101	\$402,667	\$111,539	\$5,799	\$520,005
ECA	50141	\$4,734,471	\$1,311,448	\$68,183	\$6,114,102
ECA	50151	\$1,512,230	\$418,888	\$21,778	\$1,952,896
ECA	50152	\$6,502,200	\$1,801,109	\$93,640	\$8,396,950
ECA	50153	\$5,097,000	\$1,411,869	\$73,404	\$6,582,273
ECA	50154	\$5,597,035	\$1,550,379	\$80,605	\$7,228,019
ECA	50156	\$1,659,925	\$459,799	\$23,905	\$2,143,629
ECA	50157	\$1,633,881	\$452,585	\$23,530	\$2,109,996
ECA	50158	\$1,199,682	\$332,312	\$17,277	\$1,549,271
EDA	50901	\$400,121	\$110,834	\$5,762	\$516,717
EDA	50904	\$229,388	\$63,540	\$3,303	\$296,232
EDA	50910	\$616,939	\$170,892	\$8,885	\$796,716
EDA	50912	\$1,021,978	\$283,088	\$14,718	\$1,319,784
EDA	50913	\$2,569,387	\$711,720	\$37,003	\$3,318,110
EDA	50914	\$2,918,669	\$808,471	\$42,033	\$3,769,173
EDA	50920	\$195,034	\$54,024	\$2,809	\$251,867
EDA	50927	\$2,456,313	\$680,399	\$35,374	\$3,172,086
EDA	50928	\$120,745	\$33,446	\$1,739	\$155,930
EDA	50929	\$866,521	\$240,026	\$12,479	\$1,119,026
EDA	50930	\$228,757	\$63,366	\$3,294	\$295,417
EDA	50931	\$4,198,962	\$1,163,112	\$60,471	\$5,422,545
EDA	50933	\$403,510	\$111,772	\$5,811	\$521,093
EDA	50934	\$1,056,546	\$292,663	\$15,216	\$1,364,425
EDA	50935	\$401,854	\$111,314	\$5,787	\$518,955
EDA	50936	\$906,246	\$251,030	\$13,051	\$1,170,327
EDA	50937	\$1,262,521	\$349,718	\$18,182	\$1,630,421
EDA	50940	\$127,516	\$35,322	\$1,836	\$164,674
EDA	50941	\$1,588,602	\$440,043	\$22,878	\$2,051,523
EDA	50947	\$2,664,813	\$738,153	\$38,377	\$3,441,343
EDA	50950	\$445,417	\$123,381	\$6,415	\$575,212
EDA	50951	\$1,230,483	\$340,844	\$17,721	\$1,589,047
EDA	50952	\$600,712	\$166,397	\$8,651	\$775,760

170x

2A. Calculate CPM Adjusted Payroll Expenses to include DOT wide OH rate and share of Asst.

Commissioner CPM

Budget Center	Payroll Unit	Base Salary	Base x 0.277 OH	Share of Asst. Comm. Salary	CPM Adjusted PR Expenses
EKA	51001	\$351,904	\$97,477	\$5,068	\$454,449
EKA	51004	\$1,141,531	\$316,204	\$16,440	\$1,474,175
EKA	51005	\$1,458,701	\$404,060	\$21,007	\$1,883,768
EKA	51006	\$1,473,255	\$408,092	\$21,217	\$1,902,563
EKA	51007	\$1,404,419	\$389,024	\$20,226	\$1,813,669
EKA	51008	\$1,626,094	\$450,428	\$23,418	\$2,099,940
EKA	51009	\$835,512	\$231,437	\$12,033	\$1,078,981
EYA	50801	\$388,054	\$107,491	\$5,589	\$501,133
EYA	50802	\$1,482,044	\$410,526	\$21,343	\$1,913,914
EYA	50803	\$2,855,441	\$790,957	\$41,122	\$3,687,520
EYA	50804	\$1,902,540	\$527,004	\$27,399	\$2,456,943
EZA	50810	\$353,580	\$97,942	\$5,092	\$456,614
EZA	50811	\$2,177,252	\$603,099	\$31,355	\$2,811,706
EZA	50812	\$2,260,058	\$626,036	\$32,548	\$2,918,642
EWA	51021	\$1,289,901	\$357,303	\$18,576	\$1,665,780
EWA	51022	\$1,544,545	\$427,839	\$22,244	\$1,994,627
EWA	51023	\$1,416,906	\$392,483	\$20,405	\$1,829,794
EWA	51024	\$1,917,246	\$531,077	\$27,611	\$2,475,934
EWA	51025	\$1,707,602	\$473,006	\$24,592	\$2,205,200
EWA	51026	\$229,934	\$63,692	\$3,311	\$296,937
EWA	51027	\$481,936	\$133,496	\$6,941	\$622,373
Total		\$83,148,580	\$23,032,157	\$1,197,452	\$107,378,188
EAA	52101	\$937,707	X 1.2771	\$1,197,452	

2/27/12

2B. Allocate share of EYAA to all CPM units

	Payroll Unit	CPM Adjusted PR Expenses	% of Payroll	Share of EYAA Payroll
EYA	50801	\$501,134		
EYA	50802	\$1,913,913		
EYA	50803	\$3,687,520		
EYA	50804	\$2,456,943		
Total EYA		\$8,559,510		
ECA	50101	\$520,005	0.53%	\$45,042
ECA	50141	\$6,114,102	6.19%	\$529,593
ECA	50151	\$1,952,896	1.98%	\$169,157
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EDA	50935	\$518,955	0.53%	\$44,951
EDA	50936	\$1,170,327	1.18%	\$101,372
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EDA	50947	\$3,441,343	3.48%	\$298,083
EDA	50950	\$575,213	0.58%	\$49,824
EDA	50951	\$1,589,048	1.61%	\$137,641
EDA	50952	\$775,760	0.79%	\$67,195

2B. Allocate share of EYAA to all CPM units

	Payroll Unit	CPM Adjusted PR Expenses	% of Payroll	Share of EYAA Payroll
EKA	51001	\$454,449	0.46%	\$39,364
EKA	51004	\$1,474,175	1.49%	\$127,691
EKA	51005	\$1,883,768	1.91%	\$163,169
EKA	51006	\$1,902,564	1.93%	\$164,797
EKA	51007	\$1,813,669	1.84%	\$157,097
EKA	51008	\$2,099,940	2.13%	\$181,893
EKA	51009	\$1,078,982	1.09%	\$93,460
EZA	50810	\$456,614	0.46%	\$39,551
EZA	50811	\$2,811,706	2.85%	\$243,545
EZA	50812	\$2,918,642	2.95%	\$252,808
EWA	51021	\$1,665,780	1.69%	\$144,287
EWA	51022	\$1,994,628	2.02%	\$172,771
EWA	51023	\$1,829,794	1.85%	\$158,494
EWA	51024	\$2,475,934	2.51%	\$214,461
EWA	51025	\$2,205,200	2.23%	\$191,011
EWA	51026	\$296,937	0.30%	\$25,720
EWA	51027	\$622,373	0.63%	\$53,909
Total		\$98,818,680	100.00%	\$8,559,510

2C. Allocate share of EDAA Director's Office to EDAA payroll units

Budget Center	Payroll Unit	Director's Office	EDAA Payroll	% of EDAA Payroll	Share of Director
EDA	50901	\$516,717			
EDA	50904				
EDA	50910		\$229,388	0.88%	\$4,539
EDA	50912		\$616,939	2.36%	\$12,209
EDA	50913		\$1,021,978	3.91%	\$20,224
EDA	50914		\$2,569,387	9.84%	\$50,846
EDA	50920		\$2,918,669	11.18%	\$57,758
EDA	50927		\$195,034	0.75%	\$3,860
EDA	50928		\$2,456,313	9.41%	\$48,609
EDA	50929		\$120,745	0.46%	\$2,389
EDA	50930		\$866,521	3.32%	\$17,148
EDA	50931		\$228,757	0.88%	\$4,527
EDA	50933		\$4,198,962	16.08%	\$83,095
EDA	50934		\$403,510	1.55%	\$7,985
EDA	50935		\$1,056,546	4.05%	\$20,908
EDA	50936		\$401,854	1.54%	\$7,952
EDA	50937		\$906,246	3.47%	\$17,934
EDA	50940		\$1,262,521	4.84%	\$24,984
EDA	50941		\$127,516	0.49%	\$2,523
EDA	50947		\$1,588,602	6.08%	\$31,437
EDA	50950		\$2,664,813	10.21%	\$52,735
EDA	50951		\$445,417	1.71%	\$8,814
EDA	50952		\$1,230,483	4.71%	\$24,350
			\$600,712	2.30%	\$11,888
			\$26,110,913	100.00%	\$516,717

b. Develop a section overhead rate for Structural Engineering

Structural Engineering Base Payroll	\$3,186,326	
Structural Engineering Project Payroll	\$2,258,972	
Structural Engineering non-Project Payroll	\$369,054	includes non-project leave time
Structural Engineering non-Project Payroll x Fringe Benefits	\$369,054	
Structural Engineering non-Project charges	<u>132.75%</u>	
	\$489,919	
Structural Engineering non-Project charges	\$489,919	
Base salary x DOT wide OH rate	\$882,612	From Step 2A
Share of CPM Asst. Commissioner	\$45,888	From Step 2A
Share of EYAA costs	\$356,419	From Step 2B
Share of EDAA Director	<u>\$63,054</u>	From Step 2C
Total Non Project Charges & Overhead	\$1,837,892	
Total Non Project PR Charges & Overhead	\$1,837,892	
Divided by Project PR charges	\$2,258,972	
Equals Structural Engineering Overhead rate	81.36%	

Name of Firm	OVERHEAD RATE	Hr. Rate Hr.+Overhead HR.+Over.+FF			Hr. Rate Hr.+Overhead HR.+Over.+FF		
		Principal P-IX	Principal P-IX	Principal P-IX	Managing Engineer P-VIII	Managing Engineer P-VIII	Ma Engineer P-VIII
Advanced Infrastructure Design Inc.	144%						
Amercom Corp.	106%				\$60.23	\$124.07	\$138.53
Arora & Associates,P.C.	150%	\$107.00	\$267.50	\$293.18	\$84.50	\$211.25	\$231.53
BET Engineering Consultants Inc.	140%						
Chas. H. Sells, Inc.	139%	\$65.57	\$156.71	\$172.45	\$60.35	\$144.24	\$158.72
Cherry Weber & Associates, P.C.	144%	\$67.31	\$164.24	\$180.39	\$57.59	\$140.52	\$154.34
Dewberry-Goodkind Inc.	122%	\$82.92	\$184.08	\$203.98	\$74.46	\$165.30	\$183.17
DMGM+HARRIS,Inc.	130%				\$82.59	\$189.96	\$209.78
Earth Tech, Inc.	153%	\$95.11	\$240.63	\$263.45	\$67.91	\$171.81	\$188.11
Edwards and Kelcey, Inc	151%						
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%				\$75.00	\$191.25	\$209.25
Geod Corp.	135%	\$48.08	\$112.99	\$124.53			
Greenman-Pedersen, inc.	144%				\$68.00	\$165.92	\$182.24
Hardesty & Hanover, LLP	139%	\$100.00	\$239.00	\$263.00	\$64.47	\$154.08	\$169.56
Harold Pellow	125%	\$62.50	\$140.63	\$155.63			
HNTB Corporation	150%						
IH Engineers	120%						
Jacobs Civil Inc.	121%				\$93.14	\$205.84	\$228.19
KMA Consulting Engineers, PC	130%						
Engineers, P.C.	124%	\$100.00	\$224.00	\$248.00			
Robert Kimball & Assoc.	186%				\$52.65	\$150.58	\$162.22
Lichtenstein Consulting Engineers, Inc.	154%	\$86.54	\$219.81	\$240.58	\$68.11	\$173.00	\$189.35
Louis Berger Group, Inc.	139%	\$77.70	\$185.70	\$204.35	\$60.34	\$144.21	\$158.69
Maltra Associates, PC	118%						
McCormick Taylor, Inc.	150%						
Medina Consultants, P.C.	136%				\$63.68	\$150.28	\$165.57
Michael Baker Jr., Inc.	152%	\$88.98	\$224.23	\$245.58			
Parsons Transportation Group, Inc.	122%				\$75.97	\$168.65	\$186.89
Pickering, Corts & Summerson, Inc.	168%	\$60.40	\$161.87	\$176.37			
Polytran Engineering associates P.C.	166%	\$54.69	\$145.48	\$158.60			
RBA Group, The	108%				\$67.47	\$140.34	\$156.53
Schoor, DePalma, Inc.	172%				\$59.73	\$162.47	\$176.80
STV Incorporated	122%				\$88.52	\$196.51	\$217.76
T.Y. Lin International	168%	\$74.20	\$198.86	\$216.66			
Taylor, Wiseman & Taylor	180%				\$48.00	\$134.40	\$145.92
Urban Engineers, Inc.	127%	\$85.00	\$192.95	\$213.35	\$75.30	\$170.93	\$189.00
Urbitran Associates, Inc.	125%	\$75.03	\$168.82	\$186.82	\$68.27	\$153.61	\$169.99
Vollmer Associates LLP	136%	\$86.76	\$204.75	\$225.58	\$62.86	\$148.35	\$163.44
	142%	\$78.77	\$190.68	\$209.58	\$68.66	\$163.37	\$179.85
NJDOT (Road Design)	175%	\$65.93	\$181.23	\$181.23	\$61.07	\$167.88	\$167.88
NJDOT (Bridge Design)	148%	\$65.93	\$163.49	\$163.49	\$61.07	\$151.44	\$151.44
DOT Difference (Road Design)	33%	(\$12.84)	(\$9.45)	(\$28.35)	(\$7.59)	\$4.50	(\$11.00)
Difference (Bridge Design)		(\$12.84)	(\$27.19)	(\$46.09)	(\$7.59)	(\$11.93)	
CONSULTANT FIXED FEE RATE	24%						

2017/10/10

Name of Firm	OVERHEAD RATE	Hr. Rate	Hr.+Overhead	HR.+Over.+FF	Hr. Rate	Hr.+Overhead	HR.+Over.+FF
		Project Manager P-VII	Project Manager P-VII	Project Manager P-VII	Project Manager P-VI	Project Manager P-VI	Project Manager P-VI
Advanced Infrastructure Design Inc.	144%	\$64.00	\$156.16	\$171.52	\$39.87	\$97.28	\$106.85
Amercom Corp.	106%				\$47.53	\$97.91	\$109.32
Arora & Associates,P.C.	150%				\$56.90	\$142.25	\$155.91
BET Engineering Consultants Inc.	140%				\$55.70	\$133.68	\$147.05
Chas. H. Sells, Inc.	139%				\$54.37	\$129.94	\$142.99
Cherry Weber & Associates, P.C.	144%	\$50.00	\$122.00	\$134.00	\$44.62	\$108.87	\$119.58
Dewberry-Goodland Inc.	122%	\$61.39	\$136.29	\$151.02	\$50.42	\$111.93	\$124.03
DMGM+HARRIS,Inc.	130%	\$61.41	\$141.24	\$155.98	\$54.34	\$124.98	\$138.02
Earth Tech, Inc.	153%	\$48.67	\$123.14	\$134.82			
Edwards and Kelcey, Inc	151%	\$63.36	\$159.03	\$174.24	\$48.48	\$121.68	\$133.32
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%	\$66.70	\$170.09	\$186.09	\$56.40	\$143.82	\$157.36
Geod Corp.	135%						
Greenman-Pedersen, inc.	144%	\$65.44	\$159.67	\$175.38	\$55.78	\$136.10	\$149.49
Hardesty & Hanover, LLP	139%	\$59.37	\$141.89	\$156.14	\$53.44	\$127.72	\$140.55
Harold Fellow	125%	\$41.82	\$94.10	\$104.13	\$38.46	\$86.54	\$95.77
HNTB Corporation	150%						
IH Engineers	120%						
Jacobs Civil Inc.	121%	\$68.72	\$151.87	\$168.36	\$59.70	\$131.94	\$146.27
KMA Consulting Engineers, PC	130%				\$48.01	\$110.42	\$121.95
Engineers, P.C.	124%				\$68.02	\$152.36	\$168.69
bert Kimball & Assoc.	186%				\$44.66	\$127.73	\$138.45
Lichtenstein Consulting Engineers, Inc.	154%	\$54.87	\$139.37	\$152.54	\$46.76	\$118.77	\$129.99
Louis Berger Group, Inc.	139%				\$52.26	\$124.90	\$137.44
Maitra Associates, PC	118%	\$54.23	\$118.22	\$131.24	\$49.86	\$108.69	\$120.66
McCormick Taylor, Inc.	150%	\$72.12	\$180.30	\$197.61	\$53.49	\$133.73	\$146.56
Medina Consultants, P.C.	136%				\$53.05	\$125.20	\$137.93
Michael Baker Jr., Inc.	152%				\$58.10	\$146.41	\$160.36
Parsons Transportation Group, Inc.	122%	\$68.06	\$151.09	\$167.43	\$56.76	\$126.01	\$139.63
Pickering, Corts & Summerson, Inc.	168%				\$49.93	\$133.81	\$145.80
Polytran Engineering associates P.C.	166%	\$46.00	\$122.36	\$133.40	\$45.13	\$120.05	\$130.88
RBA Group, The	108%	\$55.46	\$115.36	\$128.67	\$50.64	\$105.33	\$117.48
Schoor, DePalma, Inc.	172%	\$49.20	\$133.82	\$145.63	\$40.17	\$109.26	\$118.90
STV Incorporated	122%	\$62.83	\$139.48	\$154.56	\$51.23	\$113.73	\$126.03
T.Y. Lin International	168%						
Taylor, Wiseman & Taylor	180%	\$48.83	\$136.72	\$148.44	\$42.78	\$119.78	\$130.05
Urban Engineers, Inc.	127%	\$51.27	\$116.38	\$128.69	\$47.44	\$107.69	\$119.07
Urbitran Associates, Inc.	125%	\$60.91	\$137.05	\$151.67	\$48.22	\$108.50	\$120.07
Vollmer Associates LLP	136%	\$55.39	\$130.72	\$144.01	\$47.87	\$112.97	\$124.46
	142%	\$57.83	\$138.10	\$151.98	\$50.62	\$121.21	\$133.36
NJDOT (Road Design)	175%	\$52.76	\$145.03	\$145.03	\$42.88	\$117.87	\$117.87
NJDOT (Bridge Design)	148%	\$52.76	\$130.83	\$130.83	\$42.88	\$106.33	\$106.33
DOT Difference (Road Design)	33%	(\$5.07)	\$6.93	(\$6.95)	(\$7.74)	(\$3.34)	(\$15.49)
DOT Difference (Bridge Design)	6%	(\$5.07)	(\$7.27)	(\$21.15)	(\$7.74)	(\$14.88)	(\$27.03)
CONSULTANT FIXED FEE RATE	24%						

Name of Firm	OVERHEAD RATE	Hr. Rate	Hr.+Overhead	HR.+Over.+FF	Hr. Rate	Hr.+Overhead	HR.+Over.+FF
		Principal Engr. P-V	Principal Engr. P-V	Principal Engr. P-V	Engineer P-IV	Engineer P-IV	Engineer P-IV
Advanced Infrastructure Design Inc.	144%	\$32.00	\$78.08	\$85.76			
Amercom Corp.	106%	\$44.20	\$91.05	\$101.66	\$42.50	\$87.55	\$97.75
Arora & Associates,P.C.	150%	\$45.13	\$112.83	\$123.66			
BET Engineering Consultants Inc.	140%	\$46.50	\$111.60	\$122.76	\$45.80	\$109.92	\$120.91
Chas. H. Sells, Inc.	139%	\$45.59	\$108.96	\$119.90	\$37.48	\$89.58	\$98.57
Cherry Weber & Associates, P.C.	144%	\$40.80	\$99.55	\$109.34	\$33.20	\$81.01	\$88.98
Dewberry-Goodkind Inc.	122%	\$44.55	\$98.90	\$109.59	\$40.01	\$88.82	\$98.42
DMGM+HARRIS,Inc.	130%	\$49.02	\$112.75	\$124.51	\$41.47	\$95.38	\$105.33
Earth Tech, Inc.	153%	\$45.12	\$114.15	\$124.98	\$42.87	\$108.46	\$118.75
Edwards and Kelcey, Inc	151%	\$40.86	\$102.56	\$112.37	\$34.90	\$87.59	\$95.96
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%	\$46.01	\$117.33	\$128.37	\$37.10	\$94.61	\$103.51
Geod Corp.	135%	\$37.19	\$87.40	\$96.32			
Greenman-Pedersen, inc.	144%	\$45.98	\$112.19	\$123.23	\$39.57	\$96.55	\$106.05
Hardesty & Hanover, LLP	139%	\$45.60	\$108.98	\$119.93	\$40.60	\$97.03	\$106.78
Harold Pellow	125%	\$38.18	\$85.91	\$95.07			
HNTB Corporation	150%						
IH Engineers	120%						
Jacobs Civil Inc.	121%	\$54.16	\$119.69	\$132.69	\$44.98	\$99.41	\$110.20
KMA Consulting Engineers, PC	130%	\$45.00	\$103.50	\$114.30	\$41.00	\$94.30	\$104.14
Kimley-Horn & Associates, P.C.	124%	\$64.56	\$144.61	\$160.11	\$43.92	\$98.38	\$109.00
Robert Kimball & Assoc.	186%	\$38.63	\$110.48	\$119.75	\$31.88	\$91.18	\$99.00
Lichtenstein Consulting Engineers, Inc.	154%	\$47.28	\$120.09	\$131.44	\$38.58	\$97.99	\$107.25
Louis Berger Group, Inc.	139%	\$38.46	\$91.92	\$101.15	\$39.86	\$95.27	\$104.83
Maltra Associates, PC	118%	\$47.94	\$104.51	\$116.01	\$42.97	\$93.67	\$103.99
McCormick Taylor, Inc.	150%	\$43.11	\$107.78	\$118.12			
Medina Consultants, P.C.	136%	\$37.25	\$87.91	\$96.85			
Michael Baker Jr., Inc.	152%	\$44.81	\$112.92	\$123.68	\$36.87	\$92.91	\$101.76
Parsons Transportation Group, Inc.	122%	\$54.83	\$121.72	\$134.88	\$41.02	\$91.06	\$100.91
Pickering, Corts & Summerson, Inc.	168%				\$42.79	\$114.68	\$124.95
Polytran Engineering associates P.C.	166%				\$35.12	\$93.42	\$101.85
RBA Group, The	108%	\$42.68	\$88.77	\$99.02	\$39.12	\$81.37	\$90.76
Schoor, DePalma, Inc.	172%	\$35.64	\$96.94	\$105.49	\$30.96	\$84.21	\$91.64
STV Incorporated	122%	\$44.08	\$97.86	\$108.44	\$33.00	\$73.26	\$81.18
T.Y. Lin International	168%	\$59.45	\$159.33	\$173.59	\$47.64	\$127.68	\$139.11
Taylor, Wiseman & Taylor	180%	\$38.70	\$108.36	\$117.65	\$36.74	\$102.87	\$111.69
Urban Engineers, Inc.	127%	\$41.00	\$93.07	\$102.91	\$36.93	\$83.83	\$92.69
Urbitrans Associates, Inc.	125%	\$42.87	\$96.46	\$106.75	\$37.77	\$84.98	\$94.05
Vollmer Associates LLP	136%	\$47.46	\$112.01	\$123.40	\$38.43	\$90.69	\$99.92
	142%	\$44.55	\$106.48	\$117.17	\$39.17	\$94.26	\$103.66
NJDOT (Road Design)	175%	\$40.27	\$110.70	\$110.70	\$35.00	\$96.21	\$96.21
NJDOT (Bridge Design)	148%	\$40.27	\$99.86	\$99.86	\$35.00	\$86.79	\$86.79
DOT Difference (Road Design)	33%	(\$4.28)	\$4.22	(\$6.47)	(\$4.17)	\$1.96	(\$7.40)
DOT Difference (Bridge Design)	6%	(\$4.28)	(\$6.61)	(\$17.31)	(\$4.17)	(\$7.46)	(\$17.31)
CONSULTANT FIXED FEE RATE	24%						

Name of Firm	OVERHEAD RATE	Hr. Rate Hr.+Overhead HR.+Over.+FF			Hr. Rate Hr.+Overhead HR.+Over.+FF		
		Engineer P-III	Engineer P-III	Engineer P-III	Engineer P-II	Engineer P-II	Engineer P-II
Advanced Infrastructure Design Inc.	144%						
Amercom Corp.	106%	\$34.00	\$70.04	\$78.20	\$32.94	\$67.86	\$75.76
Arora & Associates,P.C.	150%	\$34.65	\$86.63	\$94.94			
BET Engineering Consultants Inc.	140%						
Chas. H. Sells, Inc.	139%	\$31.51	\$75.31	\$82.87	\$31.70	\$75.76	\$83.37
Cherry Weber & Associates, P.C.	144%	\$29.50	\$71.98	\$79.06			
Dewberry-Goodkind Inc.	122%	\$34.83	\$77.32	\$85.68	\$29.98	\$66.56	\$73.75
DMGM+HARRIS,Inc.	130%	\$34.41	\$79.14	\$87.40	\$30.05	\$69.12	\$76.33
Earth Tech, Inc.	153%			\$0.00	\$35.51	\$89.84	\$98.36
Edwards and Kelcey, Inc	151%	\$31.06	\$77.96	\$85.42	\$24.95	\$62.62	\$68.61
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%	\$34.70	\$88.49	\$96.81	\$28.21	\$71.94	\$78.71
Geod Corp.	135%						
Greenman-Pedersen, inc.	144%	\$34.86	\$85.06	\$93.42	\$32.20	\$78.57	\$86.30
Hardesty & Hanover, LLP	139%	\$34.21	\$81.76	\$89.97	\$30.44	\$72.75	\$80.06
Harold Pellow	125%	\$21.75	\$48.94	\$54.16			
HNTB Corporation	150%						
IH Engineers	120%						
Jacobs Civil Inc.	121%	\$38.78	\$85.70	\$95.01	\$32.12	\$70.99	\$78.69
KMA Consulting Engineers, PC	130%				\$28.50	\$65.55	\$72.39
Engineers, P.C.	124%	\$36.81	\$82.45	\$91.29	\$31.47	\$70.49	\$78.05
Robert Kimball & Assoc.	186%				\$25.26	\$72.24	\$78.31
Lichtenstein Consulting Engineers, Inc.	154%	\$30.36	\$77.11	\$84.40	\$26.65	\$67.69	\$74.09
Louis Berger Group, Inc.	139%	\$34.07	\$81.43	\$89.60	\$24.40	\$58.32	\$64.17
Maltra Associates, PC	118%	\$34.63	\$75.49	\$83.80	\$26.00	\$56.68	\$62.92
McCormick Taylor, Inc.	150%	\$31.39	\$78.48	\$86.01	\$23.80	\$59.50	\$65.21
Medina Consultants, P.C.	136%	\$28.75	\$67.85	\$74.75	\$22.13	\$52.23	\$57.54
Michael Baker Jr. , Inc.	152%						
Parsons Transportation Group, Inc.	122%	\$34.68	\$76.99	\$85.31	\$33.95	\$75.37	\$83.52
Pickering, Corts & Summerson, Inc.	168%	\$30.28	\$81.15	\$88.42			
Polytran Engineering associates P.C.	166%	\$30.00	\$79.80	\$87.00	\$20.50	\$54.53	\$59.45
RBA Group, The	108%	\$31.29	\$65.08	\$72.59			
Schoor, DePalma, Inc.	172%	\$29.43	\$80.05	\$87.11	\$26.53	\$72.16	\$78.53
STV Incorporated	122%	\$27.82	\$61.76	\$68.44			
T.Y. Lin International	168%						
Taylor, Wiseman & Taylor	180%	\$35.50	\$99.40	\$107.92	\$31.19	\$87.33	\$94.82
Urban Engineers, Inc.	127%	\$30.25	\$68.67	\$75.93	\$26.31	\$59.72	\$66.04
Urbitrans Associates, Inc.	125%	\$31.84	\$71.64	\$79.28	\$26.03	\$58.57	\$64.81
Vollmer Associates LLP	136%	\$31.91	\$75.31	\$82.97	\$28.13	\$66.39	\$73.14
	142%	\$32.26	\$76.82	\$81.65	\$28.36	\$68.11	\$74.92
NJDOT (Road Design)	175%	\$30.44	\$83.68	\$83.68	\$26.51	\$72.87	\$72.87
NJDOT (Bridge Design)	148%	\$30.44	\$75.49	\$75.49	\$26.51	\$65.74	\$65.74
DOT Difference (Road Design)	33%	(\$1.82)	\$6.86	\$2.03	(\$1.85)	\$4.76	(\$2.04)
DOT Difference (Bridge Design)	6%	(\$1.82)	(\$1.34)	(\$6.16)	(\$1.85)	(\$2.37)	(\$9.18)
CONSULTANT FIXED FEE RATE	24%						

Name of Firm	OVERHEAD RATE	Hr. Rate Hr.+Overhead HR.+Over.+FF			Hr. Rate Hr.+Overhead HR.+Over.+FF		
		Engineer P-I	Engineer P-I	Engineer P-I	Prin Engring Designer ET-5	Prin Engring Designer ET-5	Prin Designer ET-5
Advanced Infrastructure Design Inc.	144%	\$24.25	\$59.17	\$64.99			
Amercom Corp.	106%	\$27.41	\$56.46	\$63.04	\$32.81	\$67.59	\$75.46
Arora & Associates,P.C.	150%	\$24.94	\$62.35	\$68.34			
BET Engineering Consultants Inc.	140%	\$21.70	\$52.08	\$57.29	\$39.00	\$93.60	\$102.96
Chas. H. Sells, Inc.	139%						
Cherry Weber & Associates, P.C.	144%	\$24.10	\$58.80	\$64.59	\$30.00	\$73.20	\$80.40
Dewberry-Goodkind Inc.	122%	\$24.72	\$54.88	\$60.81	\$36.06	\$80.05	\$88.71
DMGM+HARRIS,Inc.	130%	\$27.96	\$64.31	\$71.02	\$40.78	\$93.79	\$103.58
Earth Tech, Inc.	153%	\$23.07	\$58.37	\$63.90			\$0.00
Edwards and Kelcey, Inc	151%						
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%	\$24.03	\$61.28	\$67.04	\$32.48	\$82.82	\$90.62
Geod Corp.	135%				\$28.81	\$67.70	\$74.62
Greenman-Pedersen, inc.	144%	\$25.93	\$63.27	\$69.49	\$38.95	\$95.04	\$104.39
Hardesty & Hanover, LLP	139%	\$25.13	\$60.06	\$66.09			
Harold Pellow	125%	\$23.84	\$53.64	\$59.36	\$50.00	\$112.50	\$124.50
HNTB Corporation	150%						
IH Engineers	120%						
Jacobs Civil Inc.	121%	\$29.33	\$64.82	\$71.86			
KMA Consulting Engineers, PC	130%	\$17.00	\$39.10	\$43.18	\$40.00	\$92.00	\$101.60
KS Engineers, P.C.	124%				\$39.32	\$88.08	
L. Robert Kimball & Assoc.	186%						
Lichtenstein Consulting Engineers, Inc.	154%	\$22.60	\$57.40	\$62.83	\$32.71	\$83.08	\$90.97
Louis Berger Group, Inc.	139%				\$35.74	\$85.42	\$94.00
Maltra Associates, PC	118%	\$21.00	\$45.78	\$50.82	\$44.11	\$96.16	\$106.70
McCormick Taylor, Inc.	150%				\$28.49	\$71.23	\$78.06
Medina Consultants, P.C.	136%				\$27.42	\$64.71	\$71.29
Michael Baker Jr., Inc.	152%				\$34.87	\$87.87	\$96.24
Parsons Transportation Group, Inc.	122%	\$28.54	\$63.36	\$70.21	\$36.79	\$81.67	\$90.50
Pickering, Corts & Summerson, Inc.	168%				\$32.90	\$88.17	\$96.07
Polytran Engineering associates P.C.	166%	\$19.50	\$51.87	\$56.55	\$25.94	\$69.00	\$75.23
PBA Group, The	108%				\$39.49	\$82.14	\$91.62
Rochor, DePalma, Inc.	172%						
TV Incorporated	122%				\$37.64	\$83.56	\$92.59
T.Y. Lin International	168%				\$48.70	\$130.52	\$142.20
Taylor, Wiseman & Taylor	180%	\$24.60	\$68.88	\$74.78	\$34.20	\$95.76	\$103.97
Urban Engineers, Inc.	127%	\$23.65	\$53.69	\$59.36	\$32.00	\$72.64	\$80.32
Urban Associates, Inc.	125%				\$41.95	\$94.39	\$104.46
Wolmer Associates LLP	136%	\$23.46	\$55.37	\$61.00	\$41.23	\$97.30	\$107.20
	142%	\$24.13	\$57.38	\$63.17	\$36.38	\$86.30	\$91.63
JDOT (Road Design)	175%	\$21.53	\$59.18	\$59.18	\$29.07	\$79.91	\$79.91
JDOT (Bridge Design)	148%	\$21.53	\$53.39	\$53.39	\$29.07	\$72.09	\$72.09
OT Difference (Road Design)	33%	(\$2.60)	\$1.81	(\$3.99)	(\$7.31)	(\$6.39)	(\$11.70)
OT Difference (Bridge Design)	6%	(\$2.60)	(\$3.99)	(\$9.78)	(\$7.31)	(\$14.21)	
CONSULTANT FIXED FEE RATE	24%						

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Name of Firm	OVERHEAD RATE	Hr. Rate	Hr.+Overhead	HR.+Over.+FF	Hr. Rate	Hr.+Overhead	HR.+Over.+FF
		Sr Engring Designer ET-4	Sr Engring Designer ET-4	Sr Engring Designer ET-4	Sr Engring Designer ET-3	Sr Engring Designer ET-3	Sr Engring Designer ET-3
Advanced Infrastructure Design Inc.	144%						
Amercom Corp.	106%	\$30.36	\$30.36	\$37.65	\$25.91	\$53.37	\$59.59
Arora & Associates,P.C.	150%				\$22.94	\$57.35	\$62.86
BET Engineering Consultants Inc.	140%	\$26.17	\$26.17	\$32.45	\$25.80	\$61.92	\$68.11
Chas. H. Sells, Inc.	139%				\$31.40	\$75.05	\$82.58
Cherry Weber & Associates, P.C.	144%	\$26.80	\$65.39	\$71.82			
Dewberry-Goodkind Inc.	122%	\$29.39	\$65.25	\$72.30	\$29.11	\$64.62	\$71.61
DMGM+HARRIS,Inc.	130%	\$33.39	\$76.80	\$84.81	\$26.75	\$61.53	\$67.95
Earth Tech, Inc.	153%						
Edwards and Kelcey, Inc	151%				\$20.10	\$50.45	\$55.28
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%	\$26.37	\$67.24	\$73.57	\$22.50	\$57.38	\$62.78
Geod Corp.	135%	\$25.46	\$59.83	\$65.94			
Greenman-Pedersen, Inc.	144%	\$33.18	\$80.96	\$88.92	\$26.03	\$63.51	\$69.76
Hardesty & Hanover, LLP	139%	\$37.18	\$88.86	\$97.78	\$30.41	\$72.68	\$79.98
Harold Pellow	125%	\$23.58	\$53.06	\$58.71			
HNTB Corporation	150%						
IH Engineers	120%				\$33.19	\$73.02	\$80.98
Jacobs Civil Inc.	121%				\$35.91	\$79.36	\$87.98
KMA Consulting Engineers, PC	130%	\$33.00	\$75.90	\$83.82	\$26.00	\$59.80	\$66.04
Engineers, P.C.	124%	\$32.27	\$72.28	\$80.03	\$28.80	\$64.51	\$71.42
L. Bert Kimball & Assoc.	186%	\$27.03	\$77.31	\$83.79	\$31.46	\$89.98	\$97.52
Lichtenstein Consulting Engineers, Inc.	154%	\$25.97	\$65.96	\$72.20	\$23.51	\$59.72	\$65.34
Louis Berger Group, Inc.	139%	\$28.12	\$67.21	\$73.96	\$24.10	\$57.60	\$63.38
Maltra Associates, PC	118%	\$38.08	\$83.01	\$92.15	\$32.86	\$71.63	\$79.52
McCormick Taylor, Inc.	150%	\$24.12	\$60.30	\$66.09	\$22.20	\$55.50	\$60.82
Medina Consultants, P.C.	136%	\$26.96	\$63.63	\$70.10			
Michael Baker Jr., Inc.	152%	\$27.18	\$68.49	\$75.02			
Parsons Transportation Group, Inc.	122%	\$31.79	\$70.57	\$78.20			
Pickering, Corts & Summerson, Inc.	168%	\$24.43	\$65.47	\$71.34	\$14.13	\$37.87	\$41.26
Polytran Engineering associates P.C.	166%				\$24.50	\$65.17	\$71.02
RBA Group, The	108%	\$28.24	\$58.74	\$65.52	\$22.75	\$47.32	\$52.78
Schoor, DePalma, Inc.	172%						
STV Incorporated	122%	\$27.05	\$60.05	\$66.54	\$24.07	\$53.44	\$59.21
T.Y. Lin International	168%						
Taylor, Wiseman & Taylor	180%	\$26.23	\$73.44	\$79.74	\$25.97	\$72.72	\$78.92
Urban Engineers, Inc.	127%	\$27.62	\$62.70	\$69.33	\$18.30	\$41.54	\$45.92
Urbitran Associates, Inc.	125%	\$30.60	\$68.85	\$76.19	\$24.89	\$56.00	\$61.98
Vollmer Associates LLP	136%	\$34.19	\$80.69	\$88.89	\$29.70	\$70.09	\$77.22
	142%	\$29.07	\$66.24	\$73.22	\$26.05	\$61.97	\$68.22
NJDOT (Road Design)	175%	\$25.31	\$69.57	\$69.57	\$23.08	\$63.44	\$63.44
NJDOT (Bridge Design)	148%	\$25.31	\$62.76	\$62.76	\$23.08	\$57.23	\$57.23
Difference (Road Design)	33%	(\$3.76)	\$3.33	(\$3.64)	(\$2.97)	\$1.48	(\$4.77)
Difference (Bridge Design)	6%	(\$3.76)	(\$3.48)	(\$10.45)	(\$2.97)	(\$4.73)	(\$10.95)
CONSULTANT FIXED FEE RATE	24%						

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Name of Firm	OVERHEAD RATE	Hr. Rate	Hr.+Overhead	HR.+Over.+FF	Hr. Rate	Hr.+Overhead	HR.+Over.+FF
		Engring Designer ET-2	Engring Designer ET-2	Engring Designer ET-2	Engring Designer ET-1	Engring Designer ET-1	Engring Designer ET-1
Advanced Infrastructure Design Inc.	144%						
Amercom Corp.	106%	\$17.30	\$35.64	\$39.79			
Arora & Associates,P.C.	150%						
BET Engineering Consultants Inc.	140%	\$20.90	\$50.16	\$55.18			
Chas. H. Sells, Inc.	139%	\$22.25	\$53.18	\$58.52	\$22.25	\$53.18	\$58.52
Cherry Weber & Associates, P.C.	144%	\$15.90	\$38.80	\$42.61	\$16.00	\$39.04	\$42.88
Dewberry-Goodkind Inc.	122%	\$22.33	\$49.57	\$54.93	\$14.75	\$32.75	\$36.29
DMGM+HARRIS,Inc.	130%	\$25.99	\$59.78	\$66.01	\$15.95	\$36.69	\$40.51
Earth Tech, Inc.	153%	\$26.29	\$66.51	\$72.82	\$9.98	\$25.25	\$27.64
Edwards and Kelcey, Inc	151%						
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%	\$16.60	\$42.33	\$46.31			
Geod Corp.	135%	\$20.20	\$47.47	\$52.32	\$15.31	\$35.98	\$39.65
Greenman-Pedersen, Inc.	144%	\$19.67	\$47.99	\$52.72	\$16.13	\$39.36	\$43.23
Hardesty & Hanover, LLP	139%	\$23.66	\$56.55	\$62.23	\$15.37	\$36.73	\$40.42
Harold Fellow	125%				\$22.00	\$49.50	\$54.78
HNTB Corporation	150%						
IH Engineers	120%						
Jacobs Civil Inc.	121%	\$20.28	\$44.82	\$49.69			
KMA Consulting Engineers, PC	130%	\$23.50	\$54.05	\$59.69	\$17.07	\$39.26	\$43.36
Engineers, P.C.	124%	\$26.63	\$59.65	\$66.04			
L. Robert Kimball & Assoc.	186%	\$16.11	\$46.07	\$49.94	\$13.63	\$38.98	
Lichtenstein Consulting Engineers, Inc.	154%	\$23.43	\$59.51	\$65.14	\$18.47	\$46.91	\$51.35
Louis Berger Group, Inc.	139%	\$15.91	\$38.02	\$41.84	\$10.00	\$23.90	\$26.30
Maitra Associates, PC	118%				\$19.00	\$41.42	\$45.98
McCormick Taylor, Inc.	150%	\$19.31	\$48.28	\$52.91	\$16.44	\$41.10	\$45.05
Medina Consultants, P.C.	136%				\$16.44	\$38.80	\$42.74
Michael Baker Jr., Inc.	152%						
Parsons Transportation Group, Inc.	122%	\$23.68	\$52.57	\$58.25	\$16.83	\$37.36	\$41.40
Pickering, Corts & Summerson, Inc.	168%						
Polytran Engineering associates P.C.	166%	\$17.64	\$46.92	\$51.16	\$15.68	\$41.71	\$45.47
RBA Group, The	108%				\$14.80	\$30.78	\$34.34
Schoor, DePalma, Inc.	172%	\$22.85	\$62.15	\$67.64	\$16.91	\$46.00	\$50.05
STV Incorporated	122%						
T.Y. Lin International	168%						
Taylor, Wiseman & Taylor	180%	\$23.36	\$65.41	\$71.01	\$15.27	\$42.76	\$46.42
Urban Engineers, Inc.	127%	\$17.00	\$38.59	\$42.67			
Urbitrans Associates, Inc.	125%	\$23.29	\$52.40	\$57.99	\$19.05	\$42.86	\$47.43
Vollmer Associates LLP	136%	\$22.72	\$53.62	\$59.07	\$15.09	\$35.61	\$39.23
	142%	\$21.07	\$50.80	\$55.86	\$16.19	\$38.95	\$42.84
NJDOT (Road Design)	175%	\$21.07	\$57.92	\$57.92	\$17.61	\$48.41	\$48.41
NJDOT (Bridge Design)	148%	\$21.07	\$52.25	\$52.25	\$17.61	\$43.67	\$43.67
DOT Difference (Road Design)	33%	(\$0.00)	\$7.12	\$2.06	\$1.42	\$9.45	\$5.57
DOT Difference (Bridge Design)	6%	(\$0.00)	\$1.45	(\$3.61)	\$1.42	\$4.72	
CONSULTANT FIXED FEE RATE	24%						

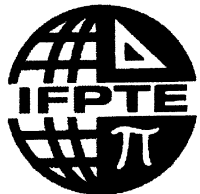
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Name of Firm	OVERHEAD RATE	Hr. Rate		Hr.+Overhead		HR.+Over.+FF	
		Adm. Sec. Tech. Typist CL	Adm. Sec. Tech. Typist CL	Adm. Sec. Tech. Typist CL	Adm. Sec. Tech. Typist CL	Adm. Sec. Tech. Typist CL	Adm. Sec. Tech. Typist CL
Advanced Infrastructure Design Inc.	144%						
Amercom Corp.	106%	\$16.53		\$34.05		\$38.02	
Arora & Associates,P.C.	150%						
BET Engineering Consultants Inc.	140%	\$22.10		\$53.04		\$58.34	
Chas. H. Sells, Inc.	139%						
Cherry Weber & Associates, P.C.	144%	\$19.30		\$47.09		\$51.72	
Dewberry-Goodkind Inc.	122%						
DMGM+HARRIS,Inc.	130%	\$32.03		\$73.67		\$81.36	
Earth Tech, Inc.	153%						
Edwards and Kelcey, Inc	151%	\$23.41		\$58.76		\$64.38	
French & Parrello Associates,P.A.	202%						
Gannett Fleming, Inc.	155%	\$17.38		\$44.32		\$48.49	
Geod Corp.	135%	\$19.00		\$44.65		\$49.21	
Greenman-Pedersen, inc.	144%	\$24.37		\$59.46		\$65.31	
Hardesty & Hanover, LLP	139%	\$22.29		\$53.27		\$58.62	
Harold Pellow	125%	\$19.33		\$43.49		\$48.13	
HNTB Corporation	150%						
IH Engineers	120%	\$25.58		\$56.28		\$62.42	
Jacobs Civil Inc.	121%	\$25.97		\$57.39		\$63.63	
KMA Consulting Engineers, PC	130%						
KS Engineers, P.C.	124%	\$19.90		\$44.58		\$49.35	
L. Robert Kimball & Assoc.	186%	\$20.02		\$57.26		\$62.06	
Lichtenstein Consulting Engineers, Inc.	154%					\$0.00	
Louis Berger Group, Inc.	139%						
Maltra Associates, PC	118%	\$22.83		\$49.77		\$55.25	
McCormick Taylor, Inc.	150%						
Medina Consultants, P.C.	136%	\$19.18		\$45.26		\$49.87	
Michael Baker Jr. , Inc.	152%						
Parsons Transportation Group, Inc.	122%	\$23.09		\$51.26		\$56.80	
Pickering, Corts & Summerson, Inc.	168%	\$14.55		\$38.99		\$42.49	
Polytran Engineering associates P.C.	166%	\$17.00		\$45.22		\$49.30	
RBA Group, The	108%	\$22.15		\$46.07		\$51.39	
Schoor, DePalma, Inc.	172%						
STV Incorporated	122%	\$24.00		\$53.28		\$59.04	
T.Y. Lin International	168%						
Taylor, Wiseman & Taylor	180%	\$19.37		\$54.24		\$58.88	
Urban Engineers, Inc.	127%						
Urbitrans Associates, Inc.	125%	\$16.50		\$37.13		\$41.09	
Vollmer Associates LLP	136%	\$20.22		\$47.72		\$52.57	
	142%	\$21.09		\$49.84		\$52.71	
NJDOT (Road Design)	175%	\$22.04		\$60.59		\$60.59	
NJDOT (Bridge Design)	148%	\$22.04		\$54.65		\$54.65	
DOT Difference (Road Design)	33%	\$0.95		\$10.74		\$7.88	
DOT Difference (Bridge Design)	6%	\$0.95		\$4.81		41.95	
CONSULTANT FIXED FEE RATE	24%						

Local 195, IFPTE

International Federation of Professional & Technical Engineers

In Remembrance of Dominick D. Critelli 1977-2006



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REPRESENTATIVE

LISA CICCONE

The proposal to eliminate the Emergency Service Patrol is a threat to the safety of the driving public. The 90 plus Emergency Service Patrollers that Local 195 of IFPTE represents are first responders who have saved the lives of our fellow citizens, have made the roads they patrol safer and less congested, and have helped more than a quarter million New Jersey citizens in the last 15 years.

The Patrollers help stranded moms with kids who have broken down; they help our elderly parents who need a flat fixed or are stuck on the road in trouble, and they help all of us by being able to keep traffic moving safely when a breakdown has occurred. The suggestion that they are replaceable by private towing services or AAA is false and misleading. They are not tow truck drivers; they do far more and they do it for free. They are 100% federally funded; even the Privatization Task Force concedes this fact (See report at page 42). Yet, it suggests doing away with this program and falsely claims that private vendors can provide these services. This claim is wrong.

A private vendor, like a tow truck driver or even a road service like Triple A, cannot do what these patrollers do for free. To start, private vendors do not patrol the roadway looking to help stranded and broken down motorists, because they are not patrolling. If called, a private vendor will come and tow your broken down car for a price that can be close to \$100 for a tow. Further, the Emergency Service Patrollers are trained to get you moving without a tow, and many times can do that in less than 10 minutes by fixing a flat or providing a little gas to a stranded motorist. But, the patrollers do far more than this.

They protect the mom with her kids who has broken down on an isolated stretch of road. When they see a broken down car, they stop and help, whether that means fixing a flat or helping a motorist who is ill. They can, and do, close lanes to protect broken down motorists. They are trained to deal with hazardous materials. They are trained to be watchful for homeland security and for other problems. They work closely with the State Police, often arriving before the State Police patrol can get there. They will call the State Police and get prompt response to dangerous situations. They can and will do all this because they are already on the roads, not waiting somewhere else for a call, and because they are trained first-responders.

In these dangerous times, we need these first-responders especially on the front lines here in New Jersey. Best of all, the Emergency Service Patrols do not cost the State any money and, unlike a private vendor, the citizens get this service for no charge. The drivers never ask for money. We all know how it feels to break down on the road, and how great it is to have someone help you out when you are stuck, and make sure that you are safe, that your vehicle is safe and that you get home. This free program cannot be replaced by private vendors who will have to charge motorists directly for any limited help they provide, and who cannot act as first-responders. Put simply, the program works and it should be expanded, not reduced or cut.

This is a way that we get value for the dollars we send to Washington, D.C.. We get a program for free that saves lives and helps motorists, and the only thing that the drivers ask of the motorists they help is that each motorists they help rate the quality of the service they have received from the Emergency Service Patrol. Tell me of any State program that helps people at no charge to the State budget, where the public gets to rate the employees every time they provide a service. The testimonials and ratings cards show that the service really works and that it saves lives and makes us more secure.

We know that there is a need for this service and that it works. We know that it does not cost the State any money. We know that it grew over its last fifteen years of existence and that it is economically beneficial because it is proven to cut roadway delays and congestion and to save

lives. The reports we have presented to the Committee from the Federal Highway Administration and the independent review by the Congestion Buster Task Force in New Jersey show that expanding ESP's are a way to reduce congestion and make the roads safer.

So, what are the reasons that proponents have advanced this idea in the privatization report? First, we think this is based upon a fundamental misunderstanding of what Emergency Service Patrols do so we have come here to set the record straight. Contrary to suggestions, the Emergency Service Patrols are not tow truck drivers; they are first-responders, who save lives, improve safety and reduce roadway congestion by taking charge of dangerous situations on the roads. They close lanes when a motorist has broken down. They deal with HazMat situations, and work closely with the State police to handle difficult and potentially dangerous situations on the road. These are not services that private vendors can or will provide.

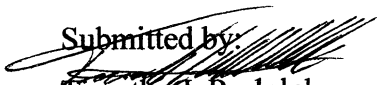
AND, THE SERVICES HERE ARE PROVIDED AT NO COST TO NEW JERSEY TAXPAYERS AND NO COST TO THE STATE BUDGET.

Second, and this is contradictory, there seems to be a suggestion that the service is one the State should eliminate because it is not offered everywhere and around the clock. This is not a reason. The State should seek to expand the program and its hours of operation. It will not cost the State a dime, and this IFPTE Local pledges to work with you all to expand the hours and valuable services provided here. Even if the State cannot immediately get more dollars we will work with you to expand or change the hours of service. In addition, the federal dollars here are specifically set aside for this valuable service. There is no way to take federal money for Emergency service patrols, not just free money that the State can give to those it wants to reward.

The men and women I represent who patrol handle over 400 miles of roadway including Routes 42, 195, 287 and 295. They put themselves on the line in dangerous situations. They have been injured in the line of duty, and one even paid the ultimate price after he was struck by a car and killed while trying to save a motorist in trouble. We need to honor the service of these dedicated and brave men and women by continuing and expanding upon the Emergency Service Patrols. Cutting these services will not save one penny; rather, it will cost businesses and citizens millions of dollars in paying for emergency service and in lost time and productivity

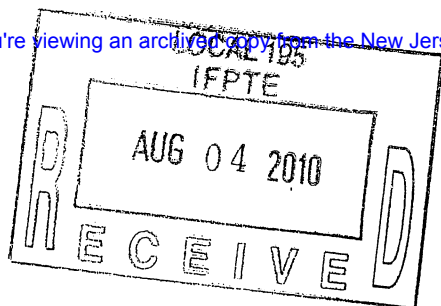
due to more crashes and congestion. And, we will be less safe and less secure. This idea must be rejected. Thank-you.

Submitted by:


Timothy J. Rudolph

Local 195 President

International Federation of Professional Technical Engineers



July 29, 2010

Commissioner James Simpson
New Jersey Department of Transportation
1035 Parkway Avenue
P.O. Box 601
Trenton, NJ 08625

Dear Commissioner Simpson:

Responding to traffic incidents on New Jersey's highways is an extremely hazardous endeavor. Yet, each day, hundreds of our state's emergency responders are exposed to this dangerous activity because they have chosen to do their job as a police officer, fire fighter, EMT, NJ DOT employee, tow truck operator or other incident responder. In South Jersey, a multi-disciplinary group of dedicated emergency responders has been working together since 2002 to provide safer, quicker, more effective and more efficient responses to highway incidents. This award-winning group, the NJ 42/55, I-76/676/295 Incident Management Task Force (IMTF), has become a model of multi-disciplinary cooperation across the nation and NJ DOT's Emergency Service Patrol (ESP) personnel have become indescribably valuable members of this Task Force.

Please don't lose sight of the fact that the ESP drivers do much more than change flat tires and give a free gallon of gas to stranded motorists. The other emergency responders in this area have come to depend on their assistance in responding to and clearing highway incidents. The coverage that they provide in setting up a safe and secure response area along the highway provides significant protection for all response personnel. This type of service is being widely and successfully used by many state DOT's around the country.

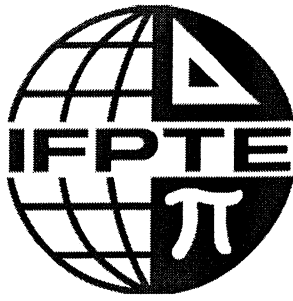
Incident data for this area from 2007 and 2008 indicate that large scale incident durations have decreased by an average of 22%. This decrease can be attributed, in large part, to the coordination, shared training and relationships forged by the IMTF. By reducing incident duration, this organization helps to prevent additional congestion and secondary crashes. We believe that the service of the dedicated ESP personnel has saved lives; not only those of the responders but also the lives of the motoring public. Additionally, many incidents have been prevented by ESP's vigilant patrol and actions such as debris removal and the relocation of stalled/accident damaged vehicles from live travel lanes.

As you consider the future of NJ DOT's ESP Program, the member organizations of the NJ 42/55, I-76/676/295 IMTF respectfully request that you remember the extremely important emergency response functions that the ESP personnel provide along New Jersey's busy and dangerous highways. We are asking for your help to retain this program and the valuable services they provide to the emergency response community.

Respectfully,

William Robb
Captain, Blackwood Fire Department
Co-Chair, NJ 42/55, I-76/676/295 IMTF
e-mail: r3797at84@aol.com ph: 609-217-4555

Sgt. Joseph Zito
Delaware River Port Authority
Co-Chair NJ 42/55, I-76/676/295 IMTF
e-mail: jzito@DRPA.ORG Ph: 856-969-7842



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INTERNATIONAL FEDERATION OF PROFESSIONAL & TECHNICAL ENGINEERS AFL-CIO & CLC

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NORTHEASTERN

Allan Yamaguchi
NORTHWESTERN

September 14, 2010

Hon. Ray LaHood, Secretary
U.S. Department of Transportation
400 7th Street, NW
Washington, DC 20590

Dear Secretary LaHood,

I am writing regarding an urgent matter facing New Jersey State workers employed within the Emergency Service Patrol (ESP) program. Recommendations made by New Jersey's Privatization Task Force call for the privatization and transferring of funds used to support the State's highly successful ESP program to other unspecified projects. The International Federation of Professional and Technical Engineers (IFPTE) strongly opposes this recommendation. IFPTE also believes that any effort to transfer these federal monies to other state projects be rejected by the US Department of Transportation (USDOT).

Unfortunately, the privatization task force is ignoring the successful track record of the ESP program and the fact that it does not compete with private sector roadside assistance businesses because it is a first responder, not a towing company. Emergency Service Patrols make all New Jersey citizens safer, and do far more than a private operator. Not only are they on the road searching for motorists who are in dire need of help, they also perform many other tasks that are unmatched by any private sector entity. For example, they close lanes to protect motorists who have broken down on the road; they are trained to deal with hazardous materials; they are trained to save lives when they come upon a motorist in trouble (which they have in fact done), and; they work with police to respond to dangerous situations. ESPs are an integral part of homeland security because they are trained first responders who patrol hundreds of miles of New Jersey roads daily, supplementing efforts of local and State Police.

The emergency service patrols are also economically beneficial to the public. They save money for both the taxpayer and motorists by keeping New Jersey roads safer through reducing traffic congestion, getting stalled and broken down motorists off the roadway and responding quickly to incidents because they are constantly patrolling the roads. They do all of this at no charge because the Congress and the Federal Highway Administration (FHA) had the foresight to create this very efficient and beneficial program. This in addition to the fact that many motorists are not fortunate enough to budget and pay for road-side service through a private sector entity.

- Continued-

Pg. 2 – IFPTE Letter to Sec. LaHood Regarding New Jersey ESP Program (9-14-2010)

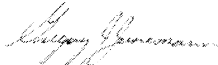
Sadly, the head of the New Jersey Department of Transportation, Jim Simpson, has indicated a desire to seize on this opportunity by dismantling the ESP program altogether. At the same time he apparently has other ideas of what to do with the \$12.3 million in federal funding used to support the program. While it remains unclear of exactly what Commissioner Simpson has in mind, his July 26th comments to NorthJersey.com [*Drivers May Lose Free Help on the Roads*] that he, “can take that \$12 million and use it for more asphalt,” clearly reflect his true intention to eliminate ESP state jobs in favor of rewarding private sector contractors.

It is our understanding that New Jersey’s ESP program is funded as a part of a larger FHA program called Freeway Service Patrol (FSP). Currently, New Jersey receives \$12.3 million in FSP funds annually to support the ESP program, while the State pays \$1.85 million (from both the State Police and the NJDOT). So, the lion’s share of the funding for this program comes from the federal government.

IFPTE is aware that before diverting funds from this successful, efficient and desperately needed service, the State of New Jersey must first seek permission from the USDOT and/or the FHA to move that money to other projects. In this regard, and for the reasons listed in the letter, IFPTE asks that you reject New Jersey’s effort to eliminate the ESP program.

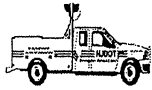
I thank you for your consideration. Should you have any questions please feel free to contact IFPTE Legislative Director, Matt Biggs, or I at (202) 239-4880.

Sincerely,



Gregory J. Junemann,
President

Cc: Hon. Victor Mendez, Federal Highway Administrator
Hon. Frank Lautenberg, United States Senator
Ed Wytkind, President, Transportation Trades Department (TTD), AFL-CIO



NJDOT TRAFFIC OPERATIONS NORTH ESP NORTH JULY MONTHLY REPORT



Total Stops for the Year	25,365
Total Miles Driven for the Year	972,862
Stops for the Month of July (Harding)	2,289
Stops for the Month of July (Metuchen)	1,052
Miles Driven for the Month of July (Harding)	75,022
Miles Driven for the Month of July (Metuchen)	40,331
Average Miles Driven per Day (Combined)	5,493.0
Average Miles Driven per Day (Harding-21 days)	3,572.5
Average Miles Driven per Day (Metuchen-21 days)	1,920.5
Average Stops per Day (Combined)	159.1
Average Stops per Day (Harding-21 days)	109.0
Average Stops per Day (Metuchen-21 days)	50.1
Average Stops per Week (Combined)	795.5
Average Stops per Week (Harding)	545.0
Average Stops per Week (Metuchen)	250.5
Average Time Spent at each Stop for the month (Combined)	8.1

YEARLY AVERAGES
147 Working Days
6,618 Miles per Day
172.6 Stops per Day
862.8 Stops per Week
6.19% Post Cards

Reason for Stop	Monthly Totals		Yearly Totals	% of Yearly Stops	Corrective Action	Monthly Totals		Yearly Totals
	Harding	Metuchen				Harding	Metuchen	
Abandoned	96	54	869	3.4%	Added Water	53	31	547
Accident	120	72	1,985	7.8%	Gave Directions	72	74	1,045
Debris	226	68	1,591	6.3%	Gave Gas	117	37	1,409
Delays	35	3	237	0.9%	Jump Start	25	11	357
Disabled	1504	720	16,329	64.4%	No Assist	118	39	1,225
Fire	9	2	79	0.3%	None	252	39	3,016
Lost	75	78	1,120	4.4%	Other	79	39	964
No Assist	118	39	1,225	4.8%	Personal Roadside	323	79	2,585
Other	97	15	1,761	6.9%	Pull Out Mud			26
Pedestrian	7	1	32	0.1%	Pull Out Snow			81
Stuck Mud	2		50	0.2%	Pushed from Lanes	9	6	194
Stuck Snow			87	0.3%	Relocated	23	32	513
Total	2289	1052	25,365	100.0%	Remove Debris	212	64	1,438
					Replaced Tire	332	204	3,853
					Reported to CDU	14	2	94
					Reported to STMC	20	1	139
					Reported to Supervisor	1		4
					Safety	245	287	4,724
					Self-Aid	217	28	1,404
					Tagged	104	62	1,062
					Towed	73	17	685
					Total	2289	1052	25,365

Post Cards	Harding	Metuchen	Totals
	155	51	1,570

ESP North (2010 How Discovered)

How Discovered	Total Stops	Percentage
Dispatched by DOT	1782	6.59%
Dispatched by State Police	493	1.82%
Found by ESP	24776	91.59%
Total Stops	27051	100.00%

ESP North (2010 Type of stops Breakdown)

How Discovered	Total Stops	Reason for Stop	Percentage	Total
Dispatched by DOT	13	Abandoned	0.05%	1782
	287	Accident	1.06%	
	104	Debris	0.38%	
	11	Delays	0.04%	
	1157	Disabled	4.28%	
	16	Fire	0.06%	
	2	Lost	0.01%	
	73	No Assist	0.27%	
	102	Other	0.38%	
	2	Pedestrian	0.01%	
	11	Stuck Mud	0.04%	
	4	Stuck Snow	0.01%	
Dispatched by State Police	95	Accident	0.35%	
	17	Debris	0.06%	
	347	Disabled	1.28%	
	5	Fire	0.02%	
	1	Lost	0.00%	
	12	No Assist	0.04%	
	9	Other	0.03%	
	5	Stuck Mud	0.02%	
	2	Stuck Snow	0.01%	
Found by ESP	931	Abandoned	3.44%	24776
	1692	Accident	6.25%	
	1618	Debris	5.98%	
	229	Delays	0.85%	
	16025	Disabled	59.24%	
	59	Fire	0.22%	
	1154	Lost	4.27%	
	1232	No Assist	4.55%	
	1685	Other	6.23%	
	34	Pedestrian	0.13%	
	35	Stuck Mud	0.13%	
	82	Stuck Snow	0.30%	
Total Stops	27051		100.00%	27051

ESP North (2009 How Discovered)

How Discovered	Total Stops	Percentage
Dispatched by DOT	2687	4.53%
Dispatched by State Police	1032	1.74%
Found by ESP	55631	93.73%
Total Stops	59350	100.00%

ESP North (2009 Type of stops Breakdown)

How Discovered	Total Stops	Reason for Stop	Percentage	Total	
Dispatched by DOT	16	Abandoned	0.03%	2687	
	439	Accident	0.74%		
	160	Debris	0.27%		
	20	Delays	0.03%		
	1794	Disabled	3.02%		
	22	Fire	0.04%		
	4	Lost	0.01%		
	68	No Assist	0.11%		
	152	Other	0.26%		
	1	Pedestrian	0.00%		
	7	Stuck Mud	0.01%		
	4	Stuck Snow	0.01%		
Dispatched by State Police	4	Abandoned	0.01%		1032
	193	Accident	0.33%		
	31	Debris	0.05%		
	3	Delays	0.01%		
	720	Disabled	1.21%		
	8	Fire	0.01%		
	3	Lost	0.01%		
	30	No Assist	0.05%		
	31	Other	0.05%		
	4	Stuck Mud	0.01%		
	5	Stuck Snow	0.01%		
Found by ESP	1898	Abandoned	3.20%	55631	
	3605	Accident	6.07%		
	2804	Debris	4.72%		
	822	Delays	1.39%		
	31474	Disabled	53.03%		
	127	Fire	0.21%		
	2517	Lost	4.24%		
	2643	No Assist	4.45%		
	9586	Other	16.15%		
	57	Pedestrian	0.10%		
	30	Stuck Mud	0.05%		
	68	Stuck Snow	0.11%		
Total Stops	59350		100.00%	59350	

ESP South (2010 How Discovered)

How Discovered	Total Stops	Percentage
Dispatched by DOT & State Police	2797	9.00%
Found by ESP	28284	91.00%
Total Stops	31081	100.00%

ESP South (2010 Type of stops Breakdown)

How Discovered	Total Stops	Reason for Stop	Percentage	Total
Dispatched by DOT & State Police	34	Abandoned	0.11%	2797
	520	Accident	1.67%	
	23	Call in Delays	0.07%	
	276	Debris	0.89%	
	1622	Disabled	5.22%	
	28	Fire	0.09%	
	5	Lost	0.02%	
	5	Medical Emergency	0.02%	
	35	No Assist	0.11%	
	115	Other	0.37%	
	2	Pedestrian	0.01%	
	2	Phone Calls	0.01%	
	35	Stuck Mud	0.11%	
	82	Stuck Snow	0.26%	
	13	VMS	0.04%	
Found by ESP	3		0.01%	
	1708	Abandoned	5.50%	
	1648	Accident	5.30%	
	171	Call in Delays	0.55%	
	3163	Debris	10.18%	
	16486	Disabled	53.04%	
	44	Fire	0.14%	
	1777	Lost	5.72%	
	47	Medical Emergency	0.15%	
	1358	No Assist	4.37%	
	1333	Other	4.29%	
	61	Pedestrian	0.20%	
	79	Phone Calls	0.25%	
	63	Stuck Mud	0.20%	
	268	Stuck Snow	0.86%	
	75	VMS	0.24%	
Total Stops	31081		100.00%	31081

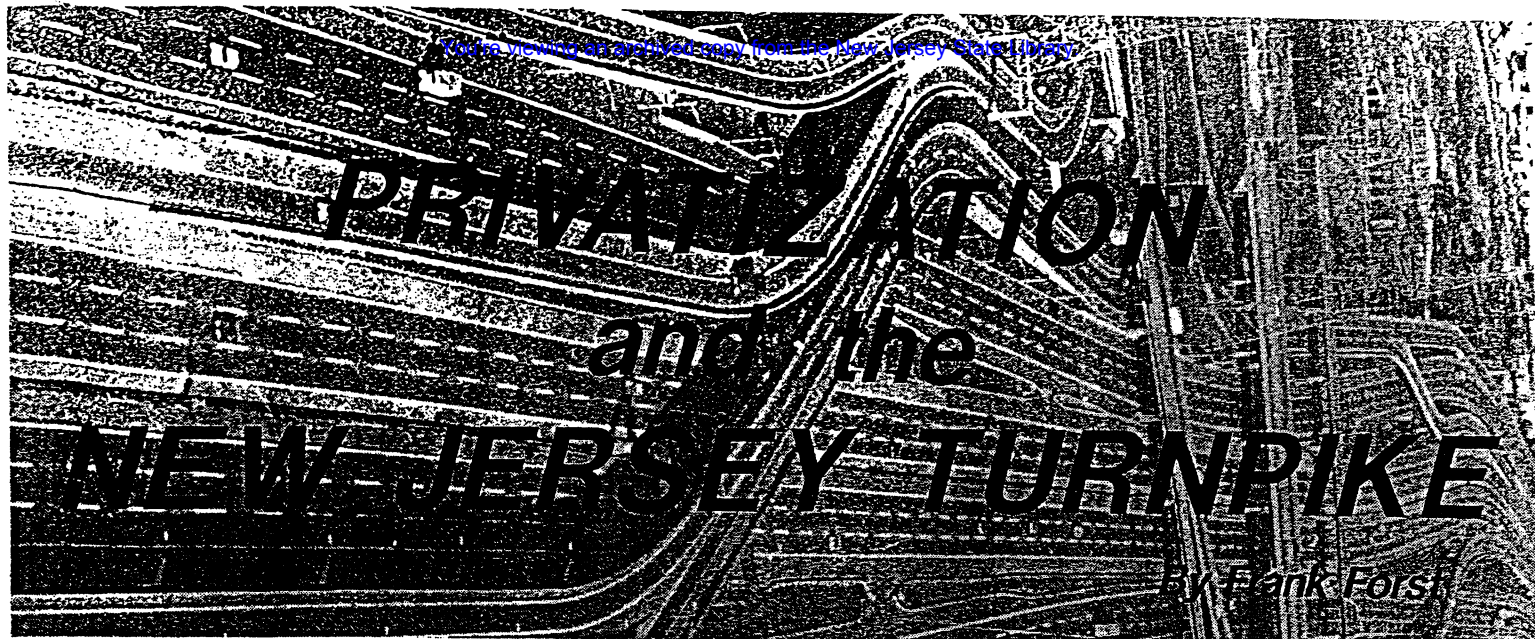
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ESP South (2009 How Discovered)

How Discovered	Total Stops	Percentage
Dispatched by DOT & State Police	3675	8.38%
Found by ESP	40161	91.62%
Total Stops	43836	100.00%

ESP South (2009 Type of stops Breakdown)

How Discovered	Total Stops	Reason for Stop	Percentage	Total	
Dispatched by DOT & State Police	33	Abandoned	0.08%	3675	
	839	Accident	1.91%		
	332	Debris	0.76%		
	2151	Disabled	4.91%		
	30	Fire	0.07%		
	10	Lost	0.02%		
	6	Medical Emergency	0.01%		
	33	No Assist	0.08%		
	115	Other	0.26%		
	1	Pedestrian	0.00%		
	56	Stuck Mud	0.13%		
	50	Stuck Snow	0.11%		
	19	VMS	0.04%		
Found by ESP	3		0.01%		40161
	2813	Abandoned	6.42%		
	2766	Accident	6.31%		
	3701	Debris	8.44%		
	24954	Disabled	56.93%		
	70	Fire	0.16%		
	2714	Lost	6.19%		
	65	Medical Emergency	0.15%		
	1600	No Assist	3.65%		
	1068	Other	2.44%		
	62	Pedestrian	0.14%		
	101	Stuck Mud	0.23%		
	234	Stuck Snow	0.53%		
	10	VMS	0.02%		
Total Stops	43836		100.00%	43836	



PRIVATIZATION and the NEW JERSEY TURNPIKE

By Frank Forst

FRANK FORST, a Labor Official,

has been associated with the N. J.

Turnpike and State Highway (DOT)

Department for over 30 years.

PRIVATIZATION has become a "catchword" for the solution to Governmental economic problems. At all levels of government, taxpayer revolts and demands for budget-tightening have Governors, Mayors, and County Executives looking for solutions - and in almost every instance, the word, "Privatization" emerges.

What is Privatization? Is it, all of a sudden, something new which will solve government's problems? In its most simplified terms, *Privatization is the performing of a Public function or responsibility with Private funds.*

Where private enterprise cannot "profitably" perform, there have been "Public-Private Partnerships" which include tax advantages and/or subsidies as well as other forms of "assistance" to private entrepreneurs.

In New Jersey, Governor Whitman has announced her intention to renew the "Transportation Trust Fund." Initial indication is that she will support an increase in the Gasoline Tax combined with further contributions from the Toll Road Authorities.

Forty-five years ago, the word, "Privatization" did not exist and does not appear in any old dictionaries. Yet, the State of New Jersey, under Governor Alfred E. Driscoll, undertook *the largest and most successful privatization in the history of the state. It is the New Jersey Turnpike Authority.*

"What?" you ask, "The New Jersey Turnpike?" Of course! It is the performing of a Public function (building and maintaining roadways) with Private funding! Let's examine how it all began and where we are, today.

In 1949, Governor Driscoll was faced with an insurmountable dilemma. On one hand, the state had limited resources and no broad-based tax. On the other hand, business, industry, and commerce were crying out for greater access highways, especially a North-South route through the state.

Routes 1 and 9 which began at the New York border wound about through every metropolis before separating in Woodbridge with Route 1 going off to Trenton and Philadelphia and Route 9 going southeast to the Jersey shore. Both were hopelessly inadequate and neither provided interstate travel from Boston-New York to Baltimore-Washington and the South.

Dwight D. Eisenhower was not yet a candidate for President. It was much before his vaunted Interstate Highway System of the mid-1950's that Governor Driscoll proposed an "Authority" which would be capable of raising private financing under a "user fee" system (tolls). Despite much skepticism, a bill establishing the New Jersey Turnpike Authority was passed and signed into law.

Was it "Privatization?" The entire cost of the project was funded by bonds which *did not* pledge the full faith and credit of the State of New Jersey. Bondholders were promised nothing more than the receipts from tolls collected from users of the roadway.

Starting in the Southern end, the Turnpike was opened in November 1951 and completed two months later. It was an instant success! The Pennsylvania Turnpike extension was approved in July 1951 and the Hudson County extension in January 1952.

Privatization may have many facets. But establishment of the Turnpike Authority and construction of the major roadway - at no cost to the State and with no taxpayer involvement - was a home run!

The New Jersey Turnpike Authority, at its inception, was the best of all worlds. There was a crying public need - a public responsibility - the public was unable or unwilling to accept financially. Nevertheless, that public responsibility was met with the construction of the finest roadway of its time. It was located where the government wanted it yet, it didn't cost the taxpayers one red cent!

If that was a home run, what followed was like winning the World Series and the Stanley Cup!

As everyone knows, just building a roadway is not the end. Every state involved in building the Interstate Highway System is more than just aware of the high cost of maintenance and repair. The Winter of 1993-94 vividly brought home the high cost of snow and ice control. Turnpike employees are proud of their slogan: "Clear and Dry!"

No one can refute that the New Jersey Turnpike is the best maintained road in America...at no expense to taxpayers. As part of the Operating Expenses, maintenance is supported by user fees.

Turnpike: More than just road-building

You're viewing an archived copy from the New Jersey State Library

PRIVATIZATION? Suppose the Authority built the roadway but turned it over to the state. What would be the cost to taxpayers for maintenance, repairs, and reconstruction? Over a half-billion dollars! Since its inception, the Turnpike has spent (through 1993) a total of \$557,637,816.00. Without the Turnpike Authority, these monies would have had to be raised through taxation. There is more.

Whose responsibility is it to police the state's highways? Of course, the State Police. And who pays the State Police? The State, of course. Of course not! In fact, the entire Troop of State Police on the Turnpike is paid by the Turnpike. That's a step and a half more than privatization!

The State hires the troopers, the State assigns the troopers, and the State determines how many troopers will be assigned. But again, it doesn't cost the taxpayers one red cent! In fact, the entire cost of Traffic control, a line item in the 1993 Turnpike Budget, was \$18,281,339.00 and the total cost of Traffic control and police since its inception was \$241,103,591.00.

Yes, the Turnpike pays their salaries, their benefits, their vacations, their uniforms, their equipment, their allowances, their cars - everything. In fact, in recent years, there have been disputes over "administrative costs" and such things as attorney costs from the Attorney General's office, all of which the State charges the Turnpike! (For doing the State's job).

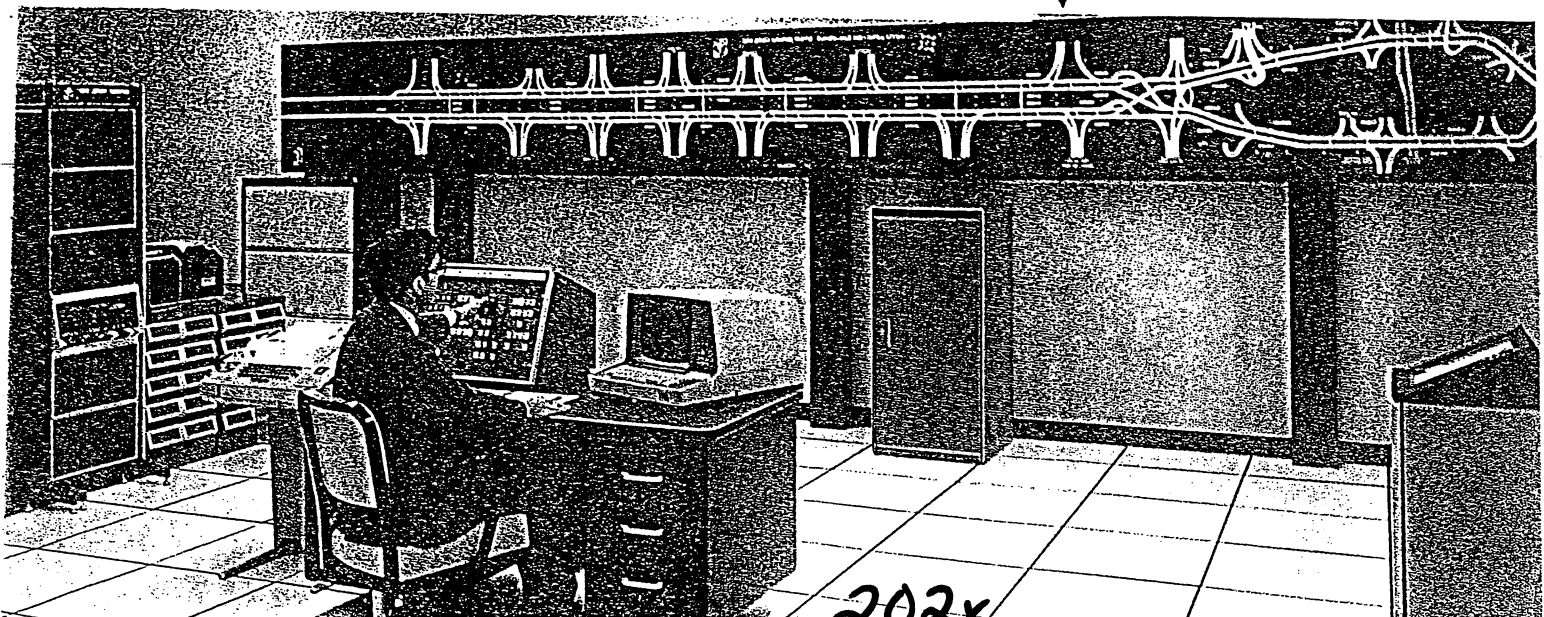


State Police troop commander on the Turnpike, Capt. William J. Kennedy, just before taking off for helicopter survey.

The Turnpike has not only been a money saver for the state and taxpayers, but it has also become a money earner. The Turnpike itself has paid over in taxes the sum of \$5,456,935.00 through December 1993. But that is a proverbial "drop in the bucket" compared to its "contribution" to the State's Highway Trust Fund. Or the \$400 million it skimmed off the top in 1990 to buy 4.4 miles of Route I-95 from the State.

Any public official or taxpayer who wants to oppose a toll increase should first reflect on how many times the Turnpike Authority has "bailed out" the State and its taxpayers! Under the Transportation Trust Fund, the Authority has contributed \$12 million yearly since 1985 to help the State with its transportation problems. Overall, through 1994, this "contribution" has amounted to \$108 million.

impulse traffic incidents or congestion will be instantly recorded on computers, shown below at Turnpike headquarters. Here the computers will automatically activate drum-type traffic control signs to reroute vehicles as required for patrons' safety and convenience.



"The World Series, the Stanley Cup, and the Super Bowl"

If all those contributions to the State are like winning the World Series and the Stanley Cup, combined, then the following, more recent events, are better than winning the Super Bowl!

There is a relatively new Federal program in which the Turnpike Authority participates on behalf of the State of New Jersey. It is the Intermodal Surface Transportation Efficiency Act (with the acronym ISTEA and pronounced, "ice tea").

THE "ICE TEA" BONANZA

IN 1991, the Federal government allowed states to use certain expenditures of Toll Authorities for eligibility as matching funds to Federal grants. It is called a "soft match" and includes such items as physical improvements to the roadways, toll collection and rest area facilities, in addition to preliminary engineering and/or right-of-way for future projects that would be eligible.

For the State of New Jersey, this has been a bonus of unbelievable proportions! By using "soft match" expenditures of the Turnpike Authority, the state could either:

1. Reduce the amount of matching funds from taxpayer dollars,
2. Receive increased Federal Funds
3. A combination of both, reducing budgetted taxpayer funds while receiving increased Federal matching funds.

How much does it involve? How much does it save New Jersey Taxpayers and/or provide additional mass transit or road-building funds to the State of New Jersey? A bundle! An incredibly large amount!

For example, in its first year of operation, 1991, the State has indicated the Turnpike "soft match" was in excess of \$95 million! In 1992, that number rose to \$114 million. That's over \$200 million in just two years! This money allowed the state to continue and expand its Department of Transportation rebuilding of the infrastructure while freeing up state money for other purposes.

There has not been a more successful "Privatization" effort than the result of this partnership between the State and the New Jersey Turnpike Authority. And it is continuing, even now.

It seems that, whenever the State doesn't want to do something or wants to push the cost onto someone else, we hear of "Privatization." Currently, there is a dispute as to whether or not the Turnpike should build Route 92. The State has been planning it for over 30 years but, recently, the Legislature dumped it onto the Turnpike, together with build-a connector Interchange with the Atlantic City Expressway. No funds. Just build it.

These are only the most recent examples. Interstate 95 was to come through Scudder Falls Bridge from Pennsylvania, through Princeton, and proceed North to the New York border. It was scheduled to receive 90% Federal funding. Instead, the Turnpike was persuaded to double its lanes from Interchange #9 North and the Interstate 95 funds were pirated by the State to build Interstate 195 from Trenton to the Jersey shore. Subsequently, with the expansion of the Sports & Exposition Authority in the Meadowlands, the Westerly roadway was planned and built to accommodate that development by another State Authority. Again, at no expense to taxpayers as all construction from its inception has been through the direct Bonding of the Turnpike Authority, pledging receipts from tolls.

Of course, there is more. Interchange #7A was built and opened to provide access to I-195 and Great Adventure. Interchange #8A was built and widened to provide access to several Senior Citizen communities and a vast commercial-industrial development. Interchange #13A was built at the insistence of the Governor to provide greater access to Newark Airport and the Ports of Newark and Elizabeth.

If the Turnpike had just built the original road and turned it over to the State, each time an expansion program was required, there would be competition for funds with other funding demands and it is not unreasonable to assume the road may well have suffered.

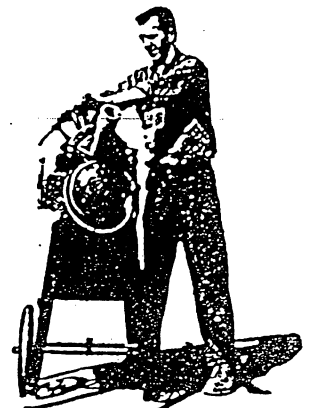
Road Crews Kept Pace With Traffic



road divisions



building division



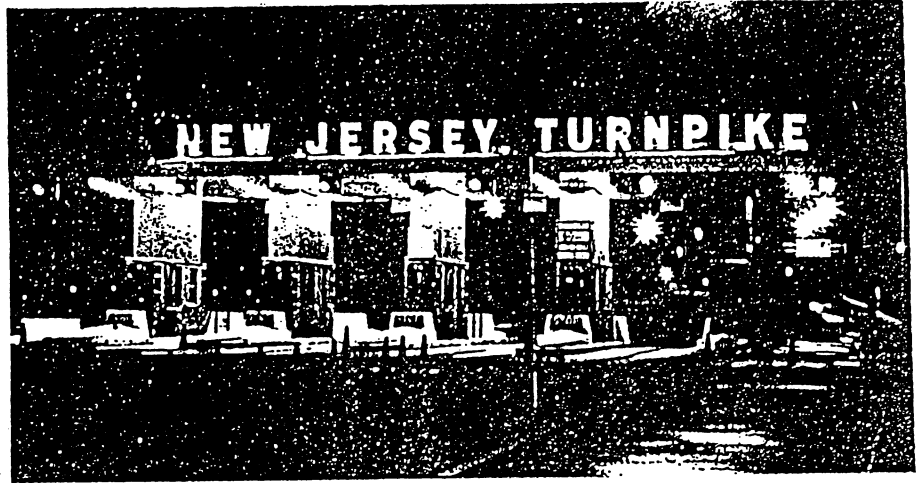
equipment division

PRIVATIZATION: The FUNDING Must Come From Somewhere

The last major Bond Issue (exclusive of refinancing) was for over two billion dollars. Most of the work from the proceeds from that issue is nearing completion. The roadway has met the challenges of increased traffic and variated traffic patterns.

The New Jersey Turnpike has responded to the need of business, industry, and commerce for rapid and direct transportation facilities from one end of the state to the other. It has provided motorists on business and pleasure with a substantially carefree trip within and through our Garden State as well as to and from places of interest, sports, and recreation.

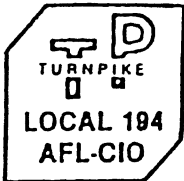
It is a wonder that some taxpayers and not just a few politicians get up in arms when there is a proposed toll increase. The New Jersey Turnpike Authority has been the greatest Privatization operation in the state's history - and it has been doing it for over 45 years.



If the Authority did not exist, taxpayers and Legislators would surely be up in arms. The money saved by the Turnpike Authority and the service it provides would become a substantial cost to both the State and its taxpayers. Instead, this magnificent roadway, "clear and dry," is supported completely by "user fees," tolls.

And, within reason, the Authority must charge whatever it needs to accomplish its mission.

Would that all Privatization - the cure-all of the 1990's - work as well as this privatization - the New Jersey Turnpike Authority.



New Jersey Turnpike Employees' Union

LOCAL 194

International Federation of Professional & Technical Engineers, AFL/CIO



AFL-CIO

To our Readers:

This article, "PRIVATIZATION and the NEW JERSEY TURNPIKE" was written by Local 194 Consultant and former Business Manager Frank Forst. He has offered it to the New Jersey Monthly Magazine for publication and they have first option on printing and usage. However, we thought it so important that everyone should read it, we reproduced it, here.

New Jersey Turnpike Employees' Union

LOCAL 194

International Federation of Professional & Technical Engineers, AFL/CIO

BOX 790 • MILLTOWN, NEW JERSEY 08850

Telephone (Area Code 908) 249-4330



5/24/94



September 16, 2010

TO: Members of the Assembly Transportation Committee
FROM: Eric DeGesero, Executive Vice President
RE: **Reject "privatization" of services the state doesn't even provide**

The Fuel Merchants Association of New Jersey (FMA) represents small businessmen and women who distribute heating oil, gasoline and diesel fuel in the state. Our members distribute heating oil to residential, commercial and industrial customers and distribute branded and unbranded gasoline and diesel fuel to service stations they own, and to service stations they supply, as well as to state and local governments and commercial fleets. FMA's members also install and service central heating and air conditioning equipment and a growing number of members are now certified to perform energy audits and install energy efficiency appliances/measures under the state's Clean Energy Program.

FMA urges the rejection of the recommendation found on page 42 of the New Jersey Privatization Task Force Report which urges the State to seek to petition the Federal Highway Administration (FHWA) to allow for a pilot program of commercializing interstate rights of way.

Since 1960 there has been a prohibition against states commercializing rights of way along Interstates as Congress recognized the threat to jobs, investment and the local tax base that commercialization would bring.

Unlike many of the other recommendations by the Task Force this is not an example of whether the private sector can do something that the state currently does better, *rather this it is an example of the state looking to expand into providing services that it currently doesn't, to the detriment of small businesses and local property taxpayers.*

In all likelihood one of two multi-billion dollar companies, HMS Host or the Carlyle Group, would manage the rest area as they manage all commercialized rest areas in the country. HMS Host manages the rest areas on the Garden State Parkway, Atlantic City Expressway, and NJ Turnpike.

Some 2 million jobs nationwide depend upon motorists exiting the interstate in search of food, gas and other services, according to studies measuring the potential impact of commercialized rest areas. New Jersey is home to 1,867 exit-based businesses. These businesses employ more than 19,500 people and contribute more than \$14 million in local property taxes.

On the surface, it is understandable why the Task Force would see such a scenario as easy money for state coffers. In reality, however, such a move would hurt, not help our economy by devastating long-established businesses and small towns along our interstates.

Allowing New Jersey to create a virtual monopoly on travelers' purchases would not only cost many of these jobs, it would kill many small businesses.

Allowing commercial services at rest areas would pull the rug out from under local businesses by creating an unfair advantage. The large corporation that wins the contract for operating such services would enjoy direct access to our customers at the best, easiest-to-access and most visible locations. This unfair advantage would undermine the years of investment the small businesses have made into not only their business, but also their communities.

Not only is commercialization bad for small business the proposed course of action recommended by the Task Force violates current federal law, specifically, 23 U.S.C. § 111. Attached please find a letter from James Oberstar, Chairman, Committee on Transportation and Infrastructure, U.S House of Representatives to then FHWA Thomas Madison, reiterating this point.

Attached is a study from the National Association of Truck Stop Operators (NATSO) outlining the devastating impact to small business this proposal would have. For example, a University of Maryland study finds that in areas where there are commercialized rest areas there are 50% fewer business at the exits. The loss of existing businesses means not only less employment, but also less ratables to municipalities and a corresponding upward pressure on local property taxpayers.

Finally, some may contend that allowing for the commercialization of interstate rights of way will increase available truck parking spaces allowing for more opportunity for truckers to rest. FMA fully supports increased opportunities for truckers to rest however commercialization of interstate rest areas actually diminishes these opportunities.

Attached is a report which shows there are analyzes the 14 states that have commercialized rest areas and shows that there is 30% more parking per mile (5.7 spaces vs. 3.9 spaces) in states that do not have commercialized rest areas than those that do. The reason is simple; there is dramatically less incentive for businesses to offer this service when they have to compete with a government sanctioned monopoly.

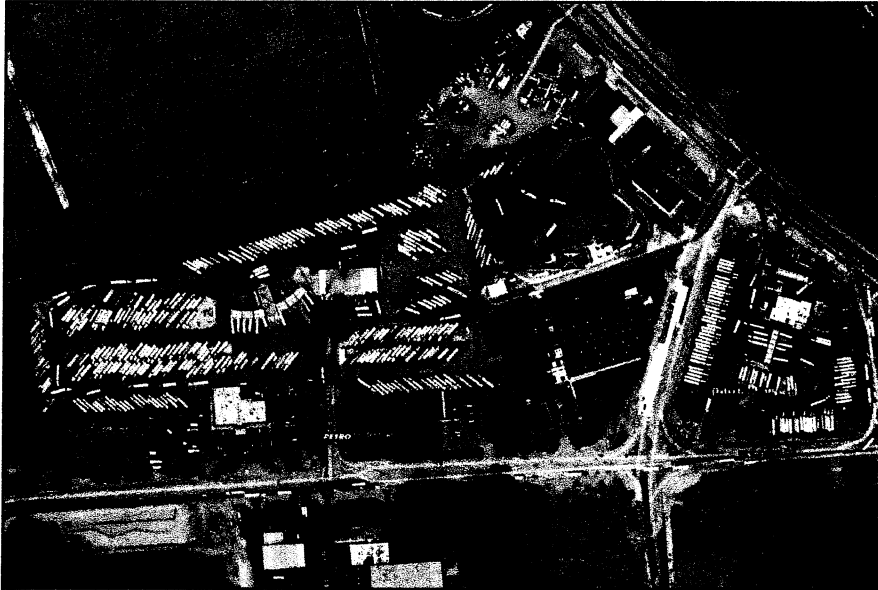
On behalf of small businesses FMA urges the rejection of this recommendation of the Task Force.

J. Ober

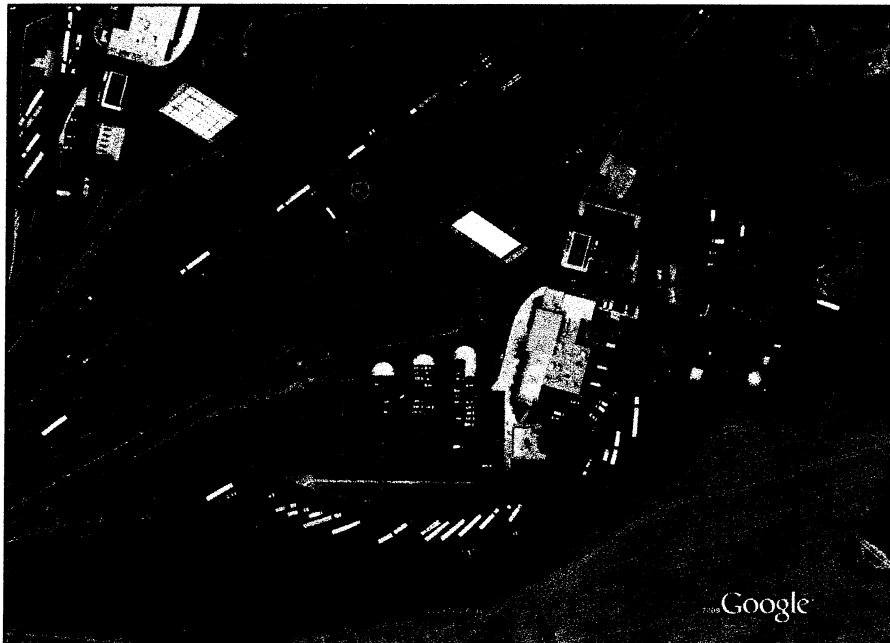
Rest Area Commercialization and Truck Parking Capacity

Exhibit 1: Comparison of Truckstops and Rest Areas

The following are photos of a truckstop and rest area in New Jersey. The Bordentown Petro (Exit 7, New Jersey Turnpike) has capacity for approximately 500 parking spaces.



The Woodrow Wilson Service Plaza (mile market 58, New Jersey Turnpike) can park 50 trucks.



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Rest Area Commercialization and Truck Parking Capacity:



**Commercialization is Not the Answer to
Truck Parking Needs**



February 2010

Executive Summary

Fifty years ago, the U.S. Government enacted a law that banned commercial services at public interstate highway rest areas as a means of spurring economic development along the Interstate Highway System.

The current economic climate, coupled with aging infrastructure, has caused some state officials to question that policy, prompting NATSO to further examine the relationship between truck parking capacity and the nature of its source.

This research comes at a time when state governments are increasingly looking to bolster state budgets by leasing some of their right-of-way parcels to add gas stations and restaurants to highway rest areas. Known as commercialization, this practice currently is banned under federal law.

In many cases, advocates for commercialization cite the potential for increased truck parking capacity as a reason to operate commercialized facilities. In reality, government-run rest areas offering food and fuel and other retail services alter the competitive landscape to a degree that substantially reduces the number of available truck parking spaces located near the interstate. This study takes a systematic look at the number of parking spaces for heavy-duty trucks on commercialized stretches of the interstate compared with the number of parking spaces for heavy trucks on non-commercialized stretches of highway.

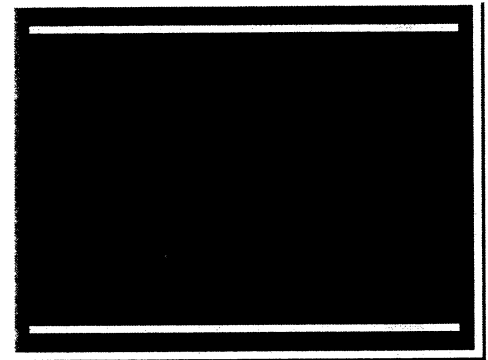
Utilizing independent third-party data from the 14 states permitted to conduct commercial activities at right-of-way rest areas, the study found that truck parking capacity is substantially greater on the stretches of the interstate highway where commercial rest areas are prohibited. Principally, the study found that in general, sections of highway in states operating commercial rest areas have two fewer parking spaces per mile. The data confirms that there is a significant negative relationship between commercialization and truck parking spaces, taking into account all spaces at rest areas and private sector businesses near the interstate.

In general, each of the 50 states boasts a unique set of variables that alters its parking landscape. These variables include differing real estate values, highway topography and traffic statistics, distance between facilities, laws regarding overnight parking and state business and fuel taxes. The 14 states comprising this comparison, however, contain one commonality: they represent locations where commercialized rest areas currently are permitted under federal law. The Government exempted these states when the ban was implemented in 1960 because they already operated commercialized rest areas. Of those 14 states, 12 were compared in this study. Two states were not considered suitable for comparison. Connecticut permits commercialization at all interstate rest areas, precluding comparisons with non-commercialized stretches of highway. Delaware was excluded because of its insignificant parking capacity.

Introduction

When Congress created the Interstate Highway System in 1956, there was great concern among lawmakers that long sections of newly paved interstate highways would offer insufficient services for motorists. To encourage commercial development along the interstate and ensure a competitive marketplace, Congress prohibited commercial service activity along the interstate right-of-way at highway rest areas. This policy decision centered on the idea that commercializing rest areas with direct access to the interstate would eliminate potential competition from businesses located along the interstate exits, resulting in fewer options for motorists.

This policy has been successful. Today, more than 60,000 diverse businesses located along interstate highways provide services to highway motorists. These businesses account for nearly \$171 billion in annual sales and employ more than 1.5 million people, according to a study from the University of Maryland.¹



While Congress largely prohibited commercial activity at interstate rest areas, the law included a provision allowing facilities already in service to continue operations. As a result, 14 states operate some form of commercialized rest areas along the Interstate Highway System today.

Truck Parking

In recent years, nationwide growth in long-haul trucking has heightened the need for adequate truck parking capacity. Economic developments, such as the implementation of just-in-time delivery for inventory and regulatory changes including more restrictive hours-of-service requirements for drivers, have altered the operational nature of the industry and increased the demand for parking. Over 90 percent of the country's truck parking capacity is located at privately-run truckstops, with rest areas (both commercialized and non-commercialized) holding only 10 percent of total capacity.² Exhibit 1 provides contrasts between a typical privately-owned truckstop and a typical commercial state rest area.

To help drivers meet truck parking demand, some suggest liberalizing the ban on rest area commercialization. Proponents argue that lifting the ban would spur additional

¹ *Fueling American Prosperity: How Rest Area Commercialization Will Devastate the Economic Contributions of Interstate Businesses*

² <http://www.tihrc.gov/safety/pubs/01158/index.htm>

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development along the interstate right-of-way. An analysis conducted by NATSO, however, utilizing data from independent third parties, confirms that the 14 states currently operating commercial facilities have less parking per mile on highways with commercialized facilities than on those without such facilities. When taking into account truck traffic and parking demand, the same conclusion holds true.

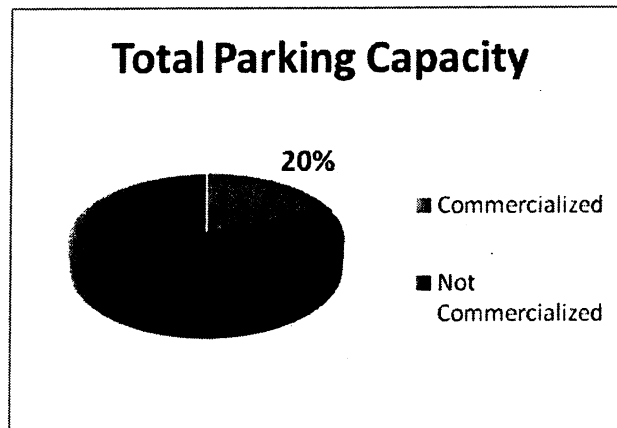
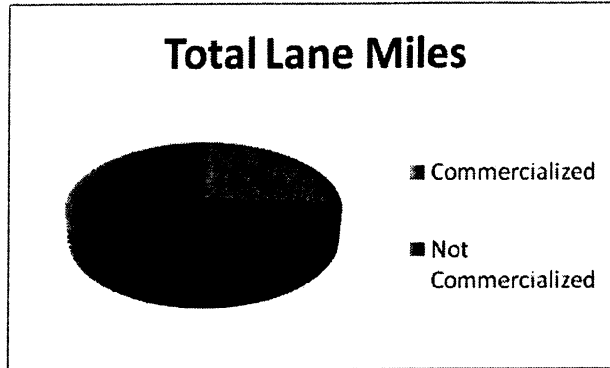
On average, states permitted to offer commercial services at rest areas have almost two fewer parking spaces per mile on those sections of interstate highways compared with highway segments without commercial rest areas. When factoring in private facilities operated at key entry points to the “commercialized” highway, the gap grows even wider. The data demonstrates that the presence of commercial rest areas on the right-of-way negatively impacts private business development at the exits. In turn, because a typical private truckstop has a larger number of parking spaces than a typical rest area, there are fewer parking spaces in total on roadways with commercialization.

Study and Results

To compare trucking parking capacity in the 14 states offering commercialized rest areas, NATSO examined both the number of truck parking spaces available for commercial trucks as well as the demand for such parking through estimates of daily truck traffic. NATSO compared highways (or sections of highways) offering commercial rest areas to those where commercial activity is prohibited along the right-of-way. The 14 states include: Connecticut, Delaware, Florida, Illinois, Indiana, Kansas, Massachusetts, Maryland, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, and West Virginia. Of the 14 states, 12 were specifically compared in the study, as two states, Connecticut and Delaware, were not considered valid for comparison. Connecticut permits commercialization at all rest areas on interstate highways and cannot be compared to non-commercial stretches. Delaware was excluded from the study because of its small size and insignificant parking capacity.

Of the 12 states surveyed, all but one possessed fewer truck parking spaces per mile on highway sections offering commercialized rest areas than those prohibited from such offerings. In total, highway segments permitted to offer commercial facilities have approximately 3.9 total truck parking spaces per mile (both rest area and truckstop facilities), compared with 5.7 spaces per mile on those not permitted to offer commercial services.

Additionally, a disproportionate amount of truck parking capacity is located on the roads that do not have commercial rest areas. In the 12 states studied, the highway segments with commercial rest areas comprise 26 percent of the total lane miles, but contain only 20 percent of the total parking capacity.



This supports the hypothesis that commercial rest areas, as a result of their location directly on the interstate right-of-way, limit the market competition that would increase parking capacity for trucks along interstate highways.

The vast majority of truck parking along interstate highways is generally provided at no cost to drivers. Therefore, truckstops compete against one another largely based on the price of fuel sold as well as additional service offerings including restaurants and other driver services. Therefore, the ability of a rest area, located directly on the right of way, to compete against other businesses located at interstate exits provides an unfair advantage to that facility, reducing competition and negatively affecting business development and truck parking.

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Methodology

Parking Capacity

In analyzing truck parking capacity and traffic information, an analysis was performed in 12 of the 14 states that operate interstate highways permitted to offer commercial services at highway rest areas. Highway segments which contained commercial rest areas were compared within each state with interstate highway segments that are prohibited from offering such services at rest areas.

The study calculated the total number of miles of each interstate highway, and combined those with commercialized rest areas, or "commercialized roads," as well as those without commercialized rest areas, or "non-commercialized roads." The study then calculated a ratio of total truck parking spaces on each segment within each state to total highway length of each segment. For example, in Indiana there are 309 miles of highway operating commercial rest areas with a total truck parking capacity of 1,127 spaces. The calculated ratio is 3.65 truck parking spaces per mile. While the report includes total spaces, data supporting these calculations were broken down into truckstop parking and rest area parking per mile as well.

Parking capacity was compiled from *The Trucker's Friend National Truckstop Directory* (2009 edition), as well as public information obtained from state departments of transportation and various turnpike management authorities.

Traffic Data

In addition to parking capacity, the study also examined parking demand on interstate highways by estimating the average annual traffic for each highway segment. Traffic data was compiled by Transport Fundamentals (a trucking research firm based in Lebanon, PA) using Reebie Transearch Database, FTR Associates, and Transport Fundamentals internal data.

Truck traffic count data obtained from these sources was presented in three categories: intrastate traffic, origin and destination traffic, and passing traffic. Intrastate traffic includes local traffic, and would require little overnight parking, as trucks normally return to their original location when not in service. Origin-and-destination traffic includes the start or end of a trip for a driver. Passing traffic includes traffic similar to origin and destination, but calculates a truck passing through a state that is not its final destination.

To estimate the amount of truck parking demand from these traffic categories, the study calculated a weighted average of the three categories. Intrastate traffic received a weight of 12.5%, origin and destination 50%, and passing traffic 37.5%. Origin-and-destination traffic and passing traffic were given substantially higher weights given their larger demand for overnight parking.

After calculating an estimated traffic count (on an annual basis), the study compared the traffic (demand) -- on commercialized roads and non-commercialized roads separately -- to the respective parking capacity, similar to the ratio calculated for spaces per mile. Annual demand was then converted to daily demand by dividing by 365. For example, for commercialized highways in Indiana, as referenced above, the annual parking demand is approximately 14.4 million spaces per year, or 39,467 spaces per day. The calculated ratio is then 39,467 spaces/1,127 spaces, or a demand of 35 parking spaces for every available space on a commercialized road in Indiana.

State by State Analysis

The following is a state-by-state analysis of those states operating at least some degree of commercialized rest areas:

Florida

Florida contains more than 1,600 miles of interstate highway. Florida averages 4.87 parking spaces per mile of interstate highway on non-commercialized roadways, compared with 2.27 spaces per mile on the Florida Turnpike, a commercialized roadway.

On non-commercialized highways, Florida has a parking demand for 8 trucks per space per day. This compares with 17 on the Turnpike. Both the overall parking capacity and daily traffic indicate the Turnpike does not have sufficient capacity compared with areas of the state where rest area commercialization is prohibited.

Road	Mileage	Total Parking	Total Parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Florida turnpike	309	700	2.27	4,422,163	12,116	17
Not Commercialized	1,349	6,565	4.87	20,107,543	55,089	8

Illinois

Illinois contains more than 2,000 miles of interstate highways. Of those, 286 miles contain commercialized rest areas. Illinois has 5.57 truck parking spaces per mile along the non-commercial highways in the state, compared with 3.78 spaces per mile on the commercialized highways. Additionally, when comparing traffic volumes, there is demand for an additional 5 trucks per space along commercialized highways, indicating that these highway stretches are under-serving drivers in need of a parking space.

Road	Mileage	Total Parking	Total Parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Commercialized	286	1,081	3.78	7,604,860	20,835	19.27
Not Commercialized	1,752	9,751	5.57	49,835,346	136,535	14.00

Indiana

While the Indiana Toll Road and other commercial highways contain about one-third of the state's lane miles, they include only a fraction of Indiana's truck parking spaces. Indiana offers almost 11 truck parking spaces per mile on non-commercialized roads, compared with just 3.65 on the commercialized highways. What's more, the traffic patterns indicate the commercialized roads are five times less likely to meet parking demand than non-commercialized highways.

Road	Mileage	Total Parking	Total Parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Commercialized	309	1,127	3.65	14,405,337	39,467	35.02
Not Commercialized	920	10,071	10.95	25,023,234	68,557	6.81

Kansas

Data show Kansas has 3.8 parking spaces per mile on the non-commercialized roads, compared with just 1.61 spaces per mile on sections offering commercialized rest areas. A traffic comparison is not feasible, as the commercialized and non-commercialized portions of the interstate are located in different sections of the same highway in the state.

Road	Mileage	Total parking	Total parking per mile
Commercialized	236	380	1.61
Not Commercialized	756	2,873	3.80

Maryland

Maryland contains a total of 350 miles of interstate highway. Throughout the state, there are a total of 2,400 truck parking spaces. Of those 2,400 spaces, 88% (2,100) are located at private truckstops while 300 are located at the state's rest areas. Maryland has two commercial rest areas, Maryland House and Chesapeake House, which have a total of 150 of the state's rest area spaces. The two commercial rest areas are located approximately 25 miles apart on I-95.

The relative small size of Maryland makes it difficult to compare parking capacity. It is clear, however, that in the 25 mile stretch between the two commercial facilities, there are no private facilities. All of the private parking capacity is located outside of the two commercial rest areas, indicating that the Maryland House and Chesapeake House have a virtual monopoly on a section of I-95. Five private locations offer 1,255 parking spaces along the portions of I-95 that are not commercialized.

Road	Mileage	Total Parking	Total Parking per mile
Commercialized	25	154	6.16
Not Commercialized	325	2,173	6.68

In this table, the commercial section refers to the 25 mile stretch of interstate between Maryland House and Chesapeake House, while the non-commercial section is the rest of the state's interstate highways.

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Massachusetts

Similarly, in Massachusetts, it would appear at first glance that commercialization benefits the commonwealth, with more parking per mile on the commercial interstate highway, I-90.

Road	Mileage	Total Parking	Total Parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Commercialized	136	586	4.31	6,074,645	16,643	28
Not Commercialized	385	490	1.27	6,086,304	16,675	34

A closer look at the data, however, reveals that 300 of the 586 total spaces on I-90 are located at a private truckstop situated at the terminal point of the interstate. Since this point could be considered "off" the commercial portion of the highway, removing those 300 spaces results in a narrowing of the gap between the 136 miles of commercialized highways and the 385 miles that do not operate commercial rest areas. While those 136 miles still have more capacity per mile, the traffic counts indicate that the commercial roadways are far short of having sufficient capacity to handle the daily demand for parking.

Road	Mileage	Total Parking	Total Parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Commercialized	136	286	2.10	6,074,645	16,643	58
Not Commercialized	385	490	1.27	6,086,304	16,675	34

New Jersey

In New Jersey, where both I-95 and the New Jersey Turnpike offer commercialized rest areas, there are almost 3.5 times as many spaces along the non-commercialized roads in the state. In New Jersey, available traffic data did not allow for a comparison based on traffic volumes.

Road	Mileage	Total parking	Total parking per mile
Commercialized	246	491	2.00
Not Commercialized	307	1,719	5.60

New York

With the New York State Thruway (I-90) running east-west across the entire state, commercial roads in New York have more parking spaces per mile, although the vast majority of parking spaces are located at truckstops. On I-90, for example, there are approximately twice as many parking spaces at truckstops (1,372) than commercial rest areas (627). Because I-87 in the state has commercial rest areas in some areas and not in others, a traffic volume comparison is not practical.

Road	Mileage	Total parking	Total parking per mile
Commercialized	496	2,394	4.83
Not Commercialized	918	2,983	3.25

Ohio

Ohio's central location and assortment of interstate highways make it one of the most travelled states in the country. Interstates 80, 90 and 76 operate commercial rest areas, while four other interstate highways do not. On commercial roadways, there are approximately 1 ½ fewer parking spaces per mile than on the commercialized sections. Since stretches of both I-76 and I-80 include both commercial and non-commercial rest areas, it is not possible to make a comparison of traffic volumes.

Road	Mileage	Total parking	Total parking per mile
Commercialized	241	1,764.00	7.32
Not Commercialized	1,021	9,159.00	8.97

Oklahoma

In Oklahoma, where commercialized rest areas are permitted on I-44 as well as the Muskogee and Indian National Turnpikes, there are five more parking spaces per mile on non-commercialized highways than on the commercial stretches. Additionally, when factoring in traffic, there are about 8 more trucks per day in need of parking on commercialized roads than on non-commercialized roads.

Road	Mileage	Total Parking	Total Parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Commercialized	487	1,176	2.07	7,924,878	21,712	18.46
Not Commercialized	567	3,977	7.01	15,726,286	43,086	10.83

Pennsylvania

In Pennsylvania, the Pennsylvania Turnpike, which spans 350 miles across the southern half of the state, and I-476, a 130-mile highway running north-south on the eastern side of the state, are both permitted to offer commercial services at their rest areas.

Road	Mileage	Total Parking	Total Parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Commercialized	480	2,425	5.05	8,017,490	21,966	9.06
Not Commercialized	1,139	7,307	6.42	25,950,299	71,097	9.73

The data indicates non-commercialized roads have approximately 1.3 more spaces per mile than commercialized roads. The parking data for commercialized roads, however, also includes truckstops in Breezewood, Pa., and Carlisle, Pa., which are at the junction of another interstate highway. Because these truckstops also serve non-commercial roads, removing the total number of parking spaces (980 total spaces from 4 truckstops) from the commercialized category further reduces the parking capacity along the commercialized roads. When factoring in the removal of those four truckstops, there are half as many parking spaces per mile on commercialized roads and a much higher daily traffic-to-parking ratio.

Road	Mileage	Total parking	Total parking per mile	Weighted Average Traffic (Annual)	Weighted Average Traffic (Daily)	Traffic: Parking (Daily)
Commercialized	480	1,445	3.01	8,017,490	21,966	15.20
Not Commercialized	1,139	7,307	6.42	25,950,299	71,097	9.73

A 2007 study on truck parking conducted by the Pennsylvania State Transportation Advisory Committee found that the vast majority of all parking shortages occurred on the Pennsylvania Turnpike and other areas that provide commercial rest areas. The report notes that "Interstates 78, 80, and 8 are corridors with heavy truck traffic but unmet demand [for truck parking] is not among the highest because there are a number of truck stops and rest areas within the defined corridors."³

³ *Truck Parking in Pennsylvania*, Pennsylvania State Transportation Advisory Committee, December 2007

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West Virginia

Data show in West Virginia there are 2.4 parking spaces per mile on the non-commercialized roads, compared with just 2.01 spaces per mile on sections offering commercialized rest areas. Because the commercialized and non-commercialized portions of the interstate are located in different sections of the same highway in the state, a traffic comparison is not feasible.

Road	Mileage	Total parking	Total parking per mile
Commercialized	101	203	2.01
Not Commercialized	500	1,203	2.40

Conclusion

Rest area commercialization is sometimes cited as the most appropriate means to increase the capacity for truck parking in the United States. However, a review of the 14 states that currently offer commercial services reveal that these services do not add to the total parking capacity for trucks, and instead actually serve to constrict truck parking.

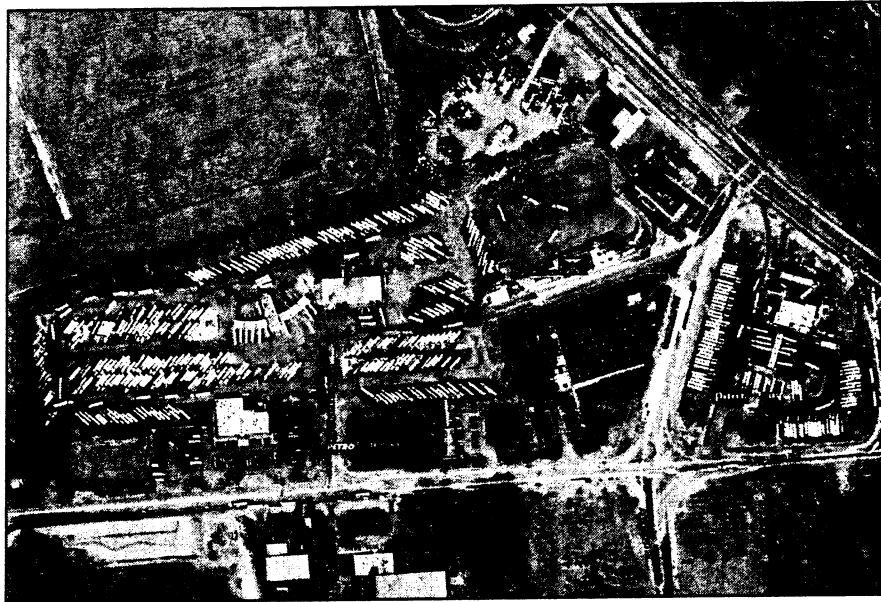
When state departments of transportation are permitted to provide commercial services at their rest areas, private businesses refrain from competing against these facilities. Private businesses ultimately close, resulting in a net loss in truck parking capacity.

Rather than seek to compete against these private businesses, both federal and state agencies should work with existing businesses to develop solutions that would allow businesses to expand parking capacity at their current locations. Government officials should identify the corridors where truck parking issues must first be addressed, and then seek ways to enable existing businesses to increase their capacity.

Ultimately, rest area commercialization is not the solution to increasing truck parking capacity in the United States. The states that currently operate commercial rest areas clearly show that those segments of the Interstate Highway System have less parking, and under serve truck drivers.

Exhibit 1: Comparison of Truckstops and Rest Areas

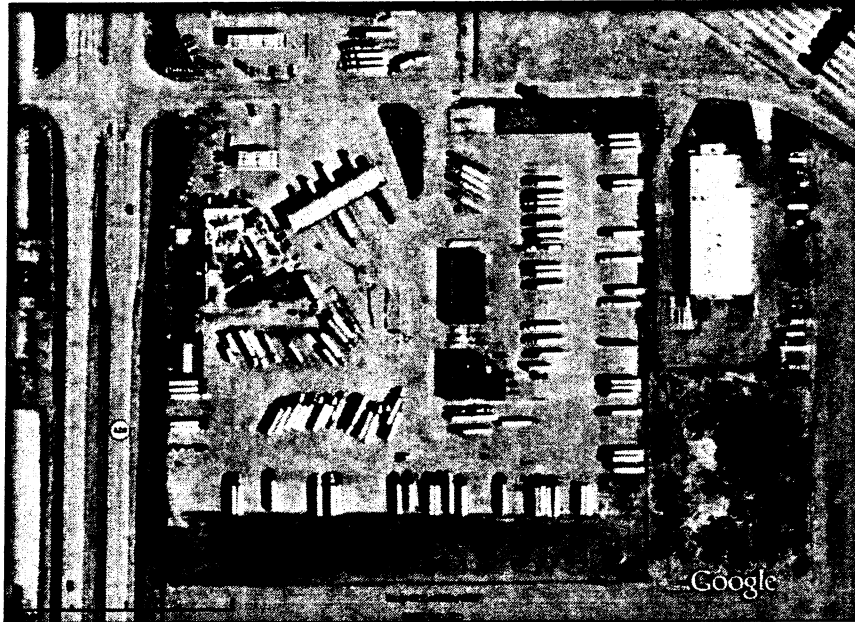
The following are photos of a truckstop and rest area in New Jersey. The Bordentown Petro (Exit 7, New Jersey Turnpike) has capacity for approximately 500 parking spaces.



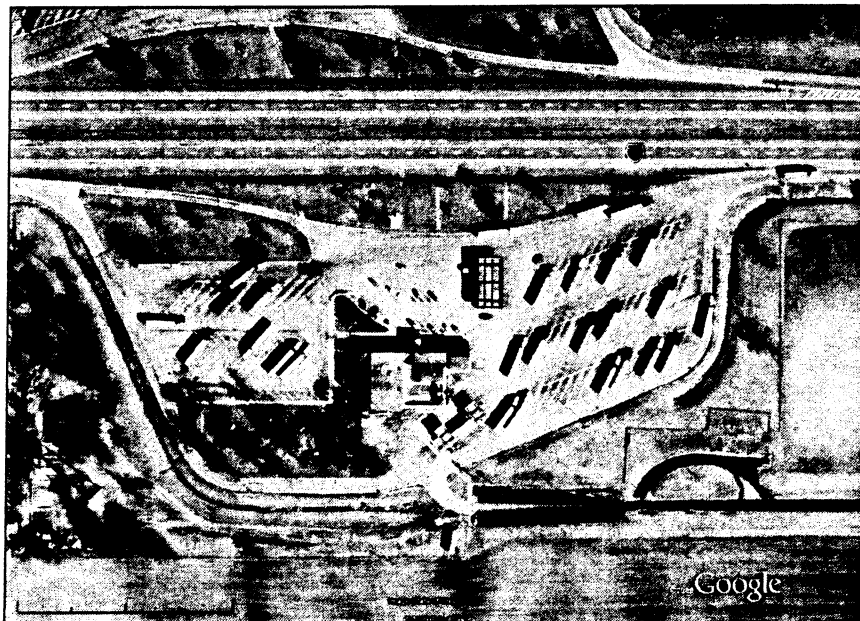
The Woodrow Wilson Service Plaza (mile market 58, New Jersey Turnpike) can park 50 trucks.



In Ohio, the same trend holds. The following is an aerial photo of a truckstop located at I-80, Exit 71 in Toledo, Ohio, which contains over 200 truck parking spaces.



However, the Fallen Timbers Service Plaza, located on I-90 in Lucas County, Ohio, a typical commercial rest area, only has approximately 50.



Works Cited

2009 National Truckstop Directory: The Trucker's Friend, TR Publications, Inc., January 2009, www.truckstops.com

NATSO Foundation, *Fueling American Prosperity: How Rest Area Commercialization Will Devastate Economic Contributions of Interstate Businesses*, Alexandria, VA, 2003

Truck Parking in Pennsylvania, Pennsylvania State Transportation Advisory Committee, December 2007

U.S. Department of Transportation, Federal Highway Administration, *Study of Adequacy of Commercial Truck Parking Facilities - Technical Report*, Washington, DC, 2002

Resources & Contact Information

Resources

Jobs Next Exit

<http://www.jobsnexit.com>

Coalition Blog

<http://www.jobsnexit.com/blog>

Coalition Press Releases

<http://www.jobsnexit.com/media/press-releases>

Headlines, Partnership News, and Political Updates

<http://www.jobsnexit.com/news-information/headlines>

White Papers

<http://www.jobsnexit.com/news-information/white-papers>

Contact Information

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July 23, 2010

The Honorable Chris Christie
Governor
State House
Trenton, NJ 08625

RE: Reject "privatization" of services the state doesn't even provide

Dear Governor Christie:

The small business men and women of the Fuel Merchants Association of New Jersey (FMA) support your desire to find ways for the state to more efficiently deliver essential government services to save taxpayers money. To this end, you signed Executive Order # 17, and the New Jersey Privatization Task Force issued its report to you highlighting changes it believes meets this objective.

While supportive of your broad goal, FMA urges you to reject the recommendation found on page 42 that encourages you to seek to overturn the ban on commercialization of interstate rest areas.*

Since 1960, there has been a prohibition against states commercializing rights of way along Interstates. Congress recognized the threat to jobs, investment and the local tax base that commercialization would bring.

Unlike many of the other Task Force recommendations, by the Task Force, this is an example of the state looking to expand into providing services that it currently doesn't, to the detriment of small businesses and local property taxpayers.

New Jersey is home to 1,867 exit-based businesses. These businesses employ more than 19,500 people and contribute more than \$14 million in local property taxes.

Click [here](#) for a study from the National Association of Truck Stop Operators (NATSO) outlining the devastating impact to small business this proposal would have. For example, a University of Maryland study finds that in areas where there are commercialized rest areas there are 50% fewer businesses at the exits. The loss of existing businesses means not only less

* The report recommends you petition FHWA for approval to commercialize rest areas. FHWA has no such authority. To commercialize an interstate rest area Congress must change the law.

employment, but also less ratables to municipalities and a corresponding upward pressure on local property taxpayers.

If the state were to privatize its rest areas, in all likelihood one of two multi-billion dollar companies, HMS Host or the Carlyle Group, would manage the rest area as they manage all commercialized rest areas in the country. HMS Host manages the rest areas on the Garden State Parkway, Atlantic City Expressway, and NJ Turnpike (toll roads are not covered by the prohibition of commercialization of rest areas).

On behalf of small businesses, FMA urges you to reject this recommendation of the Task Force.

Sincerely,



Eric DeGesero
Executive Vice President

cc: New Jersey Congressional Delegation
New Jersey Legislature
The Honorable Andrew Sidamon-Eristoff
The Honorable James Simpson



U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

James L. Oberstar
Chairman

John L. Mica
Ranking Republican Member

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

James W. Coon II, Republican Chief of Staff

December 18, 2008

The Honorable Thomas J. Madison, Jr.
Administrator
Federal Highway Administration
1200 New Jersey Ave., SE
Washington, DC 20590

Dear Administrator Madison:

We write to express our concerns regarding the Special Experimental Program No. 15 (SEP-15) application to develop an alternative fuels corridor along Interstate 5 (I-5) filed by the states of California, Oregon, and Washington.

While we are supportive of innovative steps to address the nation's climate change and global warming challenges, as well as efforts to increase the utilization of alternative fuels, we are not convinced the approach taken in this proposal is the most efficient or appropriate way to accomplish these objectives.

Under the application, the three States propose to select private sector partners to build evenly-spaced alternative fuel stations on State department of transportation-owned property near I-5, namely at rest areas and unutilized right-of-way. The proposal calls for the development of electric charging stations and fueling stations in the corridor for fuels including natural gas, bio-diesel, ethanol, ammonia, hydrogen and others alternative fuels as they emerge. It also proposes electrification for existing truck parking at rest areas to reduce greenhouse gas emissions from idling. To finance these alternative fueling stations, the States propose to allow private sector partners to engage in a commercial activity at the site by allowing private development rights to operate concessions for the sale of alternative fuels and other goods and services at Interstate rest areas and within other State-owned right-of-way.

The commercialization of rest areas and other Interstate right-of-way, as brought forward in this proposal, is specifically prohibited under current law. 23 U.S.C. §111 clearly states that "the State will not permit automotive service stations or other commercial establishments for serving motor vehicle users to be constructed or located on the rights-of-way of the Interstate System." Such a change to current law must be considered as part of the authorization of the nation's surface transportation laws, not through an experimental pilot project.

> *

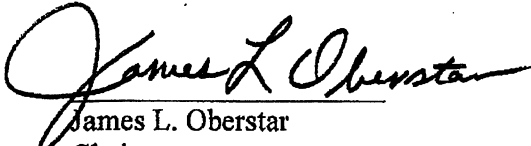
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The Honorable Thomas J. Madison, Jr.
December 19, 2008
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For this reason, we have serious concerns with this proposal and encourage you to deny the SEP-15 application so that we might fully consider this issue as part of the upcoming surface transportation authorization.

Thank you for your attention to our concerns.

Sincerely,


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Chairman


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Chairman

New Jersey State Legislative Board

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September 16, 2010

Testimony before the Assembly Transportation, Public Works and Independent Authorities Committee on the New Jersey Privatization Task Force Findings and Recommendations of Transportation Services in the State of New Jersey.

Good Morning Chairman Wisniewski and members of the Assembly Transportation Committee. My name is Daniel J. O'Connell. I am New Jersey State Legislative Director for the United Transportation Union (UTU). The UTU represents rail and bus employees. We represent more than 1000 rail employees at New Jersey Transit. We would like to thank you for the opportunity to share our views with you on this subject.

We would first like to state to this committee that New Jersey Transit (NJT) was created due to the terrible state of bus and rail transportation when it was in private hands. While there are no specific recommendations pertaining to New Jersey Transit Rail Operations (NJTRO) in the report we also note the Task Force's comment that due to time constraints there may be more privatization initiatives than they had time to consider.

We are glad to see the Task Force mention past privatization efforts such as E-ZPass, EnCap, schools construction, motor vehicles inspections and others that were less than successful. We note an editorial from the Philadelphia Inquirer dated July 18, 2010, which in criticizing the privatization proposals noted, **“that’s because the state already has some disastrous and relatively recent experience with privatization – much of it in the areas singled out by the Task Force.”** While we note the Task Force section on Impediments to Privatization we would like to add there is another downside. Privatization often means loss of jobs, lower wages and a lower standard of living for those effected. Is that really what we want for our fellow hard working New Jerseyans? We think not.

While saving money for the taxpayers and the State of New Jersey is touted in the report and may be a laudable goal, that may not be easily achievable. For example the recommendation to privatize more NJT bus routes without incurring federal “13c” requirements would be difficult because almost all NJT buses are obtained with the use of federal funds.

There is no doubt and we have previously testified before this committee of the terrible economic times in which New Jersey, the United States and indeed the World finds itself. We fear there are those who would use such dire circumstances to promote an agenda that would enrich some at the expense of others. While the Task Force held three public hearings and heard from many organizations, individuals and entities we find ourselves agreeing as stated in the same Philadelphia Inquirer editorial concerning the make-up of

the committee **“Of course, given that two of the Task Force’s five members head the Chamber of Commerce of Southern New Jersey and the Commerce and Industry Association of New Jersey, Christie couldn’t have expected a skeptical take on government by corporations.”**

In closing we would ask this committee and the legislature to look long and hard before privatizing various state services. There is an old adage that speaks of those who know the price of everything and the value of nothing. It would be a shame if in an effort to save taxpayer dollars we ended up costing them more in a poorer quality of life. The Philadelphia Inquirer editorial stated **“New Jersey has already tried turning over some essential services to private enterprise and the results were woeful” and “Privatization shouldn’t be ruled out, especially in hard times. But some services belong in government, and others should be reduced or eliminated before they are outsourced to crony capitalists...”**

Thank you again and we would be happy to answer any questions you may have.

**Daniel J. O’Connell
New Jersey State Legislative Director
United Transportation Union**

CONGESTION BUSTER TASK FORCE

FINAL REPORT

October 2002

Report Prepared by: **Congestion Buster Task Force**
Jim Sinclair, P.E., Chairman
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*Preparation of this report was undertaken as authorized under New Jersey State law
pursuant to P.L. 2000, Chapter 73, § 13 (N.J.S.A. 27:1B-21.26).
The content of the report is solely the product of the Congestion Buster Task Force.*

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Presented To:

The Honorable James E. McGreevey, Governor
The Honorable John O. Bennett, Senate President
The Honorable Richard J. Codey, Senate President
The Honorable Albio Sires, Speaker of the General Assembly
Members of the Senate Transportation Committee
Members of the Assembly Transportation Committee

Gentlemen:

On behalf of its members, I am pleased to present to you the final report of the Congestion Buster Task Force. The Congestion Buster Task Force was created by the Congestion Relief and Transportation Trust Fund Renewal Act of 2000 to make recommendations for reducing traffic congestion in the State. Task Force members were appointed by the Commissioner of Transportation and included representatives from business organizations, public interest groups, Transportation Management Associations, Metropolitan Planning Organizations, academic institutions, public members, and highway, transit service and facility providers.

The full statutory mandate of the Congestion Buster Task Force is found at N.J.S.A. 27:1B-21.26. Pursuant to this mandate, the Congestion Buster Task Force's final report outlines key findings and recommendations and identifies numerous strategies and initiatives for reducing traffic congestion in the State of New Jersey.

I wish to thank the members of the Task Force who have worked so diligently over the past year to research and prepare this report. They are a distinguished group of transportation experts who in this report have integrated a comprehensive collection of congestion mitigation policy recommendations. I also wish to thank the New Jersey Department of Transportation for providing resources and assistance to the Task Force in this effort.

Respectfully submitted,

Jim Sinclair, P.E.
Chairman, Congestion Buster Task Force

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EXECUTIVE SUMMARY AND FINAL RECOMMENDATIONS

The Congestion Buster Task Force (CBTF) has met and learned many things over the year we have worked together. Transportation costs directly impact us all – from the taxes we incur to maintain our transportation infrastructure – to the cost of goods and services we purchase – to the cost of commuting to work and other daily endeavors – to the cost of recreational activities. Time is money. The more time spent on the road, the more costs we incur. The more costs incurred on transportation, the less we have to spend on consumer goods, services and recreational activities. Businesses locate where expenses are minimized so that competitiveness and profitability, as well as worker productivity, are maintained. Clearly, a severely congested transportation system can have a direct negative impact on economic growth.

Today in New Jersey, as well as across America, people are willing to drive longer to get to work. Commuting times have increased. It has become a matter of what “level of pain” individuals are willing to endure in their travel to work. The Task Force has learned that single occupant vehicles are the predominant mode of travel, yet most individuals are not aware of the total true cost of operating an automobile. While many of the recommendations presented in this report can be implemented in a short to mid-term period, the CBTF believes that long-term strategies will have the greatest positive impact upon congestion relief. These include sound land use policies, increased transit availability and ongoing public education on the severity and costs of congestion.

The major recommendations of the Task Force for reducing congestion on New Jersey roads follow. Full recommendations begin on page 24. Most of the recommendations presented here will require financial resources and additional staff to implement. The CBTF acknowledges that the present economic climate may not allow the State and private sector to implement or advance some of the recommendations. As a result of the recent economic slowdown, the State budget is suffering from a shortage of money that may continue for the next few years. The State of New Jersey has made budget cuts, implemented some spending freezes, increased some taxes and tapped rainy day surplus accounts to cover present shortfalls. In addition, some of these recommendations may require further study to investigate ideal solutions and prepare implementation plans.

1. Encourage business community support for Transportation Management Association programs.

Transportation Management Associations (TMAs) are independent, nonprofit, public/private partnerships that work closely with employers, government and commuters to implement demand management programs in their respective service areas. The Task Force feels there is a strong relationship between TMA involvement and successful trip reduction programs. Employers with 50 or more employees at a work site are strongly encouraged to participate in TMA programs. Statewide and local business groups can directly implement this private sector initiative with the support of the New Jersey Department of Transportation (NJDOT). Local Chambers of Commerce and like groups should promote TMA services to their members. Adequate TMA funding is essential.

2. Develop a plan to implement high-speed E-ZPass on New Jersey's toll roads.

Traffic congestion, exacerbated by toll barriers, is a major cause of frustration for toll road users. High-speed toll lanes offer significant potential in reducing congestion, improving air quality and

maximizing the benefits of E-ZPass. Neighboring states such as New York and Delaware have already installed high-speed or "open-road" tolling equipment. This recommendation can be pursued now, but will probably need legislation to appropriate funds for equipment, signs and possible lane reconfigurations.

3. Support demonstration projects for Parking Cash-Out.

Parking Cash-Out is an employee transportation benefit that offers workers the option of giving up their employer-provided parking space in exchange for its equivalent monetary value. For example, an employer who provides subsidized parking for their employees may offer cash allowances in lieu of a parking space. Early studies have shown that Parking Cash-Out can significantly reduce single occupancy trips to the workplace. The enactment of the federal Transportation Equity Act for the 21st Century in 1998 and New Jersey's Commuter Tax Benefit Law in 2001 removed tax barriers that limited implementation of Parking Cash-Out programs.

4. Expand the existing Park-and-Ride Program.

Present Transportation Trust Fund legislation (Public Law 2000, Chapter 73) set a goal that the Department of Transportation establish or expand at least two park-and-ride facilities through fiscal year 2005. Insufficient parking capacity and inadequate funding for new parking facilities currently hamper efforts to promote transit use and ridesharing in New Jersey. The Task Force believes that the legislative goal does not go far enough. We support development of a new five-year park-and-ride plan by NJDOT and NJ TRANSIT that seeks to provide 13,000 additional parking spaces, beyond those already funded, while preserving and maximizing existing capacity.

While this recommendation relates closely to recommendation 14 below (increased transit capacity and funding), it is listed on its own because implementation will require state and federal funding and the cooperation of many transportation providers, agencies and government bodies. The Task Force also recommends that parties investigate the possibility of private sector sponsorship for park-and-ride facilities.

5. Expand freight hours of operation to coordinate truck movements during off-peak hours.

Analysis has shown that expanded hours of truck operations could significantly reduce peak period trips.

6. Bus Rapid Transit (BRT) – BRT combines the quality of rail transit and the flexibility of buses. It can operate on exclusive transitways, HOV lanes, expressways or ordinary streets using specially designed buses equipped with comfort-related amenities. BRT systems may incorporate dedicated freeway ramps, priority treatment at traffic signals, and queue-jumper lanes (extra lanes that provide first priority to BRT at intersections). Low-floor vehicles and off-board fare collection expedite passenger boarding. BRT has been used successfully in several cities including Pittsburgh, Cleveland and Phoenix. Although this recommendation has not been fully presented and analyzed in this report, the Congestion Buster Task Force feels BRT may be an element of a successful congestion reduction plan. NJ TRANSIT is exploring its use in New Jersey.

7. Enact Transportation Enhancement District (TED) legislation.

This legislation will provide a transportation planning and financing framework to permit the assessment of fees on both existing traffic-generating properties to correct existing transportation deficiencies and on future development to ensure that adequate transportation infrastructure and transit services are put into place to accommodate traffic caused by future development. Originally introduced in the New Jersey State Assembly in 2001, the TED legislation was reintroduced in the current legislative session and now has a companion bill with Senate sponsorship.

8. Support NJDOT's Smart Move/Fast Move programs.

NJDOT's proposed Capital Investment Strategy for FY 2003-2007 includes \$5 million a year for a new "Fast Move" program of congestion relief projects and \$5 million a year for a new "Smart Move" program of intelligent transportation system projects. Both programs will concentrate on low-cost, quick-turnaround projects done by a combination of in-house maintenance forces and outside contractors. The first phase of these programs will be implemented by NJDOT in fiscal year 2003 under the current budget scenario.

9. Ongoing support for development of a statewide comprehensive freight plan.

The Department of Transportation is presently developing a comprehensive freight plan. The plan will analyze current freight practice and intermodal connections, as well as forecast anticipated needs. Identification of critical infrastructure investments will improve our ability to move goods efficiently and is vital for New Jersey's continued development and prosperity. Continued funding for staff and associated planning costs are needed for implementation.

10. Expand the use of Transfer of Development Rights (TDR).

TDR refers to a method of protecting undeveloped land by transferring the "rights to develop" from one area to another. The goal is to preserve open space while concentrating development in areas that may, in turn, sustain transit. This land use technique, useful when trying to balance development, is presently only used in the Pinelands area of our state. Legislation is currently proposed to amend the Municipal Land Use Law to authorize adoption of municipal TDR programs.

This and other land use recommendations may be politically difficult to implement. Tremendous local, county, regional and state coordination will be needed to achieve land use policies that support TDM strategies.

11. Support New Jersey's Smart Growth Policy.

Governor McGreevey has issued Executive Order #4 (2002), which creates a Smart Growth Policy Council in the Office of the Governor. Its goal is to promote smart growth and reduce the negative effects of sprawl and low investment in older communities. The Executive Order requires all State agencies to incorporate smart growth principles and the State Development and Redevelopment Plan into their own functional plans and regulations. The Congestion Buster Task Force supports smart growth as it would focus new growth into redevelopment of older urban and suburban areas, protect existing open space, and increase transportation options and transit availability.

Integrated statewide planning, including investment in transportation and infrastructure, coordinated with local and regional planning, may reduce automobile traffic and dependency. State resources should be allocated to provide municipal assistance and training in smart growth practice. Smart growth strategies include transit-oriented development and the expansion of shuttle services between residential areas, transit stations and work sites.

The Department of Transportation's Transit Village Program and NJ TRANSIT's Transit-Friendly Development Program are designed to spur development and investment around a community's bus or rail station. Along with NJDOT, several State agencies partner with designated transit villages to advance transit-oriented development, including mixed-use development such as housing, cultural and commercial opportunities within a half-mile of the transportation facility. Designated transit villages receive priority consideration for funding and technical assistance from participating State agencies. The partnerships also help communities leverage more private-sector investment.

12. Enact legislation to require drivers involved in minor accidents to move vehicles to the side of the road.

Moving vehicles involved in minor accidents immediately to the side of the road will dramatically improve traffic flow and thereby reduce congestion. Georgia Code Annotated §40-6-276 contains model legislation. Once appropriate legislation is enacted, it may be necessary to adopt rules to set policy guidelines. In addition, funding will be needed for public education and new roadway signs.

13. Re-time traffic signals on congested State roadways to be more responsive to current traffic conditions. Encourage local and county governments to do the same.

There are currently 5000 signalized intersections on New Jersey's state highway system. About one-fifth of these intersections are estimated to be in highly congested areas, currently have no volume-based adaptive control, and have not been re-timed within the past two years. Historical data has indicated that signalized intersections with timing plans that have not been updated within two years are likely causing the public a five to ten percent increase in overall travel time delay. By implementing this recommendation, signalized intersections will be more responsive to current peak hour traffic conditions, and overall travel time delay through these intersections will be reduced. NJDOT will be primarily responsible to implement this recommendation, with county and local traffic engineers to follow suit. Implementation will require capital resources and staff.

14. Increase peak period transit capacity, expand transit availability and establish a secure source of transit funding.

Adequate and stable transit funding is critical to address our growing commuter crisis. While recognizing that this recommendation is costly, the Task Force believes that the availability of comfortable and convenient transit service is key to removing vehicles from New Jersey's roads.

We support recent steps that NJ TRANSIT took to substantially reduce standees on its trains. Revised schedules and the purchase of 29 new ALP-46 electric locomotives that can pull more cars have increased rail capacity. New rail service, such as the Montclair Connection, has added additional seats. NJ TRANSIT has secured funding from the Port Authority of New York and New Jersey to purchase 150 new bi-level rail cars which have approximately 30 percent more seating capacity than its existing single-level cars. The new cars are expected to be delivered by the end of 2005.

In addition, transit operators need funding to purchase new buses and increase the frequency of bus service, not only into New York City, but also throughout New Jersey. NJ TRANSIT should continue to establish new routes and lines where needed, if fiscally able to do so. Continuation of successful shuttle projects, establishment of new shuttle services, construction of a new rail tunnel into Manhattan and development of a seamless fare system are all projects worthy of funding.

15. Launch a sustained, targeted campaign, with Governor support, to promote adoption of commuter tax fringe benefits programs by New Jersey employers.

The federal commuter tax benefit is a proven congestion buster tool, especially in areas where public transit is available, yet many New Jersey work sites have not taken advantage of this opportunity. These programs provide a financial incentive for drivers to get out of their cars and use public transportation or ridesharing for their commutes to work. Up to \$100 per month or \$1,200 per year is tax exempt for each eligible employee participating in a qualified transportation fringe benefit program. Thus, payroll taxes are reduced for employers and employees can save \$400 or more per year by taking the pre-tax deduction of \$100 per month.

This financial incentive usually takes the form of transit passes or vouchers. Employers administer NJ TRANSIT's BusinessPass Program. A portion of the cost of a monthly rail or bus pass is deducted from an employee's pre-tax salary, thus increasing the employee's take-home pay. Monthly passes are mailed directly to the employee work site, allowing for convenient distribution. PatronPass gives businesses an opportunity to buy in bulk one-way transit tickets in advance. Having pre-paid tickets on hand eliminates cash reimbursements and travel advances.

Transit Center, Inc., a nonprofit corporation promoting transit, offers the TransitChek commuter voucher program to employers. TransitChek vouchers are available in various denominations and can be given to employees as a monthly or quarterly benefit, incentive or reward. The vouchers can be used like cash to pay for transit tickets or passes, MetroCards and eligible vanpool costs. The TransitChek program is tax-free for employees and tax-deductible for employers.

This recommendation is easy to implement but requires allocation of sufficient resources from Federal and State sources to increase targeted advertising, outreach and technical advice. Promotion of this campaign by the Governor's Office is critical to its success.

16. Maintain, implement and/or expand congestion relief pricing toll incentive programs at all tolled facilities.

Congestion pricing and other forms of road pricing are potentially effective means of improving traffic flow. Such strategies use pricing, usually during peak periods, to create incentives to change travel behavior. Many researchers strongly endorse congestion pricing as an effective strategy to reduce single occupant vehicle travel while funding alternative transportation modes. An added benefit is reduced congestion-related pollution. Pricing incentive programs are implemented by road authority regulation. Congestion pricing strategies should consider potential adverse financial impacts on low-income drivers and of drivers switching to non-tolled facilities; mitigation measures should be identified to address any adverse effects.

17. Enact state legislation to waive tolls for carpoolers, vanpoolers and transit riders during peak travel periods.

Peak period hours would have to be clearly defined by road and bridge authorities. Fiscal and legal impacts upon the authorities and enforcement issues would have to be studied.

18. Data Collection.

Transportation professionals recognize the need for basic information – such as origin-destination data and work hours – in order to provide attractive, convenient alternatives to the commuter. Key work sites in specific congested corridors could be selected or targeted for surveying and data collection through their respective Metropolitan Planning Organizations (MPOs). The collected data could be used to develop and implement a plan that includes teleworking, or a ½-day telework/½-day office work schedule; transit; shuttles; and/or enhanced vanpooling/carpooling or other TDM options. Although data collection will not be mandatory for employers, successful implementation of effective TDM strategies will require the full cooperation of employers, TMAs and other transportation professionals, with the encouragement of the Governor's Office.

19. Public Information Campaign.

Seemingly ignoring the issue, but nevertheless irritated by it, the public looks to government to reduce congestion. Individuals and businesses need to understand that controlling the growth of commuter congestion directly benefits them. Implementing this recommendation would require financial resources to conduct a comprehensive multi-year media campaign. Low cost, easy ways to communicate the seriousness of this issue to the public follow:

- Use Division of Motor Vehicle Services inserts to educate motorists about topics that will help change behavior and reduce congestion, trips and auto emissions. Distribute ridesharing applications, a list of TMA services and a summary of commuter tax benefits.
- Design, produce and install new highway signs promoting ridesharing, including the toll-free information number and Web site reference. Redesign the toll-free number menu to be more user-friendly.
- Include information on commute options and incident management in driver education programs and in driving manuals. Disseminate information through NJ Network.

20. Implement advanced traffic signal control and intelligent transportation systems using traffic responsive signals, ramp metering, and automatic incident detection to manage traffic flow.

As population continues to grow, the demand on our existing transportation system is becoming increasingly hard to meet. With significant road and highway expansion unlikely due to cost and dwindling land supply, intelligent systems such as advanced traffic signal control, ramp metering and automatic incident detection will be critical to operating our current roadway systems at maximum capacity. This initiative will require long-term commitment of substantial capital resources to implement, but it holds promise as a way to manage traffic in concert with land use and smart growth considerations.

Traffic signal control is an interconnected electronic system that synchronizes traffic signal timing within an area, with the aim of maximizing throughput by reducing stops and overall vehicle delay. Traffic signal control varies in complexity from simple systems that use historical data to set fixed-timing plans, to adaptive signal control, which optimizes timing plans for a network of signals according to real time traffic conditions. Typically, cycle length, phase splits and offset are defined for each intersection.

Poorly timed signals waste time, fuel and money. Studies have shown that signal improvements generally provide the greatest payoff for reducing roadway congestion when compared with other methods, such as road widening. Advanced traffic signal control can help ease congestion and its negative consequences without the cost and environmental impact of road expansion.

Ramp metering is the use of traffic signals at freeway on-ramps to control the rate of vehicles entering the freeway. The metering rate is set to optimize freeway flow and minimize congestion. The metering rate can be fixed, or responsive to local or system-wide conditions.

Incidents include anything that disrupts the normal flow of traffic, such as stalled cars, accidents and objects that have fallen on the roadway. Transportation Management Centers often manage incident response. These centers coordinate the dispatch of tow trucks, police or highway patrol personnel, medical help, road maintenance crews, HazMat teams or other emergency services necessary to clear the incident and restore the road to full capacity. In addition to Emergency Service Patrols as noted in recommendation 24 below, Transportation Management Centers often use traffic cameras to automatically detect and confirm that an incident has occurred. Information regarding traffic incidents can be disseminated to motorists via radio, variable message signs and other media, thereby allowing motorists to make informed travel decisions and reduce delay.

21. Pursue ways through the Office of the New Jersey Treasurer to make the federal pre-tax commuter tax deductions available under New Jersey's tax structure.

The personal income tax structure of New Jersey does not recognize the automatic applicability of federal income tax exemptions. The tax structures of New York State and Connecticut do recognize the pre-tax commuter tax benefit. Some experts feel that acceptance of the commuter tax benefit by employers has been limited in New Jersey because of the absence of the double tax exemption. It would be necessary to study the fiscal impact lost revenues would cause the State.

22. Support and encourage State government's development of transportation fringe benefit programs for its own employees. State government should set the example for New Jersey employers by supporting teleworking, alternate work schedules and other Travel Demand Management (TDM) strategies.

Public Law 2001, Chapter 162, signed July 17, 2001, allows State and local government employers to offer qualified transportation fringe benefits to their employees as an employee set-aside program. Transit costs and parking benefits up to set limits may be excluded from federal taxes. The State of New Jersey's Division of Pensions and Benefits expects to begin offering the program to its employees around January 1, 2003.

State government can be a transportation role model by actively supporting teleworking and alternative work schedules. State government is encouraged to schedule meetings at off-peak times.

23. Support Governor McGreevey's initiative to remove uninsured motorists from New Jersey's roads.

It is estimated that there are 600,000 uninsured vehicles driving on the roads in New Jersey. Removing these vehicles may have a positive impact on traffic congestion.

24. Increase the present level of service provided by NJDOT's Emergency Service Patrols (ESP) along selected interstate highways to add service to chronically congested areas and provide new service on other facilities not presently served.

This recommendation will result in less congestion by reducing vehicle hours of delay, a critical performance measure. Incidents include a variety of non-recurring events such as flat tires, abandonment, fuel outage, breakdown, and debris, and often do not require police presence. Incidents cause delay because vehicles remain in the traveling lanes or in a position where the traveling public must reduce speed or stop to avoid the cause of the incident. Increased ESP activity will help remove vehicles involved in incidents more rapidly, allowing traffic to resume a freer flow. With the number of incidents responded to by ESP in NJDOT's northern region averaging over 1000 per month, it is essential that this service be increased. Since the vast majority of incidents are not crashes, this recommendation has the potential of significantly reducing congestion. Increased staffing and equipment purchase is necessary for implementation.

In addition to the recommendations presented and analyzed in this report, the Congestion Buster Task Force has identified additional ideas that warrant further exploration. They are:

Discount automobile insurance for individuals that restrict or reduce their driving – Some insurers, such as Progressive Insurance Company, base auto insurance rates upon specific driving factors, such as mileage, time of day, and geographic location, in lieu of more customary factors, such as age, sex, and marital status. The discount program uses a global positioning system device installed by the insurer in their customers' vehicles.

Pay-at-the-pump automobile insurance – Proponents argue that this would create a better link between miles driven and the cost of automobile insurance.

Individual commuter incentives and disincentives – Incentives, financial and otherwise, to reduce single occupant trips, may need to be developed to change individual travel behavior.

STATUTORY MANDATE OF THE TASK FORCE

The Congestion Relief and Transportation Trust Fund Renewal Act (Trust Fund Renewal Act) enacted on July 20, 2000 mandated the establishment of the CBTF. Section 13 of the Act follows:

N.J.S.A. 27:1B-21.26. Congestion Buster Task Force

13. a. There is created in the Department of Transportation a task force to be known as the "Congestion Buster Task Force" to study and make recommendations concerning the reduction of traffic congestion in the State. The members of the task force shall be appointed by the commissioner in such number as the commissioner shall designate from the Department of Transportation, the New Jersey Transit Corporation, business organizations, Transportation Management Associations, the counties, and members of the public.

b. The task force shall organize as soon as may be practicable after the appointment of its members and shall select a chairperson from among the members. The members shall select a secretary, who need not be a member of the task force. The task force shall meet at the call of the chairperson. The task force shall be entitled to call to its assistance and avail itself of the services of the employees of any State department, board, bureau, commission or agency, as it may require and as may be available for its purposes, and to employ stenographic and clerical assistance and incur traveling and other miscellaneous expenses as may be necessary in order to perform its duties, within the limits of funds appropriated or otherwise made available to it for its purposes.

c. The task force shall conduct a study of highway traffic congestion in the State and develop a commuter options plan that would result in peak hour vehicle trips being "capped" at 1999 levels. In developing the plan, the task force shall review relevant information and findings from other jurisdictions, both national and international. The plan shall include, but not be limited to, resources and incentives for public transportation, ridesharing, telecommuting and other travel reduction strategies. In making its recommendations for the plan, the task force shall include funding proposals, an implementation of the plan, and a method of evaluating progress toward the realization of the goal of the plan to cap peak hour vehicle trips at 1999 levels. The task force shall also be charged with identifying the top 10 projects which can be quickly implemented to relieve congestion or improve safety.

d. The task force may meet and hold public hearings at such place or places as it shall designate and shall issue a final report containing its findings and recommendations, including any recommendations for legislation that it deems appropriate, no later than one year after the task force organizes, to the Governor, the President of the Senate and the Speaker of the General Assembly, and the members of the Senate Transportation Committee and the Assembly Transportation Committee, or the successor committees.

e. The task force shall dissolve one year following organization of the task force.

REMARKS OF THE CHAIRMAN

Congestion in our present transportation system impacts almost every citizen of the State of New Jersey. This can take the form of delays in the morning rush hour; traffic jams at recreational, entertainment or shopping events; or the lack of adequate service on public transit. The Congestion Buster Task Force (CBTF) has spent a year examining all aspects of New Jersey's congestion problem. The members have looked at the root causes of the problem, talked with public and private experts and have listened to the citizens of the State. This has been an open and public exploration of a vexing public policy issue. The recommendations in this report are the product of this ongoing dialogue. These recommendations, while representing the collective judgment of the members on what is "politically and fiscally doable," are not an exclusive or perfect answer to congestion. It is hoped that our suggestions will become a lightning rod for constructive criticism and for the generation of new ideas that are more effective and more efficient. We see this report as the start of, and not the finish of, this discussion. As we have with all of our documents, the Task Force has posted this report on the CBTF home page of the New Jersey Department of Transportation Web site at <http://www.state.nj.us/transportation/commuter/cbtf/index.html> to encourage continued participation by the public and by members of the Task Force who may wish to provide additional input to the development of the policy agenda.

Because congestion is individually perceived as a temporal and spatial phenomenon, we asked the public to engage in this discussion by identifying "hot spots" of congestion around the state. The New Jersey Department of Transportation cross-checked these problem routes and corridors against its long-range (25-year) plan. The Task Force used this list of congestion problem spots as a tool to discuss underlying causes for congestion. We learned that there are two main types of congestion: recurring and nonrecurring. Recurring congestion occurs on a regular basis, typically in the peak commuter hours, and is caused by heavy demand trying to use a facility at the same time. Nonrecurring congestion is caused by random, but not infrequent, events that disrupt traffic flow, such as vehicle breakdowns, accidents, construction work zones, special events and weather. Nonrecurring congestion is generally credited with causing half of the total roadway system delay.

Our study has graphically reaffirmed our understanding that the seemingly independent structural components of transportation – the buses, the trains and all the automobiles – are part of a complex and dynamic transportation system that inextricably links one component to another. The framework in which this system resides is the physical shape of the landscape of New Jersey, and to a great extent New York City and eastern Pennsylvania. How we have used the land in the past and created developments for housing, business, commerce and recreation establishes given nodes in the system. How we shape the future will determine the state of the transportation system, and this will either hinder or help the flow of goods and people.

Consumers are the most important part of the transportation system. Each citizen is a customer of the New Jersey transportation system. The transportation choices travelers make impact everyone else in the system. Individuals make personal decisions concerning their trips to and from work, where they shop and where they recreate. Their collective movement generates the sporadic local system overload. Single occupancy vehicles constitute the predominant form of travel. The length of time and the hassle of the daily commute produces a level of pain that either is tolerated by drivers or generates a search for an attractive alternative. Individuals are intelligent and

independent participants in this process. They select routes and modes of travel based on a number of personal criteria. Research literature suggests that the marketing of commute alternatives, by itself, is not a very effective strategy in reducing congestion. Government, transportation providers, and employers need to be involved, as they can influence choices, provide alternatives or, in some cases, impose restrictions on travel.

Citizens, individually and collectively, do not respond well to mandates from government or employers on commuting. There is general disdain for increased taxes, fees, tolls and forced carpooling, even when it has a higher environmental or social purpose. The recent reactions of drivers following the September 2001 incidents demonstrated this fact; few people took advantage of park-and-rides; instead, they shifted their driving times from the hours during which single occupancy vehicles were banned at NYC crossings. This is also demonstrated by the lack of public acceptance of high occupancy vehicle lanes, the general acceptance of the elasticity of gasoline prices, the political aversion to increasing gas taxes, and the fragile sustainability of employer-sponsored carpooling programs. There is a psychological attachment to the auto. For many in our auto-centered society there is a belief that a "right-to-drive" is a fundamental freedom.

More outreach needs to be done with employers within the State to encourage corporate support for trip reduction strategies and policies. For business meetings and off-site events, mileage and expenses are reduced when employees carpool. We need to take a careful look at "Parking Cash-Out," perhaps by implementing some demonstration projects. Collectively, the Task Force wants to encourage telecommuting because each workday spent at home takes one vehicle out of the peak period flow. Longitudinal studies on productivity of workers who telecommute need to be generated to help convince corporate management that this is a tool for increasing productivity of certain types of employees that they should support. Some workplace-based initiatives that could reduce congestion include: flexible work hours, alternate workweek, extended hours, different start and stop times, off-peak deliveries, carpool subsidies, onsite transit support services, TMA-sponsored transportation fairs, and local shuttle services. While these strategies can contribute to reducing congestion, they may not produce fewer trips.

Most of the Task Force's recommendations focus on governmental and institutional improvements, such as increased aid to transit, better land use planning, freight plans or financial incentives not to drive solo. Most of the carrots offered are reasonable and workable but these tweaks of the system will not have profound or perhaps even noticeable impacts on the existing morning and evening peak hour crush. We've learned that a volume reduction on a specific route or corridor will often be negatively offset by a growth in population or a shift to this easier flowing route by a driver currently traveling a longer route.

The fundamental issue discussed by the Task Force has been – "Just how 'bad' is congestion now?" "Bad" is clearly a relative term based on the region of the State, the travel time and personal expectations. The CBTF also discussed, "In the future, at what level of pain would strong restrictions that limit the number of automobiles on the road during peak periods become a desirable and workable public policy?" Potential governmental restrictions on individual driving, if implemented, would meet the goals of the legislation and roll back peak hour vehicle trips to 1999 levels. Just as severe congestion can strangle economic growth, restrictions that better manage congestion could potentially have a negative impact on economic growth. More importantly, because restrictions have a direct impact on the behavior of drivers and on the personal cost of driving, they do not appear to be politically doable at the present time. These restrictions could take

the form of road rationing, such as limiting the driving of specific autos to four days per workweek; peak period pricing of corridor use with a mandatory E-ZPass system for all NJ registered automobiles and trucks that could also monitor current inspection stickers and valid insurance policies; restricting student driving to high schools; or enforced parking restrictions at work sites. Evolving technology will enable these and other options to provide the mechanism for public regulation of automobile use. The point at which the collective pain of everyday congestion makes these restrictions valid political policy options is in the future.

Transportation planning needs to be integrated to maximize the positive impact of the mind-boggling amount of capital that is currently invested, and the amount that will need to be invested in the future. There needs to be a more public visible calculus for comparing the equivalency of investment dollars in all of the components of the system. We need to start thinking multi-modally on all of our outlying transportation construction projects. Every road improvement project should be viewed as a potential mass transit enhancement, and vice versa.

The recommendations in this report are a good start. We have been able to assemble a collection of congestion reduction ideas that will help. There is no easy solution to reduce all of our traffic congestion problems. Each travel or development decision made by government, employers, businesses and individual commuters can alter the existing system and help us to design a better future for all of our citizens. Real congestion improvement will come from a continuing series of correct decisions. We invite the public to provide its personal input into this ongoing discussion.

LONG TERM TRENDS

New Jersey's transportation system of moving people and goods is composed of a variety of modes of transportation (cars, buses, taxis, vanpools, rail, boats, person-powered transport and trucks). Individual citizens, for the most part, select the mode of choice based on destination, trip purpose, cost, convenience, habit, or availability of options.

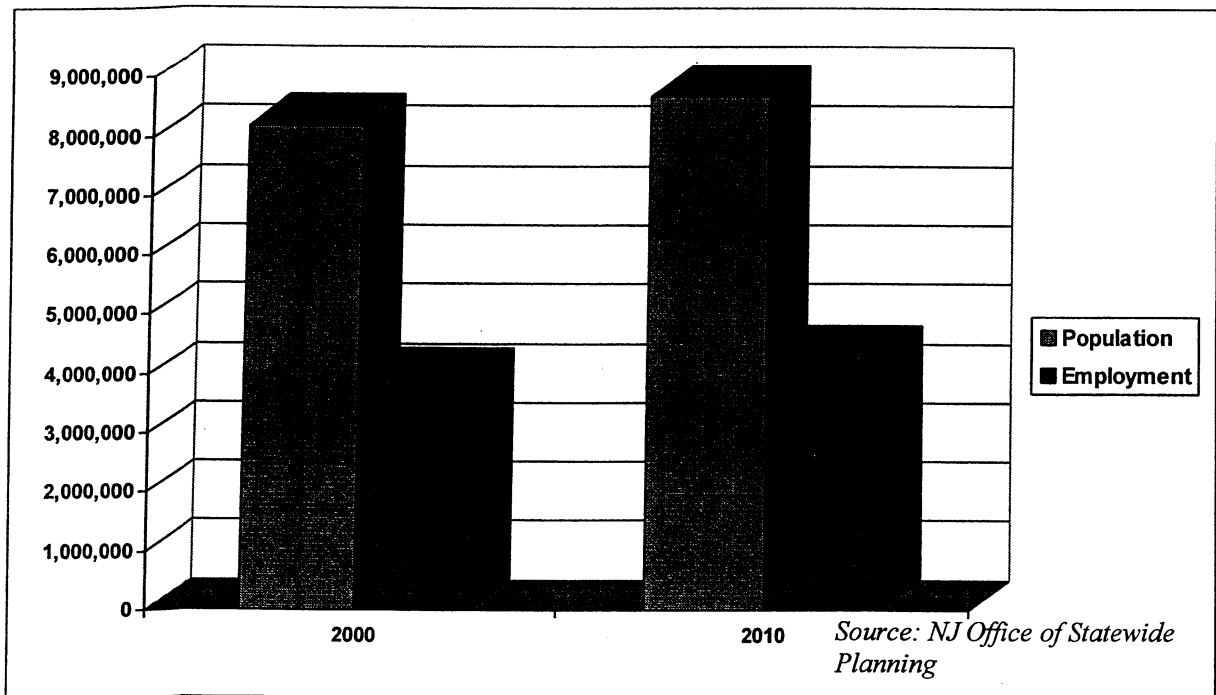
In simple terms, congestion results when travel demand approaches or exceeds the capacity of a transportation facility to provide service at performance levels acceptable to the users. Presently, various levels of congestion during peak commuting periods, generally 7 a.m. to 9 a.m. and 5 p.m. to 7 p.m., affects many regions of the State. The ease and length of time of the daily commute is an issue of growing concern for both employers and for employees. In addition, the ability to ship and receive goods in a timely manner is important for the economic viability of many businesses in the manufacturing and retail sectors of our State's economy. Population growth, economic development, and changes in social structure and land use development have combined to produce steadily increasing levels of traffic congestion, not only in New Jersey but throughout the United States and indeed throughout the industrialized world. Traffic congestion is not just a source of personal inconvenience for the individual traveler – it imposes a significant cost on the economy. A recent study by the New Jersey Institute of Technology estimates that the statewide annual cost of traffic congestion in lost time, operating cost, and wasted fuel is more than \$7 billion. (*Mobility and the Costs of Congestion in New Jersey: 2001 Update*, July 2001).

The statutory mandate of the Congestion Buster Task Force is to identify policies that will reduce the number of peak period vehicle trips. We have learned that single occupancy vehicles constitute the predominant form of travel. The Task Force has determined that merely shifting drivers from automobiles to public transportation is not a feasible short-term alternative. Lack of current capacity on most of the peak period routes, except where new rail service is being implemented, will not allow a simple mode shift.

There is a strong relationship between land use and transportation demand. Travel patterns have changed dramatically in the least 10 years, as the consumption of land for residential and office use has caused people to drive further. Roadway capacity, however, has not kept up with travel demand. Between 1990 and 2000, total roadway lane miles in New Jersey increased approximately 6 percent, while vehicle miles of travel increased 14 percent. This has resulted in the average commute time increasing 18 percent, from 25.3 minutes in 1990 to 30 minutes in 2000.

Demographic trends and household characteristics play a large role in creating demand for travel. Key indicators suggest that demand for travel will increase in the future due to increases in both population and employment. Population in New Jersey is expected to grow by almost 500,000 people by the year 2010 or 1 million people over the next twenty years. Nearly 400,000 jobs will be added in the State by 2010 (800,00 new jobs are expected over the next twenty years). The chart that follows illustrates these demographic trends. Travel demand will undoubtedly grow as a result of these trends.

STATEWIDE DEMOGRAPHICS 2000 - 2010



Other trends and observations could affect future travel in New Jersey:

- Aging Baby Boomers comprise the largest segment of New Jersey's population. In the next 20 years, a large and rapid increase in the number of seniors is likely to change the characteristics of travel demand.
- New Jersey has one of the highest per capita incomes in the nation. High incomes typically correlate to more trips, higher automobile ownership rates and longer commutes.
- There are more vehicles registered in New Jersey than licensed drivers. On average, there are two vehicles for every household in New Jersey and 1.5 vehicles for every job.
- The number of Vehicle Miles of Travel (VMT) continues to grow, but at a slower rate in recent years.
- New Jersey's \$30 billion tourism industry, our second largest, generates 635,000 jobs, \$2.2 billion in taxes and 164 million annual travel and tourism trips. The geographic and seasonal distribution of New Jersey tourism has traffic implications, especially as it relates to accessibility to shore communities.
- The number of import/export containers and associated trucks will expand by at least 400 percent in the coming years.

CENSUS 2000

Data from the Census 2000 provides insight into travel behavior. Between 1990 and 2000, the number and percentage of people driving alone to work increased, while the number and percentage of carpoolers decreased. Multi-car ownership continues to soar, while the use of public transportation as a share of total travel declined nationwide. This latest data comes from the Census Supplementary Survey, based on the "long form" that went to 20 million households (one in six) across the nation.

In the year 2000, nationwide, the automobile was the overwhelming travel choice of commuters going to work, with 76.3 percent of all workers driving alone. The 76.3 percent national rate was an increase in drive-alone commuters, up from 73.2 percent in 1990. In New Jersey, the percentage of workers driving alone is 72.2 percent, up from 71.6 percent of workers in 1990.

The nationwide trend between 1990 and 2000 shows an overall decrease in the use of public transportation, while in New Jersey the overall percentage of commuters using public transportation increased to 11.4 percent, up from 8.8 percent in 1990.

UNITED STATES 1990 Commuting to Work	Number of Workers	Percent Using Mode
Car, truck, or van:		
Drove alone	84,215,298	73.2%
Carpooled	15,377,634	13.4%
Public transportation	6,069,589	5.3%
Motorcycle	237,404	0.2%
Bicycle	466,856	0.4%
Walked	4,488,886	3.9%
Other means	808,582	0.7%
Worked at home	3,406,025	3.0%
Total Workers 16 years and older	115,070,274	100.00%

UNITED STATES 2000 Commuting to Work	Number of Workers	Percent Using Mode	Change in Overall Share
Car, truck, or van:			
Drove alone	97,243,457	76.3%	4.08%
Carpooled	14,299,090	11.2%	-19.11%
Public transportation	6,592,685	5.2%	-1.97%
Motorcycle	158,059	0.1%	-66.36%
Bicycle	567,042	0.4%	8.81%
Walked	3,417,546	2.7%	-45.48%
Other means	1,095,477	0.9%	18.25%
Worked at home	4,075,230	3.2%	7.43%
Total Workers 16 years and older	127,448,586	100.00%	

NOTE: The total number of workers increased by 12,378,312 between 1990 and 2000.

NEW JERSEY 1990 Commuting to Work	Number of Workers	Percent Using Mode
Car, truck, or van:		
Drove alone	2,731,027	71.63%
Carpooled	471,943	12.38%
Public transportation	336,708	8.83%
Motorcycle	2,729	0.07%
Bicycle	9,183	0.24%
Walked	156,523	4.11%
Other means	24,097	0.63%
Worked at home	80,474	2.11%
Total Workers 16 years and older	3,812,684	100%

NEW JERSEY 2000 Commuting to Work	Number of Workers	Percent Using Mode	Change in Overall Share
Car, truck, or van:			
Drove alone	2,797,820	72.19%	1%
Carpooled	375,378	9.69%	-22%
Public transportation	441,788	11.40%	29%
Motorcycle	2,164	0.06%	-22%
Bicycle	18,389	0.47%	97%
Walked	103,315	2.67%	-35%
Other means	33,973	0.88%	39%
Worked at home	102,658	2.65%	25%
Total Workers 16 years and older	3,875,485	100%	

NOTE: The total number of workers increased in New Jersey by 62,801 between 1990 and 2000.

The Census Supplementary Survey universe is limited to the household population and excludes the population living in institutions, college dormitories, and other group quarters. Data is based on a sample and is subject to sampling variability. The degree of uncertainty for an estimate is represented through the use of a confidence interval. The confidence interval computed here is a 90 percent confidence interval and can be interpreted roughly as providing 90 percent certainty that the true number falls between lower and upper bounds.

MEASURING CONGESTION IN NEW JERSEY

Congestion can be measured in a variety of ways; however, since congestion is based on one's perception of acceptable conditions, performance standards may vary by type of transportation facility, geographic location, time of day and trip purpose. All measures of congestion seek to quantify some aspect of the relationship between transportation supply and travel demand. Transportation supply or the capacity of a particular transportation facility is a constant number that can be calculated based on the characteristics of the transportation facility. For highways, transportation supply most often is expressed as the maximum number of vehicles that can pass a given point in a specific period, such as "vehicles/hour." Travel demand is measured by calculating the number of trips typically made at the household level or the volume of vehicles traveling on a specific transportation facility (highway, bus, or train) over a specific period.

A variety of congestion measures have been developed and are commonly used:

Travel delay, travel time or speed are time-based measurements commonly used to determine additional travel time in excess of the amount that would be reasonably desired by users of a transportation facility.

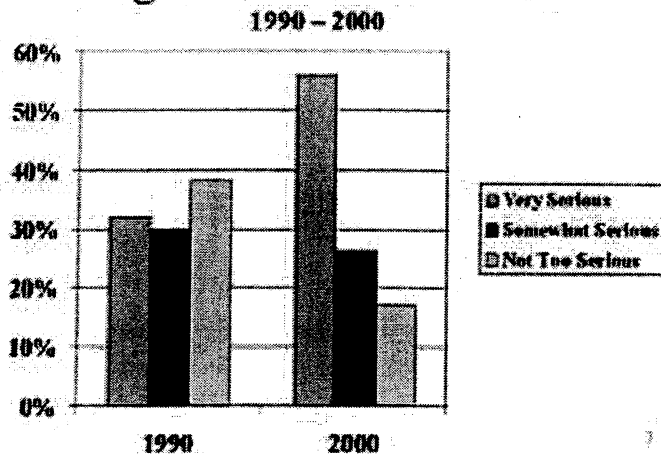
Volume to Capacity ratio (V/C) is the balance (ratio) between highway travel demand and highway supply. As demand approaches or exceeds supply, congestion occurs. V/C ratios of 0.75 or greater typically indicate congested travel conditions.

Level of Service (LOS) measures the quality of roadway traffic flow on a grading scale that ranges from A (free-flowing traffic) to F (bumper-to-bumper, stop-and-go traffic).

In addition to the above, recent research has resulted in new congestion indices, such as the *Travel Rate Index*, which measures extra travel time during the peak period, and the *Roadway Congestion Index*, which measures travel density for a roadway or area.

Congestion occurs when travel demand approaches or exceeds the capacity of a transportation facility to provide service at performance levels acceptable to the users. This definition applies not only to highways but also to transit, pedestrian, and bicycle facilities as well. Anyone who drives, bikes, or uses public transit is familiar with the affects of congestion. Congestion makes you late, decreases worker productivity, increases personal stress, costs you money, degrades your travel experience (crowded buses or trains), and lessens the time you could be spending at work, home or any place other than traveling. A public opinion survey conducted as part of the New Jersey Long-Range Transportation Plan Update indicates New Jersey residents feel that traffic congestion is more serious now than it was in 1990.

How Serious Is Traffic Congestion in Your Area?



Source: NJDOT Poll

INVENTORY OF KNOWN CONGESTION "HOT SPOTS"

Steady growth in population coupled with economic expansion and land use developments have caused congestion in the State transportation system. In order to identify congestion corridors and locations, the CBTF initially reviewed the top 42 congestion hot spot locations previously identified by NJDOT. These congested corridors and locations are noted in the Department's May 1998 report entitled *New Jersey FIRST: "A Transportation Vision For the 21st Century"* as priority projects in improving congestion.

Furthermore, the Task Force members identified congested corridors and locations based on their own traveling experience in the State. Task Force members also reached out to their constituents and the public for ideas and suggestions of congested locations. An inventory/concise summary of known congestion hot spots in New Jersey is provided in Appendices B, C and D found on pages X-2 through X-4 of this report.

Appendix B lists the top 42 congestion hot spot locations identified by NJDOT. Some of the congested corridors identified by the CBTF are the same as those listed in Appendix B. However, the CBTF has identified additional hot spot locations listed in Appendix C (congested corridors) and Appendix D (congested intersections) organized by route, municipality and county.

These corridors and locations are not shown or ranked in any priority order. They have not been analyzed to determine the level of traffic congestion and appropriate solutions. Reducing congestion at some of these spots may involve major capacity increases requiring large financial resources, while other congestion spots can be improved by less expensive roadway operational improvements focusing on specific bottlenecks, as opposed to major construction activities.

BASELINE PEAK HOUR TRIP DISCUSSION

The CBTF is charged with “capping” peak hour vehicle trips at 1999 levels. In order to quantify 1999 peak hour vehicle trips, NJDOT used travel demand computer simulation models developed and used by New Jersey’s three MPOs – the North Jersey Transportation Planning Authority, the South Jersey Transportation Planning Organization and the Delaware Valley Regional Planning Commission. The models were used to forecast how many trips will take place on transportation facilities in each peak hour in 1999 and in future year, 2010. The year 2010 was chosen because information and technical work was available for this year. 1999 and 2010 transportation projects and demographics were coded into each MPO model. Each model was run to produce peak hour trips across the entire network.

NJDOT estimates that there were approximately 1.9 million morning peak hour trips and 1.96 million afternoon peak hour trips on the State primary roadway network in 1999. Forecasts for the year 2010 indicate that this number will grow to more than 2.0 million trips in the morning peak period and nearly 2.1 million peak period trips in the afternoon. This is an increase of approximately 151,000 a.m. peak hour trips and 157,000 p.m. peak hour trips per day. Using the assumption that removing trips in the a.m. peak hour removes those trips in the p.m. peak hour, the average number of peak hour trips is 155,000. In order to "cap" peak hour travel at 1999 levels, as called for in the Congestion Relief and Transportation Trust Fund Renewal Act, 155,000 trips would have to be removed from each daily peak hour period by the year 2010.

Daily Peak Hour Vehicle Trips (in thousands)				
	1999		2010	
	AM	PM	AM	PM
NJTPA	1,286	1,323	1,373	1,414
SJTPO	131	141	149	161
DVRPC	492	492	538	538
Total	1,909	1,956	2,060	2,113
Percent Growth = 7.91 percent (AM), 8.03 percent (PM)				
Difference – 151,000 (AM); 157,000 (PM)				
<i>Source: NJDOT</i>				

TASK FORCE PUBLIC MEETINGS AND WEB SITE COMMENTS

The Congestion Buster Task Force established a Web site to display news, press releases and subcommittee work; to announce events; and to gather comments from the general public. The Web site was visited nearly 4,000 times. The CBTF received seventy-two comments via their Web site. The comments dealt with a variety of subjects, including the timing of traffic signals, increasing the use of alternate workweeks, expanded bus routes in central New Jersey, elimination of tolls and raising public awareness.

The Congestion Buster Task Force held public meetings on April 23, 2002, at NJDOT headquarters, April 24, 2002, at the Cherry Hill offices of NJDOT, and April 30, 2002, at the offices of the North Jersey Transportation Planning Authority. At each public meeting, the Chairman made opening remarks, each subcommittee gave a brief report and comments were received from the public. Testimony was received from:

- Members of the public
- East Coast Greenway Alliance
- Cherry Hill Environmental Protection Advocates (written, not in transcript)
- Assemblyman Alex DeCroce
- New Jersey Chapter of the National Motorists Association
- New Jersey Alliance for Action Inc.
- Pennoni Associates Incorporated
- North Jersey Transportation Planning Authority
- CSX Transportation

The Congestion Buster Task Force Web site is located at:
<http://www.state.nj.us/transportation/commuter/cbtf/index.html>. Transcripts of the public meetings can be found on the Web site.

CONGESTION BUSTER TASK FORCE – COMMITTEE AS A WHOLE

The Congestion Buster Task Force has met regularly since June 2001. A chronology of Task Force meetings is located at Appendix A of this report. Members of the CBTF, who represent a diverse group of stakeholders, studied the issue of traffic congestion in New Jersey. Through presentations and the solicitation of public comments, the Task Force gained insight into the magnitude of the congestion problem facing our State.

Many roadways in New Jersey presently operate at or near capacity. Even small increases in traffic volume will cause significant increases in traffic delay. Congestion levels and traffic growth vary from one region to another. In order to fully understand the magnitude of traffic conditions in the State, the Task Force reviewed and evaluated available reports and literature. In addition, it relied on many transportation organization presentations and testimonies. Several transportation organizations presented their perception of congestion and their approach to solving congestion problems. Some of the agencies that provided resources for the study include NJDOT, NJ TRANSIT, TRANSCOM, TMAs, MPOs, New Jersey Pinelands Commission and the State Planning Commission.

As a first step in defining the scope for this study, the Task Force discussed the intent of the legislation. The members discussed whether the Task Force should focus strictly on vehicle trip reduction during peak periods or include traffic delay. The CBTF concluded that it would address both reduction of vehicle trips and improvement of traffic delay.

Each Task Force member was asked to provide five items that could be pursued as potential ways to reduce vehicle trips and improve traffic delay. In essence, this approach provided a useful perspective that would otherwise have been excluded if the Task Force relied solely on objective, analytical measures of problem area identification. The Task Force members were encouraged to provide the following information for each recommendation identified:

- What is the recommendation?
- How would it reduce congestion?
- Whom does it affect?
- How much would it cost?
- Are there cost savings in other areas?
- How would the recommendation be implemented?
- Is legislation required?

This subjective identification of problem areas provided the framework for further analysis and evaluation by NJDOT technical staff. Each recommendation's impact on vehicle trips reduction and traffic delay improvement was fully assessed.

The Task Force's recommendations include projects and strategies that may be categorized as short-term, intermediate-term and long-term. The Task Force believes that most of these recommendations are politically and economically doable. This report presents recommendations and ideas ranging from supporting Governor McGreevey's recent initiative to remove uninsured vehicles from New Jersey's roads to implementing new technology to manage traffic congestion.

The Congestion Buster Task Force has learned that there is no "magic bullet" or easy solution to New Jersey's congestion problem. It will take many small incremental steps to improve conditions. Meeting the legislative mandate of "capping peak hour vehicle trips at 1999 levels" will require an unprecedented level of public and private sector cooperation, difficult choices and dramatic changes in the way New Jersey citizens currently travel. Individuals, employers, commerce, industry and government will each have a role in meeting a broad range of responsibilities. Just as we have learned that severe congestion can strangle economic growth, we have learned that everyone will benefit if the rate of congestion growth is slowed.

A major responsibility lies with individuals and the travel choices they make. Individuals must realize that it is not up to the "next guy" to act. Each one of us can make wiser travel choices. These choices could include:

- Combining trip purposes
- Planning travel during off-peak hours
- Elimination of unnecessary trips
- Investigate taking transit for more trips, and do so when convenient and available

- **Carpooling** when you can

Employers can do their part by adopting ridesharing and trip reduction policies. Businesses should schedule meetings and off-site activities for non-peak hours; employees should be encouraged to carpool to these events to save mileage and expenses. Workplace initiatives that could reduce congestion include flexible work hours and alternative workweeks to shift demand; carpool and vanpool subsidies; on-site transit support services, including shuttles; and TMA-sponsored events.

Commerce can shift operating hours, schedule deliveries for off-peak times, and explore freight options available through the rail and barge networks.

Government can provide sufficient funding levels for public transportation to insure that adequate transit infrastructure is built and maintained and continue to support roadway improvements and the deployment of technology that manages the flow of traffic. Government mandates could range from a requirement to remove vehicles involved in minor incidents to the side of the road, to outright imposition of travel restrictions.

The Congestion Buster Task Force realizes that long-term success rests with changing individual behavior. Research literature suggests, however, that simply marketing commute alternatives is not an effective congestion reducing strategy. Ultimately, success will depend on a variety of long-term factors including adoption of sensible land use policies and decisions, adequate funding for transit and implementation of a comprehensive program of trip reduction strategies by all players in the transportation system.

TASK FORCE SUBCOMMITTEES AND MEMBERS

In October 2001, the Task Force organized into subcommittees to study and make recommendations in the areas of traffic management, goods movement, demand management, transit & passenger rail, land use, legislative initiatives and public education. A chart showing subcommittee membership is on the following page.

Each subcommittee met independently to discuss their respective subjects in depth. Many recommendations were generated by each subcommittee, but only those felt to have a major impact on congestion have been included in the subcommittee reports that follow the membership chart. The recommendations are not ranked nor presented in any particular order. The full extent of subcommittee findings and proposals can be found on the CBTF Web site at <http://www.state.nj.us/transportation/commuter/cbtf/index.html>.

CBTF SUBCOMMITTEE MEMBERSHIP			
SUBCOMMITTEE	GOALS	CHAIRPERSON	MEMBERS
CONGESTION	Focus is problem identification and examining the factors that contribute to congestion. Explore roles and responsibilities of stakeholders.	Jim Sinclair	All Task Force Members
TRAFFIC MANAGEMENT	Examine subjects such as Intelligent Transportation Systems, incident management, signal timing, and congestion relief pricing and make recommendations to improve traffic flow and safety.	Ken Afferton	J.P. Miele Dotty Drinkwater Hamou Meghdir SFC Dan Morocco Bill Ragozine
TRANSIT & PASSENGER RAIL	Explore ways to improve mass transit and promote additional use. Review allocation of resources and innovative transit solutions.	James Redeker	Anita Perez Martin Robins Judith Schleicher
GOODS MOVEMENT	Recommend ways to improve the efficiency of truck operations through scheduling and re-routing. Examine the role of rail freight in reducing congestion.	Gail Toth	Ken Afferton Janine Bauer Dotty Drinkwater Joanne Jaeger Martin Robins
DEMAND MANAGEMENT	Review travel demand management strategies such as ridesharing, vanpools, alternate work schedules and telecommuting.	Sandra Brillhart	Jack Claffey Erica Ferry Barry Lem Anita Perez Bill Ragozine Jim Sinclair
LAND USE AND GROWTH MANAGEMENT	Study how land use management can reduce congestion. An example is encouragement of transit-friendly planning.	Bill Ragozine	Janine Bauer Bill Layton Mike Reeves Judith Schleicher
LEGISLATIVE	Review recommendations and determine which ones require legislative solutions. May present specific legislative language for Task Force consideration.	Michael Egenton	J.P.Miele Ken Afferton Dotty Drinkwater Joanne Jaeger Judith Schleicher Jim Sinclair
PUBLIC EDUCATION	Suggest educational and promotional programs that publicize commuter incentives and transportation mode choices.	Janine Bauer	Gerry Keenan Judith Schleicher All Task Force Members

SUBCOMMITTEE REPORTS

TRAFFIC MANAGEMENT SUBCOMMITTEE REPORT

Background: Americans drive more than 2.6 trillion miles a year on our nation's roadways. The increasing demand for travel caused by our expanding economy has resulted in system congestion. Our transportation networks are reaching the limits of their existing capacity, particularly when demand reaches a peak during the workday commuting periods. In New Jersey, roadway congestion has become one of the public's major quality of life concerns.

The Congestion Buster Task Force was established by the New Jersey Legislature with the fundamental goal of identifying means for relieving roadway congestion. The Traffic Management Subcommittee was created to focus on the operational aspects of the State's roadway network. Our charge was to identify changes or improvements that would make the network function more efficiently, allowing its users to travel in a less restricted and safer environment. Congestion relief measures appropriate for these types of improvements are typically the amount of reduction in vehicle delay time or the amount of reduction in vehicle travel time over a segment of the network.

The subcommittee met to assess issues of roadway operations within New Jersey, reviewed relevant public comments received via the various public meetings and the Task Force's Web site, and formulated recommended solutions for relieving congestion. Recommendations 1, 3, 4, 5, 6 and 7 will reduce travel delay; recommendation 2 will reduce peak period trips.

Recommendation 1: *Facilitate rapid clearance of traffic incidents on New Jersey roadways by legally establishing the duty of drivers to move vehicles to the side of the road if no major injury or vehicle damage is sustained*

When a traffic accident occurs, particularly on major roadways and during rush hours, the involved vehicles cannot currently be moved off the roadway until enforcement officials authorize removal, even when the incident is minor. Immediate and residual traffic congestion results. Immediately moving vehicles to the side of the road will drastically improve traffic flow, and thereby reduce congestion. Responding agencies should be granted authority to remove incapacitated vehicles from State and Interstate highways when conditions allow it. Exemplary legislation addressing this issue is State of Georgia Code 40-6-276 entitled "Duty to Remove Vehicle from Roadway or Expressway or Multilane Highway: Removal of Incapacitated Vehicle from State Highway." This law authorizes appropriate members of law enforcement or other agencies to remove disabled vehicles off the travel lanes by pushing them to the shoulders when feasible. It also establishes the responsibility of drivers involved in minor accidents whose vehicles are still operable to immediately remove their vehicles from the travel lanes. Some New Jersey State Police vehicles are already equipped with "push bumpers" that can push away a variety of vehicles.

Enabling legislation will help the traveling public when minor incidents occur. Since most incidents involve vehicles that are still operable, or that are remediable by minimal undertaking, such as by pushing them off the roadway lanes, vehicle hours of delay will be reduced across the roadway network. This recommendation could be implemented in the short-term. Associated costs include approximately \$500,000 for advertising to inform drivers of when to move vehicles to the roadside and \$1.5 million (1000 vehicles at \$1500 per vehicle) for a statewide initiative to install

push bumpers on law enforcement and public agency vehicles. Reduction in vehicle hours of delay will be a cost savings benefit to the motoring public. Assuming a minimal value of \$10/hour per driver experiencing incident delay, a "duty-to-remove" law could save the public, in one urbanized county alone, nearly \$1 million in delay time during a typical commuter day.

Recommendation 2: *Implement, maintain and/or expand congestion relief pricing on all tolled facilities in New Jersey*

The New Jersey Turnpike has demonstrated reduction in peak hour travel resulting from implementation of congestion relief pricing. This reduction could be achieved on other major tolled roadways as well. Budgetary impact on toll roads and authorities must be considered, but it is noteworthy that the NJ Turnpike and the Port Authority of NY and NJ have congestion relief pricing in place. By using their experience, it is possible to introduce congestion relief pricing on other toll facilities in such a way as to have no negative effect on overall expected toll revenue for an implementing agency. NJ Turnpike data suggests that its congestion relief pricing program has achieved a shift of about one half of one percent of its daily traffic from peak to off-peak periods. This equates to 3500 vehicles moving out of the peak period. If this same degree of impact were realized on the Garden State Parkway, the Atlantic City Expressway and the Delaware River toll crossings, a shift of an additional 6000 vehicles out of the peak periods could result. Congestion relief pricing is most effective when it includes a significant differential in price between peak and off-peak. To encourage off-peak discounts alone is insufficient. The New Jersey Highway Authority recently eliminated off-peak discounts, noting the discount was too small, and because it was a discount, instead of a surcharge, it never achieved shifts in travel. Implementation or expansion of congestion relief pricing incentives can be achieved in the short term if E-ZPass is utilized as a mandatory prerequisite for congestion relief pricing. Since E-ZPass is already legally utilized in New Jersey, no additional legislation requirement is anticipated. E-ZPass Customer Service Centers that currently process E-ZPass transactions would need to modify their account posting systems to accommodate new pricing by peak hours, thereby incurring a software enhancement cost.

Recommendation 3: *Provide a real-time travel time information system*

A system should be developed and widely publicized which would enable callers or Web site visitors to obtain directions and real-time information for travel within New Jersey or to a neighboring major city (such as NYC or Philadelphia) using NJ TRANSIT and other ridesharing programs such as shuttle services to/from transit stations (as offered by many TMAs.) Northern New Jersey, the Trenton Area, and the Camden-Philadelphia Area would be good starting points. We recommend that this system be enhanced to establish real-time bus and shuttle schedules and a reserved parking system for park-and-ride lots. Approximately \$2 million would be needed to expand the existing TRANSCOM (TRIPS 1,2,3) information system to include route and schedule information for southern New Jersey transit operations. Further costs would be incurred to modify various Web sites as well as establish a Toll-Free Telephone Voice Response Unit that is constantly updated to reflect timely information. Toll agencies, TRANSCOM, NJDOT Operations, NJ TRANSIT, and southern New Jersey transit operators would need to cooperate and provide real-time traffic data. Staged implementation in certain areas could be achieved in the short term, with subsequent expansions building on initial implementations. In addition, ongoing operating and advertising costs could reach \$500,000 per year.

Recommendation 4: *Provide real-time traffic and alternate route information systems to be used by the general public and commerce to help divert demand away from congested roadways*

Provision of timely and accurate travel information to the general public, including the prospective utilization of N511 – the federally established national traveler information number similar to the “911” concept – will allow the public to make well-informed decisions about travel alternatives. Thus, travelers can make informed choices of mode, route, and departure time to avoid congestion, and thereby help alleviate it. NJ TRANSIT, TRANSCOM, toll agencies, transportation authorities, NJDOT, and the traveling public will all benefit from this information. TRANSMIT and TRIPS 1, 2, 3 plus route guidance systems, incident management systems and NJ TRANSIT/mass transit information systems are logical first steps toward building an extensive information system. Innovative means for travelers to make better informed congestion-related choices about modes, routes, and departure times, including both pre-trip information and in-vehicle communications must also be developed. Such information systems could be developed and implemented on a staggered schedule to affect gradual but lasting, long-term congestion relief. Promotion of the developed systems for general use would be key to achieving significant diversions from congested arteries. Similarly, by working with ports, truck sheds, shippers and receivers, provision of real-time traffic information can affect efficient freight transport scheduling and real-time schedule modifications. Combining real-time traffic and alternative routing information with real-time freight scheduling would facilitate efficient transport time utilization, and prevent problems such as trucks stalled in traffic impacting unscheduled arrivals contributing to port and truck shed congestion. This would have the benefit of reducing both freight costs and traffic congestion.

A basic Advanced Traveler Information System, which incorporates GPS routing and real-time traffic and transportation information for the northern half of New Jersey would cost an estimated \$20 million plus \$2-3 million/year to operate. This could be implemented in the short-term. The estimated cost of a call to the 511 system is \$1 per call on an ongoing basis (+/- 50 percent confidence level, since there is a large uncertainty level regarding wireless carriers' active involvement). As an alternative, information could be broadcast through existing Highway Advisory Radio locations, radio stations, and in-vehicle devices, perhaps through consumer subscription services. It is reasonable to expect that by having a more informed public, at least 2000 vehicles per day would move to less congested routes during peak periods of travel.

Recommendation 5: *Re-time traffic lights on congested State roadways to be more responsive to the current traffic conditions*

Historical data indicates that intersections with traffic light timing plans that have not been updated within the past two years are likely to cause a five to ten percent increase in overall travel time delay to the public. By implementing this recommendation, signaled intersections will be more responsive to current traffic conditions during peak hours, and overall travel time delay through these intersections will be reduced. An estimate of the total value of the reduced delay time (assuming a \$10/hour per driver cost for experienced delay) is \$250,000 per year per intersection.

There are currently 5000 signalized intersections on New Jersey's State highway system. About one-fifth of these intersections are estimated to be in highly congested areas, with no volume-based adaptive control, and have not been re-timed within the past two years. These 1000 intersections would have their performance appreciably enhanced by signal re-timing. The cost of this effort would be approximately \$3 million. Implementation of this recommendation would begin with

NJDOT's issuance of a consultant contract to study the involved intersections and develop revised signal timing plans. This is achievable in the short-term, with NJDOT subsequently deploying a staged implementation to install new plans on the signal controllers at affected intersections.

Recommendation 6: *Increase the present level of service of the Emergency Service Patrol (ESP) provided by NJDOT along selected Interstate highways to add service to chronically congested areas and provide new service in other facilities not served presently*

This recommendation will reduce congestion by reducing vehicle hours of delay, a critical performance measure. Presently, incidents include a variety of non-recurring events, such as flat tires, abandonment, fuel outage, breakdown or debris. Often, incidents cause delays because vehicles remain in the traveling lanes or in a position where the traveling public must reduce speed or stop to avoid the cause of the incident. Increased ESP activity that removes the cause of such incidents more rapidly, will allow traffic to resume a freer flow. With the number of incidents responded to by ESP averaging over 1000 per month for the Northern Region of New Jersey, it is essential that this program be expanded. Since the vast majority of incidents are not crashes, nor do they require police presence, this recommendation has the potential of significantly reducing congestion and vehicle hours of delay.

Past performance indicates that each service patrol will respond to five incidents per day. Assuming a per-vehicle delay cost of \$10/ hour and that incident response reduces travel delay by ten minutes, the cost savings to the public for the proposed expansion of service patrols would approach \$100 million per year. Equipment costs for seven trucks will total approximately \$560,000; total recurring costs for labor and maintenance approximate \$560,000 annually. We recommend staged implementation as follows: Interstate 195 from Trenton to Exit 16, Great Adventure; Interstate 78 from Port Elizabeth to Route 24; Interstate 78 from Route 24 to I-287; I-287 from I-78 to I-80 (with existing service from I-80 to NY State line); I-80 from NJ Turnpike to Route 17 area at Saddle Brook (with existing service from Route 17 exit to Route 3); I-80 from Route 3 to I-287 (with existing service from I-287 to the present boundary west of I-287); and Route 24 from I-78 to I-287.

Recommendation 7: *Deploy more high-speed E-ZPass installations on toll roads*

High-speed E-ZPass enables travelers to proceed at highway speeds and pay their tolls without having to reduce speed or stop at tollbooths. Already implemented on such roadways as Delaware's Route 1, the Oklahoma Turnpike, and Canada's Highway 407, the equipment that enables high-speed, or "open-road," tolling is mounted overhead on pole-like infrastructures which traverse the roadway; a tollbooth is not required. The vehicle, equipped with a valid toll transponder, simply drives along maintaining highway speed while passing under the transponder reader. Typical deployment of open road tolling includes dividing electronic toll payers and cash toll payers into separate lanes at a safe distance before the toll plaza. Frequently, the left-hand lanes of the highway are designated as high speed lanes, while the right-hand lanes are equipped with toll booths for cash toll payers. Congestion, caused by slowing down to proceed safely through tollbooths, is eliminated in the high-speed lanes while concurrently achieving positive safety and environmental impacts.

Note: Recommendation 7 has not been analyzed for the amount of time savings per vehicle in impacted/affected areas. Recommendation 8 (ramp metering and traffic responsive signals) was analyzed, but is not among the Traffic Subcommittee's final recommendations.

TRANSIT & PASSENGER RAIL SUBCOMMITTEE REPORT

Recommendation 1: Increase funding for transit

Increasing transit services and making it a more attractive and practical alternative to driving will reduce congestion. Provide NJ TRANSIT with sufficient operating funds to maintain quality transit service on the core transit network without continuing to divert capital resources to this purpose. Implement a transit capital reinvestment strategy that makes the core transit network the highest capital priority.

Appropriate sources of funding for transit operating and capital needs must be found. NJ TRANSIT's operating budget for Fiscal Year 2003 includes an increase of \$84 million, bringing the total budget to \$1.222 billion. NJ TRANSIT's capital program for the same period is set at \$1.190 billion, of which \$260 million will be spent to cover maintenance activities that traditionally were part of the operating budget. Thus, \$260 million in NJ TRANSIT capital projects will be withdrawn to cover the shortfall in the operating budget. A total operating and capital gap of \$3.1 billion will exist over the next five years unless NJ TRANSIT finds additional resources.

This recommendation could be implemented through an increase in gasoline tax, as well as increased contribution of federal and private funds. NJ TRANSIT would continue to manage transit resources as part of the day-to-day operation of the transit network. Possible legislation requirements include:

- Enact Transportation Enhancement District legislation to encourage private sector participation in shuttle financing.
- Reprioritize NJ TRANSIT's capital plan or establish special legislative authorization.
- Identify sufficient funding for railroad operational and capital changes.
- Congress must earmark several billion dollars for this initiative.
- A contribution from the Port Authority of NY and NJ may require bi-state legislation.

Recommendation 2: Create a seamless transit system

Strategies to make transit more affordable, practical, and reliable; and increase ridership include:

- Development of a universal transit fare/pass system.
- Improve connectivity between existing buses/shuttles/trains to maximize existing service, especially in suburban areas.
- Implement local shuttle systems connecting office parks to rail and buses.
- Implement local shuttle systems connecting residential neighborhoods to rail and buses.

Although costly, implementation, in phases, could start in the near-term. No legislation is required.

Recommendation 3: Increase transit capacity in congested corridors

This recommendation seeks to reduce the number of motorists destined for outlying work sites and midtown Manhattan by facilitating a more efficient flow of bus traffic and increasing rail car seating capacity by 30 percent. Implementation strategies include:

- Increase bus and rail rolling stock fleets by purchasing bi-level coaches and additional buses.
- Conduct a bus/roadway congestion busting study to identify/implement exclusive bus lanes on high volume routes, including conversion of multi-purpose lanes to exclusive bus use during peak periods (possibly Routes 495, 3, 9, Garden State Parkway).
- Increase capacity for buses to/from New York and Port Authority Bus Terminal.
- Increase frequency of existing service during the peak and off-peak periods.
- Construct a new rail tunnel into Penn Station, New York.

Through Governor McGreevey's initiative, NJ TRANSIT is making capacity increases. Possible increases in labor and operational costs may be offset by improved running times and more transit driver trips per shift. There are major capital costs associated with tunnel construction, facility improvements and acquisition of vehicles.

Recommendation 4: *Implement transit-friendly land use policies*

This recommendation seeks to attract automobile drivers to transit, and encourage pedestrian and bicycle trips. Implementation strategies include:

- Identify and define transit-friendly corridors.
- Provide higher density development options that can be served efficiently by transit.
- Improve pedestrian and bicycle access to transit for existing and future developments, and add more bicycle storage facilities.
- Provide transit circulation routes and passenger waiting facilities in development site plans.
- Provide rights of way for exclusive transit guideways to reduce development costs of new transit services and improve travel speed and competitiveness of transit.
- Provide preferential treatments for transit in roadway designs.

This recommendation requires modification to the State Development and Redevelopment Plan and changes to the Municipal Land Use law. Implementation would take little money, but may not be politically doable.

Recommendation 5: *Develop transit solutions to Pennsylvania-New Jersey commute*

This recommendation seeks to reduce the number of Pennsylvania motorists destined for jobs in New Jersey. Implementation strategies include:

- Appoint a task force comprised of transportation professionals, including TMA representatives, from counties bordering the two states to study commutation patterns of Pennsylvania residents working in New Jersey and design transit solutions.
- Obtain and analyze origin/destination data.
- Develop a work plan to expand bus and rail service between Pennsylvania and New Jersey.

GOODS MOVEMENT SUBCOMMITTEE REPORT

Background: The efficient movement of goods is vital to the State's continued development and prosperity. The goods movement industry is among the most significant in New Jersey with 484,000 New Jersey workers employed in the State's transportation and distribution network.

Congestion reduces transportation efficiency, causes a loss in productivity, increases time and expense to move goods, and, ultimately, increases local consumer prices. Keeping traffic moving reduces air pollution and damage to the roads, and holds down costs.

The dominant mode of goods movement in New Jersey is by truck. Goods movement in New Jersey is composed of three nearly equal categories: imports, exports and internal. Based on a recent NJDOT study conducted by the Voorhees Transportation Policy Institute, 96 million tons of freight comes into the State by air (0.1 percent), water (16.7 percent), rail (17.6 percent) and truck (65.6 percent). On average, 82 million tons of freight leaves from New Jersey origins by air (0.4 percent), water (29.1 percent), rail (7.2 percent), and truck (63.3 percent). Truck movement most dominates intra-state shipments. Of the 82 million tons of freight moving within New Jersey, railroads move 0.4percent, water carriers move 10.5percent, and trucks move 89.2 percent.

All modes of transportation are dependent on one another. However, in most cases, trucks are used to pickup and deliver freight to and from the airport or the port, to and from the rail facility, or to and from a distribution center or large multi-purpose warehouse. Trucks exclusively serve 86 percent of all New Jersey communities. Trucks deliver to New Jersey's 12,370 manufacturing companies, 50,180 retail stores and 27,130 wholesale companies and pickup and deliver 100percent of all agricultural products.

Trucks share highways and collector roads with private automobiles and buses. A substantial portion of truck traffic competes for this highway space during weekday peak travel hours. A major reason for this is that freight transportation is a service dependent on the schedules established by the customer. The average business in New Jersey operates its shipping and receiving hours between 8:30 a.m. and 4:30 p.m. – Monday through Friday. Thus, many truckers are forced to use the highways during peak hours.

If we restrict and impede the flow of goods, it will result in the trucking industry's inability to operate successfully in the State of New Jersey. This will compel shippers, receivers, distribution centers and regional warehouses to move elsewhere where transportation costs are more reasonable. If the trend continues, New Jersey will become much like New York City – trucking companies and other distribution functions will find the transportation system so difficult and unprofitable that they will stop conducting business here.

Recommendation 1: *Support the development of a comprehensive freight plan for the State*

We support the development of a comprehensive freight plan by NJDOT that includes trucks, rail freight and barge networks. The plan will analyze existing freight plans, determine how goods movements are currently conducted, forecast where freight movement is headed and determine how to ready the system to accommodate the anticipated growth of goods movement. State coordination

of local and regional efforts in producing goods movement plans is necessary to avoid overlap and redundancy.

The cost for developing the freight plan will exceed \$500,000. The proposed plan will identify critical investments in the State's transportation infrastructure that will foster an intermodal approach to goods movement. Those investments, as they relate to highways, will serve to reduce congestion on affected roads by allowing the more efficient movement of goods.

Recommendation 2: *Conduct a survey to determine the feasibility of expanding hours of operation to coordinate truck movements during off-peak hours*

Currently many businesses are open between 8:30 a.m. and 4:30 p.m. The carriers must coordinate their schedules based on the needs of their customers. This results in trucks being on the road during the peak hours and competing for road space with private automobiles. We recommend that NJDOT arrange a survey of shippers, receivers, and distribution centers in New Jersey to determine the feasibility of expanding hours of operations (including Saturdays) to accommodate truck pickups and/or deliveries during off-peak periods.

If a significant number of businesses are willing to adjust their hours, we recommend that NJDOT launch an outreach program to bring all of the parties involved in goods movement together to determine if schedules could be adjusted. For example, open at 6 a.m., close at 8 p.m., and remain open to ship and receive on Saturdays.

This recommendation may cause businesses to incur some additional costs to open or close at different times; however, if the program is successful, the positive impact could reduce transportation costs and significantly reduce congestion by removing trips from peak periods. The change in hours may require adjustments to union contracts. No legislation is required.

Recommendation 3: *Provide incentive for more carriers to use NJ Turnpike*

For a variety of reasons, truck operators find disincentives for using the Turnpike. The NJ Turnpike Authority should take a number of steps to encourage truck use of its facility:

- Explore allocation of lanes in the current Truck/Bus/Car Corridor from Exit 8A to Exit 14. This includes studying the feasibility of creating a truck and bus-only corridor between specified exits and designating the hours such restricted lanes would be available.
- Continue and expand congestion pricing strategies, such as off-peak discounts with peak period surcharges.
- Support the NJ Turnpike plan to increase parking spaces for trucks at its rest areas.

This recommendation would be implemented by negotiating with the NJ Turnpike Authority. The suggested steps will improve the flow of traffic, encourage more trucks on the system, aid the movement of bus passengers, and improve safety. Currently, trucks make up 17 percent of the traffic on the Turnpike and are responsible for 35 percent of its toll income. While there would be a reduction in income for the Turnpike Authority, such an approach would ease congestion on alternative routes that are not well designed to accommodate trucks. If the program is successful in increasing the number of trucks, the Turnpike Authority may recover the initial loss in revenue.

Recommendation 4: *Support specific roadway improvement projects*

Several planned roadway projects focus on infrastructure improvements that will reduce congestion and improve safety in congested areas with high truck volumes. These improvements will not contribute to trip reduction, but they will improve efficiency of the intermodal goods movement system.

The projects include a series of road improvements known as "Portway," being advanced by NJDOT. The volume of goods moved through New Jersey ports is expected to more than triple in the next 20 years. Portway is planned to meet this tremendous demand. This series of freight improvements will strengthen access to and between the Newark-Elizabeth Air/Seaport Complex, intermodal rail facilities, trucking and warehousing/transfer facilities and the regional surface transportation system. In addition, it is anticipated that once the federal port security bill is passed, all ports will be required to restrict traffic into the ports. In order to meet these security concerns, port traffic will need to separate from other commercial traffic.

These facilities and their access routes are the front door to global and domestic commerce for the State and the greater metropolitan New York region. Portway will also target and capture freight services and related economic development along its path. NJDOT will join local communities and other State agencies to encourage brownfield remediation at adjacent development sites.

Recommendation 5: *Experiment with truck-only lanes on highly congested roadways*

England has started to experiment with truck-only lanes on highly congested roadways as a way to improve the flow of goods. We recommend that NJDOT be authorized to study the viability of creating truck-only lanes. Implementing the recommendation will take trucks out of the multi-use lanes in major highway corridors, improve safety and provide more free flow capacity for other vehicles in those lanes.

The proposed study will likely cost \$300,000 to \$400,000. Congestion relief for both trucks and commuters would result in time and fuel savings as well as a reduction in pollution.

Recommendation 6: *Invest more State and federal transportation funds in an expanded and efficient rail freight and barge network*

An efficient rail freight and barge network can remove containers and trucks from highways, at all times, but especially during peak hours. Such a network is especially critical to reduce the expected increase in truck traffic that will come with expanded Port of Newark and Elizabeth operations over the next 20 years. With little potential of increasing urban roadway capacity, an increase in truck volume will have a significant negative impact on traffic congestion unless other freight systems are used.

DEMAND MANAGEMENT SUBCOMMITTEE REPORT

Background: Travel Demand Management (TDM) is an approach to reducing congestion which seeks to influence travel behavior to better manage the demand on the transportation system. By managing the demand side of the equation, the need to increase supply, or add highway capacity, is reduced. TDM strategies generally fall into four main categories:

- Strategies to increase vehicle occupancy, such as carpooling and vanpooling.
- Strategies to encourage modal shifts, such as transit, bicycling and walking.
- Strategies to influence the time and/or route of travel, such as flextime.
- Strategies to eliminate trips altogether, such as telecommuting and trip chaining.

Demand management strategies generally work best when they are part of a comprehensive trip reduction program used in centers of employment. In such cases, the strategies have been shown to reduce trips by as much as 40 percent.

Transportation Management Associations (TMAs) are independent, nonprofit, public private partnerships that work closely with employers, government and commuters to provide an array of mobility options and information. New Jersey's nine TMAs play an essential role in developing and implementing demand management programs in their respective service areas. The Congestion Buster Task Force hypothesized that there might be a correlation between the level of TMA involvement and successful trip reduction programs. The Task Force supports a strong TMA program.

Historically, TDM programs have been primarily employer based, although work trips account for approximately 25 percent of congestion. Accordingly, the Demand Management Subcommittee's recommendations include strategies geared toward employers as well as individual commuters.

Recommendation 1: *Develop and implement a voluntary employer trip reduction program supplemented by an aggressive, multi-year pilot program in selected congested corridors*

This is essentially Scenario C as presented on pages X-10 and X-17. Prominent support by the Governor is essential for a voluntary program to be successful. An aggressive pilot program could supplement the existing TMA Employer Services Program, which limits TMA funding to 25 hours per employer work site. A pilot program could fund TMAs to develop, implement and monitor intensive TDM programs at interested work sites in the selected corridors. It also could include financial support for parking cash-out programs, shuttle operation, video conferencing, company cars for business traveling or carpooling, subsidies, bicycle amenities, telecommuting training, emergency rides, recognition programs, on-site assistance and other programs as appropriate.

The strategies in the voluntary trip program could be combined to increase vehicle occupancy, shift modes, change the time of travel and eliminate trips.

Note: Strategies to influence route of travel are included in the Traffic Management recommendations. Demand Management Subcommittee recommendations were modified after initial analysis; wording may not exactly match the wording presented in the analysis section of the report.

Recommendation 2: *Expand Park-and-Ride Program by requiring the Department of Transportation to expand or add at least two park-and-ride facilities per year through 2010*

Designated parking lots located at transit facilities or near major roadways can provide convenient meeting places for ridesharing and give people easier access to transit. In New Jersey, efforts to promote transit and ridesharing are hampered by insufficient capacity at many commuter park-and-ride facilities. Although Transportation Trust Fund legislation (N.J.S.A. 27:1B-21.27) sets a goal to expand or establish at least two park-and-ride facilities per year through FY 2004-05, NJDOT mandates or policies to acquire properties for park-and-ride facilities are not adequately funded. In addition, many municipalities are not receptive to park-and-ride lots in their communities.

Implementation strategies include:

- Review and strengthen NJDOT's policies and procedures for park-and-ride acquisition.
- Extend and strengthen the existing provisions of the Trust Fund Renewal Act to 2010 and provide funding for implementation.
- Establish land banking of properties for park-and-ride purposes.
- Establish a Joint Park and Ride Capital Program Commission to include NJ TRANSIT, road authorities, TMA representatives and private carriers to elevate and prioritize park-and-ride projects.
- Incorporate park-and-rides into the design of NJDOT corridor improvement projects.
- Provide assistance and education to municipalities on benefits of park-and-rides and pursue multi-agency jurisdiction opportunities between State and local governments.

Recommendation 3: *Develop mechanism and procedures for NJDOT to collect data regularly from employers for transportation planning purposes*

Employee commute data is a valuable tool for planning transportation and transit improvements, yet there are no standard mechanisms in place to regularly obtain origin and destination data for employment sites. The purpose of this recommendation is to enable NJDOT to conduct periodic, regular employer surveys to obtain employee zip codes and work hours. The recommendation is for a bi-annual voluntary survey. If response is low, it should become mandatory, in which case legislation would be required.

An education and information campaign to assuage employers' suspicions and concerns, which could be done through TMAs, business trade organizations and chambers of commerce, must accompany this effort. TMAs should also be involved with data analysis in their service areas.

Recommendation 4: *Increase percentage of employees in New Jersey who telecommute by 10 percent in five years*

Approximately 14 percent of workers in New Jersey either telecommute or work at home. Statistics show that telecommuting can reduce vehicle miles traveled (VMT), particularly in peak periods. In Connecticut, telecommuting has been shown to reduce VMT by 37.2 million miles per month. This

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recommendation could become part of a voluntary trip reduction program as discussed in Recommendation 1 above. Implementation strategies include:

- Develop a statewide telework task force to identify and address opportunities and obstacles to teleworking in New Jersey including management issues, land use and zoning, technology and OSHA considerations.
- Develop and implement incentive and recognition program for employers.
- Allow telecommute services training to be fundable within the TMA program.
- Develop and implement subsidy programs for startup costs for employers in congested corridors.
- Issue an Executive Order requiring State agencies to establish policies to enable 15 percent of their employees to telecommute at least one day a week within one year and 20 percent within 5 years.
- Develop a statewide marketing and awareness campaign to promote telecommuting and TMA services.

Note: Strategies to influence route of travel are included in the Traffic Management recommendations. Demand Management Subcommittee recommendations were modified after initial analysis; wording may not exactly match the wording presented in the analysis section of the report.

LAND USE & GROWTH MANAGEMENT SUBCOMMITTEE REPORT

Background: This subcommittee believes that implementation of effective land use policy must begin at the local level. In general, and with few exceptions, New Jersey's current local planning and land use process is not designed to support TDM techniques that encourage alternatives to single-occupancy vehicle trips, such as ridesharing, transit use, biking, walking, teleworking, compressed workweek and other commute alternatives. Some land use strategies overlap with recommendations made by the Transit & Passenger Rail Subcommittee. Please refer back to them.

Recommendation 1: *Amend the New Jersey State Planning Act to mandate that municipal master planning and zoning comply with the goals, strategies, policies and planning area policy objectives of the State Development and Redevelopment Plan*

Growth management, the central principle of the State Plan, can provide compact, mixed-use development patterns that contribute to more efficient transportation service delivery, thereby reducing automobile dependency and unnecessary trips.

Savings result from not having to build new highways or other large-scale infrastructure; however, some administrative costs are usually associated with implementing a growth management strategy. In order to comply with a State Plan mandate, all municipalities would need to allocate financial resources to this effort, or perhaps, ideally, work in partnership with their respective counties. The State may have to allocate resources for municipal assistance and training on smart growth principles.

Recommendation 2: *Resurrect earlier proposed county planning enabling legislation, which would give counties authority to approve or disapprove development based upon existing infrastructure capacity*

Since much of New Jersey's new development, both residential and commercial, occurs along county roadways, these roadways most frequently seem to fall victim to congestion and require widening and/or intersection improvements to prevent gridlock. Counties should have the power to withhold development approval unless adequate public facilities exist to support the development.

Ultimate savings result from not having to build new highways or other large-scale infrastructure; however, some administrative costs are usually associated with implementing a growth management strategy. Some cost efficiency could be realized if county planning enabling legislation was enacted as a companion to a State Plan mandate. Counties and municipalities could pool resources to work toward growth management with this legislative initiative as an effective legal framework.

In the late 1980's, amendments to the County Planning Enabling Act called Municipal-County Planning Partnerships were proposed; the amendments, however, were never adopted by the New Jersey Legislature.

Note: Land Use subcommittee recommendations were modified after initial analysis; wording may not exactly match the wording in the analysis section of the report.

Recommendation 3: *Create incentives for municipalities to integrate Travel Demand Management techniques or requirements into their zoning/planning requirements*

These techniques could include: sidewalks/bike paths; transit stops; reduced parking in response to provision of shuttles; park-and-ride lots along major travel routes; the addition of on-site services for larger office parks and commercial development; pedestrian-friendly intersections and transit-friendly development. With many more options not only being made available, but actually encouraged, the public will have more reason to try single-occupant vehicle alternatives.

Development costs will increase to pay for pavement for sidewalks or bikeways and additional intersection requirements for pedestrians. The encouragement of transit-friendly design will increase costs slightly, and the addition of shuttle services will increase costs. The increased cost of shuttles could be offset, however, by reduced parking space requirements. The developer could then, hopefully, pass on these savings.

Recommendation 4: *Expand the use of Transfer of Development Rights (TDR) in order to preserve open space while concentrating development in areas which, in turn, may sustain transit*

This land use technique, useful in balancing development, is presently only used in the Pinelands area of our state. If expanded, municipalities throughout the state implementing TDR would be required to perform studies to develop “sending” and “receiving” areas. The concept can protect areas without infrastructure and increase densities in regions with infrastructure. An area’s ability to sustain transit is enhanced, residents and workers are offered a transit option, and open space is conserved.

Costs include planning and a review of potential “sending” and “receiving” areas. Cost savings include VMT reduction and coordination of infrastructure investment.

Recommendation 5: *Create financial, density, parking, clean-up or other incentives to encourage new commercial, office and industrial development to locate where it can be served by transit services (either existing or viable new services)*

Channel new development into existing communities and identified growth centers to allow for effective provision of transit services and transportation infrastructure

Mass transit is a recognized method of traffic reduction, although the degree to which it reduces congestion and VMT depends on the success of transit in capturing ridership.

Municipalities may need financial and technical support to promote this type of land use management through their local plans and zoning. Growth management or “smart growth” planning can result in savings by reducing the cost of providing services and infrastructure to a developing area.

Note: Land Use subcommittee recommendations were modified after initial analysis; wording may not exactly match the wording in the analysis section of the report.

Recommendation 6: *Allow municipalities to deny development applications where the existing off-site roadway network cannot support the needs of the proposed development, or alternatively, allow municipalities to pursue timed-growth planning or assess impact fees so that appropriate improvements with developers can be negotiated*

This recommendation is intended to have residential, commercial and industrial development not leapfrog ahead of infrastructure development, and have all infrastructure be coordinated and consensus-driven. When the necessary transportation infrastructure does not exist, the developer would have the option to construct needed infrastructure to speed the process.

Currently, municipalities are under the jurisdiction of the Municipal Land Use Law (MLUL), which does not allow them flexibility when development occurs. For instance, the law dictates maximum waiting periods. Further, since ensuring adequate infrastructure is the responsibility of government, developments can be built with developers having paid only a fee toward future improvements. Many times, transportation infrastructure may not support new development, causing gridlock conditions and the need for emergency improvements. Also, municipalities are now required to limit their traffic review to the site of the proposed development, and they may not deny applications even where added trips generated by the development would seriously impact the adjacent roadway network. A small change in the MLUL will correct this situation and lead to better planning by municipalities and developers alike.

The costs can be large, depending on improvements required. Costs could affect the municipality by delaying development and the resulting ratable. Savings can occur by having the developer pay directly for needed improvements or paying additional amounts to the municipality for the completion of the external improvements.

Note: Land Use subcommittee recommendations were modified after initial analysis; wording may not exactly match the wording in the analysis section of the report.

LEGISLATIVE SUBCOMMITTEE REPORT

The statutory goal of the Congestion Buster Task Force is to make recommendations that will reduce peak hour vehicle trips. The Legislative Subcommittee started their work by reviewing existing commuter and congestion related New Jersey law. A summary is shown below:

Citation	Summary	Status
<i>N.J.S.A 27:26-1-4</i>	NJ Ridesharing Act of 1981. Exempts employers from certain liabilities they may incur as a result of promoting ridesharing programs	Enacted 1-7-1982
<i>N.J.S.A 27:26A-1-15</i>	Traffic Congestion and Air Pollution Control Act Defines Travel Demand Management and TMAs; provides for voluntary employer trip reduction program; contains employer tax credits	Enacted 6-30-92; amended 11-1-96
<i>N.J.S.A 54A:6-23</i>	Employer-provided commuter transportation benefits not considered gross income.	Enacted 1993; amended 7-17-2001
<i>N.J.A.C. 16:50 (Rule)</i>	Smart Moves Program is a Statewide initiative to develop, implement and monitor travel options and commute alternatives through a variety of strategies and programs. Using employer tax credits and grants, the program encourages New Jersey employers to develop and implement voluntary employer trip reduction programs.	Adopted 10-6-1997
<i>N.J.S.A 39:4-56.5</i>	Concerns abandoned vehicles	Enacted 1-18-2000
<i>N.J.S.A. 27:1B-21.17</i>	Congestion Relief & Trust Fund Renewal Act requires report to legislature on reduction of single occupancy trips	Enacted 7-20-2000
<i>N.J.S.A 27:1B-21.18</i>	Congestion Relief & Trust Fund Renewal Act requires report on telecommuting	Enacted 7-20-2000
<i>N.J.S.A 27:1B-21.21</i>	Requires installation of LED lighting in traffic signals on State highway system to save energy and to provide congestion relief. The diodes have a 10-year life cycle as compared to the one-year replacement cycle for regular bulbs.	Enacted 7-20-2000
<i>N.J.S.A 27:1B-22</i>	One goal of NJDOT's Capital Investment Strategy shall be to construct an additional 1000 lane miles of bicycle paths to reduce traffic congestion and for recreational uses.	Enacted 7-20-2000
<i>N.J.S.A. 27:1B-21.26</i>	Creates Congestion Buster Task Force and calls for preparation of a commuter options plan	Enacted 7-20-2000
<i>N.J.S.A. 27:1B-21.27</i>	Sets goal of establishing or expanding at least two park-and-ride facilities in each successive fiscal year through 2004-2005. Requires report to legislature	Enacted 7-20-2000
<i>N.J.S.A 52:14-15.1B</i>	Commuter tax legislation that permits a State employees' commuter transportation benefit salary reduction program	Enacted 7-17-2001

The subcommittee conducted a multi-state inquiry to create an inventory of commuter incentives in use throughout the country. This inventory, along with information about promising international programs, was distributed to Task Force members as part of their learning process.

The Legislative Subcommittee then researched and reviewed commuter and congestion related legislation of several states. The states chosen are similar to New Jersey or are forerunners in the field. The table that follows outlines this research.

STATE	CITATION	SUBJECT MATTER
Arizona	<i>Ariz. Rev. Stat. Ann., § 49, C.3, Article 8</i>	<p><u>Travel Reduction Program</u> Mandatory program is still in effect.</p> <p><u>Telecommuting by State Employees</u> 14 percent of state workers currently engage in telecommuting.</p>
California	<p><i>Cal. Stat., §C.91-AB 2928, amended by C.656-SB 1662</i></p> <p><i>Health & Safety Code, § 43845; Rule 1504, adopted 5/13/94</i></p> <p><i>Government Code, § 65088-65089.10</i></p> <p><i>Streets & Highway Code, § 885-886</i></p> <p><i>Streets & Highway Code, § 890-894</i></p> <p><i>Public Utilities Code, § 130290</i></p> <p><i>Streets & Highway Code, § 2560</i></p> <p><i>Public Resources Code, § 25480-86</i></p> <p><i>Government Code, § 14170-14181</i></p>	<p><u>Traffic Congestion Relief Program</u> Establishes a relief fund to finance congestion relief improvements, dedicates gasoline tax to transportation purposes and creates a Transportation Investment Fund seeking new and innovative ways to fund critical projects. A project listing is available on the Internet.</p> <p><u>Parking Cash-Out</u> Requires employers of 50 or more in certain areas, to offer parking cash-out programs.</p> <p><u>Congestion Management Program</u></p> <p><u>Bicycle Facilities Coordinator</u> Legislation created this coordinator position.</p> <p><u>Bicycle Transportation System</u> Establishes a bicycle transportation system to develop a plan with functional commuting needs of employee, student, businessperson and shopper.</p> <p><u>Smart Freeway Demonstration Project</u> Includes traffic monitoring devices, signal control systems, traffic information systems, improved emergency response systems, tow services.</p> <p><u>Freeway Service Patrol Act</u> Permanent implementation of freeway service patrol system, involving a cooperative effort between state and local agencies.</p> <p><u>Ridesharing Program Development</u></p> <p><u>Guaranteed Return Trip Demonstration Project</u></p> <p><u>Telecommuting by State Employees</u> No legislation on telecommuting; formal policy developed in 2000.</p>

STATE	CITATION	SUBJECT MATTER
Connecticut	2001 Conn. Acts, § 6985	<p><u>Transportation Strategy Board</u> An act signed 7/2/01 established this board and appropriated \$50 million for specific projects to improve, among other things, the mobility of people and goods.</p> <p><u>Telecommuting by State Employees</u> On-going pilot program; legislation was enacted in 1996 to grant temporary telecommuting.</p>
Delaware	<p>67 Del. Laws, c. 160 § 1</p> <p>68 Del. Laws, c. 426 § 2</p> <p>65 Del. Laws, c. 87 § 25</p>	<p><u>Commuter Tax Legislation</u> The Travelink Traffic Mitigation Act, recently enacted in Delaware, provides a tax incentive to employers who establish an approved travelink program.</p> <p><u>Commuter Tax Legislation</u> This section of law includes state employee commuter plans.</p> <p><u>Parking for State Employees</u> State employees are liable for the full cost of commuting to and from work, including the cost of parking. The State of Delaware will not participate in the payment of any commuting cost, including parking costs. (This statute does not apply to any commuter benefit given in conjunction with commuter tax incentives.)</p>
Florida	<p>1998 Fla. Laws, c. 98-31</p> <p>1999 Fla. Laws, c. 99-385</p> <p>1999 Fla. Laws, c. 99-385</p> <p>2000 Fla. Laws, c. 2000-257</p>	<p><u>Telecommuting by State Employees</u> Legislation established a state employee telecommuting program in 1998. There are over 500 current participants; participation is expected to increase.</p> <p><u>Commuter Assistance Program</u> Procedures established October 1999.</p> <p><u>Transit Corridor Program</u> Procedures established March 1999 include the Congestion Management System Mobility process.</p> <p><u>Mobility 2000: Building Roads for the 21st Century</u> State plan announced in January 2000 aims to ease congestion in urban and tourism areas.</p> <p><u>Employee Transportation Management Program</u> Commuter policy for Florida DOT employees announced November 2000.</p>

STATE	CITATION	SUBJECT MATTER
Kentucky		<p><u>Telecommuting by State Employees</u> Administrative regulations promulgated in August 1999 that established the requirements for telecommuting. No mandates are included.</p>
Maryland	<i>Md. Code Ann., § 2-901</i>	<p><u>Commuter Tax Legislation</u> This section of law, enacted in 1999, allows business entities to claim a tax credit in an amount equal to 50 percent of the cost of providing commuter benefits to their employees. Entities include insurers (premium tax) and financial institutions (franchise tax).</p> <p><u>Telecommuting by State Employees</u> Maryland mandated that state agencies allow at least 10 percent of eligible employees to telework at least four days per month. The goal, established in 1999, is met.</p>
Massachusetts		<p><u>Telecommuting by State Employees</u> A package of "family friendly" benefits became operational in spring of 2000; pilot program is in place, although no formal legislation.</p>
Minnesota		<p><u>Telecommuting by State Employees</u> No law or executive order; pilot program is in place.</p>
New York		<p><u>Tax-Free Qualified Commuter Benefits</u> NYDOT's Web page explains and encourages participation in these benefits. Federal legislation known as TEA-21 enacted June 1998, removed restrictions for many fringe benefits such as transit and vanpools.</p>
North Carolina		<p><u>Telecommuting by State Employees</u> These rules adopted in August 2000 set a goal of reducing vehicle miles traveled by state employees by 20 percent through telecommuting. Implementation was put on hold due to tight fiscal climate.</p>
Ohio		<p><u>Telecommuting by State Employees</u> Statewide, centralized policy drafted; awaiting approval by governor.</p>
Utah		<p><u>Telecommuting by State Employees</u> Utah has adopted administrative rules on telecommuting by state employees.</p>

STATE	CITATION	SUBJECT MATTER
Virginia	<p><i>Va. Code Ann., § 2.2-203.1 and 2.2-2817.1</i></p> <p><i>Va. Code Ann., § 15.2-1512.3</i></p> <p><i>Va. Code Ann., § 33.1-46.2</i></p> <p><i>Va. Code Ann., § 33.1-252</i></p>	<p><u>Telecommuting by State Employees</u> Effective 10/1/2001, each state agency is required to establish a telecommuting policy for employees, in cooperation with the Secretary of Technology. It requires an annual report to the Virginia legislature.</p> <p><u>Telecommuting by Local Government Employees</u> This legislation authorizes and encourages local governments to implement a telecommuting policy for eligible employees.</p> <p><u>HOV Lanes</u> Commonwealth Transportation Board is authorized to designate high-occupancy lanes.</p> <p><u>Free Use of toll bridges</u> Vehicles transporting two or more persons, may be permitted toll-free use of certain bridges during rush hours.</p>
Washington	<p><i>Executive Order 01-03</i></p>	<p><u>Telecommuting by State Employees</u> June 2001 Executive order requires state agencies to adopt written telework policies. The goal is to have an average of at least 9 percent of state employees telecommuting by 2006.</p> <p><u>Commute Trip Reduction Program</u> Employers located in nine Washington counties having more than 100 employees are required to participate in the program. WSDOT supports the program with direct and indirect employer assistance. A tax credit available from 1994-1999 acted as an incentive for non-obligatory participation. WSDOT reports quarterly on the status of the program.</p>

As it became apparent to the members of the Task Force that many factors contribute to congestion, the subcommittee researched state law and practice concerning incident management. A top recommendation of the Task Force is legislation to require drivers involved in minor accidents to move vehicles to the side of the road. Members feel this could have a significant impact on travel delay. Exemplary legislation addressing this issue is Georgia Code §40-6-276 entitled "Duty to Remove Vehicle from Roadway or Expressway or Multilane Highway: Removal of Incapacitated Vehicle from State Highway." This statute authorizes appropriate members of law enforcement or other agencies to remove disabled vehicles off the travel lanes by pushing them to the shoulders when feasible.

The Legislative Subcommittee met to review and analyze the major Task Force recommendations. The subcommittee discussed how to best proceed to accomplish the recommendation, whether by legislation, executive order, regulation or administrative order.

PUBLIC EDUCATION SUBCOMMITTEE REPORT

Background: An aggressive public information campaign is essential to communicating the seriousness of the traffic congestion problem to the public. The public would like to ignore this problem and hope that the “government” can make it go away. Individuals and business need to understand that controlling the growth of commuter congestion directly benefits them.

Recommendation 1: *Develop and Implement Multi-Year, Multi-Media Public Information Campaign*

Congestion is growing at an alarming rate and will have a chilling effect on our economy and quality of life if not addressed. The public needs to understand the problem and the various options that can mitigate congestion’s negative effects. The campaign should be multi-year and multi-faceted. A statistically valid survey of commuters should be included in the campaign to help understand the challenges and assist in the development of effective TDM strategies.

Recommendation 2: *Use Division of Motor Vehicle Services inserts to educate motorists about a variety of topics that will help change behavior and reduce congestion, trips and auto emissions*

Presently, inserts are put in the envelopes mailed to customers who transact business with Motor Vehicle Services via mail for license renewals, registrations, insurance matters and other business. The inserts all seem to be public service announcements, charitable contribution solicitations or advertisements for “vanity” license plates. Since our prime target audience in reducing congestion is the motoring public, the use of inserts seems appropriate.

Inserts could include rideshare applications, trip saving tips, incident management tips and pollution-reducing strategies. They could promote commuter tax benefits, shuttle services, bicycle and pedestrian programs and park-and-ride opportunities. The inserts could provide access to transportation options through the toll-free rideshare number and Web site.

Recommendation 3: *Design, produce and install new highway signs promoting ridesharing and the toll free number and Web site. Re-do toll free number menu to be more user friendly. Utilize smart highway alert programs, such as MAGIC, when not used for emergency situations*

The current rideshare signs are over ten years old; revitalization and upgrading is warranted.

Recommendation 4: *Use driver’s education curriculum, manual and test to educate motorists about the implications of single network travel, commuter incentives and transportation mode choices. Offer driver refresher courses that provide the same information*

Every user of the transportation network in New Jersey should understand their travel choices and the consequences of those decisions. New drivers should understand, and older drivers be should reminded of, the greater impact driving alone places on the transportation network, the benefits of timing trips, and the environmental and economic costs of congestion. Questions on written driver’s tests will reinforce the importance of these lessons.

TECHNICAL ASSESSMENT OF SUBCOMMITTEE RECOMMENDATIONS

The technical analysis aspect of the Congestion Busters Task Force was primarily a support effort to quantify the various recommendations generated by the subcommittees. A NJDOT consultant performed the technical analytical work. The analysis was conducted at only sketch planning level due to the level of details provided by the subcommittees and the very tight timeframe for providing the analysis.

The consultant worked with representatives of the subcommittees to define assumptions and the intent of their recommendations. Parallel or complimentary New Jersey-based evaluations were used to perform most of the analysis. Where New Jersey-specific experience was not available, national research and experience was used to develop some level of quantification.

In the first round analysis effort, the original concept of quantifying all results was not always possible. In some instances, qualitative results were provided where appropriate. A second round of analysis was conducted, after ascertaining additional detail from the subcommittees. All of the recommendations, other than those that were related to studies, were given a further degree of quantification.

With the goal of capping peak hour vehicle trips at the 1999 level, estimated to be approximately 155,000 daily trips per each peak hour, the results of the technical analysis indicates that there is no "magic bullet" to reduce congestion. Voluntary travel demand management, increased transit use and traffic management strategies will only get us halfway to the goal. The addition of financial incentives and disincentives would provide some additional reduction in vehicle trips, but the goal would still not be reached. Land use strategies are "long term" at best and would require strong incentives or compelling requirements to provide significant impacts. The only way to reach the legislated goal would be to institute "mandatory" strategies, but those are likely to be very difficult to implement.

Some subcommittee recommendations were "packaged" prior to analysis and additional concept packages were developed. A summary of the analysis appears at Appendix E of this report.

The charts that follow show recommendations and strategies that could have a significant impact on reducing peak hour trips or reducing delay.

STRATEGIES THAT COULD REDUCE VEHICLE TRIPS IN THE PEAK HOUR

Number of Peak Hour Trips Eliminated			
	Now to 2010	Beyond 2010	Notes
Traffic Management			
Expanding & increasing off-peak incentives to all toll facilities	6,462	6,785	
Transit			
Increase funding for rail and bus park and ride spaces	8,360	9,625	
Increase funding for rail capacity during peak hour	9,996	11,495	
Create a seamless transit system	2,787	3,154	Includes improved station environment; improved transfers and addition of shuttle services
Increase capacity for buses to & from NYC	no short term impacts	2,500	
Construct new rail tunnel	no short term impacts	5,000	
Goods Movement			
Shift truck delivery operations out of peak hour	7,888	8,226	
Travel Demand Management <i>(additional concepts analyzed - not from TDM Subcommittee recommendations)</i>			
Voluntary Telecommuting	1,791	1,881	
Mandatory Telecommuting	8,954	9,407	
Voluntary TDM – marketing only	597	627	
Voluntary TDM	6,566	6,899	Includes marketing, compressed workweeks, alternative workweek, carpooling & vanpooling
Voluntary TDM - expanded	10,148	10,662	Includes marketing, compressed workweeks, alternative workweek, carpooling & vanpooling, plus increased incentives/disincentives
Mandatory TDM	108,638	113,514	Employers required to implement a package of commute options for employees
Land Use <i>(packaged concepts analyzed - not specific Land Use Subcommittee recommendations)</i>			
Transit oriented development	no short term impacts	1,400 to 20,000	Focus on transit nodes/stations; mixed-use centers served by high quality transit
Brownfield development	no short term impacts	38,000 to 400,000	Focused on suitable brownfield locations; siting new high density, mixed-used development
General infill vs. greenfield	no short term impacts	200 to 200,000	Higher density, mixed-use centers, not limited to transit or brownfield sites; strong incentives or compelling requirements

Numbers reflect estimated potential for reduction of peak hour vehicle trips based on sketch planning analysis.

STRATEGIES THAT COULD REDUCE DELAY IN THE PEAK HOUR

Time savings per vehicle in impacted/affected area

Traffic Management		
Emergency service patrols; automatic incident detection	6 to 8 minutes	
Re-timing of 1000 traffic signals	4 to 8 minutes	
Implementation of traffic responsive signals; signal coordination and ramp metering	3 to 10 minutes	
Goods Movement		
Restrict truck lanes on NJ Turnpike to trucks and buses only in peak hour	7 minutes	Improvement in time savings for trucks/buses would also result in negative impact on vehicles in car lanes

Average commute time is 30 - 33 minutes; time savings are for vehicles in area impacted by strategy or improvement; not statewide

OTHER STRATEGIES THAT COULD REDUCE VEHICLE TRIPS IN THE PEAK HOUR

	Now to 2010	Beyond 2010	Notes
Restrict high school students from driving to campus	34,444	34,444	

APPENDIX A

CHRONOLOGY OF TASK FORCE MEETINGS

<u>DATE</u>	<u>LOCATION</u>	<u>SUBJECT</u>
June 5, 2001	NJDOT Headquarters	Kick-off meeting
July 11, 2001	NJDOT Headquarters	I-80 Task Force; commuter incentives
August 7, 2001	NJDOT Headquarters	Internet site; baseline methodology
October 11, 2001	NJ TRANSIT, Newark	NJ Long-Range Transportation Plan
November 13, 2001	DRPA, Camden	Transportation system effects after 9/11 events; Central New Jersey Forum
December 11, 2001	NJDOT Headquarters	Measuring congestion; subcommittees
January 22, 2002	NJDOT Headquarters	Demand Management strategies
February 19, 2002	NJDOT Headquarters	Land Use & Growth Management
March 19, 2002	NJDOT Headquarters	Subcommittee Reports
April 23, 2002	NJDOT Headquarters	Public Meeting
April 24, 2002	NJDOT, Cherry Hill	Public Meeting
April 30, 2002	NJTPA, Newark	Public Meeting
May 21, 2002	NJDOT Headquarters	Analysis of Recommendations
June 19, 2002	NJDOT Training Center	Analysis Update; Roles & Responsibilities
July 23, 2002	NJDOT Headquarters	Review final report

Each meeting had good attendance and often included informative presentations. Each meeting lasted approximately two hours. In addition to the regular meetings, the Task Force held several brainstorming sessions, either in person or through e-mail communication. The topics discussed at those sessions included legislative initiatives, park-and-ride lots, carpooling and assessment of recommendations.

APPENDIX B

CONGESTION HOT SPOTS IDENTIFIED BY NJDOT (May 1998)			
ROUTE	BEGIN MILEPOST	END MILEPOST	COUNTY
1	28.25	35.97	Middlesex
3	0.00	10.84	Passaic, Bergen, Hudson
4	2.15	10.89	Bergen
7	3.67	5.29	Bergen
9	94.47	121.63	Ocean, Monmouth
1 and 9	62.13	62.80	Bergen
10	19.7	22.7	Essex
17	4.40	23.67	Bergen
18	34.35	40.6	Middlesex
21	0.00	4.10	Essex
23	1.48	16.54	Essex, Passaic, Morris
27	0.00	0.94	Mercer
27	7.10	24.33	Middlesex
27	32.77	34.35	Union
29	1.90	3.20	Mercer
30	16.25	16.98	Camden
31	21.95	25.60	Hunterdon
33	14.15	14.85	Mercer
35	33.00	34.00	Monmouth
35	16.00	24.61	Monmouth
36	4.11	5.72	Monmouth
40	45.18	59.10	Atlantic
41	0.00	10.82	Gloucester, Camden
42	1.48	14.28	Gloucester, Camden
46	52.40	70.98	Essex, Passaic, Bergen
47	17.50	34.80	Cape May, Cumberland
47	40.02	43.58	Cumberland
49	24.89	26.25	Cumberland
52	0.00	2.74	Cape May, Atlantic
55	60.00	60.53	Gloucester
70	0.00	13.90	Camden, Burlington
70	55.60	59.84	Ocean, Monmouth
73	15.00	34.60	Camden, Burlington
76	0.00	3.04	Camden
77	0.00	2.12	Cumberland
88	0.00	10.02	Ocean
93	0.00	3.52	Bergen
109	0.00	2.40	Cape May
166	0.00	2.23	Ocean
168	3.60	7.38	Camden
182	0.00	0.98	Warren
206	62.90	70.80	Somerset
280	3.28	17.85	Essex, Hudson
287	0.00	10.38	Middlesex
295	26.41	28.00	Gloucester, Camden
322	16.70	18.25	Gloucester
347	0.00	8.59	Cape May, Cumberland
571	34.52	36.90	Mercer
G.S. Parkway	0.00	11.80	Cape May

APPENDIX C

CONGESTED CORRIDORS IDENTIFIED BY CONGESTION BUSTER TASK FORCE ON STATE AND LOCAL ROADS			
ROUTE	MUNICIPALITY	COUNTY	REMARKS
9	Middle Township	Cape May	Seasonal recreation travel congestion
9	Northfield City, Pleasantville City	Atlantic	Urban congestion at County 563 and County 646
22	Bridgewater Township to Union Township	Somerset, Union	
22	Lebanon Township, Phillipsburg Town	Hunterdon, Warren	At the Lebanon Curve and near Phillipsburg
28		Somerset, Union	
40	Woodstown Borough, Pittsgrove Township	Salem	Truck traffic and general congestion in Woodstown
78		Hunterdon, Somerset	Bottlenecks
80		Morris County	Pennsylvania through Morris County
130	Collingswood Borough	Camden	Collingswood Circle, Route 73 to Route 30
195	Millstone Township	Monmouth	Route 195 as drivers attempt to exit for Six Flags Great Adventure
202		Hunterdon, Somerset	Between Flemington and Somerville
206	Princeton Township and Borough	Mercer	
287		Middlesex, Somerset, Morris	
Carlton Avenue	Piscataway Township	Middlesex	
Edison Road	Metuchen Borough	Middlesex	
Ethel Road	Edison Township	Middlesex	
Garden State Parkway		Essex	From Route 78 to exit 145, during evening rush hour
Garden State Parkway		Counties adjacent to the shore	Shore traffic congestion
Harrison Street	Princeton Borough	Mercer	From Route 1 to downtown Princeton
NJ Turnpike		Salem, Mercer, Middlesex, Union, Essex	Exits 1, 7A, 11, 13, 13A, and 14C
South Washington Avenue	Piscataway Township	Middlesex	
Stelton Road	Piscataway Township	Middlesex	

APPENDIX D

CONGESTED INTERSECTIONS IDENTIFIED BY CONGESTION BUSTER TASK FORCE ON STATE AND LOCAL ROADS		
INTERSECTION LOCATIONS	MUNICIPALITY	COUNTY
Broadway and Old Hook Road	Westwood	Bergen
County Route 535 and Village Road	West Windsor	Mercer
Easton Avenue, approaching I-287	Franklin	Somerset
Fletcher Avenue and Route 4/95/46 exit ramps	Fort Lee	Bergen
McCarter Highway and Broad Street	Newark	Essex
Oradell and Forest Avenues	Oradell, Paramus	Bergen
Park Avenue; Columbia Turnpike; Route 24	Morris Township, Florham Park	Morris
River Edge and Kinderkamack Roads	River Edge	Bergen
Route 1 and 9 merge	Woodbridge	Middlesex
Routes 10 and 202	Morris Plains	Morris
Route 1 at the following intersections: Bakers Basin, Carnegie Center Drive, Nassau Park Boulevard, Washington Road	Lawrence, West Windsor	Mercer
Route 27, 206 and Mercer Street	Princeton	Mercer
Route 295 at Route 1 exit ramp	Lawrence	Mercer
Routes 40 and 322	Hamilton	Atlantic
Routes 46 and 3	Clifton	Passaic
Route 78 exit to Garden State Parkway South off I-78	Hillside Township	Union
Routes 80 and 202	Parsippany	Morris
Summit Avenue and Spring Valley Road	Montvale	Bergen
The Raritan River Bridges		Middlesex
West/East Saddle River Road and East Allendale Avenue	Saddle River	Bergen

APPENDIX E

SUMMARY OF THE TECHNICAL ANALYSIS OF THE RECOMMENDATIONS PROPOSED BY THE CBTF SUBCOMMITTEES

TRAFFIC SUBCOMMITTEE RECOMMENDATIONS

Recommendations 1 (Accident clearance), 6 (Emergency Service Patrols) and Part of 8 (Automatic incident detection)

Recommendations 1, 6 and 8 were combined because much overlap exists among them. All deal with quick clearance of traffic incidents so roadways are not blocked for a long time. This way, the delay can be minimized to those unaffected by it.

These recommendations were quantified using the FHWA's Screening for ITS (SCRITS) tool. SCRITS is a spreadsheet analysis tool for estimating the user benefits of Intelligent Transportation Systems (ITS). It is a sketch-level or screening-level analysis tool providing initial indications of the possible benefits of various ITS applications and is not intended for detailed analysis.

Recommendation 2 (Maintain, implement, and/or expand congestion relief pricing toll incentives programs on all tolled facilities)

This recommendation is to implement, maintain, and/or expand congestion relief pricing toll incentives programs on all tolled facilities. The NJ Turnpike has already demonstrated reduction in peak hour travel after a congestion relief pricing program was implemented on it. The other major tolled roadways can also show similar reduction in peak hour travel if a congestion relief pricing program is implemented.

The impacts of this recommendation were measured using actual NJ Turnpike toll payers data and by comparing the impact of the implementation of the E-ZPass program on NJ Turnpike congestion levels.

Recommendations 3 (Traveler information) and 4 (Alternative dynamic routing and information)

Recommendations 3 and 4 were combined because of the possibility that the information provided to a driver would be the same, and these systems/services are commonly integrated. The primary difference between recommendations 3 and 4 is the technology being used to transfer the information.

The impacts were quantified using an assumption about the number of calls in the peak period and the number of callers willing to shift from congested to less congested routes.

Recommendation 5 (Re-timing of traffic signals)

This recommendation proposes re-timing of 1000 traffic lights on congested State highways so that they can be more responsive to current traffic conditions. Past experience has indicated that intersections with traffic light timing plans that have not been updated within the past two years are likely to be causing the public a 5 percent to 10 percent increase in overall travel time delay. SCRITS spreadsheet and procedures were used as an analysis tool for the quantification of the impact of this measure on congestion.

Recommendation 8 (Ramp metering and traffic responsive signals)

This recommends implementation of traffic responsive signals and ramp metering to manage traffic flow and implementation of automatic incident detection to decrease the impact of a major cause of congestion. Expansion of the derivative uses of the E-ZPass infrastructure platform to include traffic volume monitoring for use in providing timely, efficient, and accurate information to the traveler is also included. The SCRITS signal procedure spreadsheet was used as an analysis tool for the quantification of the impact of this measure on congestion.

TRANSIT SUBCOMMITTEE RECOMMENDATIONS

Recommendation 1 (Increased transit funding)

This recommends providing NJ TRANSIT with sufficient operating funds to maintain quality transit service on the core transit network without continuing to divert capital resources to this purpose. Further, it calls for implementing a capital reinvestment strategy for NJ TRANSIT that makes the core transit network the highest capital priority. This recommendation will increase transit services and will make transit a more attractive and practical alternative to driving.

Quantification of these recommended items, individually and in combination, is difficult. The approach examined each part of the recommendation individually to identify its potential impact on congestion. This sketch planning analysis incorporated assumptions provided by the subcommittee and known attributes of the transportation system. A full network-based analysis of recommendations and their potential synergies and dis-synergies required a timeframe exceeding that available for this effort.

Recommendation 2 (Create a seamless transit system)

This recommendation calls for the development of a universal transit fare or transit pass system that improves the connectivity between existing buses/shuttles/trains to maximize existing service, especially in suburban areas. It also calls for the implementation of local shuttle systems connecting office parks to rail and buses and implementation of local shuttle systems connecting residential neighborhoods to rail and buses.

This recommendation could make transit more affordable, practical, and reliable, thereby, increasing ridership. It could also make the feeder service more convenient and affordable than driving. This recommendation was analyzed using the NJAQ analysis tool and the transit score methodologies.

Recommendation 3 (Increase transit capacity in congested corridors)

This recommendation includes a number of capacity-increasing strategies, such as: purchase additional buses and bi-level rail coaches; conduct a bus/roadway congestion busting study to identify and implement exclusive bus lanes on high volume routes; possible conversion of multi-purpose lanes to exclusive peak period bus use; increased bus capacity to and from the Port Authority Bus Terminal and other parts of Manhattan; increased frequency of services during the peak and off-peak periods; and construction of a new rail tunnel into Penn Station, NY.

This recommendation may reduce congestion by facilitating a more efficient flow of bus traffic and by increasing seating capacity on each rail car. It may reduce the number of motorists destined for outlying job sites and midtown Manhattan. It was not possible to quantify the impacts of every improvement included in this recommendation due to the limited timeframe for analysis.

Recommendation 4 (Implement transit-friendly land use policies)

This recommendation calls for the identification and definition of transit-friendly corridors, provision of higher density development options that can be served efficiently by transit, and improvement of pedestrian access to transit for existing and future developments. It also recommends that site development plans include transit circulation routes and passenger waiting facilities. Rights of way for exclusive transit guideways to reduce development costs and improve travel speed and transit competitiveness and preferential roadway design treatment for transit should be considered.

This recommendation can decrease congestion, as auto drivers will be attracted to transit, and substitute pedestrian and bicycle trips for auto trips. Land Use Subcommittee recommendation 7 analyzes transit-friendly land use policies.

Recommendation 5 (Develop transit solutions to Pennsylvania – New Jersey commute)

This recommendation calls for the appointment of a PA-NJ task force to obtain and analyze origin-destination data, study commutation patterns of Pennsylvania residents working in New Jersey and develop recommendations for expanded bus and rail service between the two states. The subcommittee believes that this will reduce the number of Pennsylvania motorists destined for jobs in New Jersey. The 1990 Census Transportation Planning Package for NJ, "Journey to Work" database was reviewed to see the extent of the Pennsylvania – New Jersey commute.

GOODS MOVEMENT SUBCOMMITTEE RECOMMENDATIONS

Recommendation 1 *(Support the development of a comprehensive freight plan for the State)*

This recommendation calls for support of the Department of Transportation's comprehensive freight plan. The plan will determine how goods movements are currently conducted, forecast future needs, and determine how to get the system to accommodate the anticipated growth of goods movement.

The freight plan will also analyze existing freight plans and planning activities that have an impact on the transportation infrastructure. Many local and regional organizations are producing plans relative to goods movement. State coordination of these projects is needed to avoid overlap and redundancy, as well as determine how these plans affect the State's overall goal of managing the transportation infrastructure and the flow of goods.

However, the implementation of this recommendation is likely to hinge on detailed aspects and adherence by freight carriers. It is not possible to quantify the impacts of this recommendation due to an insufficient timeframe and lack of current data for full analysis.

Recommendation 2 *(Expanded hours for truck operations)*

The purpose of this recommendation is to have truck traffic that currently operates in the weekday 8 a.m. to 5 p.m. period use off-peak and Saturday time periods to deliver goods. The deployment of this recommendation should be outlined in a document, such as a Comprehensive Freight Plan outlined in recommendation 1 above. A comprehensive inventory of current trucking practices should be included in the outline. The subcommittee recommends that a survey be conducted to identify all issues related to expanding hours for truck operations.

This recommendation would reduce overall congestion and delay during the peak hours of the day. Goods movement is very time sensitive and using less congested time periods will decrease delivery time. The same would be true for perishable and time sensitive goods that could be delivered early or late in the day. The quantification of the impacts was done using Vehicle Miles Traveled (VMT) data for the State.

Recommendation 3A *(Encourage more trucks to use New Jersey Turnpike)*

The cost of using the New Jersey Turnpike (NJTP) encourages regional truck traffic to use alternate routes. An analysis of alternate routes including I-295, Route 130, Route 1, Route 9 and the Garden State Parkway (to the extent such vehicles are permitted to use GSP) provides an estimate of trucks that could use the NJTP.

The subcommittee thinks a monetary incentive would encourage more NJTP truck users. A reassessment of the current E-ZPass discount program should be addressed to encourage more truckers to use the NJTP. Intangible truck service options should also be assessed such as location of truck stop amenities, truck parking and how truck-only lanes might operate on highly congested roadways. The impacts were estimated using the daily truck volumes on NJTP and other competing routes.

Recommendation 3B *(Restriction of autos in truck lanes on NJTP)*

The NJTP is split into auto-only and auto/truck lanes between Exits 8A and 14. An analysis of converting the auto/truck lanes to truck-only lanes was performed to determine the effect on vehicle delay and travel speed in the truck-only lanes. Note that the shifting of vehicles between the auto-only and auto/truck lanes does not result in a change in vehicle trips (VT) or vehicle miles traveled.

This recommendation would eliminate the weaving issues in the current HOV auto/truck lanes and increase safety with the separation of auto and trucks. Currently the auto-only lanes carry approximately 65 percent of the auto traffic (as measured by VMT) and the auto/truck lanes carry 35 percent. The elimination of autos in truck-only lanes would improve truck lane operations and mitigate weaving problems. Conversely, moving additional autos to the auto-only lanes would increase congestion on the auto-only lanes and decrease the operating speeds. The impact of this recommendation was quantified using NJTP traffic volume data.

Recommendation 4 (Regional traffic model-based assessment of roadway improvements)

This recommendation provides a list of roadway improvement projects that will reduce congestion and improve safety in congested areas with high truck volumes thereby improving the efficiency of the intermodal goods movement system. All of the roadway projects focus on infrastructure improvements that would reduce congestion or improve safety.

Regional traffic models were used to determine the effects of highway network improvements. Highway network improvements were coded into NJDOT's Northern New Jersey 2025 Traffic Model and the resulting vehicle trip, VMT and emissions calculations were estimated. These projects were found to have a low impact on congestion.

DEMAND MANAGEMENT SUBCOMMITTEE RECOMMENDATIONS

Twelve recommendations were analyzed. The first six recommendations were the recommendations originally put forth by the CBTF Demand Management Subcommittee. For the most part, these six did not lend themselves to quantitative analysis using existing sketch planning tools and methods (FHWA Travel Demand Management Model, EPA Commuter Model). Attempts at quantifying their impacts drew heavily on recently published research efforts estimating the impacts of various TDM measures. The final Demand Management Subcommittee recommendations listed in the main portion of this report were not individually analyzed. The subcommittee modified several recommendations to reflect additional strategies and concepts after initial analysis and technical support work was provided to the CBTF.

Recommendation 1 (Develop and implement incentive programs for individuals who use commute alternatives or otherwise reduce their driving) (developed by subcommittee)

This recommendation offers financial incentives to individuals to reduce their annual VMT, or to commute by transit or carpool at least one day per week. Individuals can show a reduction in driving via an annual odometer reading. They can receive financial benefits like discounted automobile insurance premiums, year-end rebates, tax credits, transit vouchers, license or registration fee reductions or similar financial incentives.

Recommendation 2 (Expand and facilitate access to rideshare programs and services and commuter benefits programs) (developed by subcommittee)

Ridesharing refers to both carpooling and vanpooling. *Carpooling* uses participants' own automobiles. *Vanpooling* uses vans usually owned by an organization or employer that are made available specifically for commuting. This recommendation tries to make it possible for an individual employee to enroll in rideshare and commuter programs independent of any programs offered by their employer. This can be achieved by distributing rideshare applications through the Division of Motor Vehicles Services and by initiating public-private partnership advertising campaigns. Some administrative concerns, that preclude many employers from participating, should be addressed and resolved.

The impacts were measured through a review of recent research, such as "Effective TDM at Worksites in the Netherlands and the U.S." by E. Schreffler. These studies suggest that financial incentives and disincentives are needed for these programs to be successful.

Recommendation 3 (Expand existing Park-and-Ride program) (developed by subcommittee)

Park-and-Ride consists of parking facilities at transit stations, bus stops and highway on-ramps, particularly at the urban-area periphery, to increase transit and rideshare use. They reduce congestion by facilitating ridesharing and providing easier access to transit. This recommendation calls for NJDOT to extend and strengthen its existing Park-and-Ride program through increased acquisition of land and funding. It was possible to quantify this recommendation using data from the current program, which plans to add two park-and-ride lots per year through the 2004-2005 fiscal year. It was assumed that the existing program would be doubled in size.

Recommendation 4 *(Promote, modify, clarify and extend existing TDM legislation, which provides for voluntary employer trip reduction programs and contains employer tax credits) (developed by subcommittee)*

An "Employer Trip Reduction Program" is a program that encourages employers to take steps to reduce the number of their employees commuting by single occupant vehicle. This recommendation includes the collection of data to identify employers' needs and concerns and the development of marketing/advertising campaigns to increase awareness of tax credits and the benefits of commute option programs. Telecommuting, bike/pedestrian enhancements and alternate work arrangements are emphasized as important elements of trip reduction programs.

The quantification of impacts can only be achieved through a comparative analysis with similar data collection and marketing/outreach efforts completed elsewhere. The estimation of impacts is based on a review of the literature.

Recommendation 5 *(Collect data from employers for transportation planning) (developed by subcommittee)*

Employee travel data is a valuable tool for planning transportation and transit improvements, yet there are no standard mechanisms in place for obtaining regular origin and destination data from employment sites. A regular (annual or bi-annual), easy to administer, and non-intrusive employer survey can be conducted to collect this data. Current and accurate data will help tailor travel demand management programs to meet the needs of employees.

It is not possible to quantify the impact of this measure on reducing congestion. Although several studies have been conducted estimating the benefits of various TDM strategies, no studies have looked at the impacts of "more data." More data will have an impact, but it will probably be confined to assisting the planning process, leading to refinements to existing measures, or the development of new measures that are better tailored to the target groups. These future modifications may have some congestion benefits.

Recommendation 6 *(Statewide Travel Demand Program) (developed by subcommittee)*

This recommendation targets New Jersey State employees, and proposes the development of several TDM benefits aimed directly at them. It also calls for the revamping of NJDOT's Smart Moves For Business (SMFB) program based upon the findings of a task force asked to identify incentives that will positively influence their organizations and employees. The task force members would represent a variety of large businesses from various disciplines throughout the State. Along with reducing statewide traffic congestion, a SMFB program offers employees commuting choices such as carpooling, telecommuting and flex hours. In return, participating employers can get tax credits, funding grants and assistance setting up their SMFB program.

The Department of Transportation's consultant developed recommendations 7 through 12 in a different way than the first six. They were developed in such a way to be easily analyzed by existing tools and methods – specifically the FHWA TDM model. This model is a software program that analyzes the vehicle trip reduction effects of a wide range of travel demand management strategies. The FHWA TDM model has been widely applied throughout the U.S. to analyze TDM programs.

Recommendation 7 *(Voluntary telecommuting)*

Telecommuting refers to employees who work from home or another location (such as a neighborhood telework office) in order to reduce commute travel. This recommendation proposes a statewide voluntary telecommuting program, under which employers may voluntarily offer telecommuting to their employees on the basis of one day every two weeks. Voluntary means that companies are under no legal requirement to offer this benefit to their employees and employees are not required to participate. The literature suggests that telecommuters still make trips on their telecommute day (e.g., child transportation, personal errands).

Recommendation 8 *(Mandatory telecommuting)*

This recommendation is essentially the same as recommendation 7; only it is a mandatory program. Employers are required to offer telecommuting to their "office" employees one day every two weeks. Employees are free to accept or decline participation in the program.

Recommendation 9 (Voluntary TDM Package A – marketing focus)

This recommendation offers an increased statewide TDM-oriented marketing campaign. This package is likely to be carried out in combination with related programs, such as the SMFB program, TransitChek and qualified federal and state tax incentives for certain commuter assistance efforts. The major benefit is an increased level of awareness regarding existing TDM programs. However, the literature suggests that marketing, by itself, is not an effective strategy in reducing congestion.

Recommendation 10 (Voluntary TDM Package B – voluntary package of commute options)

This recommendation offers a package of voluntary measures that employers statewide can conduct and offer to their employees. The package consists of compressed workweek, alternative work hours, car/vanpooling, transit use and increased marketing efforts. Alternative workweek, car/vanpool and transit options remove both vehicles and people from the peak hour.

Recommendation 11 (Voluntary TDM Package C – commute options + financial incentives)

This recommendation builds on recommendation 10 by adding financial incentives. The package consists of financial incentives to employees who use high occupancy vehicles and financial disincentives for SOV use (each, \$2.00 per day per vehicle, in 1990 dollars). Compressed workweeks, alternative work hours, car/vanpooling, transit use and increased marketing efforts remain part of the package.

Recommendation 12 (Mandatory TDM package – commute options + financial incentives)

This recommendation is the same as recommendation 11, only it is mandatory for employers.

LAND USE SUBCOMMITTEE RECOMMENDATIONS

There are a total of nine land use recommendations. The Land Use Subcommittee developed the first six recommendations. It was difficult to quantify the impacts of these recommendations because existing analysis tools, such as regional travel demand models, are not sensitive to the recommended types of land use changes, and are not modeled accordingly. Therefore, the consultant used an alternative approach to estimate the effects of these recommendations on reducing traffic congestion. A literature review was conducted, searching for previously published technical documents analyzing land use measures that closely approximated the recommendations put forth by the Land Use Subcommittee. The intent was to identify a study analyzing a similar measure, and apply the percentage reductions in vehicle trips and vehicle miles traveled from that comparable study to New Jersey.

Recommendation 1 (Amend New Jersey State Planning Act – Mandate that master planning and zoning comply with State Development and Redevelopment Plan) (developed by subcommittee)

This recommendation calls for the amendment of the “New Jersey State Planning Act” to mandate that municipal master planning and zoning comply with the goals, strategies, policies and planning area policy objectives of the State Development and Redevelopment Plan (SDRP). The SDRP outlines compact, mixed-use development patterns that contribute to more efficient transportation service delivery and thereby reduce unnecessary vehicle trips and automobile dependency. This recommendation encourages compact, mixed-use developments, which may reduce congestion. Potential impacts are dependent on numerous factors, including the nature of the requirements, the timing of implementation, the speed of development activity, potential exceptions etc. Estimation of impacts is based on a review of the literature and alternatives analysis conducted by NJDOT using the NJTPA travel demand model.

Recommendation 2 (Give counties authority to approve/disapprove development based upon existing infrastructure capacity) (developed by subcommittee)

This recommendation proposes renewal of earlier proposed county planning enabling legislation, which would give counties the authority to approve/disapprove development based upon existing infrastructure capacity. This recommendation would give counties the power to withhold development approval unless adequate public facilities

exist to support the development. There are no studies identified to date that focus on the traffic congestion impacts of timed-growth policies.

Recommendation 3 (*Integrate TDM in local zoning/planning requirements*) (developed by subcommittee)

This recommendation would grant local municipalities some type of incentive to integrate one or more TDM techniques into their zoning/planning requirements. The techniques include: sidewalks/bike paths, transit stops, reduced parking in response to the provision of shuttles, park-and-ride lots along major travel routes, the addition of on-site services at larger office parks and commercial development, pedestrian-friendly intersections and transit-friendly development. The literature suggests that some of these strategies (parking management, transit-oriented development) have potential impacts on the choice of mode, while other strategies (networking of streets, urban design) have not been proven to reduce vehicle trips, particularly work trips.

Recommendation 4 (*Expand use of Transfer of Development Rights or TDR*) (developed by subcommittee)

TDR refers to a method of protecting land by transferring, or exchanging, the rights to develop the land you want to preserve to some other parcel of land. What is actually occurring is a consensus to place conservation easements on property in agricultural areas while allowing for an increase in development densities in other, already developed areas. This recommendation calls for the expansion of the use of TDR in order to preserve open space while concentrating development in areas, which, in turn, may sustain transit.

By increasing development densities in areas that can be served by transit, the feasibility and utilization of transit increases and vehicle use decreases. However, these benefits depend on an integrated set of policies in addition to TDR. It also requires coordination of transportation planning to provide transit in the areas identified for higher density development.

Recommendation 5 (*Incentives for development and redevelopment patterns supportive of transit use*) (developed by subcommittee)

This recommendation encourages new commercial and industrial development to locate where transit services are available. It also encourages channeling new development into existing communities and identifying growth centers to allow for effective provision of transit services and transportation infrastructure.

This policy would encourage land use planning that would enhance the potential for transit utilization. By focusing development within existing communities, the use of transit (and other non-SOV modes) increases, thereby reducing congestion. However, the pursuit of this policy would depend on local initiatives as well as a high degree of cooperation between land use and transportation planning.

Recommendation 6 (*Allow municipalities to pursue timed-growth planning*) (developed by subcommittee)

This recommendation advocates passing legislation that would allow municipalities to pursue timed-growth planning, so that residential, commercial and industrial development does not leapfrog ahead of existing infrastructure. Currently, municipalities usually do not have the authority to dictate the timing of development once a developer submits an application. Since infrastructure is the responsibility of the government, it may not develop at the same rate as new residential or commercial development. This may lead to a gap in supply and demand for infrastructure, especially roads, which further leads to congestion.

This recommendation may have predominantly local impacts. Such local impacts may be important, but when summed, may or may not indicate statewide significance. It is not possible to quantify the impacts of this recommendation due to insufficient data and assumptions and limited timeframe for analysis.

The next three land use recommendations were developed differently than the first six. The first six recommendations were developed, and then an effort was made to quantify them by reviewing relevant existing studies. Recommendations 7, 8 and 9 come directly from existing research literature that determined what the recommendation should be. Recommendations 8 and 9 narrow earlier recommendations 3 and 5 by specifying where development will occur. The literature was organized into categories. For example, those studies dealing with the estimation of the impacts of transit-oriented development were grouped together into one category.

Recommendation 7 (Transit-Oriented Development)

Transit-oriented development (TOD) refers to pedestrian-friendly land development built at, or within easy walking distance of major transit stations. TOD generally includes a compact higher density mix of different land uses that are oriented to public walkways. Automobile parking is often minimized (via limitations on number of spaces and/or pricing strategies) to promote pedestrian activity. Financial incentives can be offered to the developers and the public for a better development pattern and higher utilization of transit facilities.

Recommendation 8 (Brownfield vs. greenfield development)

Brownfields are abandoned or underutilized properties that frequently involve environmental contamination. The Environmental Protection Agency and others have studied the assumption that developing a brownfield location will result in less growth in vehicle trips (and emissions, and other detrimental impacts) relative to locating development at a greenfield site. New Jersey has a significant number of brownfield sites that could be potentially developed.

The literature provides several studies that compare brownfield development (including higher densities, a mix of uses, and location near transit) with comparable amounts of development placed in greenfield locations.

Recommendation 9 (Alternative land use strategies: overall infill vs. greenfield development)

While recommendation #8 tends to focus on the impacts of individual sites, this recommendation looks at the effects of a similar strategy implemented over a broader area. Infill development, by definition, takes place within an area that is already developed or had been previously developed and subsequently abandoned. As such, it includes elements of the TOD (recommendation 7) and brownfield (recommendation 8) approaches, but is not limited to them. Reported reduction in congestion may be anticipated to be higher, potentially much more so, if aspects such as financial incentives or urban growth boundary are included.

The literature provides similar studies, which compare the impact of infill development versus greenfield development. It showed appreciable impact on the level of congestion. New Jersey has a significant number of underutilized or low-density sites, whose value may be enhanced through this approach.

OTHER RECOMMENDATION

Recommendation 1 (Restrict high school students from driving to their school campus)

This recommendation calls for restricting high school students from driving to school. There are approximately 70,000 high school seniors statewide and probably an equal number of high school juniors. Many of them currently drive to and from school. There is the potential to eliminate a significant number of vehicle trips from the peak hour as this recommendation focuses on a relatively large (the entire state), single source of vehicle trips. Many students (but not necessarily all) have alternative means (school bus, walking and bicycle) to get to and from school. This recommendation will affect local, collector and arterial roadways connecting residential areas to schools more than interstates and freeways. It is also probable that only an a.m. peak hour benefit will occur as students usually return from school before the evening peak period begins.

The impacts were quantified using the data on number of students (seniors and juniors) statewide and trip rate data from the Institute of Transportation Engineers (ITE) handbook.

Following are expanded charts, reflecting the results of the analysis done for all of the recommendations cited above.

TECHNICAL ANALYSIS RESULTS AND SUMMARIES OF ALL RECOMMENDATIONS

TRAFFIC MANAGEMENT SUBCOMMITTEE RECOMMENDATIONS	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#1. Legislation to require drivers involved in minor traffic accidents to move vehicles to the side of the road		n/a		n/a	
(#6) Emergency Service Patrols					
(#8) Automatic Incident Detection					
70 percent coverage	6 min per veh		6 min per veh		
90 percent coverage	8 min per veh		9 min per veh		
#2. Maintain, implement, and/or expand congestion relief pricing toll incentives programs on all tolled facilities	n/a		n/a		
Initial increase in peak hour tolls	n/a	5,871	n/a	6,413	
Double initial increase	n/a	6,462	n/a	6,785	
#4. Usage of traveler information number (#511)					
(#3) Internet real time traffic info					
#5. Re-timing of traffic signals (1000 signals)		n/a		n/a	Recommendation #5, 1000 signals re-timed
5 percent increase in average speed	4 min per veh		5 min per veh		
10 percent increase in average speed	8 min per veh		8 min per veh		
#8. Implementation of traffic responsive signals, signal coordination and ramp metering					Recommendation #8, 1000 signals re-timed, and 500 signals coordinated
<u>Signal Coordination</u>		n/a		n/a	
10 percent increase in average speed	4 min per veh		4 min per veh		
40 percent increase in average speed	12 min per vehicle		13 min per vehicle		
<u>Ramp Metering</u>		n/a		n/a	
Ramp Metering on 25 percent of freeways	7 min per veh		7 min per veh		
Ramp Metering on 40 percent of freeways	11 min per vehicle		11 min per vehicle		

TRANSIT SUBCOMMITTEE RECOMMENDATIONS	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#1. Increased Transit Funding					
Increase rail and bus park-and-ride spaces	n/a	8,360	n/a	9,625	Half of increase to alleviate crowding, half available to new riders.
Increase rail capacity during peak hour	n/a	9,996	n/a	11,495	
#2. Create a Seamless Transit System					
Improve vehicle/station environment and the overall rider experience (fare pass, focus on customer service)	n/a	702	n/a	807	No new fare discount included in universal fare system.
Improved transfers between transit modes and systems	n/a	575	n/a	61	
Addition of shuttle services to mainline transit	n/a	1,510	n/a	1,737	
#3. Increase Transit Capacity in Congested Corridors					
Increase bus and rolling stock fleets by purchasing bi-level coaches and additional buses	n/a	500	n/a	500	This will reduce on-board congestion, and potentially increase service frequencies in some (undefined at this time) corridors.
Conduct a bus/roadway congestion busting study to identify and implement exclusive bus lanes including conversion of general purpose lanes to exclusive bus use during peak (e.g., high volume routes or corridors such as Routes 495, 3, 9, GSP)	n/a	n/a	n/a	n/a	Study itself will not have a direct impact on VT or VMT, but data could lead to additional recommendations that may have positive VT and VMT impact. Difficult to anticipate future recommendations and when / if they are implemented.
High speed transit along NJ Route 3 and 9 corridors	unknown	500	unknown	575	Minimum of several years to design & implement.
Increase capacity for buses to and from New York and Port Authority bus terminal	n/a	0	n/a	2,500	
Construct new rail tunnel into NY between Meadowlands and Penn Station, NY	n/a	0	n/a	5,000	
Increase frequency of existing service during the peak and off-peak	n/a	575	n/a	661	
#5. Develop Transit Solutions to Pennsylvania – New Jersey Commute	n/a	575	n/a	661	

GOODS MOVEMENT SUBCOMMITTEE RECOMMENDATIONS	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#1. Development of Comprehensive Statewide Freight Plan		low		low	Will not have any direct impact on VT or VMT.
#2. Expanded Hours for Truck Operations	n/a	7,888	n/a	8,226	Delay not applicable, goods movement analysis related to trip reduction only. Key assumption is moving 50 percent of peak travel to off-peak.
#3A. More Trucks to use New Jersey Turnpike (NJTP)	n/a	3,213	n/a	3,350	Delay not applicable, goods movement analysis related to trip reduction only. Key assumption is moving 60 percent of trucks from competing routes to NJTP.
#3B. Restriction of Autos in Truck Lanes on NJTP	7.7 min / truck (11.5 min / car)	0	7.7 min / truck (11.5 min / car)	0	Time savings are for all vehicles using truck/bus- only lanes on NJTP. VMT and trips is 0 because trips are shifted between the autos-only and truck- only lanes. Time savings per truck is constant. There will be a negative impact on autos, i.e., an increase in delay.
#4. Regional Traffic Model-Based Assessment of Roadway Improvements	n/a	n/a	n/a	low	Analysis based on regional travel demand models. Assumes improvements are not operational until after 2010.

DEMAND MANAGEMENT SUBCOMMITTEE RECOMMENDATIONS	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#1. Develop and implement incentives program for individuals who use commute alternatives or otherwise reduce driving	n/a	low	n/a	low	Legislative / regulatory initiative required. Funding amount(s) and mechanism(s) unknown. Reducing annual mileage may not translate to reduced VT, VMT in peak hour. Verification issues.
#2. Expand and facilitate access to rideshare programs and services and commuter benefits programs	n/a	low	n/a	low	Primarily marketing and promotion.
#3. Expand Park-and-Ride Program	n/a	1,584	n/a	1,760	Possible overlap with Transit recommendations
#4. Promote, modify, clarify and extend existing TDM legislation, which provides for voluntary employer trip reduction program and contains employer tax credits					Primarily marketing and promotion.
Telecommuting	n/a	low	n/a	low	
Compressed workweek	n/a	low	n/a	low	
Bike/pedestrian programs	n/a	low	n/a	low	
Parking cash-out pilot program	n/a	low	n/a	low	
#5. Collect data from employers for transportation planning	n/a	low	n/a	low	Data would facilitate planning, but this recommendation has no direct impact on VT and VMT. However, the data could be analyzed and used to produce a second set of recommendations; this second set would probably have some impact.
#6. Statewide Travel Demand Program (Traffic Subcommittee recommendation #7)	n/a	low	n/a	low	

Note: The level of impact for strategies that produce vehicle trip savings are defined as follows:
 Low impact = 0 – 500 vehicle trips removed statewide from the peak hour
 Medium impact = 500 – 5,000 vehicle trips removed statewide from the peak hour
 High impact = greater than 5,000 vehicle trips removed statewide from the peak hour

ADDITIONAL DEMAND MANAGEMENT ANALYSIS (developed by consultant)	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#7. Voluntary telecommuting	n/a	1,791	n/a	1,881	Offered to "office workers" on the basis of 1 day every 2 weeks.
#8. Mandatory telecommuting	n/a	8,954	n/a	9,407	Employers "required" to offer to "office workers" on the basis of 1 day every 2 weeks.
#9. Voluntary TDM package A (marketing only)	n/a	597	n/a	627	Assumes existing tax credits available and increased level of general TDM-oriented marketing.
#10. Voluntary TDM package B (marketing, compressed workweek, alternative workweek, carpooling, vanpooling)	n/a	6,566	n/a	6,899	Specific measures for employers to offer to employees; provided statewide; greater mix of specific, realistic travel options.
#11. Voluntary TDM package C (marketing, compressed workweek, alternative workweek, carpooling, vanpooling, financial incentives)	n/a	10,148	n/a	10,662	Specific measures for employers to offer to employees; provided statewide; greater mix of specific, realistic travel options; includes \$2 INcentive per day for HOV users and \$2 per day DISincentives for SOV.
#12. Mandatory TDM package (marketing, compressed workweek, alternative workweek, carpooling, vanpooling, financial incentives)	n/a	108,638	n/a	113,514	Employers would be required to implement a package of measures for employees; includes \$2 INcentive per day for HOV users and \$2 per day DISincentives for SOV.

LAND USE SUBCOMMITTEE RECOMMENDATIONS (The land use strategies recommended appear to involve legislative an/or regulatory changes that affect future development. By definition, these would result in incremental changes annually that may sum to significant impacts over a long timeframe.)	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#1. Amend NJ State Planning Act, mandate that master planning and zoning comply with SDRP	n/a	low ¹	not measurable	medium ¹	Not quantifiable due to insufficient data, assumptions and timeframe for analysis. Presumes implementation in the near term (by 2005) to allow the maximum impact on pending and future development activities. It is presumed that existing development and development which has received government approvals prior to 2005 are not affected retroactively. Items may have predominantly local impacts. Such local impacts may be important, but when summed may or may not indicate statewide significance.
#2. Give counties authority to approve/disapprove development based upon existing infrastructure capacity	n/a	Low ¹	Not measurable	medium ¹	Not quantifiable due to insufficient data, assumptions and timeframe for analysis. Presumes voluntary county actions in the near term (by 2005) to allow the maximum impact on pending and future development. It is presumed that existing development and development which has received government approvals prior to 2005 are not affected retroactively. Items may have predominantly local impacts. Such local impacts may be important, but when summed may not indicate level of significance at a statewide level.

Note: 1 – Likely to be primarily localized benefits which sum to a low level of statewide impact, but may yield low, medium or high local benefits

LAND USE SUBCOMMITTEE RECOMMENDATIONS (continued)	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#3. Integrate TDM into local zoning / planning requirements	n/a	medium ²	not measurable	medium ²	Not quantifiable due to insufficient data, assumptions and timeframe for analysis. Assessment presumes implementation in the near term (by 2005) to allow the maximum impact on pending and future development activities. It is presumed that existing development and development which has received government approvals prior to 2005 are not affected retroactively (but this is possible). Items may have predominantly local impacts. Such local impacts may be important, but when summed may or may not indicate level of significance at a statewide level.
#4. Expand use of Transfer of Development Rights (TDR)	n/a	low ¹	Not measurable	medium ¹	Not quantifiable due to insufficient data, assumptions and timeframe for analysis. Presumes implementation in the near term (by 2005) to allow the maximum impact on pending and future development activities. It is presumed that existing development and development which has received government approvals prior to 2005 are not affected retroactively. Items may have predominantly local impacts. Such local impacts may be important, but when summed may not indicate level of significance at a statewide level.

Note: 1 – Likely to be primarily localized benefits which sum to a low level of statewide impact, but may yield low, medium or high local benefits
 2 – Likely to be primarily localized benefits which sum to a low level of statewide impact, but may yield low, medium or high local benefits
 AND highly dependent on type and degree of TDM measures required

LAND USE SUBCOMMITTEE RECOMMENDATIONS (continued)	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#5. Incentives for development and redevelopment patterns that would support transit use	n/a	low ¹	not measurable	medium ¹	Not quantifiable due to insufficient data, assumptions and timeframe for analysis. Presumes implementation in the near term (by 2005) to allow the maximum impact on pending and future development activities. It is presumed that existing development and development which has received government approvals prior to 2005 is not affected retroactively. Items may have predominantly local impacts. Such local impacts may be important, but when summed may or may not indicate statewide significance.
#6. Allow municipalities to pursue timed-growth planning	n/a	low ¹	Not measurable	medium ¹	Not quantifiable due to insufficient data, assumptions and timeframe for analysis. Presumes implementation in the near term (by 2005) to allow the maximum impact on pending and future development activities. It is presumed that existing development and development which has received government approvals prior to 2005 is not affected retroactively. Items may have predominantly local impacts. Such local impacts may be important, but when summed may or may not indicate statewide significance.

Note: 1 – Likely to be primarily localized benefits which sum to a low level of statewide impact, but may yield low, medium or high local benefits

"PACKAGED" LAND USE ANALYSIS (developed by consultant)	Now to 2010		Beyond 2010		Notes
	Delay (Time Savings)	Peak Hour Trips	Delay (Time Savings)	Peak Hour Trips	
#7. Transit Oriented Development (includes mixed-use centers served by high quality transit; market strategies such as parking and congestion relief pricing; transit incentives; economic incentives; infrastructure fees and tax policies) Lower Impact Upper Impact	n/a	0 – low ¹	n/a	1,478 20,945	Focused on transit nodes/stations. No urban development boundary. (Sources: Making the Connections, a Summary of the LUTRAQ Project, Volume 7, 1997. Transportation Choice 2025, New Jersey Long-Range Transportation Plan Update, 2001. The Effects of Urban Form on Travel and Emissions: A Review and Synthesis of the Literature, 1998.)
#8. Brownfield Development (includes siting new high density, mixed-use development in abandoned or underutilized urban location, near transit versus locating the proposed development in exurban location, and a site-specific implementation) Lower Impact Upper Impact	n/a	0 – low ¹	n/a	38,810 443,540	Focused on suitable brownfield locations. No urban development boundary. Potential of some sites may be limited. (Source: Quantitative Assessment of the Maryland Smart Growth Initiative, 2001. Transportation and Environmental Analysis of the Atlantic Steel Development Proposal, 1999. Comparing Methodologies to Assess Transportation and Air Quality Impacts of Brownfield and Infill Development, EPA, 2001. Transportation and Environmental Impact of Infill versus Greenfield Development, EPA, 1999.)
#9. General Infill vs. Greenfield Approach (includes higher density, mixed-use centers designed to fit within existing suburban setting; with transit or pedestrian improvements; more of a region-wide, or municipality-wide implementation) Lower Impact Upper Impact	n/a	0 – low ¹	n/a	185 221,770	Not limited to transit or brownfield sites. Strong incentives or compelling requirement likely necessary. (Sources: The Impact of Various Land Use Strategies on Suburban Mobility, Middlesex Somerset Mercer Regional Council, 1992 Transportation Choice 2025, New Jersey Long-Range Plan Update, 2001. The Effects of Urban Form on Travel and Emissions: A Review and Synthesis of the Literature, 1998.)

Note: 1 - These measures may have impact in the near term, particularly at the local level.

OTHER RECOMMENDATION					
#1. Restrict high school students from driving to campus	n/a	34,444	n/a	34,444	Probably requires legislation.

WEB-BASED APPENDIX

Additional materials are located on the Congestion Buster Task Force Web site. The Web site address is <http://www.state.nj.us/transportation/commuter/cbtf/index.html>.

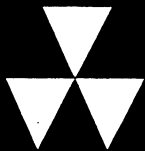
A list of the materials follows:

- Informational handout from CBTF Public Meetings
- Public Meeting Transcripts
- Addendum of Additional Public Comments
- Glossary of Terms and Acronyms
- Internet Links

- NOTES -



FEDERAL HIGHWAY ADMINISTRATION SERVICE PATROL HANDBOOK



November 2008



U.S. Department of Transportation
Federal Highway Administration



NOTICE

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16. Abstract This Handbook provides an overview of the Full-Function Service Patrol (FFSP) and describes desired program characteristics from the viewpoint of an agency that is responsible for funding, managing, and operating the services. Presented guidelines and rules of thumb illustrate operational characteristics, sponsorship, level of service, number of vehicles needed, vehicle types and equipment, patrol frequency, operator and manager training, and services provided. The primary audience for the Handbook comprises State department of transportation (DOT) decision-makers, managers, operators, and practitioners who are responsible for, or are considering, implementing an FFSP program as part of a strategy to reduce congestion.					
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U.S. Department
of Transportation
**Federal Highway
Administration**

1200 New Jersey Avenue, SE.
Washington, DC 20590

October 31, 2008

Dear Transportation Professionals and Traffic Incident Management Partners:

Highway incidents cause about 25 percent of the total congestion on roads. Every minute that an Interstate lane remains blocked during peak congestion translates into many more minutes of travel delay. And, lane blocking incidents affect traffic flow in a manner disproportionate to the number of lanes blocked. One blocked lane out of three will reduce traffic flow by 50 percent; two blocked lanes will reduce it by 80 percent. For this reason, the Federal Highway Administration (FHWA) has become very active in the area of Traffic Incident Management programs. Incident-related congestion not only affects the economy, wastes fuel, and contributes to excess amounts of greenhouse gases, but also puts motorists and those that respond to the incident at risk of injury or death. One tool used by many jurisdictions to help reduce incident-related congestion is the service patrol.

On the most congested roads, service patrols play an important role patrolling areas to quickly and safely remove minor obstructions before they create a more serious impact. Service patrols often independently handle less complex incidents or participate with other public safety organizations—including law enforcement, fire, emergency medical services, and towing and recovery professionals—to rapidly and safely address more complex traffic incidents. However, the capabilities of these service patrols vary among the major metropolitan areas.

The FHWA encourages the largest metropolitan jurisdictions and their States to establish or upgrade their service patrols. To assist in these efforts, FHWA develops guidelines and planning tools to aid jurisdictions in improving the quality, number of miles covered and consistency of Service Patrols throughout the country. While they may be called by various names such as Road Rangers or Coordinated Highways Action Response Teams, every service patrol should be prepared to handle all contingencies, thus the term “*full-function*” service patrols used in the following document.

As such, it is with great pleasure that FHWA introduces this document, *Service Patrol Handbook*. A companion document, *Service Patrol Field Operations Guide*, provides a tool to Service Patrols as they operate on the Nation’s highways and byways.

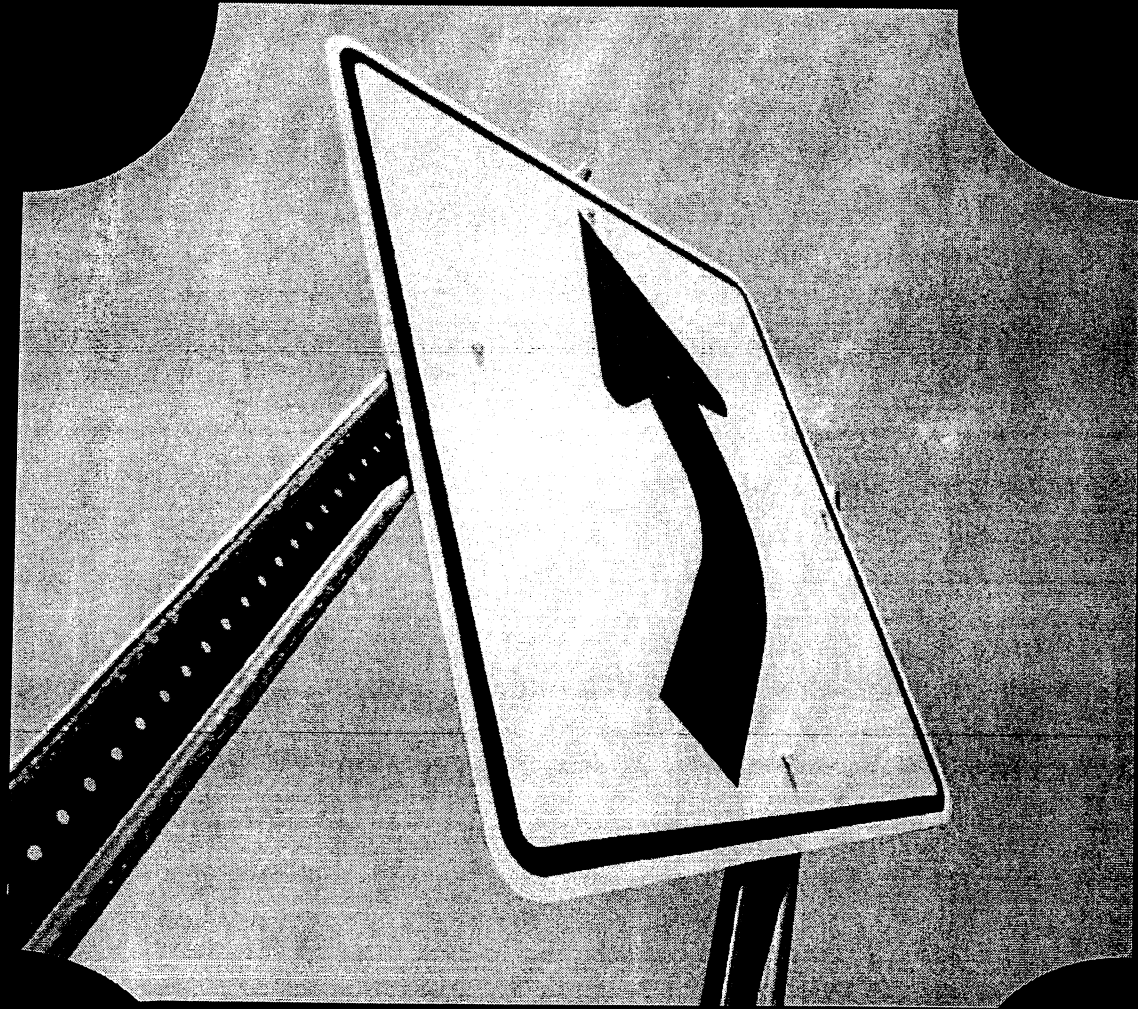
We encourage comments and contributions to this and other FHWA Traffic Incident Management documents. Please feel free to contact our Emergency Transportation Operations Team at ETO@dot.gov with suggestions for future revisions.

Sincerely,

Jeffrey A. Lindley
Associate Administrator for Operations

MOVING THE
AMERICAN
ECONOMY

324x



PREFACE

This Handbook provides an overview of the Full-Function Service Patrol (FFSP) and describes desired program characteristics from the viewpoint of an agency that is responsible for funding, managing, and operating the services. Presented guidelines and rules of thumb illustrate operational characteristics, sponsorship, level of service, number of vehicles needed, vehicle types and equipment, patrol frequency, operator and manager training, and services provided. The primary audience for the Handbook comprises State department of transportation (DOT) decision-makers, managers, operators, and practitioners who are responsible for, or are considering, implementing an FFSP program as part of a strategy to reduce congestion.

The Federal Highway Administration (FHWA) encourages the largest metropolitan jurisdictions and their States to establish or upgrade service patrols to the standards outlined in this Handbook and to establish an FFSP program to provide a frequency of coverage that supports statewide incident clearance goals. This includes integration of the FFSP with regional traffic management center (TMC) operations so the patrol can be readily dispatched to incident locations as needed. The FFSP program functions will also include typical services currently provided in many programs today, such as providing minor repairs and motorist assistance, debris removal, providing fuel, providing first aid, pushing vehicles out of travel lanes, and assisting emergency services at crash scenes. An FFSP program is anticipated to reduce traffic congestion, improve travel time reliability, and improve safety on freeway and arterial systems in support of the U.S. Department of Transportation's (U.S. DOT's) National Strategy to Reduce Congestion on America's Transportation Network (Congestion Initiative). Also, the program is expected to be consistent with the objectives of the National Traffic Incident Management Coalition's (NTIMC's) National Unified Goal (NUG) for Traffic Incident Management (TIM).



CHAPTER 1. OVERVIEW

This Handbook describes the desired characteristics of a Full-Function Service Patrol (FFSP) program from the viewpoint of an agency funding, managing, and operating the program. It provides an operational concept for FFSPs, describes key characteristics and presents concepts, information, and guidance for deploying an FFSP. The Handbook's intended audience includes State department of transportation decision-makers, managers, operators, and practitioners who are responsible for an FFSP; are considering implementing an FFSP program; or are contemplating upgrading an existing service patrol to full-function capabilities.

This Handbook contains the following chapters:

- **Chapter 1, Overview** – describes the approach used to develop the FFSP Handbook.
- **Chapter 2, Current Service Patrol Situational Analysis** – identifies current programs in the United States and provides an overview of the objectives of and services provided by existing service patrol programs.
- **Chapter 3, Full-Function Service Patrol Program Justification and Nature of Changes** – provides justification for and the nature of changes needed to transition from a baseline service patrol to an FFSP, prioritizes those changes, and identifies potential constraints.
- **Chapter 4, Full-Function Service Patrol Concept** – discusses the FFSP program concepts and describes how it works, operational policies and requirements, agency roles and responsibilities, and support and maintenance of the concept.
- **Chapter 5, Service Patrol Telephone Survey Results** – provides a summary of telephone survey data collected as part of this project.
- **Chapter 6, Glossary** – includes commonly used acronyms and definitions of terms related to service patrols.
- **Chapter 7, Referenced Documentation** – lists the reference documents and resources to develop the Handbook.

Handbook authors gathered information via a high-level literature search and telephone interviews with 24 existing U.S. service patrol programs to identify the current state of the practice. Through this information gathering process, authors defined typical capabilities and identified those practices that characterize effective FFSPs to meet the intent of the U.S. Department of Transportation's (U.S. DOT's) Congestion Initiative for reducing congestion on the Nation's highways.

An FFSP program comprises the necessary funding, personnel, training, equipment, operations, maintenance, and business practices that enable agencies to reduce traffic incident duration and thereby reduce traffic congestion on freeways and arterials in their jurisdiction. An effective FFSP program requires highly trained personnel who use specially equipped vehicles and tools to systematically patrol congested highways searching for and responding to traffic incidents. An ideal FFSP provides incident response services, clear-

ance resources, and free motorist assistance services 24 hours, 7 days-a-week. Specially trained and highly skilled service patrol operators readily provide emergency temporary traffic control (TTC) at incident scenes. The FFSP vehicle contains equipment to fully remove a stalled or abandoned automobile or light truck from a highway to a safe location. The FFSP program also provides a frequency of coverage to support statewide incident clearance goals to ensure that roadway incidents are detected and removed quickly. The FFSP is fully integrated with regional traffic management center (TMC) operations, and the patrol can be readily dispatched to incident locations as needed. Other FFSP functions include performing minor repairs, assisting motorists, removing debris, providing fuel, providing first aid, pushing vehicles out of travel lanes, and assisting emergency services at vehicle crash scenes. Throughout this Handbook, reference to service patrols applies to those operating in the 50 States and U.S. territories.

Florida Department of Transportation



Florida Department of Transportation Road Ranger service vehicle

CHAPTER 2. CURRENT SERVICE PATROL SITUATIONAL ANALYSIS

2.1 Background, Objectives, and Scope

In one form or another, service patrols have been operating in the U.S. for more than 40 years. The first freeway service patrol (FSP) with continuous regular operations started in 1960 in Chicago, Illinois. In 1998, the Texas Transportation Institute (TTI) conducted a study of 54 freeway service patrols in the U.S. and found that approximately 64 percent came into being since 1990. Many of these programs started out as Motorist Assistance or Courtesy Patrols and focused on assisting stranded motorists. Over time, some of these programs expanded their focus to include the safe and quick clearance of traffic incidents and became actively engaged incident response partners with other public safety agencies. These expanded service patrol programs are also referred to as Incident Response Patrols or Teams. In 2006, the U.S. DOT Federal Highway Administration (FHWA) Intelligent Transportation System (ITS) Joint Program Office (JPO) conducted a survey regarding service patrols in 106 metropolitan areas. Of the 99 areas that responded, 73 areas had a service patrol in operation.

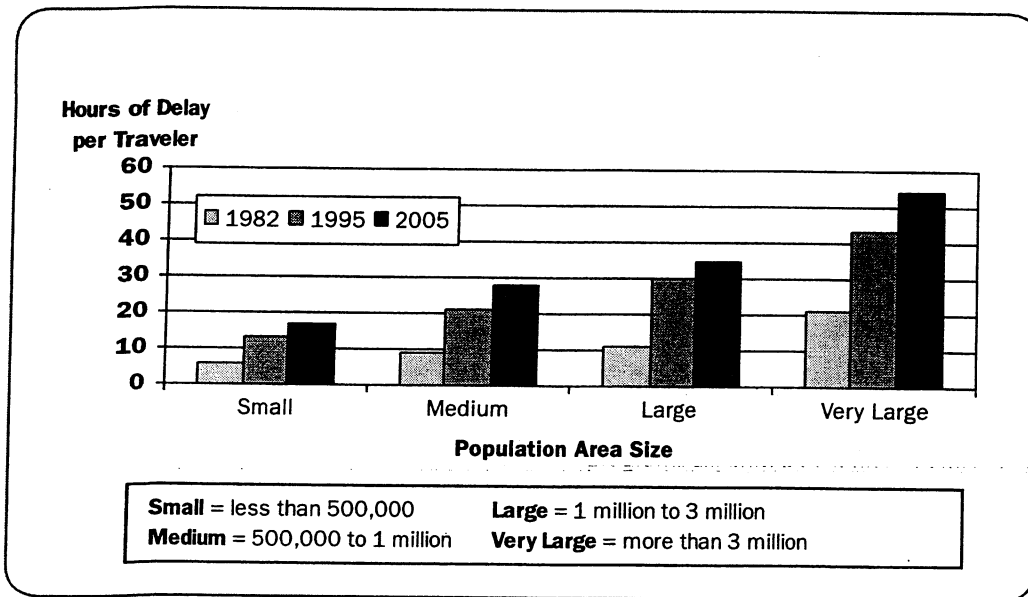
Current service patrol programs generally consist of trained personnel who use specially equipped vehicles to systematically patrol congested highways searching for and responding to traffic incidents. Program services vary across the United States; however, service patrols typically render assistance to motorists when needed and can push vehicles off the road, provide gasoline, and change flat tires or provide minor repairs to help motorists safely drive the vehicle from the highway. More robust programs provide additional functions such as clearance and recovery services, emergency TTC¹ and management, and assistance with emergency services. State and local sponsoring agencies are using service patrols as a strategy to reduce traffic congestion, improve travel time reliability, and improve highway safety. The many benefits attributed to service patrol programs, including their cost effectiveness, make them a fundamental element of traffic incident management programs and a key tactic in dealing with traffic congestion.

2.1.1 Traffic Congestion Trends

Traffic congestion, measured by travel times experienced by highway users, has grown substantially in cities across the United States. Figure 1 illustrates the traffic congestion trends in U.S. cities over the past 23 years. While the largest cities are the most congested, increases in traffic congestion also occurred in small and medium-sized cities.

¹ TTC is explained in the Manual on Uniform Traffic Control Devices (MUTCD) as "providing continuity of safe and efficient traffic flow, to the extent interruptions in normal flow are necessary for temporary traffic control operations or other events that must temporarily disrupt normal traffic flow."

Figure 1. Congestion Trends in U.S. Cities



Source: The 2007 Urban Mobility Report, Texas Transportation Institute, September 2007

The TTI estimated that in 2007 Americans experienced 4.2 billion vehicle hours of delay, resulting in 2.9 billion gallons in wasted fuel and a congestion cost of \$78 billion. Traffic volumes and freight movements are projected to continue growing. As a result, congestion extends across greater portions of the day, and impacts travel on more highways in more cities adding to the time Americans spend traveling.

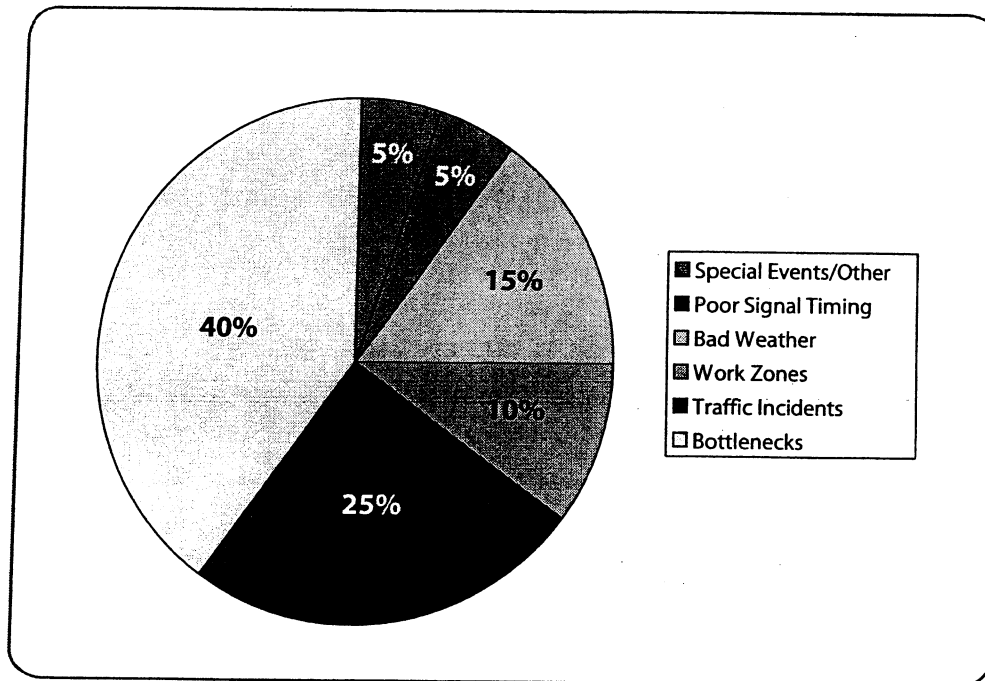
According to the FHWA's *Traffic Congestion and Reliability: Linking Solutions to Problems*, the seven root causes of congestion that interact with one another are—

1. Physical bottlenecks (capacity) – physical characteristics of the system such as number of lanes, alignments, and interchanges
2. Traffic incidents – crashes, breakdowns, and debris impeding travel lanes disrupting the normal flow of traffic
3. Work zones – construction activities that may reduce the number or width of travel lanes
4. Weather – environmental factors affecting driver behavior and traffic flow
5. Traffic control devices – railroad grade crossings and traffic signals
6. Planned special events – surges in travel demand for an event can overwhelm the transportation system
7. Fluctuations in normal traffic – day-to-day variability in travel demand resulting in variable and unreliable travel times.

Since local conditions can vary widely, Figure 2 illustrates only the national estimates of congestion sources.

Figure 2. The Sources of Congestion – National Summary

Source: Traffic Congestion and Reliability: Linking Solutions to Problems, FHWA, July 2004



The U.S. DOT's Congestion Initiative outlines a blueprint to reverse the upward trend of congestion. Achieving an actual reduction in congestion will require action and cooperation from government officials at the Federal, State, and local levels; from those in the private sector; and from the users of the highway systems. While adding capacity is one strategy in the congestion reduction toolbox, the focus of the Congestion Initiative is to leverage technologies and innovative operational strategies that are more effective and efficient in congestion relief than current practices.

In support of the Congestion Initiative, FHWA developed six high-priority efforts and strategies recommended for implementation. One of FHWA's six congestion relief strategies is Traffic Incident Management (TIM), which according to FHWA's TIM Handbook², incident management is defined as "the systematic, planned and coordinated use of human, institutional, mechanical, and technical resources to reduce the duration and impact of incidents, and improve the safety of motorists, crash victims, and incident responders. These resources are also used to increase the operating efficiency, safety and mobility of the highway by systematically reducing the time to detect and verify an incident occurrence; implementing the appropriate response; and safely clearing the incident while managing the affected flow until full capacity is restored."

² FHWA Traffic Incident Management Handbook, November 2000

2.1.2 Growth of Service Patrol Programs

The number of service patrol programs and the percentage of freeway miles covered by service patrols has grown in the United States. Based on a national summary of deployment statistics that the ITS JPO collected in 2006, over 94 agencies provide service patrols on freeways and 46 percent of freeway miles are covered in the 106 most populated metropolitan areas. Arterial miles covered by service patrols are also on the rise. In 1997, no service patrols were reported operating on arterials. In 2006, service patrols covered 11 percent of arterial miles in the 106 largest metropolitan areas.

2.1.3 Benefits and Services of Service Patrols

Benefit/cost studies and qualitative evaluations document that service patrols are one of the most effective elements of a TIM program. Some of the fundamental benefits and core services of service patrols cited by various studies include:

- Reduced incident duration (because of decreased detection, response, and clearance times)
- Quicker debris removal
- Assistance to stranded motorists and crash victims
- Traffic control and management
- Ability of service patrol operators to provide real-time updates on traffic conditions that enable more accurate traveler information about freeway conditions.

Secondary benefits also can be gained from the direct services that patrols provide:

- Improved traffic flow as a result of reduced incident duration and better traffic control
- Reduced travel time, fuel costs, and vehicle emissions
- Improved travel time reliability
- Improved motorist and TIM responder safety
- Enabled fire and rescue staff and equipment to be used for their original purposes rather than blocking lanes for traffic control
- Reduced number of lanes closed for an incident
- Reduced secondary crashes
- Provided relief to law enforcement personnel to focus on other law enforcement duties or remain on their patrol
- Reduced TIM responder personnel and resources unnecessarily dispatched to incidents that service patrols can handle (e.g., stalled vehicle).

2.1.4 Fundamental Components of a Service Patrol

The management and operational characteristics of service patrols can vary greatly between programs. However, many service patrol programs have integrated their operations with a TMC and are a key component of many TIM programs. Fundamental attributes that define an overall service patrol program include the following:

- Agency sponsorship
- Funding sources
- Method of operation – agency operated or contracted

- Coverage area
- Frequency of coverage
- Hours of operation
- Operators qualifications and training requirements
- Patrol vehicles
- Special equipment
- Services provided.

A review of current service patrol programs operating in the U.S. revealed widely varied approaches to operational hours and services provided. For example, some service patrol programs focus on motorist assistance, while others also provide roadway clearance services. Other programs have taken an additional step to train operators in TTC procedures and standards so that service patrol operators can help secure incident scenes and manage traffic during emergency responses.

2.1.5 Need for Consistency

The FHWA develops and maintains regulations and standards to provide consistency in designing highways and bridges, enhancing traffic control devices, establishing proper speed limits, and choosing other highway features. These standards ensure safety and provide consistency in driver expectations for the design and operation of the highway system as they move from one State or locality to another. Similarly, providing consistency in service patrols from one locale to another allows motorists to know what services to expect from a service patrol, thereby increasing their confidence in service patrols.

With the number of programs and the percentage of freeway and arterial miles patrolled increasing, functional variability among service patrols has also increased. Some programs focus on motorist assistance and minor repairs. Oftentimes, the patrol vehicles are not equipped, or operators are not trained, to provide clearance and recovery assistance to fully remove the vehicle from the roadway. Operational procedures may require the service patrol vehicle to abandon an assist after 15 minutes and return to its routine patrol. In these cases, the program relies on assistance from a private towing company to remove the vehicle from the roadway. This reliance can lead to a delay in removing the vehicle, increased frustration of motorists, and increased congestion. The possibility of a secondary crash also increases the longer a vehicle remains on a roadway shoulder.

Because service patrol programs have matured, public safety and emergency service agencies are now more aware of the types of services and benefit these patrols can provide. Service patrols can assist them in effectively securing an incident scene by providing emergency TTC and help manage traffic around the incident scene. This assistance allows law enforcement and emergency services to focus personnel and resources on enforcement or emergency aid functions. As service patrol programs evolve into providing these emergency TTC services, operators must be trained and well-versed in TTC procedures and standards. Following standardized emergency TTC procedures is an important step to ensure motorist, service patrol operator, and other TIM responder safety, in addition to

help meet driver expectations. Standardized emergency TTC procedures will result in better driver behavior and compliance.

There is wide variability in the hours during which service patrols operate. Of the 24 service patrols surveyed for this Handbook, only three operated their patrols 24 hours, 7 days-a-week, with the remainder primarily focused on rush hours. These results are generally consistent with the U.S. DOT's 2004 service patrol deployment statistics that revealed 40 percent of programs operate during peak hours, 20 percent operate 24 hours, 7 days-a-week, and 40 percent operate on "other" defined hours. Patrols that do not operate 24 hours, 7 days-a-week generally focus their service hours on the high volume, high congestion, and high incident times on a normal day when an incident can cause the biggest travel delays. The National Highway Traffic Safety Administration's (NHTSA) trend analysis of crashes by day of week between 1975 and 2002 reveals that fatal crashes are highest on Friday, Saturday, and Sunday. In 2006, NHTSA reported that more than half of highway fatalities occur during nighttime hours between 6:00 p.m. – 6:00 a.m. While partial-day and peak-hour service patrols may cover the most heavily congested periods, they may disregard important nighttime and weekend hours when severe crashes occur. If service patrols are providing TTC services, it is important that they operate during the high crash hours.

Service patrol programs currently in place were developed with variability in the services and functionality provided, service hours covered, vehicle and equipment specifications, and operational and administrative policies. While these programs have been largely successful, guidelines are needed to support future development of service patrols, enhance existing patrols, and provide design consistency on critical program elements.

2.2 Description of Current Service Patrols and Operational Constraints

As service patrol teams throughout the country work to detect, respond to, assist in, and clear various types of incidents, the overall goal of restoring traffic capacity as safely and quickly as possible remains common among all programs. Coordinated and systematic approaches to solving TIM challenges have been the necessary ingredients for service patrol programs to remain successful in the communities they serve.

Service patrols offer a range of services depending on budgets, the needs of the communities they serve, and their governments' organizational structure. Patrol areas range from just 3 miles on a given highway to spanning several miles on a number of different roads within a defined geographic area. Service capabilities can range from a few vans in Washington, D.C., to a fleet of more than 150 vehicles in Los Angeles. Hours of patrol service range from rush-hour coverage to 24 hours, 7-days-a-week service for locations like the Illinois Department of Transportation (IDOT), Florida's Turnpike, and Florida Department of Transportation (FDOT) Districts 3 through 7.

2.2.1 Typical Services

Despite offering a variety of services, hours, and capabilities, service patrols tend to perform similar functions that remain consistent despite their budgets and location. In general, service patrols offer the following standard services:

- Move disabled or abandoned vehicles
- Provide fuel
- Provide water
 - For overheating
 - To person(s) being assisted
- Change flat tires
- Provide mechanical assistance
 - Jump starts
 - Minor mechanical repairs
 - Tire air
- Assist stranded motorists
 - Cell phone service
 - Safe place to wait if vehicle is disabled
- Remove obstacles and objects
 - Debris (roadway hazards)
 - Spilled items
- Arrange for towing
 - Call commercial towing provider
 - Provide towing services to point of safety
- Share information
 - Requests for emergency services
 - Driver information
 - On-site information to the TMC
- Assisting other responding agencies
 - Law Enforcement
 - Fire and rescue
 - Emergency Medical Services (EMS).

2.2.2 Examples of Service that Range Beyond the Typical

Today's service patrols offer a broad range of services, some that require specialized training. Highly involved training programs can require significant time and funding, but they offer a wide range of tools and resources that the operators and departments of transportation can provide. In addition to the typical services listed above, localities have either incorporated other services that are best suited for their areas or have enhanced existing services within their operation that includes the following:

Defibrillators – The Freeway Incident Management Safety Team (FIRST) in Minnesota outfits its vehicles with defibrillators. Using this equipment enhances the operators' first-aid service already provided as part of their program. The October 2004 TIM Operational Guidelines, issued by the Incident Management Coordination Team of Minnesota, states that Freeway

Incident Response Safety Team (FIRST, formerly known as Highway Helpers) provides “emergency medical aid until help arrives.” Service patrol operators need specialized training to use the defibrillators.

First aid – Some jurisdictions offer first-aid training at the awareness level, while others like the Samaritan program in Boston offer it at the responder level. On the Pennsylvania Turnpike where the Pennsylvania Turnpike Commission oversees the State Farm Safety Patrol, service patrols provide no first-aid services; contract services such as EMS or fire departments handle first aid. An example of the more common standard is the Metro Police Department in Houston, Texas, which provides basic first aid—and its staff is “by no means medically trained.”

Hazardous materials (HAZMAT), fires, and blood-borne pathogens – Georgia’s transportation incident response units, known to the public as Highway Emergency Response Operators (HERO), trains personnel to carry equipment to handle HAZMAT, fires, and blood-borne pathogens. This is a unique example of operations service patrol programs can provide. However, the equipment and the required training to be able to use it are not common in many jurisdictions. Personnel in the Tennessee and Washington State highway incident management programs are trained in fire eradication. Boston reports that its CVS Samaritan Van Program deploys operators trained in areas such as paramedics, EMS, animal control, and firefighter level 1. A firefighter level 1 certification can include an Emergency Medical Technician (EMT) certificate, Paramedic license, Firefighter 1 State certification, Firefighter Academy certification, and Cardiopulmonary Resuscitation (CPR) for the professional rescuer. Requirements may vary with locality.

Defensive driving – This skill set is not common to most service patrol programs.

Chainsaw operation – The Roadway Operations Patrol (ROP) in Washington, D.C., and the FIRST program in Minnesota train their personnel on how to operate chainsaws for quick clearance of trees that may come down in roadways.

High Occupancy Vehicle (HOV) gate operation – Some jurisdictions with HOV lanes use the service patrol to operate lane gates (e.g., the FIRST program).

Infrastructure checks – Other variable and nonstandard service patrol duties include service patrols performing infrastructure checks (drains, lights, etc.) and, if possible, offering assistance to solve minor infrastructure problems.

Towing – A survey of service patrol programs showed that some operations provided towing; however, the services varied in the distance to which a vehicle would be towed. Some services towed to safe areas while others towed to designated lots.

Vehicle repair – Samaritan program staff are National Institute for Automotive Service Excellence (ASE)-certified in motor vehicle repair and can make numerous on-site repairs. This certification and experienced first responder-level training exceed the services that most departments of transportation programs currently provide.

2.2.3 *Most Common Hours of Operation*

Many jurisdictions restrict the number of hours that service patrols operate often due to personnel or financial limitations. The most commonly patrolled times fall between 6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Service patrol programs focus their resources primarily on the rush-hour period when vehicle travel is at its highest and incidents most often occur, resulting in severe congestion. On average, service patrols provide weekend coverage between 10:00 a.m. and 7:00 p.m. Some programs, like the Pennsylvania Turnpike Commission's State Farm Safety Patrol, FDOT Districts 3 through 7, and Indiana DOT's Emergency Traffic Patrol (known as "Minutemen"), may provide 24 hours, 7-days-a-week service, but the majority of programs do not. Tennessee, Washington State, and the Maricopa Association of Governments provide a 24 hours, 7-days-a-week service patrol but as an "on-call" service or ready for immediate action if activated, normally outside the traditional service times or in specific locations. HERO in Georgia advertises 24 hours, 7-days-a-week service, but patrols are "on-call" on weekend nights. Many programs, such as the Wisconsin Department of Transportation's (WisDOT) Gateway Service Patrol, will serve special event operations, while other programs simply assist with events if they fall within existing hours of operation.

2.2.4 *Resources Typically Found with Current Service Patrols*

Limited resources, including funding, trained staff, equipment, or support may affect the service patrol's ability to respond adequately to some or all incidents. Equipment varies as much as the size and budgets of the programs themselves. The amount of equipment any one service patrol carries depends on the program budget on the vehicles the program uses, and on the training level of staff using that equipment. Programs that use towing vehicles alone often cannot provide as many types of services as programs using other vehicles that can carry more supplies and equipment. Alternatively, programs with no towing capability are limited to using soft bumpers for moving a vehicle or calling for a towing vehicle to assist in vehicle removal.

Service patrols that were surveyed for this Handbook carry some of the following standard equipment:

- Traffic control equipment
- First-aid equipment
- Vehicle-mounted variable message signs
- Gas
- Air compressors
- Communications equipment
- Basic tools.

The equipment available to the responders dictates the services that can be provided to motorists. For example, the Pennsylvania Department of Transportation (PennDOT) District 11 Expressway Service Patrol does not carry vehicle-mounted variable



*Pennsylvania Department of Transportation
Freeway Service Patrol truck*

*Pennsylvania Department of
Transportation*

message signs or air compressors. Similarly, the Pennsylvania Turnpike Commission's State Farm Safety Patrol does not carry air compressors, gas, or basic tools, according to their survey responses. Maryland's Emergency Traffic Patrol carries gas on its tow trucks and only has diesel when it is requested. The Massachusetts Highway Department's CaresVan program carries equipment in its vans to change flat tires, to partially fill empty gas tanks, to clear roadway debris, and to offer stranded motorists use of a cell-phone.

Of those service patrols surveyed, the programs have different equipment and thus provide differing services including:

- Water/antifreeze
- Oil and power steering fluid
- Spill containment supplies
- Fire, animal, and HAZMAT supplies
- Defibrillators and medical supplies
- Laptop computers
- Diesel fuel and fuel transfer kits
- Maps, phone books, and HAZMAT guide
- Salt and sand
- Cleaning products
- Public address system with an external speaker
- Tow chains
- Battery booster boxes and jumper cables
- Hydraulic jacks and pillars
- Fire and law enforcement scanner
- Two-way communications with public safety dispatchers.

2.2.5 Personnel Found on Today's Service Patrols

People constitute the greatest resource in any service patrol program. The ability to recruit, train, and properly pay people willing to fill service patrol positions impacts and may limit a jurisdiction's ability to expand service patrol programs to cover more hours and areas. Most service patrol programs focus their service times on the rush-hour period. This time can be managed by using split shifts, unless an operator has other duties or functions after the patrol period is completed and works a "traditional" 8-hour shift. Often, a service patrol's work is done in an environment, being both dangerous and stressful, that poses a high level of risk to the service patrol operator. Finding talented individuals who are qualified and willing to work in this environment can be challenging.

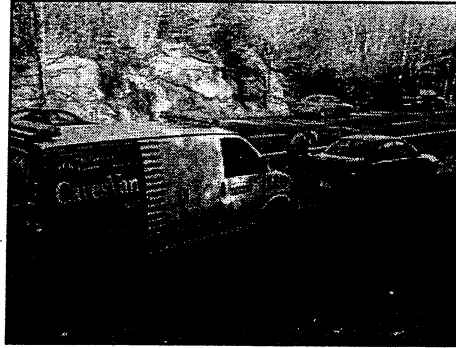
2.2.6 Public Private Partnerships

More States are exploring the benefits of entering into Public Private Partnerships (PPP) to supplement government funding for service patrols. However, jurisdictions report mixed results when engaging in PPPs or corporate sponsorships for service patrols. Entering into these partnerships can greatly benefit programs where funding may be tight or there are staffing limitations. The Motorist Assistance Program (MAP) in Houston, Texas, operates as a result of a PPP among the Metropolitan Transit Authority (Metro) of Harris County, Texas

Department of Transportation (TxDOT), Harris County Sheriff's Office, Houston Automobile Dealers Association, and Verizon Wireless. The State Farm Safety Patrol on the Pennsylvania Turnpike represents another PPP example. The Pennsylvania Turnpike Commission funds the program, but the State Farm Insurance Company provides \$1.4 million toward the service patrol operation over a 3-year period. In return, the service patrol vehicles display the State Farm Insurance Company and the Pennsylvania Turnpike Commission logos.

Other examples of PPP efforts include:

- According to its Web site, the Massachusetts Highway Department's CaresVan program receives \$2.8 million over 5 years from the Commerce Insurance Company for its CaresVan program operated by Export Enterprises.
- Georgia is currently exploring the possibility of selling advertising space on its service patrol vehicles to help fund the 20 percent of the 80/20 Federal-to-State cost sharing.
- North Carolina is also exploring the possibility of attracting corporate funding.



Massachusetts Highway Department

Massachusetts Highway Department CaresVan

Many other programs surveyed reported that they had either explored corporate sponsorship and found problems or had programs in place that were discontinued for reasons such as the private sponsor stopped providing funds, sponsorship, or other support. The Minnesota DOT (MnDOT) considered placing corporate sponsorship logos on service patrol vehicles, but found that this would have required new legislation.

The CVS Samaritan van program is an example of a corporate service patrol program working with local jurisdictions to provide service patrols. The Samaritan program has been operating for 30 years and patrols highways around nine major U.S. cities. The white vans with the red "CVS/Samaritan" logo operate in Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Indianapolis, Providence, and Washington, D.C. The Samaritan program works in cooperation with local transportation departments, metropolitan traffic centers, law enforcement, and other TIM responders.

An alternative to PPPs is using contract services. Examples of PPPs and contract services follow.

- The FDOT Road Rangers represents a successful contract-service patrol program.
- In PennDOT's District 6, when the private partner discontinued service, contracting for services was a proven solution.
- Washington State tried contracting its towing functions but stopped the program after Federal funding was discontinued and other funds were unavailable.

- In Maryland, officials determined that only government personnel were authorized to perform certain tasks. Since the program was part of its customer service program, officials decided agency staff would perform the tasks, not contractors.

2.2.7 Limitations

Annual operating budgets for service patrol programs can range from \$275,000 for District 5 in Pennsylvania to \$19 million covering several urban areas in Florida. Funding can affect service areas, hours of operation, training, staffing, and equipment. These resources are all essential when trying to deploy a properly equipped program to provide a safe and efficient service that meets the needs of the community and successfully achieves the agency's service objectives.

Operating a stand-alone program is a challenge for smaller jurisdictions trying to start a service patrol program. The challenge is also real for existing service patrol programs trying to move toward being a full-function operation. Splitting responsibilities between the service patrol program and other tasks can limit a program that must share both people and other resources.

A lack of communications and/or memorandums of understanding (MOU) with local law enforcement, fire and rescue, EMS, emergency management agencies, and the Federal government, among others, can affect the ability of programs to coordinate efforts. Communications and MOUs help bring service patrol operations into the Incident Command System (ICS). Programs that face these limitations cannot cross-share critical knowledge, data, and lessons learned. Consequently, program staff cannot develop stronger ties, build trust, nor create effective coordination efforts during incidents.

The common goal among all programs is to restore traffic capacity safely and quickly. This goal is achieved by first addressing the state of the existing program and the operational constraints it faces. A service patrol program first needs a well-defined scope of operations, proper funding, a dedicated operation, well-trained staff, minimum response times, the necessary equipment to manage each incident, established MOUs, and both the trust and support of the community and partner agencies—before it can look ahead to becoming an FFSP.

2.3 User Profiles/Classifications

Service patrols are typically one of several responder groups comprising the incident command structure. The ability to detect, respond, assist, and recover relies on the cooperation of, and the communication among, many different entities. But most importantly, each agency must understand the capabilities, limitations, and responsibilities of the other response partners. These relationships require constant attention and resource sharing to build bonds of trust and cooperation. Failing to recognize and make full use of all available resources will result in failure to resolve incidents in the safest and most efficient way possible.

With the majority of the service patrol programs starting in the 1990s, the list of users has expanded as the services that transportation agencies can provide are recognized. Service patrol programs have contact with many users; however, each has its own individual needs when interacting with the program. Service patrol operators are asked, as well as trained, to work in situations that, in the past were considered outside the traditional scope of services transportation agencies provided.

Many agencies can be involved when an incident occurs, including:

- State and local transportation agencies
- State and local law enforcement
- Fire and rescue services (HAZMAT, including clean-up and removal as needed)
- Towing and recovery companies
- Public and private information services
- Travelers and others using the affected system.

2.3.1 State and Local Transportation Agencies

State and local transportation agencies with service patrol programs are often first on the scene for roadway incidents. Closed-circuit television (CCTV), other traffic monitoring technology, roving patrols, and 911 calls are aids transportation agencies use to restore normal traffic flow and minimize delays. Early detection through these methods gives TMCs the ability to provide notification to travelers through dynamic message signs (DMS) and public and private information services. These travelers can then seek alternate routes, minimizing their delays and not adding to the congestion at the incident scene. TMCs also can assist law enforcement and fire and rescue services by either notifying them of an incident or offering guidance on the least congested means to access incident locations as they deploy to a scene. The primary purpose of a service patrol at an incident scene is traffic control. This function relieves other responders from this responsibility.

2.3.2 State and Local Law Enforcement

State and local law enforcement agencies generally have the ability to communicate and coordinate with TMCs through service patrol programs present at an incident. Local law enforcement programs that have MOUs with FFSP programs can contact TMCs directly to obtain information such as the exact location and the nature of the incident. On-scene command and control is enhanced when local law enforcement is coordinated with transportation agencies. A service patrol operating within a specified geographical area can relieve law enforcement personnel of having to respond to disabled vehicles or other minor highway obstructions. Law enforcement personnel can then concentrate on other urgent duties.

2.3.3 Fire and Rescue Services

Fire and rescue services have not used service patrols as much as law enforcement, according to an FHWA study done in 2000. However, just as with law enforcement, fire and rescue services can benefit from the technology and operations of a service patrol program. Communications with the TMC, either directly or through the service patrol at the incident,

can only improve responses and advance the treatment and transport of the injured. When service patrols arrive on the incident scene before fire and rescue personnel, they can relay valuable information such as the nature and severity of injuries, and the number and age of any victims.

HAZMAT response is typically the responsibility of the fire department; however, removing HAZMAT can sometimes fall to private services or even service patrols. For incidental HAZMAT incidents like a small gasoline spill, properly trained and equipped service patrol operators can manage the incident. However, larger events, where fire and rescue are present, can require road closures, detours, and even evacuations. For such events, transportation agencies and service patrols are responsible for traffic control. As service patrol programs become increasingly involved in all types of incidents, knowledge of the ICS is essential when interacting with fire and rescue personnel.

2.3.4 Towing and Recovery Companies

Towing and recovery companies are usually involved in clearing and removing impacted vehicles, spilled loads, and other debris. Often, local governments enter into agreements with towing companies to assist with highway incidents. Each agency involved in an incident must agree when towing and recovery can begin. Providing access to incident scenes and providing information on the best approach and right equipment need to be coordinated among all parties at the incident. It is important to keep in mind that full traffic flow cannot be restored until a scene is cleared. Towing and recovery companies are the providers of this service and often interact with on-scene service patrols to coordinate access and reopen the roadway.

Once vehicles are removed from the crash site, roadway repairs may be required. Service patrols are often responsible for communicating information back to a TMC about the condition or status of the infrastructure following an incident. Heavy equipment may be needed to restore roadway conditions when pavement is damaged. This equipment may be available through transportation agencies or may need to be contracted. The recovery process can take time, depending on the severity of the incident.

2.3.5 Public and Private Information Services

For the roving service patrol operator, it is possible to detect incidents from radio traffic reports or even Web sites (if mobile access capabilities exist within the vehicles). Public and private information services work with service patrols and their TMCs to get updates and clarify information on incidents. Fire departments, local law enforcement, and transportation agencies work through public information officers (PIO) to provide messages to the public. When an incident occurs, the public desires information to assist in their decision making.

2.3.6 Travelers and Other Users

Travelers and other users of the transportation system, such as roadway construction personnel and maintenance crews, also may interact with service patrols. When a motorist breaks down, service patrols provide that needed assistance. As incidents occur, the trav-

eling public and others turn to public and private information services for the information they need on congestion and road conditions. In addition, if an incident involves them directly, they rely on the service patrols, the law enforcement community, and fire and rescue services to provide assistance for their particular situation. Because there are more travelers and other users on the road, they can interact with law enforcement, fire and rescue, and transportation to assist when incidents occur. Construction or maintenance crews—either contracted or public employees—are also familiar with the system and can provide useful information on what they observe during their routine activities.

2.4 Support Environment

This section discusses the typical supporting environment of an FFSP program that can directly affect the range of capabilities provided.

2.4.1 Oversight

Of the programs surveyed for this Handbook, State and local transportation or public safety agencies oversee about 50 percent of the current service patrol operations. Transportation agencies that manage service patrol programs operate out of several different responsibility centers, including TMCs, ITS offices, and incident management offices. The Roadway Operations Patrol (ROP) in Washington, D.C., operates out of the TMC, which is part of the Traffic Operations Administration within the District Department of Transportation. The Chief of ROP oversees the TMC operations as well. In Washington State, Florida, and Pennsylvania, service patrol programs are managed by the district within which they operate. However, in Pennsylvania, the PennDOT District 5 ITS staff manages the daily oversight of contracted activities. In PennDOT District 11, the TMC manager and the tunnel manager provide oversight. The TMC manager oversees contractor services and the tunnel manager manages PennDOT staff. Though the CaresVan service patrols on Massachusetts highways are supervised by the contractor, the State department of transportation monitors them using global positioning systems (GPS). New York operates its service patrol program from the TMCs within each regional office. Depending on the size of the regional office, there might be a manager specifically for the service patrol and, depending on the size of the contract, that manager might be a contractor. Local law enforcement manages the Motorist Assistance Program (MAP) in Houston and the Dallas County Courtesy Patrol. In Houston, the Harris County Sheriff's Office operates MAP using its own deputy sheriffs. Daily oversight of the San Diego Freeway Service and the Kansas Department of Transportation's MAP are managed by their respective State Highway Patrols. The difference between these two programs is that the San Diego Freeway Service is a cooperative effort between the California Highway Patrol (CHP), the California Department of Transportation (Caltrans), and the San Diego Association of Governments (SANDAG), while the Kansas MAP is sponsored by the Kansas DOT but run by the Kansas Highway Patrol.

In each case, program oversight was determined by the current structure of the organization. The home of the service patrol can be affected by the agency that introduced the concept of the service patrol and where the program funding was the strongest. Those

organizations that have created service patrol programs have done so in an effort to address the causes of non-recurring congestion due to highway incidents.

2.4.2 Facilities and Equipment

Surveys showed that the agency providing the service was generally responsible for maintaining the facilities and equipment. In most of the survey responses, equipment was classified only as vehicles, one of the more costly parts of a program budget. However, equipment such as message boards, cones, flashing lights, flares, wheel jacks, safety vests, air compressors, CCTV cameras, and TMC systems, to name a few, are all part of the service patrol program that will also require repair or replacement at some point.

Where contracted service patrols were utilized, such as PennDOT's District 6, Wisconsin's Gateway Patrol in Racine and Kenosha counties, and in the metropolitan areas of Boston, Worcester and Springfield, Massachusetts, the contractor was responsible for servicing the equipment and providing the vehicle maintenance facilities. In Pennsylvania Districts 5 and 11, the contractor is responsible for just overall maintenance. When law enforcement has oversight of the service patrol program, such as in Maricopa's Association of Governments and in Harris County, Texas, they are able to provide facilities and maintain the equipment themselves. Agencies can handle maintenance of their vehicles in-house, send them out for repair, or a combination of both. This determination is based on the size of the agency and how it is structured to handle maintenance issues.

The Pennsylvania Turnpike Commission provides sheds for equipment and vehicles and has an in-house maintenance department that performs vehicle repairs. The Washington State Department of Transportation (WSDOT) has facilities for its own fleet but will contract the maintenance or, when possible, provide its staff training from the State Highway Patrol to perform work on service patrol vehicles. In Oregon, the Incident Response program's maintenance facilities use strategic staging areas for their Incident Response trucks. Instead of having one centrally located facility where all the trucks are staged, Incident Response vehicles are strategically placed at the maintenance facility closest to the responders' home address (within the metropolitan area). This approach will decrease response time when responding to emergencies outside of normal working hours or when reporting to their corridors for day-to-day operations.

2.4.3 Communications

Of the service patrols surveyed, nearly every program outfitted its vehicles with cell phones and 800 MHz radios. Where transportation agencies had their own communications system and radios, the service patrols were equipped with these devices. The state of Maryland's Emergency Traffic Patrols are outfitted with the Capital Wireless Information Net (CapWIN). CapWIN is a partnership between the state of Maryland, the Commonwealth of Virginia, and the District of Columbia that provides an interoperable first responder data communication and information-sharing network. CapWIN was awarded \$3.2 million in grant funding to implement an ITS solution for first responders in the National Capital Region. This grant includes funding from FHWA as well as matching contributions from the Virginia Department of Transportation and the Maryland State Highway Administration.

Other communications options include law enforcement radios and scanners, Nextel, and CB radios. The District of Columbia, San Diego, Oregon, and Minnesota all use laptops in their service patrol vehicles. The portable laptop provides extra capabilities when it comes to reports, maps, data, access to traffic cameras, etc. Tennessee identified its cameras and traffic surveillance equipment as part of its overall communications package that supports the service patrol program.

2.4.4 Funding

Of the 24 service patrols surveyed for this Handbook, most receive funding from State funds, Federal funds, a combination of the two, and/or in rare cases, private funding through a PPP. For the service patrols that receive both Federal and State funding, the contributions are 80 percent and 20 percent, respectively. In Dallas, patrols benefit from additional funding from tolls. Where only State funds are used, such as in Florida, PennDOT's District 11, and Minnesota, traffic operations and maintenance or traffic operations and safety have specific budgets from which funding was provided. In San Diego, the State provides funding to the localities and they, in turn, match that funding. Louisiana has a similar program to support its service patrols that includes contributions from local metropolitan planning organizations (MPOs) in addition to Federal and local funding. The Maricopa Association of Governments and the state of Maryland are using Federal funding through the congestion mitigation and air quality (CMAQ) fund.

According to the FHWA, CMAQ funds are available to a wide range of government and non-profit organizations, as well as private entities contributing to PPPs, but the local MPO and the state department of transportation controls these funds. Often, these organizations plan or implement air quality programs and projects and provide CMAQ funding to others to implement projects. The Harris County, Texas, Metro Police Department controls the budget for its service patrol program; therefore, it does not rely on Federal or State funds. The Pennsylvania Turnpike Commission uses money out of its operating funds as well as money from the State Farm Insurance Company. For its service patrol programs, Massachusetts Highway receives money from a private insurance company and from Federal and state funds. Maricopa Association of Government's FSP program states on its Web site that, "due to the clear demonstration of benefits in improving safety on the freeway system, the [FSP] program was incorporated in the 20-year Regional Transportation Plan (RTP) that was approved by voters in Maricopa County in November 2004. The FSP program is currently fully funded through the year 2026 with RTP funds that total nearly \$21.5 million."

2.4.5 Contracting Mechanisms

Contracting mechanisms for service patrol programs are handled in many ways depending on the jurisdiction. In cases where local transportation districts oversee the programs, such as in Florida, contracting is handled at the district level. Sometimes contracts are awarded to those operations that can provide expertise or services that the service patrols are unable to handle. In San Diego and in District 8 in Pennsylvania, for example, towing services are contracted.

2.4.6 Standard Operating Procedures and Guidelines

Responses varied in this Handbook's survey on guidelines or standard operating procedures (SOPs). Most of the respondents either had SOPs or procedural guidelines or followed some sort of operations policy. The Florida Road Rangers cited the Open Roads Policy and the Mitigation Spill Policy for their guidelines. Georgia also has a similar Open Roads Policy in place. Washington State follows a Joint Operations Policy, while the Pennsylvania Turnpike Commission follows a Unified Command protocol. The Wisconsin Gateway Patrol, a contracted service, follows specifications set forth in its contract with WisDOT. A few programs, like MAP in Harris County, Texas, and the Emergency Traffic Patrol in Maryland, currently have SOPs or guidelines under development.

Programs that did not have SOPs were, in some cases, under the jurisdiction of law enforcement. Service patrol programs that were contracted out typically had specific terms written into their contracts that served the purpose of an SOP. Performance was measured against the terms of the contract, and oversight was handled by the awarding agency. Outreach, in some instances, added feedback into contract performance.

While training can offer guidance on how to handle service patrol operations in the field, it is important to have SOPs and guidelines. Because service patrol programs have expanded in size and the services they provide, responsibility is placed on the agency with oversight of the service patrol program to provide this guidance for the protection of the operators and the overall organization.

2.4.7 MOUs and Mutual-Aid Agreements

Very few agencies reported the existence of an MOU or mutual-aid agreement. Of the MOUs and mutual-aid agreements that did exist, many were between law enforcement and transportation agencies. For example, HELP, in Tennessee, noted that law enforcement agencies are total partners and that they see the value in service patrol programs. It has taken a year to build the relationship, and HELP is now working toward an MOU or other type of interagency agreement. The Oregon Department of Transportation (ODOT) Incident Response program has been recognized by many of their external partners as a first responder agency. This recognition is because ODOT Incident Response staff are responding to incidents in much the same manner as their external partners and typically before them, allowing them to focus on the specific duties of their profession. However, ODOT's Incident Response program does not have any MOUs.

When the Emergency Traffic Patrol in Maryland started, the patrols had to determine where they fit into the first responder picture and how to interact with law enforcement and fire departments. Now, Maryland State Police use the Emergency Traffic Patrol because patrols can handle many tasks that previously were the responsibility of law enforcement. CapWIN is an example of a partnership among areas (Maryland, Virginia, and the District of Columbia) that provides an interoperable first responder data communication and information-sharing network.

The North Carolina Incident Management Assistance Patrols (IMAP) have an MOU with the Greensboro Police Department to remove abandoned and disabled vehicles. IMAP

is currently working toward an MOU with the State Highway Patrol to do this statewide as well. North Carolina also has quick clearance legislation (GS 20-161) to clear roads, which extends liability protection to department of transportation and law enforcement personnel who keep roads open. Other states with MOUs with state highway patrols include Washington and New York. In San Diego, the CHP, SANDAG, and Caltrans entered into interagency agreements that provide for the annual funding for the service patrol from Caltrans to CHP and SANDAG. An additional provision of the interagency agreement is a Joint Operational Policy Statement that details the individual and joint responsibility of Caltrans, CHP, and SANDAG. In Georgia, HERO also has an incident management task force made up of many different agencies across responding areas. HERO reports benefits related to enhanced training and better ideas through this relationship.

2.4.8 Outreach and Calling for Service

Nearly all service patrols offer some form of outreach to the community to publicize their availability, hours of operation, and services, although it has been reported that many travelers are still not aware of the service. Most programs will offer a survey card or brochure to the motorist after service has been provided. This form of outreach gives the users an opportunity to rate the service patrol and provide feedback to the agency operators and is often a key component in evaluating the program. Most respondents are relieved and pleased with the service provided to them in a time of need.

Some service patrol programs attend community events to raise their exposure to the public off the roadway. In Washington, D.C., ROP can be seen at the end of the July 4th parade every year as the DC DOT showcases its vehicles in the final element of the parade. In New York, HELP will attach "sorry we missed you" tags on abandoned vehicles to let drivers know that they are available and could have offered services had the driver been with the vehicle. Florida's Road Rangers advertise their Florida Highway Patrol (FHP) numbers to the public, while other service patrol programs use Web sites to post their information. Transportation agency PIOs are to inform the public of the service patrol programs whenever possible. The Maricopa Association of Governments arranged a media ride-along to foster publicity for the program. In Georgia, training officers and supervisors exercise another form of outreach by going to police stations and fire stations to inform them of the advantage of using service patrol programs.

Several service patrols advise motorists needing assistance to call their State Highway Patrol number such as *FHP or *THP, 911, or 511 to request service. Generally, no other phone number is advertised for the public to call. If such a request is received, the dispatcher contacts the service patrol vehicle to direct the operator to the location where service is needed. Many service patrol vehicles drive along the highways to identify motorists who may need assistance. In addition, TMCs equipped with surveillance cameras can observe stranded motorists and request the service patrol to respond.

2.4.9 Summary

Support for service patrols includes elements from facilities, maintenance support, equipment, communications, mutual-aid agreements and MOUs, as well as outreach. It is

important to keep in mind that the funding provided to the program directly affects the range of capabilities and services that service patrols are able to provide. The ability of the program determines its usefulness to the sponsoring agency and, more importantly, the public. Because users of the service patrol program depend on the service patrols, it is even more important that properly supported programs enter the field each day. Adequately supported service patrol programs in the field mean earlier incident detection, quicker response, expedited removal of incidents, and faster restoration of traffic flow for motorists using the transportation system.

Minnesota Department of Transportation



Minnesota Department of Transportation FIRST truck

CHAPTER 3. FULL-FUNCTION SERVICE PATROL JUSTIFICATION AND NATURE OF CHANGES

3.1 Justification

3.1.1 *The Congestion Initiative*

In 2006, the U.S. DOT announced its Congestion Initiative, which provides an outline for Federal, State, and local officials to consider as they work together to reverse the trend toward increasing congestion. Major components of the initiative include (1) congestion relief programs, (2) PPPs, (3) corridors of the future, (4) implementing technological and operational improvements, and (5) increasing aviation capacity. The Congestion Initiative is based upon using existing innovative and demonstrated strategies that more efficiently and effectively provide relief to traffic gridlock than the current practice. These options include technologies such as congestion pricing and high-speed open road tolling and the billions of dollars in private capital available for investment in public infrastructure. Service patrols are one tool in aiding state and local governments in their efforts to reduce congestion.

3.1.2 *How Service Patrols Aid Transportation*

Service patrols throughout the U.S. offer a varying range of services depending on budgets, the needs of the communities they serve, and their governments' organizational structure. Service patrols yield significant benefits to the transportation agencies and communities through reductions in vehicle delays, vehicle emissions, and gasoline consumption, as well as provide greater overall safety to travelers. These benefits are achieved through earlier detection, quicker responses, expedited removal of incidents, and faster recovery times. Before service patrols, transportation agencies relied on other responders such as law enforcement to clear congestion problems caused by incidents. Service patrols allow transportation agencies to control and respond to problems on their own systems with their own assets. Service patrols working with TIM responders can assist in the overall safety of incident scenes. Transportation agencies now have a direct impact on other TIM responders and play a role in preventing secondary incidents. Transportation agencies are more involved during on-site incidents and have become an important part of the incident management system. Service patrols give transportation agencies their own asset on-site to provide real-time information as an incident progresses. In addition, many incidents cause damage to the transportation infrastructure. Service patrols can provide information on such damage, thereby allowing repairs to proceed more quickly and recovering the cost of repairs from the person who caused the damage. The support environment for service patrols varies across a broad spectrum. The ability of the program to meet its intended mission determines its usefulness to the agency and, more importantly, to the public.

3.1.3 Measuring Performance - Service Patrol

Service patrols are often part of an overall TIM program, and while there are no required performance measures, many programs have adopted some performance measures. FHWA's study on TIM performance measures showed that while many agencies measure performance related to TIM, the definition of the measures is inconsistent across transportation and public safety disciplines. Most agencies measure what is important to them—with little coordination on measurement with other agencies in the same region.

The most common measures for TIM are:

- Number (or frequency) of incidents
- Detection time
- Response time
- Clearance time.

All these types of measures have some relevance to service patrols. The majority of programs surveyed as part of this Handbook reported using some combination of statistics gathered from each service call. Some of the statistics mentioned include the number of calls, response time, clearance time, type of incident, duration of incident, and congestion levels. The remaining surveys reported using customer satisfaction, or comment cards, to measure the performance of the program.

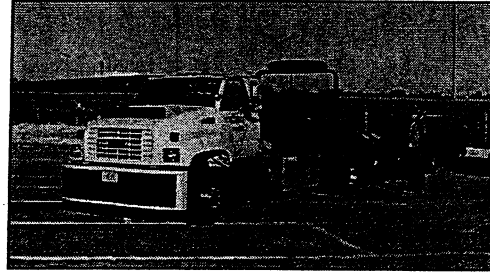
The Boston service patrol program reports that all vehicles have a mobile data computer that allows real-time reporting of specific incident information during service calls. This data is then used to evaluate operational functions and routes. If the data shows that a service patrol vehicle is not meeting program standards, operations and routes are reevaluated. The Florida Road Rangers carry comment cards to provide to assisted motorists. The Rangers request that the motorist fill out the card and mail it (postage is paid for by FDOT) to the central office. The comment cards are reviewed and scanned for data, which is then provided in summary form to the appropriate FDOT district. Massachusetts Highway Department's CaresVan uses both comment cards and statistical analysis to assess the performance of its program.

The San Diego FSP uses a combination of statistical analysis, driver inspection, and comment cards. The FSP program coordinator inspects each truck and driver each month. Each is graded on the following criteria: needs improvement, meets the standard, exceeds the standard, or is outstanding. Every quarter, an award is given to a driver that is based on monthly inspections, customer comment cards, no complaints, no accidents, and no need for counseling for the 3-month period. In addition, a driver-of-the-year award is presented to one of the four quarterly award recipients.

3.1.4 Measuring Performance - Contract Service Patrols

Of the surveys completed that report measuring contractor performance, approximately half used customer satisfaction surveys/comment cards. The District 6 Expressway Service Patrol in Pennsylvania provides these comment cards at the end of each call. If a service patrol operator receives more than one unfavorable card in the last six shifts, counseling

is required. A second such situation will result in a warning, a third in a suspension, and a fourth in a dismissal. The other half of the agencies surveyed reported using statistical analysis, inspections, or a combination of the two. Massachusetts Highway reports that its contractor, CaresVan, submits reports on all of its operations. Massachusetts Highway will also send out its own inspectors to evaluate contractor performance. They also rely on State Police feedback. The Florida Road Rangers gauge their contractors by the number of trucks on the road, the number of stops, and the types of services they provided. FDOT district supervisors review and inspect the contractor vehicles for proper equipment. In 2000, Marquette University formally evaluated WisDOT's Gateway Patrol program. The evaluation showed that a 52 percent reduction in minor incident clearance time was realized because of the presence of the Gateway Patrols. This reduction resulted in significant improvements in motorist delay. In addition, a 14 percent reduction was achieved in downstream secondary incidents. These reductions significantly improved safety.



Wisconsin Department of Transportation

Wisconsin Department of Transportation
Gateway Patrol tow truck

3.1.5 *Benefit-Cost Ratio*

Very few of the programs surveyed reported having an official benefit-cost ratio analysis. Currently, no national standard exists for measuring the benefit-cost ratio of service patrol programs. The San Diego FSP reports one of the most comprehensive benefit-cost assessments. The effectiveness of the FSP program is assessed by calculating the annual benefit-cost ratio of each FSP beat. First, the annual savings in incident delay, fuel consumption, and air pollutant emissions due to FSP service are calculated based on the number of assists, beat geometries, and traffic volumes. The savings are then translated into benefits using monetary values of \$10 per hour for delays and \$2 per hour for fuel consumption. The costs include the annual capital, operating, and administrative costs for providing FSP service. The FSP evaluation methodology is incorporated into an Excel spreadsheet. Input data requirements consist of beat geometries (such as number of lanes, presence of shoulders, etc.), traffic volumes, and the number and characteristics of FSP assists. A recent study by the University of California, Berkeley calculated the statewide average benefit-cost ratio was 8.3:1.

The Florida Road Ranger program completed a benefit-cost analysis in November 2005. The overall benefit-cost ratio was 25.8:1. This ratio represents the benefits based on the average incident delay and fuel savings indicated by the Road Ranger program. The 2005 report indicated that the program produces significant benefits in all five districts and the Florida Turnpike. The range of the benefit-cost ratio is from 2.3:1 to 41.5:1. Road Rangers assist with an average of seven incidents per hour in any given district with the exception of the Turnpike where they assist with nearly 18 incidents per hour.

In Minnesota, FIRST reports a benefit-cost ratio of 15.8:1. A 2003 Minnesota report on benefit-cost stated that while the total cost of the program increased 69 percent compared to the fiscal year 1999 estimate, the benefit estimation included additional factors that caused a six-fold increase for the fiscal year 2003 analysis. Net benefits were reported to be seven times greater, and the benefit-cost ratio was revised up from 4:1 to 16:1. Factors included in this analysis were reduced traffic delays, fewer secondary crashes, less fuel consumption, and lower emissions. The magnitude of this ratio reflects a significant public benefit for the investment.

Benefit-cost ratios from the reduction in delay between 3:1 and 10:1 are common for FSPs. Perhaps the most aggressive program in the United States, Houston's SAFEclear consists of tow trucks that respond within 6 minutes of notification. Quick removal of stalled vehicles and crashes, combined with the MAP, has reduced collisions by more than 10 percent in the first 2 years of operation, saving \$70 million in collision costs.

In a September 2007 draft report for the North Carolina Department of Transportation (NCDOT) titled, *The Economic Impact of Traffic Incidents on North Carolina's Interstate Facilities*, modeling results of various case studies showed that deployment of either IMAPs or Advanced Traveler Information Systems (ATIS) would return significant monetary savings. The report also stated that a higher level of service/deployment would also bring more economic benefits to the overall transportation system. The Pennsylvania Transportation Institute completed a benefit-cost ratio evaluation 1.5 years after the onset of the parkway service patrols that included the benefits of having the service patrol. However, the evaluation was never matched against the costs associated with having the patrol.

3.1.6 Strategic Highway Safety Planning and Other Initiatives

The American Association of State Highway and Transportation Officials (AASHTO) created the Strategic Highway Safety Plan (SHSP) in 1997. The most recent update was in December 2004. The objective of this document is to provide a comprehensive plan to substantially reduce vehicle-related fatalities and injuries on the nation's highways. The SHSP does not focus on the contribution that service patrols can provide in this area, but the report highlights the significant promise that ITS holds for improving safety above and beyond the goals of the SHSP. The report points out that while some ITS programs will see immediate results, others will see results as large-scale deployment of new vehicles and technologies occur. One of the 16 ITS programs that help departments of transportation reach their mission and work toward meeting the Congestion Initiative, as well as the SHSP, is a TIM system. The SHSP can be the foundation upon which to build other interagency operations such as a TIM system. A TIM system can reduce the effects of incident-related congestion by decreasing the time to detect, respond, and return traffic to normal conditions. Incident management systems use a variety of technologies, including service patrols, to facilitate coordinated responses to incidents.

The U.S. DOT's Emergency Transportation Operations (ETO) initiative is designed to foster the development of tools and processes that support transportation system operators during a wide range of emergencies. The ultimate goal is to promote faster and better-prepared responses to major incidents and evacuations. The Research and Innovative

Technology Administration (RITA) ITS Web site reports that more than 400 tropical storms, hurricanes, tornadoes, and highway HAZMAT incidents require evacuation each year in the U.S. These incidents, combined with winter weather, wild fires, multi-vehicle crashes, and security incidents, require the U.S. to be prepared for any eventuality. It is important that responders reach each scene, victims are evacuated from the danger zone, and clearance and recovery resources arrive on time. The ETO initiative has identified that effective real-time management of transportation during major incidents results in more timely responses to highway and HAZMAT incidents and shorter incident durations. The initiative is achieved by improving all forms of transportation emergencies by applying ITS technologies. Using FFSPs is one of these real-time ITS technologies.

3.1.7 Department of Homeland Security Mandate

Homeland Security Presidential Directive 8 "*National Preparedness*" (HSPD-8), issued in December 2003, establishes policies for strengthening the preparedness of the U.S. to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies. The directive stated that this approach could be achieved by requiring a national domestic, all-hazards preparedness goal; establishing mechanisms for improved delivery of Federal preparedness assistance to State and local governments; and outlining actions to strengthen preparedness capabilities of Federal, State, and local entities. The National Preparedness Goal, established in March 2005, called for the creation of a fully integrated, adaptable, all-hazards preparedness system. The result was the Target Capabilities List (TCL) published in September 2007. As part of the "Response Mission Area," the TCL addressed on-site incident management, which is defined as "the capability to effectively direct and control incident activities by using the ICS consistent with the National Incident Management System (NIMS)." Many service patrol programs currently use ICS. According to the TCL, the event is managed safely, effectively, and efficiently through the common framework of the ICS. The TCL goes on to state that all Emergency Support Functions (ESFs) are coordination functions (e.g., providing resources). ESFs can be involved in on-scene command and work in Emergency Operations Centers (EOCs), as required, to provide the incident management organization with the resources it needs. Transportation is ESF 1. Command is usually a local/county or state responsibility. A department of transportation's TMC can work in concert with EOCs to coordinate assets before, during, and after an event. Or, for smaller events, departments of transportation can work directly with other TIM responders, using their service patrol program, to aid in quickly clearing an incident.

The National Response Framework (NRF), effective March 22, 2008, clearly states that the responsibility for responding to incidents, both natural and manmade, begins at the local level—with individual and public officials in the county, city, or town affected by the incident. The NRF also reports that any incident can have a mix of public health, economic, social, environmental, criminal, and political implications with potentially serious long-term effects. The NRF declares that the primary role of State government is to supplement and facilitate local efforts before, during, and after incidents.

Service patrols fit in the framework of the NRF and TCL by the nature of the services they offer and their function as a TIM responder. As a part of the incident management system

in ITS, service patrols provide departments of transportation with an operational capability that fixed assets are not able to provide. The on-scene presence of the service patrol helps the departments of transportation increase their reach either through the TMC during more localized incidents or through the EOCs during large-scale incidents.

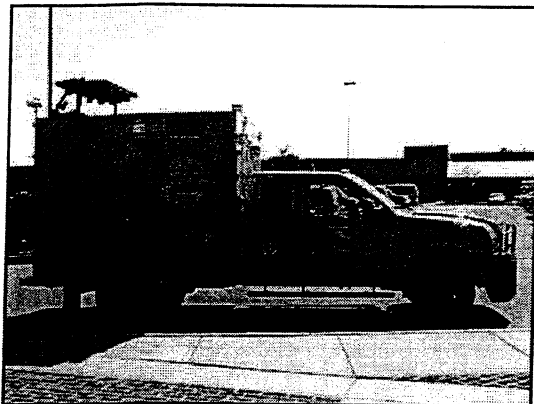
3.1.8 Other Functions or Needs Service Patrols Fill

Because of their mobility and training, service patrols can provide assistance. One service patrol program surveyed reported that it will engage in checking vehicles stopped on or under critical infrastructure and encourage drivers to move along. In Boston, for example, CVS Samaritan vans were sent to Florida after a recent hurricane to assist in recovery efforts. Road Rangers, HERO, and HELP are used to coordinate various aspects of evacuations and provide support to motorists. Maryland's Emergency Traffic Patrol is used for signal operations to re-time signals along alternate routes as needed. The Houston Metropolitan Police Department's MAP vehicles worked during Hurricane Rita to escort field trucks and offer cases of water. MAP also escorted fuel tankers and provided much-needed assistance to the public. The Incident Response Units (IRU) in Washington State reported they can assist the State Patrol or National Guard as needed. Since the IRU service patrols are trained in

the NIMS, they can provide services during all types of incidents.

Most service patrol programs that responded to the survey did not work outside their regular patrol services. Since incident responses are not just limited to vehicle assistance, service patrols with proper training are able to go beyond traditional roadside services and deliver support to any incident that may strike a community. This ability is an important asset to any department of transportation and the community during times of crisis.

Maryland Department of Transportation



Coordinated Highways Action Response Team (CHART) emergency response vehicle

3.2 Changes Required for Migration to Full-Function Service Patrol

3.2.1 Overview of Baseline, Mid-level, and Full-Function Service Patrols

This Handbook provides guidance to decision-makers and operators of service patrols to identify features of service patrols that will make them most effective. Many agencies are already operating service patrols and may want to compare their current services against the features of a baseline, mid-level, and FFSP. The primary features of these three service patrol levels are outlined below and more fully described in the remainder of the Handbook.

BASELINE SERVICE PATROL

A baseline service patrol will:

- Provide incident response services, clearance resources, and free motorist assistance services on a peak hour basis, 5 days a week
- Provide operators that are specially trained to safely provide limited emergency TTC at incident scenes
- Be trained in the ICS, specifically IS-100 and IS-200 level courses
- Design baseline service patrol vehicles to push a stalled or abandoned automobile or light truck out of the highway travel lane
- Provide a frequency of coverage to respond to a stranded motorist/vehicle within 1 hour of notification of its location
- Be in contact with a regional TMC if one exists
- Participate in incident debriefs or after-action reviews
- Be dispatched to incident locations as needed by the TMC or State/local law enforcement
- Include typical services provided in many service patrol programs today:
 - Provide minor repairs and motorist assistance
 - Remove debris
 - Provide fuel
 - Relocate vehicles out of travel lanes
 - Assist emergency services at vehicle crash scenes
- Include the following equipment:
 - Traffic control items
 - Gasoline
 - Communications equipment
 - Basic tools
- Establish methods for quantifying customer feedback.

MID-LEVEL SERVICE PATROL

A mid-level service patrol will:

- Provide incident response services, clearance resources, and free motorist assistance services on a peak hour basis, 5 days a week, plus on-call service 24 hours, 7 days-a-week and for special events coverage as required
- Provide operators that are specially trained and highly skilled in emergency TTC standards and procedures and readily available to provide TTC at incident scenes
- Be trained in the ICS, specifically IS-100 and IS-200 level courses

- Design mid-level service patrol vehicles to push a stalled or abandoned automobile or light truck out of the highway travel lane and/or relocate a vehicle to a safe location using either a wrecker, flat-bed car carrier, or towing contractor
- Provide a frequency of coverage to respond to a stranded motorist/vehicle within 30 minutes of notification of its location during peak hours and within 1 hour during on-call services
- Have direct communication with a regional TMC if one exists and/or State/local law enforcement
- Participate in incident debriefs or after-action reviews
- Include typical services provided in many service patrol programs today:
 - Provide minor repairs and motorist assistance
 - Remove debris
 - Provide fuel
 - Provide first aid
 - Relocate vehicles out of travel lanes
 - Assist emergency services at vehicle crash scenes
- Include the following equipment:
 - Traffic control items
 - First-aid items
 - Vehicle-mounted arrow board
 - Gasoline
 - Communications equipment
- Supply basic tools
- Establish methods for quantifying customer feedback.

FFSP

An FFSP will:

- Provide incident response services, clearance resources, and free motorist assistance services 24 hours, 7 days-a-week
- Provide operators that are highly skilled and specially trained in the following:
 - NIMS/ICS – IS-100, IS-200, and IS-700
 - ATSSA – Traffic Control Technician
 - Red Cross – First Aid and CPR
 - Wreckmaster – Towing and Recovery Operations Specialists
- Provide emergency TTC at incident scenes
- Design and equip FFSP vehicles to fully relocate a stalled or abandoned automobile or light truck from a highway to a safe location
- Provide a frequency of coverage to support statewide incident clearance goals

- Be fully integrated with regional TMC operations
- Participate in incident debriefs or after-action reviews
- Be readily dispatched to incident locations as needed
- Include typical services provided in many service patrol programs today:
 - Provide minor repairs and motorist assistance
 - Remove debris
 - Provide fuel
 - Provide first aid
 - Relocate vehicles out of travel lanes
 - Assist emergency services at vehicle crash scenes
- Include the following equipment:
 - Traffic control items
 - First-aid items
 - Vehicle-mounted variable message signs
 - Gasoline
 - Air compressors
 - Communications equipment
 - Basic tools
- Consider including advanced optional equipment such as:
 - Defibrillators and medical supplies
 - Fire, animal, and HAZMAT supplies
 - Public address system with an external speaker
 - Automatic vehicle location (AVL)
- Establish methods for quantifying costs and benefits, including customer feedback and operational information such as clearance times (integrated with other first responders)
- Conduct public outreach
- Use the FFSP program to reduce traffic congestion, improve travel time reliability, and improve safety on freeway and arterial systems.



Minnesota Department of Transportation
operator assists motorist

Minnesota Department of Transportation

3.2.2 Fundamental Functional Needs

The 2000 FHWA report *Incident Management Successful Practices: A Cross-Cutting Study* refers to incident management as the process of managing multi-agency, multi-jurisdictional responses to highway traffic disruptions. To address congestion issues that traffic incidents cause, service patrol programs must take an efficient and coordinated approach. One of the fundamental functional needs of service patrol programs is to establish MOUs and mutual-aid agreements. Universally, the service patrol programs surveyed discussed creating stronger relationships with law enforcement and other TIM responders. As service

patrols become a routine part of the first response landscape, a need to formalize agreements and set service scopes exists among agencies involved in incident response. From a technological standpoint, service patrol programs with MOUs, which are supported by ITS technology within their TMC, are better able to exchange information with law enforcement departments and EOCs during an incident. The ability to share and request any resource enables the FFSP program to not only assist other responders but also request and receive assistance when needed.

A dedicated program is a fundamental, functional need when moving a service patrol program to an FFSP. A robust FFSP is tasked strictly with only a service patrol assignment. One way to achieve this is through dedicated funding and training. Every program surveyed was able to either show a sound benefit-cost ratio or show customer feedback that was extremely positive toward the service patrol program and the department or agency responsible for it. Dedicated programs do not have to split priorities, fight for resources, or share personnel. Without these constraints, programs can focus on coverage areas and expanding existing services. Transitioning from a program that responds after notification to one that is proactive in its response is a move toward being a dedicated program.

3.2.3 Personnel Needs

Most service patrols surveyed said they need more personnel. In many cases, more people were needed to keep up with the demands of an expanding program. However, problems with turnover and retention were identified as limiting service patrols. Temporary staffing was considered as a poor solution to this problem. To migrate toward an FFSP program, service patrols need to invest in individuals that have the skills and aptitude for this type of service. For example, the Illinois DOT (IDOT) Emergency Traffic Patrol (Minutemen) program and the Illinois Department of Veteran Affairs teamed up in 2007 to make veterans aware of the opportunities available as service patrol operators.

Supervisors and operators need to be fully trained and training needs to be ongoing. A well-informed, well-paid, and well-trained operator is a service patrol's best investment. Retaining people who have experience and are able to work in the incident management environment is an important part of the service patrol program. Many of those surveyed stated that if more funding were available, they would also increase the salary paid to service patrol operators as a way to retain drivers and protect the investment made in them.

3.2.4 Operations Needs

For many of the programs surveyed for migration to FFSPs, expanding service hours and service areas was the primary need. Seven of the surveyed programs only operate during weekday rush-hour periods and only cover specified geographic areas. Several other programs operated during the rush hours and during the daylight hours between the morning and afternoon rush hours. Expanding the hours of coverage to 24 hours, 7 days-a-week and increasing the geographic area served offers the public a complete full-service program. This ability to provide 24 hours, 7-days-a-week service over a larger service area will aid in congestion mitigation over the entire transportation system. Special event coverage by service patrols was not a common function for all service patrol programs.

Special event traffic operations can put an additional strain on the transportation system, and a service patrol operation can assist with incidents that may occur during the special event, thereby improving traffic conditions.

FFSP programs must be supported by a comprehensive communications network and equipment and the TMC. The network allows these full-function programs to reach out quickly to other stakeholders and request resources in real time. The ability to share and receive timely information only increases a service patrol's effectiveness when facing a myriad of incidents. The ability to share real-time information allows the TMC to provide better information to motorists about the roadway conditions and potentially hazardous locations.

3.2.5 Support Needs

FFSP programs must engage in outreach that spreads awareness of the program and provides safety education to the community and other stakeholders. Conferences and working groups provide awareness between other service patrol programs and stakeholders, respectively. FFSP programs work with local partners to build awareness and coordinate training and exercises, review lessons learned, and create a better understanding of everyone's role during an incident. Likewise, outreach to the community about the service is also an essential function. Motorists should be aware of the program, its services, and methods so they may request service when required. Motorist awareness also enables the public to report incidents they observe. Part of public awareness is easily recognizable service patrol vehicles and uniformed drivers. Motorists must feel confident that the vehicles and the drivers stopping to assist them are part of an official program and present no danger to them.

Migration to an FFSP should include training on specific incidents, communications equipment, and the tools used daily on the job. As service patrol equipment and services are expanded, training must also expand, evolve with the program, and be regularly updated. Awareness of and/or practical training in various areas of incident management are characteristics of an FFSP. Training with other first responders can only enhance skills and awareness of everyone's role during an incident.

Updating fleets and equipment is essential when considering a move to an FFSP. Having the right equipment for the service provided and having the support behind the program to expand services are important considerations. Continued maintenance of the fleet and the ability to update and upgrade as required is another function of an FFSP.

However, expansion, outreach, and training can be achieved only when properly funded. FFSP programs require dedicated funding and the ability to use that funding to improve and expand the service patrol program. FFSPs also perform measurements of their progress. Through comprehensive analysis and evaluations, an FFSP can determine the program's value and justify the services they provide, hours of operation, and geographic areas of service. These measurements aid the full-function program in providing the most cost-effective and efficient services to its community and demonstrates the program's value to decision makers and the public.

3.3 Change Priorities

3.3.1 Essential Features

Essential features of an FFSP program are proper funding, a dedicated program, and establishing MOUs to define roles and responsibilities. In addition to funding, an institutional-related priority includes FFSPs being a major component of an ongoing, sustained TIM program. In this context, FFSPs should be regular participants in incident debriefs. Also, a TIM program can serve as the foundation for developing a methodology for regularly assessing and measuring FFSP performance.

For an FFSP, it is essential to have 24 hours, 7-days-a-week coverage that includes support for special events and evacuations. It also is essential that service patrol programs have a comprehensive training program, reliable communications, and a notification system for incident recognition and response. In addition, service areas must be determined through proper analysis and areas of coverage and service must not be limited by lack of personnel. A TMC is an essential element for supporting service patrol programs. Service patrol programs that wish to be considered FFSP programs must have either operational guidelines or SOPs or both. Both contract and in-house operations staff must be trained in the ICS, emergency TTC, equipment and tools use, HAZMAT assessment, and basic first aid. Supportive legislation and policies, such as open roads and safe, quick clearance, must also be in place to allow service patrols and incident responders to focus on their primary mission. Some level of background checks on drivers should be required to ensure that those interacting with the public are not a safety risk. A method to measure benefit-cost is also essential.

The services of FFSPs should include the following baseline features:

- Recognizable vehicles
 - Tire air
- Uniformed drivers equipped with safety vests
- Ability to move disabled or abandoned vehicles
- Fuel provision
- Water provision
 - For overheating
 - To person(s) being assisted
- Ability to change of flat tires
- Mechanical assistance
 - Jump starts
 - Minor mechanical repairs
- Stranded motorist assistance
 - Providing cell phone service
 - Offering a safe place to wait if vehicle is disabled
- Object removal
 - Debris (roadway hazards)
 - Spilled items
- Ability to tow vehicles
 - Call commercial towing provider
 - Provide towing services to point of safety
- Information provided
 - Request emergency services
 - Provide driver information
 - Give TMC on-site information
 - Standard form for documenting driver / vehicle information and services provided
- Redundant communications methods
- Assistance to other agencies
 - Law Enforcement
 - Fire
 - EMS

The equipment that FFSPs should have includes:

- Basic tools
 - Tow hitch and tow hooks
 - Hammer
 - Jumper cables
 - Fuel siphon
 - Mallet
 - Pliers
 - Ratchet wrench set
 - Screwdriver set
 - Battery brush
 - Broom
 - Lug wrench
 - Funnel
 - Flashlight
 - Wrench set
 - Vise grips
 - Tire gauge
 - Shovel
 - Tire sealant
 - Garbage bags
 - Pry bar
 - Duct tape
 - 5-gallon containers
 - Paper towels
 - Assorted fuses
- Electric tape
- Electric multimeter/wiring tester
- Gloves
- Portable flood light
- Marking paint
- Jack
- Wheel chocks
- Quick entry tool
- Safety goggles
- Safety mask
- Rags
- Rain jacket and pants
- Traffic control items
 - Safety vests
 - Traffic cones
 - Florescent traffic control flags for flagging operations
 - Flares
 - Sign stands
 - Traffic control signs (in compliance with MUTCD Chapters 6F and 6I)
 - Arrow board
- Stop/slow paddle
- First-aid items
- Fire extinguisher
- Digital camera
- Vehicle-mounted message boards
- Gas
- Air compressors
- Communications equipment
- Push bumper
- Flashing light bars on vehicles
- Feedback mechanism to measure service provided

3.3.2 Desired Features

Once the essential features are in place, expanding specific services that service patrols can provide is a desired second step. For example, through proper training, service patrol programs may administer standard first aid and CPR. All FFSPs should have the ability to communicate directly with law enforcement to provide assistance to incidents where needed. Having mobile laptops installed in service patrol vehicles can facilitate reporting, communications, and monitoring capabilities.

All FFSPs must be able to tow vehicles, primarily through in-house operations as part of their own fleet or, secondarily, by contracting. This feature would include having all forms of towing capabilities from heavy-duty towing vehicles to standard towing vehicles.

Some additional desired equipment could include:

- Antifreeze
- Oil and power steering fluid
- Spill containment supplies
- Fire and basic HAZMAT supplies
- Binoculars that can be used to view HAZMAT placards from a distance
- Medical supplies
- Laptops
- Diesel fuel and fuel transfer kits
- Maps, phone books, and HAZMAT guides
- Salt and sand
- Cleaning products, including hand cleaner
- Public address system with an external speaker
- Tow chains
- Battery booster boxes
- Hydraulic jacks and pillars
- Fire and law enforcement scanners
- Child safety seat
- AVL for service patrol vehicles

When considering outreach, another highly desirable feature of an FFSP is public education on roadway incident safety (in the event that motorists find themselves involved in some type of incident), as well as public awareness. Providing information about the FFSP program through a Web site should be an essential part of outreach and awareness.

3.3.3 Optional Features

Optional features for service patrol programs include using advanced equipment or training that goes above and beyond traditional services provided by service patrols during incident response. For example, training service patrol operators to be paramedics, EMTs, or level 1 firefighters is an optional feature. Also, defibrillators are considered optional; though using them can enhance the lifesaving training techniques that service patrol programs employ.

3.4 Changes Considered but not Included

Requiring a standard vehicle for all service patrols in the U.S. is not essential to successfully implementing FFSPs across the country. However, when the operating agency selects a vehicle, it is essential that the vehicle accommodate the defined service patrol functions and the required equipment.

Requiring in-house staff to operate the service patrol was not considered because contract services can provide resources to run a service patrol program that could not otherwise be operated by an agency. Contracted services, however, must be well defined in the contract and monitored to ensure compliance.

The organizational structure of the program is also not a feature that should be mandated. The survey found a variety of organizational structures and agencies that are successfully providing service patrol functions. In addition, a number of successful funding models are being used around the country. The funding stream must be adequate, reliable, dedicated,

and long term to allow sufficient planning for services and fleet expansion and replacement needs. Each jurisdiction should determine what organizational and funding structure works best for its area to support the services they want to provide as part of an FFSP.

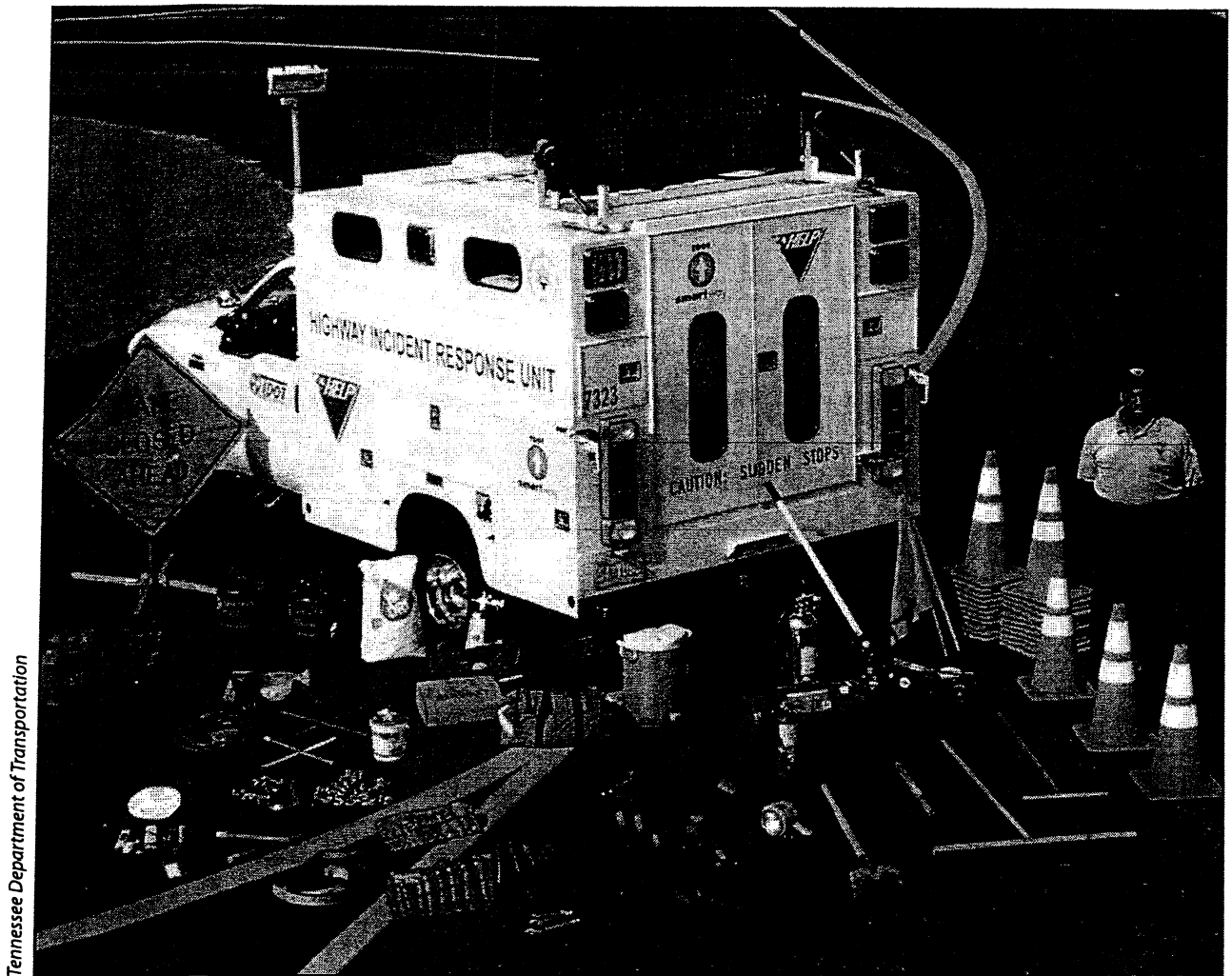
Another consideration was having the service patrol operate as a PPP. While a PPP may provide resources to support the capital and operational cost of a program, it is not a requirement for success. In fact, in some states, legislation to allow a PPP may be a difficult measure to pass. Therefore, it is a consideration, not a requirement.

Finally, a standard name for a service patrol is not required for success. The survey found a variety of names to describe a service patrol. While some benefit to motorist awareness is gained throughout locales offering service patrols, a common name is not a requirement for success. As long as the service is easily recognizable to the public and is marketed consistently to the public under a particular name, the name of the service can vary to meet local needs.

3.5 Assumptions and Constraints

It is assumed that operations carried out by FFSP programs can be performed without danger to the driver, equipment, and traveling public. An FFSP assumes that dedicated funding is available and used to support the program entirely. Also, it is assumed that governmental support is available to operate the program and that participating agencies are cooperative and supportive of the service patrol function. Finally, it is assumed that service patrols are a benefit to traffic congestion and do not add to the problem.

Constraints to service patrol programs are inadequate funding, training, and resources. Service patrols normally work in heavy traffic conditions and are impacted by human factors that affect the ability of the service patrol operators to safely and efficiently do their jobs.



Tennessee Department of Transportation

Tennessee Department of Transportation Highway Incident Response Unit with tools

CHAPTER 4. FULL-FUNCTION SERVICE PATROL CONCEPT

4.1 Background, Objectives, and Scope of an FFSP

Section 2.1 provided the background on existing service patrols while Section 3.1 discussed justification for changes to an FFSP. FHWA is anticipating that this Handbook for an FFSP will provide a model for uniform service across the U.S. and provide additional benefits in reducing congestion.

An FFSP program is an essential component of a regional TIM program and serves to reduce congestion and enhance highway safety. FFSP services should aim to reduce the impact of traffic incidents by minimizing the duration of incidents, restoring highways to their full capacity, and applying proper emergency TTC to enhance safety of other TIM responders and motorists involved in incidents. An FFSP supports traffic incident response and provides motorist assistance free of charge. Essential FFSP objectives are defined in priority order:

1. Traffic incident clearance
2. Traffic control and scene management
3. Incident detection and verification
4. Motorist assistance and debris removal
5. Traveler information.

A trained FFSP operator uses fully equipped vehicles capable of clearing an automobile or light truck to a safe location without having to wait for a wrecker. When vehicle crashes or stalls occur because of a weather event, the clearance functionality is especially beneficial because private towing company and automobile club response times can take several hours. The cleared vehicle presents a significantly reduced hazard at the safe location, allowing a towing wrecker to pick up the vehicle without further incident. By quickly removing the hazard from the highway, the FFSP minimizes potential disruptions to other motorists and reduces the risk of secondary incidents.

The FFSP operator is also sufficiently trained to provide emergency TTC at incident scenes. This function enhances the safety of responders at the incident scene and protects motorists passing through the scene. The traffic control function can also include setting up, maintaining, and removing emergency detour or alternate routes.

By patrolling the service area, the FFSP can help detect and verify traffic incidents quickly and initiate a clearance response to motorists requiring assistance.

The FFSP assists disabled motorists by providing gas or water, changing tires, performing minor vehicle repairs, or by towing and/or pushing vehicles off the roadway. The FFSP also assists motorists by providing directions, tagging abandoned vehicles, removing debris

from the roadway, providing rides to individuals stranded on the highway, and assisting in spill clean-up.

With direct two-way communications, FFSP operators can provide updates on traffic and roadway conditions to TMC operators as input into traveler information systems such as 511 and/or DMS.

4.2 Operational Policies and Constraints

Funding and other political, administrative, and institutional constraints are issues that agencies must overcome and address before implementing an FFSP program. Specific examples include:

- Program administration
- The role and legal limits that an agency, such as a department of transportation, has in responding to freeway incidents
- Various roles and responsibilities of stakeholder agencies
- Opposition from stakeholder agencies
 - Commercial concerns from private enterprise (towing companies, mobile tire repair centers)
- Performance objectives and policies
 - Quick incident clearance policies
 - Open roads policies
- Operational policies and associated program costs
 - Size of the program
 - Hours of operation
 - Service area/number of miles covered
 - Number of trucks and operators needed
 - Fuel costs
 - Types of trucks and equipment
 - Types of communications equipment
 - Operator qualifications, training, and certifications
 - Dispatcher qualifications, training, and certifications
- Political concerns
 - Legislative approval
 - Union concerns
 - An agency's traditional road-building needs versus operational performance.

4.2.1 Funding

Officials at existing programs routinely acknowledge identifying funding sources as the biggest challenge in implementing an FFSP. On freeways and other non-toll highways, service patrol programs typically have been funded through a State's transportation funding, from the general fund of tax- and transportation-related fee revenue (e.g., fuel tax, vehicle registration fees), and, when applicable, with some Federal funding split. On toll-ways and turnpikes, funds for service patrols are generated from the tolls collected on the facility it serves. In most cases, funding and spending for service patrol programs competes

with other transportation spending within the agency sponsoring the service patrol. Typical transportation budgets may include major capital improvements, rehabilitations, operations, maintenance, transit, and other initiatives. When tax or toll revenues stagnate or decline, agencies are forced to reduce spending and cut programs. As a result, service patrol programs are constrained not only by Federal and State budgets but also by tax and toll revenue collections. Traditional funding mechanisms for an FFSP can include:

- State legislative appropriations
- State operations and maintenance funds
- State traffic and safety funds
- State general revenue funds
- State highway trust funds
- Public safety funds
- Toll revenues
- MPO funds
- Federal surface transportation funds
- CMAQ funds
- National Highway System (NHS) funds.

4.2.2 Public Private Partnership

As public agency dollars are stretched and budgets are cut, PPPs can provide an alternative to funding mutually beneficial programs. Because FFSP programs are free of charge to motorists and they do not compete with established towing businesses, it is not feasible to establish a fee-based system for services FFSP provides. Rather, private companies that benefit from exposure to motorists, fewer crashes, and open highways will benefit from sponsoring an FFSP. Private sponsorship of a program can expand service hours, frequency of coverage, coverage area, and/or services provided. An example of this benefit is State Farm Insurance Company's 2-year sponsorship of the Road Ranger program on the Florida Turnpike. This PPP promotes highway safety through State Farm Insurance Company and provides free 24 hour roadside assistance along Florida's Turnpike. In 2004 State Farm pledged \$850,000 to the Road Rangers program to support motorist assistance. Other private funding source examples include pharmacies, motor clubs, and wireless telephone carriers. An agency should check State and local rules and laws to determine whether private advertising or PPP programs are allowed to partially or fully fund an FFSP and if not, explore options to allow such assistance.

An agency developing major transportation-based PPP programs such as high occupancy toll (HOT) lanes or new tollway facilities often develop specific contract terms for the financing, management, operations, level-of-service, and maintenance of the facility for a period of time. Contract terms within these major PPP programs should also include requirements for the developer or concessionaire to provide an FFSP program on the facility. The result is that the FFSP cost is enveloped in the overall program financing. This method will benefit the public by providing the service and benefit the private company by keeping facility traffic moving, potentially increasing toll collection revenues from motorists using the facility because of reliable trip times.

4.2.3 *Educating Decision-Makers and Stakeholders*

Benefit and cost evaluations of service patrols have consistently shown positive returns on the investment. However, some decision-makers often view these programs as a value-added service to the basic mission of a transportation or public works agency. As a result, funding for FFSPs can be constrained by the support of decision-makers within the agency and by the operational mission of the agency. Agencies attempting to implement an FFSP program should be prepared to explain to decision-makers the benefits of quick clearance and how FFSP programs can reduce congestion and improve safety.

4.2.4 *Institutional Coordination*

An important aspect in the success of an FFSP program is the involvement of and the relationship between the TIM and traffic operations stakeholders. Agencies should develop a multi-agency coalition and institutional framework to support, protect, and fund the program. The coalition should include stakeholders such as:

- State and local law enforcement
- Fire services
- EMS personnel
- Departments of Transportation
- MPO or Association of Governments
- Local highway/maintenance departments
- TMCs
- Media personnel
- Towing and recovery companies.

Because FFSP programs can provide positive impacts beyond their jurisdictional boundaries, stakeholder agencies outside the service area or operational responsibility should also be included. For example, safety and efficiency improvements from an FFSP on a freeway can positively impact an arterial network. Establishing the coalition and identifying the stakeholders should begin in the early stages of planning an FFSP program so that each of the stakeholder's unique needs can be addressed. The performance of the FFSP and partnership of the stakeholder agencies can bolster decision-making support for the program and in turn influence decision-makers and protect program funding. In many cases, these agencies can formalize their coalition by creating an MOU, interagency agreements, endorsement letters, partnering agreements, or joint operations policy statements.

Multi-agency partnerships can also provide an opportunity for agencies to pool funding across jurisdictions to provide an FFSP. While one agency may not be able to afford a stand-alone unit, cost sharing and oversight responsibilities may provide enough resources for an FFSP across the jurisdictions.

4.2.5 *Operational Policies and Program Cost*

The operational policies of a TIM program or an FFSP program can affect the overall budget. In basic terms, an overall program performance goal for traffic incident clearance can drive the frequency of coverage desired, the number of hours covered, the total service area, and

the extent of the services provided. These factors affect the overall cost of the program and needed funding.

The following constraints and operational policies affect FFSP programs:

- Program funding
 - Sponsoring agencies' budgets and programs (Federal, State, local)
 - Tax, toll, or fee collections
 - PPPs
- Support from agency decision-makers
- Performance goals for quick incident clearance and associated program costs
 - Service area and number of miles covered
 - Number of vehicles and operators
 - Number of backup vehicles maintained
 - Hours of operation
 - Frequency of coverage
 - Fuel costs
 - Types of service provided
 - Type of vehicle and equipment
 - Operator qualifications, training, and certifications.

4.2.6 Program Administration and Operational Roles

FFSP programs can be agency operated or privately contracted. When an agency operates the program, the agency employs the service patrol operations, and the vehicle and equipment is either leased or procured. Some advantages of an agency-operated FFSP include:

- Having direct control of operations and staff performance to support policies such as open roads and quick clearance
- Changing operational policies to be executed without contract modifications
- Developing and maintaining staff skills within agency (whereas in a contracted service, a change in contractor may cause the program to lose experience and training developed over time)
- Providing a mechanism to promote department of transportation customer service
- Avoiding a contract review and approval process through multiple departments and divisions of an agency.

A second alternative for implementing an FFSP is for an agency to hire a contractor to provide patrol services. Agencies typically use their established bidding or request for proposal (RFP) process to select a private contractor or towing company to provide the patrol vehicles, equipment, drivers, and service. The contract must clearly define the operational characteristics of the program. Typically, the contract is written for bid by vehicle/service hour. Some advantages of a contracted FFSP include:

- An agency is not required to procure vehicles, hire personnel, procure special insurance, or have any special resources to operate the service
- The contractor handles the vehicle fleet and equipment maintenance
- Potential cost savings for training can be realized if the contractor has previous service patrol related experience.

Contracts for FFSPs should include fuel cost clauses to protect both the vendor and agency from rising fuel costs.

4.2.7 Towing Company Constraints

An agency's operational policy for an FFSP, whether provided in-house or by private contractor, needs to prevent conflict with established private towing industry businesses. Operational policies need to emphasize that the objective of the FFSP is to clear vehicles from the highway to a safe location and not to a service station. Furthermore, FFSP programs strictly prohibit operators from recommending a secondary tow provider. The motorist should choose an operator or decide from an enforcement agency's established rotating lists. This approach will prevent potential civil lawsuits and liability issues. An agency can prevent misconceptions of the FFSP program by working to establish a relationship with the local towing industry.

4.3 Description of Full-Function Service Patrols

The following subsections describe the major elements, services, and capabilities of an FFSP.

4.3.1 Hours of Operation

Consistent with the National Unified Goal (NUG) for TIM, developed through the National Traffic Incident Management Coalition (NTIMC), the FFSP should be operated 24 hours, 7-days-a-week within the defined service area. The majority of existing service patrols operate peak periods of 5:00 a.m. and 10:00 p.m. on weekdays, or during special events. These programs typically have focused on the highest congestion periods and the times with the highest crash rates. However, this focus can leave large portions of the traveling public unserved during nonpeak hours and can sometimes be confusing for motorists expecting service during a disablement. The 24 hours, 7-days-a-week availability of FFSP resources will ensure that traffic incident responders can promptly and effectively manage emergency incidents occurring on roadways regardless of time of day or day of week.

If 24 hours, 7-days-a-week service cannot be achieved because of resource limitations or other constraints, an agency should assess the service hours carefully in relation to crashes, severe crashes, and recurring congestion periods and deploy the service across the most crucial hours. The agency should also identify what additional funding resources would be required to provide 24 hours, 7-days-a-week service and determine whether those additional resources are obtainable. Another option is for agencies to develop an on-call system to provide services during major incidents that occur outside normal operating hours.

4.3.2 Service Area

From a macro perspective and consistent with the Congestion Initiative, FFSPs should be provided in each of the top 40 urban areas of the U.S. From a State, regional, or local perspective, the FFSP service area should be clearly defined and communicated to stakeholders and the public. Determining the service area is based on traffic volumes, recurring congestion areas, number of traffic incidents, calls for service, and crash frequency. The

service area should focus on high traffic volume corridors that experience a high number of traffic incidents that increase the magnitude of congestion. Another factor in determining the service patrol service area is the absence of freeway shoulders where hazards are exacerbated when crashes or stalled vehicles occur. An example of this situation is a bridge or tunnel with limited shoulders.

4.3.3 Frequency of Coverage

The frequency of coverage is a function of the total miles patrolled in the service area and the number of FFSP vehicles traveling the area at a given time. Existing programs have a patrol frequency over each segment that ranges from every 10 minutes to 1 hour. The frequency of patrols provided should support adopted performance goals. A common TIM performance measure is incident clearance. For example, several states have 90-minute incident clearance goals. Alternatively, performance goals can be categorized by incident severity. In Utah, for example, minor fender-benders have a 30-minute clearance goal while injury crashes are 60 minutes. An FFSP program should continually patrol the service area at a frequency that supports the performance goal and can realistically detect and clear an incident within the clearance goal.

4.3.4 Guidelines for Developing Vehicle Requirements

Since one of the primary objectives of an FFSP is quickly clearing vehicles, the service patrol vehicle should be capable of, or designed for, towing vehicles. These vehicles should be flat bed models; be specially designed and equipped with a tow sling, tow bar, tow plate or wheel lift apparatus, attached to the rear of the vehicle; or have a crane or hoist that is attached to the bed or frame of the vehicle. The vehicle should meet State vehicle code requirements for light-duty tow trucks to perform accident recovery work and have all necessary permits to operate the service. The gross vehicle weight rating should be at least 10,000 pounds and have a manufacturer rating of one ton or more. The FFSP vehicle capabilities are identified so that an automobile or light truck that presents a hazard on the roadway may be moved carefully and quickly to a safe location. This service does not provide a tow to a garage or repair station. Quickly removing the vehicle from the incident area will restore the roadway to its full capacity and reduce the risk of secondary crashes. Motorists can choose a private towing company to move their vehicles from the safe location to a service station for repair.

Requirements for FFSP vehicles should be developed depending on the needs of the particular region. Guidelines and considerations for developing these requirements include:

- Storage facilities for FFSP vehicles and equipment
- Four-speed transmission or equivalent
- Power-assisted service brake system
- Parking brake system
- Dual rear wheels and tires
- Crane specification – boom capacity of at least 4 tons
- Car carrier specification (if used) – bed assembly of at least 3/16-inch steel plate and at least 15 feet in length and 7 feet in width

- Push bumper
- Identification markings
- Amber warning lights and lamps; no red lights should be visible
- Work lamps
- Portable tail, stop and signal lamps
- Reflectors
- Splash guards
- Attachment chains.

4.3.5 Guidelines for Developing Equipment Requirements

To assist motorists with minor vehicle disablements and to provide emergency TTC at incident scenes, FFSP vehicles should be equipped with an assortment of tools and supplies to support key functions.

The following is a recommended list of equipment and supplies to carry on the FFSP vehicle:

- Communications
 - Two-way radio
 - CB radio
 - Law enforcement radio
 - Public address system
 - Cellular telephone
- Mechanical
 - Air compressor
 - Car jack
 - Power-operated winch
- Tools
 - Booster cables
 - Tire gauges
 - Wrench sets
 - Socket sets
 - Hammers
 - Screwdrivers
 - Pliers
- Wire cutters
- Pry bars
- Brooms
- Shovels
- Flashlights
- Electrical multimeters/
wiring testers
- Fluids
 - Gasoline
 - Oil
 - Transmission fluid
 - Starter fluid
 - Water
 - Anti-freeze
- Supplies
 - Electrical tape
 - Duct tape
 - Wire
- Absorbent material
- Hand cleaner
- Paper towels
- Safety
 - First-aid kit
 - Fire extinguisher
 - Gloves
 - Safety goggles
 - HAZMAT guide book
- Traffic Control
 - Vehicle-mounted
variable message or
arrow sign
 - Cones
 - Flares
 - Traffic control signs

Another piece of important equipment for an FFSP is identifiable uniforms for operators. A uniform will establish confidence from other TIM responders, law enforcement, and the public that the operator is an authorized official or representative of the agency. Operators should also be equipped with an official, openly displayed credential to show to motorists who are hesitant or fearful to accept the services of an FFSP.

4.3.6 FFSP Operator Visibility Requirements and Apparel

The FHWA has established a rule in Title 23 of the Code of Federal Regulations (CFR) titled, "Part 634 Worker Visibility." The rule requires that all workers within the right-of-way of a Federal-aid highway wear high-visibility safety apparel when they are exposed either to traffic (vehicles using the highway for purposes of travel) or to construction equipment within the work area. The rule defines workers as people on foot whose duties place them within the right-of-way of a Federal-aid highway. This worker definition encompasses all first responders, including FFSP operators. Part 634 also defines high-visibility safety apparel as personal protective safety clothing that is intended to provide conspicuity during daytime and nighttime usage, and that meets the Performance Class 2 or 3 requirements of ANSI/ISEA 107-2004. ANSI/ISEA 107-2004 is the American National Standard for Highway Visibility Safety Apparel and Headwear. This standard provides uniform guidelines for the design and use of high-visibility safety apparel such as safety vests, rainwear, outerwear, trousers, and headwear to improve worker visibility during the day, in low-light conditions, and at night. ANSI/ISEA 207-2006 is the American National Standard for High-Visibility Public Safety vests. This standard establishes design and use criteria for vests to make public safety workers highly visible to motorists.

4.3.7 Procedural Development Guidelines

Each agency has unique procedures and techniques that will require clarification in operating an FFSP. An agency should develop procedural and operational guidelines to clarify and document those preferences and establish a baseline performance expectation so that all operators provide a uniform and consistent service. The guideline will also provide stakeholder agencies with a clear illustration of the FFSP-provided services and how interactions between the agencies and the FFSP will occur. For a privately contracted service, the operational guidelines should be used as part of the contract documents. Guidelines should cover the following FFSP topics:

- Mission, objectives, roles, priorities, and functions of the program
- Contract provisions
 - Termination criteria
- Operational procedures
 - Duties, job description, conduct
 - Response priorities
 - Routes, vehicle positioning, staging, leaving a scene
 - Dispatching
 - Communications
 - Safety
 - Emergency TTC
 - Dealing with motorists
 - Dealing with motor clubs and towing companies
 - Relationships with the TMC and stakeholders
- Safety and response procedures

- Disabled vehicles
 - Abandoned vehicles
 - Relocating vehicles
 - Traffic crashes
 - HAZMAT
 - Vehicle fires
 - Debris removal
 - Weather
 - Construction
- Applicable laws, administrative policies, agreements
 - Open roads policy
 - Move it law
 - Liability
 - ICS
 - Emergency operations plans
 - Evacuation
 - Interagency cooperation, commitments, and relationships
- FFSP policies
 - Facility
 - Shift change
 - Phones
 - Parking
 - Ride-along
 - Record keeping.

4.3.8 Initial Operator Qualifications

One of the biggest challenges that FFSP programs face is driver rotation and turnover. Large driver turnover rates will increase costs to the program as it increases the amount of time devoted to driver training and reduces the time drivers are operating a vehicle on the program's service routes. FFSP programs can reduce driver turnover and overall program cost by paying competitive wages and hiring qualified and skilled drivers. In many cases, skills will need to be developed through training programs; however, drivers may already have some important skills if they have previous background in towing, automobile repair, emergency medical services, or highway maintenance. Hiring individuals with existing skills in automobile repair or EMS may be cost probative since these candidates may command salaries outside the FFSP program's budget.

Initially, drivers should have the following minimum qualifications:

- 18 years of age
- High school diploma or General Equivalency Diploma (GED)
- Clean criminal background
- Applicable Commercial Driver License (CDL)
- Clean driving record

- Ability to work independently
- Ability to lift 50 pounds.

4.3.9 Operator Certifications and Training

After the initial hiring, an FFSP program should require and provide training for patrol operators before they begin service. Training should involve a combination of classroom style and on-the-job training to demonstrate and describe the typical functions, responses, and services that the operator will be providing. As a guideline, the program should provide annual refresher training to emphasize new policies, procedures, or performance concerns. Common training elements include:

- TIM program overview, goals, and objectives
- FFSP operating guidelines
- Vehicle and equipment use and maintenance
- Safety policies
- Radio and communication procedures
- Defensive driving
- Ride-along with multiple shifts
 - 50 to 200 hours
- First aid
- CPR
- Public relations/customer service
- Maintenance of traffic/emergency TTC
- Vehicle recovery procedures
- Work site protection
- Extinguishing vehicles fires
- Minor vehicle repair
- ICS consistent with NIMS
- Disaster preparedness/evacuations
- HAZMAT response including the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) administered by the Occupational Safety and Health Administration (OSHA).

Depending on the operational policies and the overall goals of the FFSP program, the following formal certifications may further develop highly skilled and trained operators. These certifications typically require ongoing refresher courses and tests, and can be used to train drivers externally rather than relying on internally developed training materials:

- International Municipal Signal Association (IMSA), Work Zone Traffic Control Safety
- American Traffic Safety Services Association (ATSSA), Traffic Control Technician
- Red Cross, First Aid
- Red Cross, CPR
- Department of Homeland Security, Highway Watch
- Wreckmaster, Towing and Recovery Operations Specialist

- National Automotive Technicians Education Foundation, National Certified Automotive Technician
- State certified, Emergency Medical Technician
- State certified, Fire Fighter
- State certified, Animal Control Officer
- Federal Emergency Management Association, National Incident Management System ICS-100
- Federal Emergency Management Association, National Incident Management System ICS-200

4.3.10 Costs

As previously mentioned, the size of the program and operational policies will drive the overall cost and annual budget. Existing service patrol programs using private contractors range in cost per service hour from \$35 to \$98, depending on the area and service vehicle used. Individual factors that influence the overall program cost include:

- Operator wages
 - Qualifications
- Operator benefits
- Operator training and certifications
- Vehicle procurement
- Vehicle maintenance
- Fuel
- Equipment procurement
- Equipment maintenance and replenishment
- Administrative cost.

4.3.11 Communications and Dispatching

FFSP communications and dispatching should be closely integrated with TMC operations. This is best accomplished with two-way radios, but cellular telephones can also be used as a communication tool. Although an FFSP is routinely patrolling the highway system, it is not reasonable to expect that the patrol vehicle will detect all incidents. Some incidents will be detected by law enforcement, TMC operators, or by other motorists reporting an incident to a 911 operator. As a result, the FFSP operator will typically rely on a dispatcher to report incident locations and details to aid in quicker response. In turn, the FFSP dispatcher will need close and convenient communications with the TMC operators and with public safety and 911 operators. Depending on the anticipated workloads of the TMC and public safety operators, these individuals could also serve as the FFSP dispatcher.

Consistent with NIMS/ICS protocol, using common plain language is preferred when communicating between the operator and dispatcher and between operators. Communications should be limited to incident-related details and focus on the who, what, and where of the incident. When the FFSP operator has direct linkage to the TMC, incident situations and impacts such as lane closures can be disseminated quickly onto DMS to

provide real-time traveler information and safety messages to motorists approaching the incident.

The close coordination required between the FFSP operator and law-enforcement agency personnel requires two-way communications with law enforcement. This requirement can be fulfilled by having the FFSP operator carry a law enforcement radio. The radio may be preprogrammed with only car-to-car channels to allow the FFSP to listen to information relayed about highway incidents but eliminate law enforcement concerns about private communication. More importantly, it will allow the FFSP operator to have on-scene communications with law enforcement personnel to coordinate emergency TTC with on-scene law enforcement officers to coordinate traffic flows and emergency TTC. The law enforcement officer may require a shift in the emergency TTC or may want to indicate that the scene is clear and the roadway should be opened to traffic. When the incident scene is large, personnel may be spread out over an extended area, and the emergency TTC may be set for an extended period of time. Consequently, communications may not be as efficient for both parties without two-way radios.

To further aid in communication, the FFSP cellular telephone should be preprogrammed with important telephone numbers of potential responding agencies, emergency management personnel, local transportation personnel, on-call supervisors, and managers.

4.3.12 Automatic Vehicle Location

As an option, the FFSP vehicles may be equipped with an AVL system to help inform dispatchers of the FFSP vehicle location, status, and speed. This information can help dispatchers identify the closest and most appropriate FFSP vehicle to respond to an incident location.

4.3.13 Record Keeping

FFSP activity should be well-documented to help identify total assist records, driver performance, quality control, and incident reviews. The information used to establish performance measures will help support funding and provide key information to decision-makers.

Each FFSP operator should have log sheets and document information related to each assist and incident. The following information should be recorded on an activity/log sheet:

- Dispatch time
- Arrival time
- Departure time
- Incident type or nature
- Location (mile marker, cross street, or landmark)
- Vehicle identification number
- License plate number and state
- Vehicle make
- Vehicle model
- Vehicle year
- Vehicle color

- Services rendered.

Another alternative is for operators to use laptop computers similar to a law enforcement mobile data terminal to record logs and transmit the activity to a central database. These systems can be set up to transmit the data in real-time and catalog entries without manual data entry.

FFSP managers should place activity logs into a database to document and record overall program statistics. This information can be used to create annual reports, determine trends in activity, determine activity in specific service areas, and provide valuable information about the performance of the overall program.

Another FFSP program record-keeping activity involves reviewing and logging comment cards received from assisted motorists. This information can be used to support funding, gauge public support for the service, and assess driver performance. The comment cards require no return postage and request basic information: the name and contact information of the assisted motorist; the services provided to the motorist; the day, time, and location of the assist; the general performance of the FFSP operator; and room for general comments.

4.3.14 Emergency Temporary Traffic Control

The vast majority of traffic control operations that FFSPs provide are in emergency or short-term situations in response to traffic incidents. MUTCD Chapters 6G and 6I address controlling traffic for TTC zone activities and incident management areas. Because major incident durations may exceed more than 1 hour and FFSP operations may extend into nighttime hours, the MUTCD requires using retroreflective and illuminated devices.

The MUTCD Chapter 6I states that, "*The primary functions of TTC at a traffic incident management area are to move road users reasonably safely and expeditiously past or around the traffic incident, to reduce the likelihood of secondary traffic crashes, and to preclude unnecessary use of the surrounding local road system.*" FFSP operators should be trained in safe practices for accomplishing TTC. At incident scenes, FFSP operators should also:

- Be aware of their own visibility to oncoming traffic
- Move traffic incidents as far off the traveled roadway as possible
- Provide appropriate warning to oncoming traffic
- Estimate the magnitude and duration of the traffic incident
- Estimate the expected vehicle queue length
- Set up appropriate TTC.

As guidance, the MUTCD states that warning and guide signs used for TTC incident management situations may have a black legend and border with a fluorescent pink background. As a basic guideline, the FFSP should carry a truck-mounted arrow board, retroreflective cones, flares, and retroreflective signs to set up short-term emergency shoulder or lane closures.

In emergency situations, the FFSP should use "on-hand" TTC devices for the initial response, and the TTC devices should not create an additional hazard. Typical applications of TTC are found in the MUTCD's Chapter 6H and represent a variety of conditions used for temporary

work zones and maintenance operations. It is not reasonable to expect the FFSP to be able to store and carry the types and numbers of TTC devices (such as barriers, barrels, flashers, signs, and arrow panels). These devices may be required for a longer-term situation on a high-volume, high-speed facility to set up appropriate advance warnings, tapers, or closures within the traveled way to provide an appropriate TIM responder work space. Many of the TTC applications for shoulder, lane, etc., closures in Chapter 6H can be emulated for long-term major incidents, but are not reasonable for shorter-term emergency situations because the set up time of the TTC will take longer than the clearance time of the incident. Because of the number and types of devices required for intermediate- or long-term closures, an FFSP should consider contacting department of transportation maintenance or other traffic control support personnel to set up TTC that is more appropriate for major incidents that generate longer vehicle queues. FFSP should seek additional TTC assistance for traffic incidents that have durations estimated as greater than 2 hours.

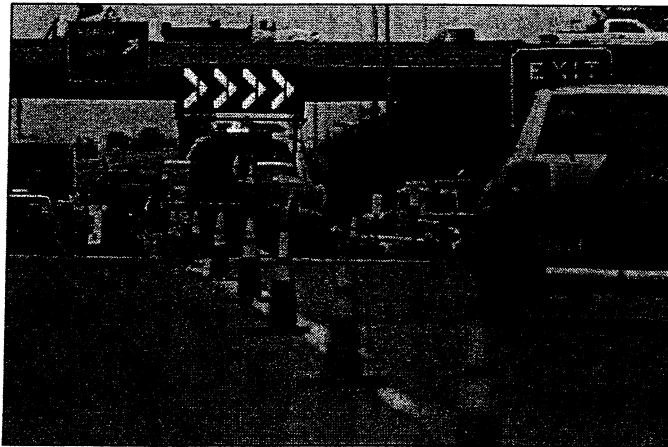
4.3.15 Suggested Emergency Traffic Control Procedures

4.3.15.1 Vehicle Placement

When the FFSP first arrives at a scene, the vehicle should be positioned to protect the incident scene and prevent additional crashes. Using warning lights and, if available, a dynamic message or arrow sign, will help establish better visibility of the FFSP vehicle. After assessing the scene, establishing the appropriate response, and arranging for appropriate emergency services if needed, the FFSP should implement the on-hand traffic control devices. In cases where no injuries have occurred and the vehicle can be moved, at the direction of law enforcement, the FFSP should mark the vehicle(s) final resting positions for future traffic crash investigation and relocate the vehicle to the shoulder or another safe area.

When the FFSP is a secondary responder, similar procedures are followed, but the FFSP operator should report to the Incident Commander (IC) and assess the situation to determine the appropriate TTC procedures.

In most situations such as a shoulder assist or when a lane is blocked, the FFSP should position the vehicle about two or three car lengths behind the site and at a location that provides adequate visibility and warning to approaching vehicles. The FFSP should take extra care not to block emergency vehicles from maneuvering in, around, or away from the incident scene. As part of an FFSP program, basic diagrams should be developed to illustrate the



Minnesota Department of Transportation

Minnesota Department of Transportation arrow truck diverting traffic around incident

preferred placement of the vehicle to be consistent with procedures and preferences of TIM responder and law enforcement agencies.

4.3.15.2 Emergency Lights, Arrow Boards, Cones, and Signs

MUTCD Section 61.05 supports using emergency vehicle lighting as an essential action for the safety of TIM responders and persons involved in the traffic incident. However, emergency lighting should only be considered as a warning because it does not provide positive and effective traffic control. Furthermore, emergency lights at night can often confuse and distract motorists. If effective positive traffic control is established with appropriate traffic control devices, the use of emergency lights can be reduced. When appropriate, forward-facing emergency lights should be turned off once on scene. Despite the guidance provided by the MUTCD, a vehicle with emergency lights is commonly considered a traffic control device; however, a more effective and positive traffic control procedure is to use a truck-mounted dynamic message or arrow sign. A dynamic message or arrow sign aids in communicating the direction road users need to take to maneuver around the incident scene more safely and expeditiously. Using on-hand cones and signs can provide additional advance warning, tapers, and positive traffic control in advance of the FFSP vehicle and around the incident scene. Typically, an arrow will indicate a positive direction away from a blocked lane while a straight line or caution mode would indicate a shoulder closure.

When a lane is closed, vehicles in the blocked lane will need to merge with adjacent lanes, causing disruption. Cones placed several hundred feet upstream of the FFSP vehicle and incident scene can help move this traffic disruption away from the immediate scene and away from TIM responders, the FFSP, and persons involved in the incident. Traffic cones placed in a taper alignment also help to provide positive TTC to motorists to maneuver around the scene safely and expeditiously. In combination with traffic cones, placing warning signs will also help emphasize the closure, provide positive guidance to motorists, and secure the incident scene. Correctly placing cones and TTC devices is critical in providing motorists sufficient visibility and warning to react without creating a danger to other traffic, to TIM responders at the scene, and to the scene itself.

After the appropriate TTC devices have been placed, the FFSP should determine the value of providing additional positive manual traffic control at the scene by flagging traffic around the scene. The FFSP should be trained and qualified to provide flagging operations.

In addition to the incident scene itself, the FFSP operators should pay attention to the back of the queue. If possible, more TTC or FFSP vehicles can be positioned in advance of the back of the queue to provide advanced warning to approaching vehicles. This action helps prevent secondary crashes.

4.3.15.3 Typical Emergency Traffic Control Plans

An FFSP operator should be trained and capable of quickly and safely setting up the emergency TTC for traffic incident scenes likely to be encountered. An FFSP should develop typical diagrams to illustrate the preferred placement of vehicles, cones, signs, arrow boards, and flagging operations in relation to the incident scene. The following list of typical incident situations should be used as a guide to develop local procedures for TTC:

- Disabled vehicle on shoulder/shoulder assist
- Single lane closure (right or left lane)
- Center lane blocked
- Two lanes blocked
- All lanes blocked
- All lanes blocked with detour.

To quickly set up these typical closures, the FFSP should be equipped with the following:

- Truck-mounted dynamic message or arrow sign
- Minimum of 16 retroreflective traffic cones
- Flares
- Flags for flagging operations
- Retroreflective traffic vests.
- If space is available on the FFSP vehicle, it would assist in providing positive traffic control by having several traffic incident management area signs as illustrated in the MUTCD, Figure 6I-1.

4.3.16 National Incident Management System / Incident Command System

The FFSP should follow the NIMS and use the ICS for activities associated with traffic incidents. The National Fire Service IMS Consortium published the *Model Procedures Guide for Highway Incidents*, which offers an initial design document in which an FFSP agency can work with other regional organizations to develop and build on joint operating procedures. The procedures should apply to routine incidents and large, complicated, and unexpected major disasters. The FHWA has also published the *Simplified Guide to the Incident Command System for Transportation Professionals*. This guide introduces ICS to those who must provide specific expertise, aid or material during highway incidents but who may be unfamiliar with ICS organization and operations. FFSP operators, supervisors, managers, and administrators should be trained in using NIMS, the organizational structure, and the unified approach concept at the core of the command and management system. The Federal Emergency Management Agency's (FEMA) NIMS provides a template for governments to work together to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents.

Under ICS, the IC is responsible for managing all incident operations. The first arriving unit assumes command and identifies an IC until a higher ranking officer arrives on scene and assumes command. As such, if an FFSP is the first arriving unit, it should assume command. Upon arrival, the law enforcement or other TIM responder will typically assume command. The transfer of command is announced and the former IC is reassigned to other responsibilities. Typical responsibilities assigned to the FFSP will be traffic control duties in support of the incident operations. When the FFSP responds to an incident as a secondary responder (e.g., not the first arriving unit), the FFSP should follow standard procedures in arriving at the scene and then report to the IC.

The organizational structure of ICS is modular in nature and can expand as the complexity of the incident escalates. In more complex cases, sections and branches may be implemented within the command organization structure, and the FFSP may find itself reporting

to a Section Chief or Branch Director rather than directly to the IC. An FFSP operator should be prepared to be a group leader assigned to a specific functional assignment. In most cases, the assignment will be traffic control in and around the incident scene or on emergency alternate routes for diverted traffic. In complex or longer duration incidents, the FFSP operator should be prepared to elevate the situation to a supervisor or manager and be prepared to request, organize, and assemble additional traffic control resources.

4.3.17 Program Performance Monitoring

Measuring program performance is a critical step in monitoring its progress and overall success. It is also critical to measure the program so agencies can communicate the benefits and successes of the program to decision-makers, policy-makers, sponsoring agencies, and the public.

FFSP programs should gather and record data about the number and type of services that each service patrol operator delivers. In this manner, statistical analysis can be used to develop trends and comparisons about service areas, service hours, types of services rendered, times of the year, etc. When tracked properly and linked with a dispatch center such as a TMC, statistics should also be kept about response times, incident durations, incident clearance times, lane blockages, and incident severity. This data will help identify the program performance relative to its impact on quick clearance and congestion. Lastly, the condition of the FFSP vehicles should also be monitored by monthly inspections and data collected about vehicle miles, maintenance needs, fuel efficiency, and equipment used.

The agency can use the compiled program data to evaluate its performance and identify performance gaps. This data can also be used to quantify the benefit relative to its cost in bolstering support for its continued or expanded funding.

A basic, but important, way to monitor and track program performance is by using comment cards/survey forms. At the end of each service call, an FFSP should provide the assisted motorist with a self-addressed, stamped feedback/ survey card. The FFSP should maintain a record of the returned cards to gauge and track customer satisfaction with the program. Motorists' comments and suggestions can be used as supporting documentation concerning the benefits of the FFSP program and can also be used to evaluate individual drivers. Negative comments about FFSP drivers should be investigated and, if found to be valid, result in performance reviews, warnings, suspensions, and dismissals if continued negative reviews are received. The survey responses should also be used to award drivers for superior performance. In addition to citizen feedback, driver performance should also be tracked based on monthly inspections, crash history, and number of service calls performed.

4.4 Modes of Operation

4.4.1 Disaster Preparedness

Section 4.1 discussed the standard day-to-day operational FFSP objectives. While current programs have different procedures and policies in place for responding to natural disas-

ters, an FFSP should be a key component of a region's overall emergency response plan relative to traffic control assistance within the framework of the NIMS/ICS. For example, a disaster happens and an evacuation route is implemented so keeping the route cleared of incidents becomes even more critical than during the FFSP's standard operating hours.

In the case of a disaster, natural or otherwise, the FFSP should maintain its overall operational objectives and perform its normal services to keep highway traffic moving. As part of a region's overall plan, the FFSP should be prepared to:

- Perform its normal services along an evacuation route
 - May require expanding the FFSP program service area
- Assist motorists with fuel, water, and minor repairs along an evacuation route
- Add vehicles to facilitate traffic control
- Assist highway patrols and public safety
- Implement alternate route or emergency detour plans
- Assist with contra flow traffic operations
- Block roadway entrance and exit ramps
- Assist with equipment support and equipment routing
- Manually operate traffic signals.

4.4.2 Planned Special Events

Similarly, FFSP programs can facilitate traffic control and clear incidents for planned special events. This approach may require the program to expand its service area and service hours to provide assistance during the event.

4.5 User Involvement, Interaction, Roles, and Responsibilities

FFSPs have contact and interact with many users on the highway system. During normal operations or major unexpected incidents, an FFSP will interact with TIM responders from law enforcement, fire and rescue, EMS, departments of transportation, towing and recovery companies, the media, public information officials, travelers, and road users. Section 2.3 detailed these interactions. In an ideal situation, an FFSP is a major component of an ongoing, sustained TIM program. In this context, FFSPs should be regular participants in incident debriefs and after-action reviews. Also, a TIM program can serve as the foundation for building relationships between stakeholder agencies involved in highway incident response and interactions with an FFSP. Other key FFSP interactions are its communication with a regional TMC and its integration within defined procedural guidelines of a regional TIM program. The following list explains the general roles and responsibilities of FFSP users. Note that some roles and responsibilities can be combined into one overall position.

- FFSP Operator (Driver) - Serves as the frontline contact to deliver the services, activities, and functions of an FFSP. Operates the vehicle, patrols the highways, coordinates with other on-scene TIM responders, and provides service and assistance to motorists.
- FFSP Dispatcher - Communicates incident information to the FFSP operators. Some of this information is likely to be relayed from other sources such as law enforcement personnel, other motorists, or the TMC operator.

- TMC Operator - Monitors and operates the traffic management system. Incident information requiring an FFSP response is relayed to the FFSP dispatcher. Similarly, the FFSP relays information to the TMC Operator who collects traveler information and coordinates traffic management actions.
- FFSP Supervisor - Administers and develops operator schedules to deliver the services across the prescribed service area and service hours. Supervises and monitors daily operations. Provides quality control checks, provides operator performance reviews, and is prepared to call-in additional operators for major incidents. Maintains employee files, training records, and activity logs.
- FFSP Fleet Maintenance Manager - Administers and maintains the service patrol fleet of vehicles. Can provide vehicle and equipment inspections.
- FFSP Trainer - Coordinates the implementation of operator orientation and training. Ensures that each operator complies with the training and certification requirements.
- FFSP Hiring Manager - Interviews candidates and ensures potential candidates meet minimum qualifications. Ensures that agency hiring procedures are followed. Ensures that necessary background checks are performed concerning driver and criminal records.
- FFSP Manager - Supervises overall day-to-day operations and oversight of an FFSP. Manages the FFSP vision, direction, goals, functional description, policy, procedural guidelines, and performance. Key participant in the overall integration of an FFSP into a comprehensive TIM program. Establishes and maintains partnership agreements with stakeholder agencies about operational guidelines. If the FFSP is contracted to a private operator, this position is likely to remain staffed by the funding agency to oversee contractual obligations and overall program performance.
- Law Enforcement and Emergency Services - Works closely with law enforcement and emergency services to assist them in making the incident scene safe and provides positive TTC to move motorists expeditiously around the incident. Responds and assumes command of the scene when property damage and injuries have occurred. FFSPs should be prepared to implement emergency TTC activities as part of the overall scene management, but also provide the IC updates about the status of activities and suggestions for keeping traffic moving.
- Towing and Recovery - Required in cases where the FFSP is not able to remove vehicles from the traveled way to a safe area. Most regions have a rotating list of pre-qualified towing companies for specific service areas. Transportation or law enforcement agencies maintain these lists, and the FFSP should contact these agencies to dispatch the towing agency when appropriate.
- All FFSP operators and personnel shall display professional and courteous conduct at all times. The FFSP should not accept gratuities or fees for services rendered to motorists. FFSPs should have procedures to handle FFSP cell phone use by motorists and guidance for transporting motorists.

4.6 Support Environment

A department of transportation, a law enforcement agency, or a privately contracted service with a private corporation can operate an FFSP. Regardless of the administrative mechanism for operating the FFSP, a support environment will need to be created and maintained to ensure continued overall success.

- **Funding** - Identifying the funding sources and programming money to meet anticipated capital and operations costs is fundamental to starting, sustaining, or enhancing a program. Section 4.2 provides guidelines for funding sources and overcoming this constraint.
- **Oversight** - FFSP oversight responsibility can vary depending on the agency leading the program and the unique organizational structure of that agency. Nonetheless, FFSP Manager oversight will be required for an in-house or contracted service. As part of the oversight support environment, a clear set of goals, performance measures, procedural guidelines, training requirements, and operator qualifications should be established to ensure sustainability and consistency of the FFSP. Section 4.3.7 contains suggested procedural guidelines and performance measures.
- **Facilities, Equipment, and Maintenance** - An agency operating an FFSP should anticipate ongoing operational costs related to the maintenance and replacement of vehicles and equipment. Section 4.3.4 addresses the vehicle and equipment guidelines.
- **Communications** - Another fundamental support system for an FFSP is the communications link between the FFSP operator/driver and dispatcher, TMC operator, law enforcement personnel, or other TIM responder agency. Section 4.3.11 details the two-way radios, cellular telephones, and computer-aided-dispatch system for FFSP communications.
- **Partnerships** - An FFSP will have many interactions with other stakeholder agencies when responding to highway incidents. These agencies are instrumental in keeping highway traffic moving and incident-free to fight congestion. An FFSP will be more successful when it has the collaborative support of law enforcement and TIM responder agencies. This support environment can be formalized with a partnering agreement, MOU, or even a mutual aid agreement. Section 2.4.7 discusses these interactions.
- **Contracting Mechanism** - When a private company provides services on behalf of an agency sponsoring the program, the sponsoring agency will need to solicit and procure services through a binding contract. When developing a specific contract, the focus should be on the type of services required, goals of the program, procedural guidelines, service area, service hours, operator and company qualifications, experience, training, interaction with stakeholder agencies, and equipment maintenance and replacement.
- **Outreach** - A basic form of outreach is to provide assisted motorists with a comment card or brochure. This method provides direct contacts with more information on the service and obtains feedback from those the FFSP directly affects. With much variation between programs in the U.S. and to a lesser extent within a region, motorists may be

easily confused by the types of services to expect, when services are provided, and on the congestion relief benefit gained from the program. An FFSP should develop and implement an outreach and public information campaign to make the public aware of the program. The more aware the public is about the program service and its benefits, the more likely the public is to voice support and influence decision-makers to identify funding sources for an FFSP.

4.7 Incremental Priorities

As discussed in Section 4.2, overcoming the constraints would largely be attributed to having more funding available to the FFSP program. Assuming the existing program already provides the basic services, additional funding will be used on the following priorities to evolve incrementally into an FFSP over time:

- Expand service area, increase mileage, add routes
 - Incorporate all freeway or turnpike miles
 - Increase support to major arterials
- Expand service hours in existing operational service areas
 - Increase the total service hours of operation
 - Add shoulders of peak periods
 - Implement a night or weekend shift
 - Operate 24 hours, 7-days-a-week
- Additional operator capabilities and pay levels
 - Improve operator qualifications, training, certifications, and pay levels (see Sections 4.3.7 and 4.3.8)
 - Provide advancement opportunities for personnel
 - Improved skill and education levels
 - Increase number of positions for additional operators and mechanics
- Update fleet and equipment
 - Improve fleet equipment
 - Improve radio communication
- Increase patrol frequency
 - Increase service for an existing patrol area to reduce time for incident detection and clearance
- Other priorities
 - Establish outreach and marketing programs
 - Establish regional TIM teams to support local programs.

CHAPTER 5. SERVICE PATROL TELEPHONE SURVEY RESULTS

5.1 Introduction

As part of the project to produce a Full-Function Service Patrol Handbook, a telephone survey was conducted to gather information from a variety of agencies around the United States that operate service patrols. As part of the survey, additional documentation on procedures was requested and supplied by many of the agencies who participated. Twenty-seven agencies were contacted and requested to participate in the telephone survey. Eighteen agencies completed surveys including the Pennsylvania Department of Transportation that completed four separate surveys for each of its districts with service patrols in place, so there are 24 completed surveys.

Program Name and Primary City	Organization Sponsor
Cares Vans/Samaritan (Boston, Worcester, Springfield)	Massachusetts Highway Department
Courtesy Patrol (Dallas)	Texas Department of Transportation (TxDOT)
CVS Samaritan Van Program (Boston)	Mass Highway/Samaritania, Inc.
Emergency Traffic Patrol (Baltimore, MD; Washington, DC; Frederick, MD)	Office of CHART (Coordinated Highways Action Response Team), Maryland Department of Transportation
Expressway Service Patrol (Allentown, Philadelphia, Harrisburg, Pittsburgh)	Pennsylvania Department of Transportation (PennDOT)
Freeway Incident Response Safety Team (FIRST) (Minneapolis – St. Paul)	Minnesota Department of Transportation (MnDOT)
Freeway Service and Safety Patrol	Wisconsin Department of Transportation (WisDOT)
Freeway Service Patrol (Phoenix)	Maricopa Association of Governments, Arizona Department of Transportation (ADOT), Arizona Department of Public Safety (DPS), FHWA
HELP (Nashville, Knoxville, Chattanooga, Memphis)	Tennessee Department of Transportation (TDOT)
HERO – Incident Response Units (Atlanta)	Georgia Department of Transportation (GDOT)
Highway Emergency Local Patrol (HELP)	New York State Department of Transportation (NYSDOT)
Incident Management Assistance Patrol (IMAP) (Raleigh, Durham, Greensboro, Winston Salem, Charlotte, Asheville, I-40 in Pigeon River Gorge)	North Carolina Department of Transportation (NCDOT)

Program Name and Primary City	Organization Sponsor
Incident Response Units (Seattle, Tacoma)	Washington State Department of Transportation (WSDOT)
Minutemen (Emergency Traffic Patrol)	Illinois Department of Transportation (IDOT)
Motorist Assistance Patrol (Baton Rouge, New Orleans, Shreveport, Lake Charles)	Louisiana Department of Transportation and Development (DOTD)
Motorist Assistance Program (Kansas City, Topeka, Wichita)	Kansas Department of Transportation (KDOT)
Motorist Assistance Program (Houston)	Houston Metro Police Department
Region 1 Incident Response (formerly COMET- Corridor Management Teams)	Oregon Department of Transportation (ODOT)
Road Ranger Service Patrol (all major urban areas)	Florida Department of Transportation (FDOT)
San Diego Regional Freeway Service	California Highway Patrol
State Farm Safety Patrol (PA Turnpike - 530 miles)	Pennsylvania Turnpike Commission

The following pages present the survey questions and a high-level summary of the responses received. Note that all responses shown below are individual, but if the same response appeared more than once, the number of such responses is shown in parentheses after the response. Some similar responses have been grouped together.

5.2 Program Initiation and Funding

1. How was the program initiated?

- Program initiated by:
 - DOT headquarters and/or district incident management (7)
 - DOT construction project (2)
 - DOT special event (Olympics)
 - DOT coordinating with towing contractors and police departments
 - DOT Intelligent Transportation System (ITS) Plan
 - Highway Patrol and DOT joint project
 - Highway Patrol, DOT, transportation authority
 - Local police department
 - Metropolitan planning organization (MPO) (2)
 - Pilot program expanded after an evaluation
 - Private sector converted to public sector
 - Private sector
 - Sheriff and tollway authority joint venture
 - Turnpike Commission

What institutional issues had to be addressed prior to the program starting?

- Available permanent DOT positions (temporary positions initially funded through federal construction funds)
 - Definition of what good incident management looks like
 - Funding
 - Hours of operation
 - Legal limits of responding to incidents as a DOT
 - Legislative approval for new positions for operators or shifting them within the agency
 - Quick clearance of incidents
 - Number of miles covered
 - Number of trucks needed
 - Obtaining concurrence from DOT union representatives
 - Overcoming traditional role of road-building agency to be multi-dimensional
 - Political concerns
 - Program administration
 - Role of DOT in response to freeway incidents
 - Size of the program
 - State patrol opposition (2)
 - Traffic Management Center (TMC) operators for dispatch
 - Towing company opposition (3)
 - Understanding various agency roles and responsibilities
 - Working with other first responders.
2. **Who funds/sponsors the service patrol (public agency, private agency, multiple agencies, etc.)?**
- Sponsoring agency:
 - DOT (12)
 - Sheriff and tollway authority
 - DOT and MPO
 - MPO
 - Sheriff, Houston Automobile Dealers Association, Houston Metro, TxDOT, Verizon Wireless
 - Private sector – CVS Pharmacy
 - Turnpike maintenance budget
 - Funding:
 - Congestion Mitigation Air Quality (CMAQ) funds (2)
 - Department of Public Safety
 - Federal highway funds (4)
 - Federal surface transportation funds (STP)
 - MPO
 - State legislative appropriations
 - State operations and maintenance funds

- State traffic, safety and operations funds
- Turnpike funds

3. Does the sponsoring agency operate the service patrol or are the services contracted?

- Operators:
 - Contracted out (7)
 - Sponsoring agency (7)
 - Some in-house, some contracted
 - California DOT (Caltrans), California Highway Patrol (CHP), San Diego Association of Governments (SANDAG)
 - Contracted out with private companies and sheriff's office
 - Department of Public Safety
 - Highway patrol
 - Sheriff's office
 - Sometimes contracted out as part of a construction project

How was this decision made?

- Contracted because it was the only way to get the program going at the time
- Cost to operate the service (i.e., who could do it less expensively?)
- Could not add DOT staff
- In-house since had funding and positions
- In-house since private companies don't have same interest in getting roads opened after incidents as DOT does
- In-house trained maintenance technicians can do the job
- MPO decision
- Private, non-profit stopped operating service so DOT contracted it out to a new operator
- Saw service patrol as an advertising mechanism for DOT customer service so operate in-house
- Sponsoring agency had insufficient resources to operate the service

4. Who is responsible for day-to-day oversight of the patrols (comments noted as sub bullets below each category as needed)?

- DOT (7)
 - DOT TMC Manager/Supervisor (3)
 - 100 percent of our program is currently run with either permanent or temporary NCDOT employees. We do not contract any of our programs, but are investigating this practice along with public-private partnerships. NCDOT is broken into 14 Divisions, of which 7 Divisions currently have service patrols. The Division's staff is directly responsible for day-to-day activities.
 - One person manages the program statewide, and each region has a regional Incident Response (IR) supervisor.

- Each district has a program manager that supervises the contract and works with the contractor and supervisory personnel are included in the contract. FDOT management personnel are not.
- State operated – Person oversees state, each of four cities has own coordinator.
- Contractor (2)
 - Contractor supervisor
 - Samaritania, Inc. has operations oversight but work together with patrolling authority, DOT, or other transportation authority
- Public Safety Agency (5)
 - CHP is responsible for the day-to-day oversight of the tow trucks. Each contracted tow company has a lead driver that is used as a go between for the companies
 - Department of Public Safety
 - Kansas Highway Patrol (KHP) is responsible for day-to-day operations and the KHP provides supervisory personnel
 - Metro Police Department
 - Sheriff's Office
- Other
 - Pennsylvania Turnpike Commission (PTC) Maintenance Section Foreman supervises the service patrol personnel

If contracted, are supervisory personnel accounted for in the contract?

- Consultants under contract dispatch/log contracted out service patrol activities
 - Contact DOT TMC operator to check in at start of shift—paid for hours worked
 - Contractors supervise; DOT spot checks
 - DOT
 - Supervisory personnel are accounted for in the hourly rate bid/contract for the service (2)
 - Supervisory personnel are not specifically accounted
 - Project engineers inspect the vehicles
5. **A: How is the program funded? What sources of funding are used (federal, state, local, etc.)?**
- Federal and State funds:
 - 80 percent Federal, 20 percent State (6)
 - 80 percent Federal Surface Transportation funds, 20 percent general State highway fund; CMAQ was 90 percent of start-up money
 - Federal and State funds (2)
 - Federal Funds (R-4049)
 - CMAQ grants were used for the first 2 years. After the 2nd year, the State started paying for another 3 years. Funded 100 percent of the cost, 2004—developed a regional transportation plan, included 20 years of funding, part of regional funding (mix of federal and state)

- Federal funds (CMAQ) have been used to expand the program. Otherwise, it is mostly funded with state funds.
- National Highway System (NHS) funds
- State funds:
 - 100 percent State funds (4)
 - 100 percent State general revenue funds
 - State operations budget
 - The program is funded through State revenues out of the DOT trust fund. These costs are shared primarily through the Traffic Operations and Maintenance sections.
- Other funds:
 - 80 percent Federal, 20 percent State, \$500,000 from private insurance company
 - 80 percent Federal, 16 percent State, 4 percent North Texas Tollway Authority (NTTA)
 - All the sponsors including METRO police department
 - Federal, State, and local MPO
 - State and local 25 percent match
 - PTC funded

B: What is the annual operating budget? How many vehicles and personnel (service patrol operators and/or administrative support) does this budget cover?

Annual Budget	Number/Types of Vehicles	Number of Personnel	Comments
\$275,000, plus \$85,000 for consultant dispatchers (one per shift)	2 vehicles and 1 spare vehicle	2 drivers	Operates M-F, 6-9 am and 3-7 pm
\$375,000	3 trucks for 7.5 hours per day		
Annual budgets are between \$400,000 and \$2 million (in various states)	6 vehicles 15-20 vehicles	8-12 operators	Hours are a big part of the cost. Can reduce costs by having people work less days but longer days, a little overtime saves some money. Textbooks is 6am-6pm - 2 operators and 2 vehicles. People in the private sector are much more dedicated to their job.
\$450,000 (budget for new trucks every 3 years @ \$150,000)			

Annual Budget	Number/Types of Vehicles	Number of Personnel	Comments
Annual operating budget varies depending on vehicle replacement schedules has been approximately \$1 million in recent years. Budget for FY 2008 is \$1.3 million due to vehicle replacement.	18 vehicles	18 SP operators on 3 area patrols and 2 Traffic System Operators located at KC Scout TMC	
\$1.2 million	6		
Approximately \$1.2 million			Costs are rising because still building road miles, so have to expand service
\$1.3 million	13 trucks including 2 spares	18 drivers, 2 supervisors, 1 manager	Fully staffed would be 20 drivers
\$1.61 million + \$1.58 million for the TMOG	11 trucks	9 full time responders + 10 full time dispatchers for TMOG	
\$1.7 million	18 trucks	18 deputies drive the trucks	
\$1.89 million	9 vehicles, 3 @ rate of \$52 per hour and 6 @ rate of \$98.90 per hour		Contracts bid at different times, expect future bids to be at higher rate
\$2.2 million	22 routes with 26 vehicles		Van on call on each route + 4 extra
About \$3.06 million	21 first responder vehicles	85 employees	Operate 24/7
\$3.25 million	19 trucks (F-350 trucks, utility trucks, equipped with various items)	45 personnel	
\$3.5 million plus \$250,000	10 vehicles plus 2 vehicles	10 operators plus 2 operators	Baton Rouge, New Orleans, Shreveport, and Lake Charles
About \$7 million	Approximately 50 vehicles	72 drivers and 4 supervisors	3 shifts
About \$7.5 million	Approximately 80 vehicles	Approximately 80 staff	
Just over \$8 million			Including maintenance, ITS devices, vehicles, and salaries
\$8 million +/-	6 supervisors trucks and 6 other trucks (spares and truck traffic control vehicle)	54 permanent drivers, 16 temporary drivers, 14 supervisors, 58 IMAP (Incident Management Assistance Patrols) trucks	Supervisory positions include 3 Incident Management Engineer positions
\$9.5 million	55 vehicles	Fully staffed is 55	Close to 50 staff right now
Last year's budget was approximately \$19 million	Currently have 126 vehicles. This may change because a new contractor is coming onboard	We have 200 Road Rangers, 6 defined supervisors, and a limited (undefined number of clerks/admin support staff) working under several different contractors	

Annual Budget	Number/Types of Vehicles	Number of Personnel	Comments
<p>In fiscal year 2006/07, the state allocated \$25.5 million to the 13 locally run FSP programs and \$4.0 million to CHP for field supervisors and training activities. Local transportation agency partners that run each program are required to provide 25 percent matching funds.</p>	<p>In fiscal year 2006/07, the State's 13 FSP programs operated 149 beats with 351 trucks (during the pm peak period) over 1,650 centerline freeway miles.</p>	<p>CHP has 23 full-time dedicated officers assigned to the FSP program and 6 part-time officers. Administrative staff support includes 2 sergeants, 15 public safety dispatchers, 2 associate governmental program analysts, and 1 staff services manager.</p>	

C: Has a public private partnership (PPP) ever been pursued to fund, partially fund, or sponsor the program? Why or why not? Are there restrictions within your agency that preclude you from pursuing a private partnership? If you have a PPP, what does the private sector provide and what recognition do they receive (e.g., logo on vehicle, mention on Web site, etc.)?

- No (11):
 - A public private partnership has not been pursued to my knowledge.
 - Don't think so/don't know. (2)
 - No guidance from the State DOT on how to do that.
 - Previous public private partnership failed, did not want to do that again.
 - Questions have come up recently. Main understanding is that we cannot mix private dollars with national highway funds. So it's never been pursued. Now, it is kind of changing, and we may be looking at ways to do PPP as far as advertising on trucks to help fund the 20 percent of 80/20 match. But, this is in the early stages of discussion.
 - Restrictions within agency. They are currently talking to legislative party to do this, but nothing is in writing.
 - Since legislation provided funded positions for the operations of the program, external funding was not required.
 - Wanted service to begin soon and did not want lengthy negotiations and contract approval.
- Yes, at some point:
 - AAA was a partner in the building (for the pilot project); no involvement now.
 - Renegotiations underway; had difficulty getting funds funneled to them.
 - We contracted with the tow industry before (towing courtesy service patrols). We received federal funds to do this, but we don't have the funds now to continue. So, we're not currently doing it. We're providing morning and afternoon patrols in Tacoma and Seattle, but federal source has dried up. We put our logo on their vehicles, with signs on front that said DOT service patrol, but only when working in service patrol capacity.

- We specialize in providing public sector sponsorship of our programs (from a private provider).
 - We have a public private partnership with SANDAG, Caltrans, and CHP. The SANDAG logo is used on all of the trucks along with a sign that says Freeway Service Patrol only during FSP service hours. Inside of the FSP sign, the CHP, Caltrans, and SANDAG logos are used.
 - We currently have entered into a P3 with State Farm Insurance in which we received \$1.4 million over a 3-year contract with a renewal after that point. The 1st responder vehicles have been wrapped with the State Farm and the PTC logos.
 - WisDOT is currently considering pursuing a PPP. Funding levels for the program have remained constant and a PPP provides one potential avenue to expand the program. Thus far, WisDOT has not identified any restrictions that will preclude us from pursuing a PPP. If WisDOT moves forward, it has been determined that a RFP for sponsorship would have to be issued to ensure fair opportunity.
- Considered it:
 - Analyzed it and decided government employees had more authority to do things.
 - Analyzed it and decided State Patrol and other responders were more effective.
 - Considered allowing advertising on trucks but would require state legislation to allow it.
 - Currently, do not have PPP but are entertaining the idea. We have nothing restricting this program currently.
 - Received one proposal; however, consideration of the proposal is currently on hold. Additionally, the FDOT Executive Board believed that the amount offered was not in our best interest.

D: What is the contracted hourly rate for service?

Hourly Rate	Comments
Roughly \$13 per hour	Pay will increase to \$15 per hour in 2008
Range is \$20 to \$27 per hour	Hourly rate depends on the level of each deputy
Varies among the district from \$35.00 per hour to \$45.00 per hour for the service contracts	
Varies from \$47.00 per hour to \$80.00 per hour	
\$ 50 per hour	Includes maintenance, operations, fuels, and supervisor costs
\$52 to \$98.90 per hour	
\$61.77 per hour	
\$62 per hour	
\$64.45 per hours	
\$65 in Seattle, and \$54.19 in Tacoma per hour in around 2002 or 2003	Done some recent things in conjunction with construction projects. Last summer, we did a few short projects in Tacoma for \$75 per hour

Hourly Rate	Comments
\$69 to \$79 depending on area and vehicles	
\$69.94 per vehicle	Consultant dispatcher is \$13 to \$14 per hour
	In San Diego County, we use two tow companies and the hourly rate is negotiated upon renewal of the contract

6. A: What are the institutional relationships of the service patrols with other responding partners?

Key to table: Strong relationship shown as full dark circle; no relationship is an open circle; coordination relationship is partially full circle; no comment made on survey is no circle.

DOT/ Service Patrol	EMS	Fire	Local Police	MPO	None	State Police	PTC TMC	Toll firms	Comments
●		◐				●			Have State Police radios and dispatch (may switch to GPS)
●		●	●			●			DOT relieves some burden from state police
●						●			
●	●	●				●			Know scene is controlled by others and offer assistance
●	●	●	●			●			Also towing companies. Normally provide traffic control for the State Patrol and remain there until the incident clears or, for major incidents, until Metro Maintenance arrives to take over traffic control. We are working on "tow authority" legislation so we can call for tows on abandoned vehicles
◐				●		●			Coordinate with DOT
●			●			●			Excellent, total partners; they see the value—right equipment, traffic control, philosophy of quick clearance, on the scene quickly, alternate routes, etc. Took a year to build that relationship
●			●			●			We have a strong relationship with the State Highway Patrol. They assist in training our drivers and we coordinate with them and other local law enforcement agencies with calls for disabled motorists, traffic control, and incident clearance. We also work closely with other agencies to assist in response, traffic control and incident clearance.

DOT/ Service Patrol	EMS	Fire	Local Police	MPO	None	State Police	PTC TMC	Toll firms	Comments
●						●			Our people are dispatched with the Washington State (WS) Patrol, governed by our joint operations policy statement. The WS Patrol is our primary partner statewide. We work with fire and rolling and EMS, but they're local entities. But they're no statewide agencies. We deal with them the best we can. They have roughly 2,000 employees. There is no centralized command and control for fire, so that's the complication we deal with. We have local teams to work on those local partnerships because we're so dependent on them.
●		●	●			●		●	
●	●	●	●		●	●			Service patrols have good relationships with Highway Patrol and other emergency responders. We are continuing to better relationship between road rangers and highway patrol personnel. Road rangers support highway patrol with traffic control. Road rangers are dispatched to disabled vehicles in their service areas.
●						●			Each partner has a well-defined role in the program. The California Department of Transportation (Caltrans) is responsible for the administration of funding, statewide planning, and program coordination. Caltrans is responsible for state allocation of invoicing and monitoring freeways to ensure FSP resources are deployed in an efficient manner. Caltrans is also responsible for conducting special studies in support of local FSP programs. The California Highway Patrol is generally responsible for individual tow operator training and supervision of the day-to-day FSP field operations. In addition, the CHP is responsible for dispatching FSP tow drivers. CHP Headquarters (Commercial Vehicle Section) has co-responsibility for statewide planning and coordination. The local agencies are the regional (multiple counties) or individual county transportation entities. They are responsible for contracting with tow service providers and with other consultants and contractors that may be necessary for the successful implementation of the project. They are also responsible for generating local matching funds, preparing annual program budgets, and coordinating service expansions and changes with partner agencies.
●							●		Direct contact with our PTC TMC Operations center. Follow the Unified Incident command protocol

DOT/ Service Patrol	EMS	Fire	Local Police	MPO	None	State Police	PTC TMC	Toll firms	Comments
									Efforts are made to foster relationships between the service patrols and other responding partners. In each FSP service area, WisDOT facilitates regular stakeholder meetings with the FSP contractor and local response partners. These meetings are used to discuss both issues specific to the FSP and general traffic incident management issues. Many areas have come to rely heavily on the FSP and frequently request their support.
									Incident Response (IR) has been recognized by many of our external partners as a first responder agency. Typically ODOT IR arrives before our service partners allowing them to focus on their specific duties of their profession.
									Service patrols provide traffic control and assist incident command with clearing highway. Service patrol works within ICS.
									Good relationship; they would like to see 24/7 service
									We have an open roads policy that we're trying to get signed by the governor now. We have a traffic incident management task force that is made up of all different agencies across responding areas
									An informal cooperative relationship
									Work together on scene to resolve incidents

B: Are there any written plans, operational policies, and mutual-aid agreements between responding partners? If so, can we obtain copies of the plans/policies?

- Yes (10)
 - All ideas and documents can be found on timetaskforce.com.
 - As requested by KHP officers.
 - Contract documents define operational policies. Accepted by responders without issues.
 - FIRST has some policies and guidelines. There is a document "Traffic Incident Management Recommended Operational Guidelines" dated October 2004 that was developed with the MN Metro Fire Chiefs, the MN Towing Association, the MN State Patrol, and MnDOT. We have no written agreements with other partners—generally follow the incident command structure.
 - Have a contract and standard operations procedures (SOPs). No agreement between partners.
 - Memorandum of understanding, interagency agreements, or just endorsement.
 - Open Roads Policy/ Mitigated Spill Policy.
 - Operational policies and joint operations policy statement provided already.

- The CHP and Caltrans enter into interagency agreements, which provide for the annual funding from Caltrans to CHP. An additional provision of the interagency agreement is a Joint Operational Policy Statement, which details the individual and joint responsibilities of Caltrans and the CHP.
 - The operational policies of the Service Patrol Vehicles (SPVs) are outlined on the contract documents. The SPVs have been accepted by the responders without any issues.
 - There is an agreement written up every 2 years; however, could not provide a copy.
 - We have a formal agreement with Greensboro PD to remove abandoned/disabled vehicles. We are in the process of preparing an MOU with State Highway Patrol to do this statewide. We also have Quick Clearance legislation (GS 20-161) to clear roads without liability with DOT and LE concurrence.
- No (9)
 - Pilot project was based on a contract between MAG and DPS. Now, just a fiscal relationship. Did have an interagency review team; will come back soon.
 - Unknown/Not Applicable/No answer (3)

5.3 Functions and Field Operating Characteristics

7. A: What functions are currently provided by the service patrol? Are the operators able to provide first aid?

Functions	Response
Provide gas/fluids	11
Change flat tires	16
Provide first aid	Yes (11) All operators are state-certified EMTs or Paramedics. Basic first aid Considering suspending this due to time it takes. Medical first responders (delivered 9 babies) are trained in hazmat. We are a traffic incident management operation. We're DOT, we're not police, fire, or EMS, but we've had enough training that we know enough about all. Usually, we are the first on scene and we are trained to stabilize situations until other responders arrive then we go to traffic control. Provide minimal first aid assistance however, it is standard practice to allow emergency services personnel to treat all injured patients. Red Cross or approved equal course certification in first response first aid and CPR. Trained in first aid and CPR (not primary function). No (1)
Patrol highway and service roads	2

4/11/11

Functions	Response
Service overheated vehicles	4
Provide jump start/battery boost	6
Move disabled/accident vehicles	13
Arrange towing/tow	5
Provide traffic control (including some CMS)	10
Provide debris removal (small, non-hazardous)	11
Provide disabled vehicle assistance	3
Provide delay/traffic information	2
Provide incident quick clearance/management	7
Provide minor mechanical repairs	11
Assist police	6
Assist motorist (use of cell phone)	1
Check abandoned vehicles	3
Deploy gate arms on HOV and reversible roadway	1
Provide traffic management and mitigation	1
Communicate with TMCs & other agencies	1
Assist in incidences where they transport motorist to the airport in case they are late	1
Provide medical, fire, animal incident response	1
Warn motorists of hazards	1

B: Does the service patrol provide traffic control functions at highway incident scenes?

- No
 - Currently not - the ability to provide traffic control functions is a requirement within the new contract (RFP is out) and the vehicles are to be equipped with corresponding traffic control equipment.
- Yes (15)
 - Yes, minimal. (2)
 - Yes, as requested by KHP officers.
 - Yes, each IR vehicle is equipped with automatic vehicle location (AVL) that allows ODOT personnel to determine its proximity to any current incident, a laptop computer, cellular and radio communication capabilities, and on-board variable message signs.

- Yes, they do provide emergency traffic control, but guideline is if incident is going to go beyond 60 minutes, then call out full traffic control truck to set up full emergency incident response. Transition to full Manual on Uniform Traffic Control Devices (MUTCD) traffic control. This improves safety and alerts motorists to incident ahead. Our maintenance is not included in the IR budget. That program is huge, and we would not be where we are without it. Try to back bill for the services.
- Yes, they do provide traffic control functions at highway incident scenes in collaboration with other agencies. Their main priority is to get traffic moving after a wreck.
- Yes, they provide traffic control using flares, cones, and hand signals.
- If and when requested by patrolling authority or DOT.

C: Are there functions not currently being provided but under consideration or desired?

- No (13)
- Yes, expand hours of operation/service areas
 - Add a midnight shift
 - Expand length of rush hour service
 - Expand service hours of some shifts
 - Expanding coverage areas outside the Portland Metropolitan area to include rural areas
 - There's expanded zones, more coverage, and expanded hours that could be desired, but we are satisfied with the functions being provided
 - Would like 24 hour service but money is a factor
 - Would like to expand the area into neighboring communities that are also high volume—wherever congestion is; can't reach because of funding limitations
- Yes, expand services offered
 - Ability to tow disabled vehicles being considered but requires legislative change (Towing Association likely to oppose)
 - We are discussing carrying defibrillators (AEDs)
 - Would like to add more tow trucks
- Yes, other
 - Would like to have a more direct communications channel between DPS service patrol and dispatch
 - Yes, just to keep up with the current federal standards. However, we're probably the elite service patrol in the country because we cover over 1,800 lane miles. We have three shifts around the clock, 24 hours, 7 days-a-week.

8. What are the hours and days of the week of operation? Do these change for weekends, holidays or planned special events? If so, how do they change?

General Hours and Days of Operation

Hours	Operating Hours	Extended on Call	Days per Week	Sat/Sun	# Agencies Responded
24 hours			7		2 - FDOT operates 24/7 in large urban areas and FL Turnpike only
24 hours			5	May be on call	1
Various shifts	3:30 am to 9 pm		5	10 am to 8 pm (Sat) and 9 am to 7 pm (Sun)	1
	5 am to 9 pm	Yes (24/7)	5	On call	1
	5 am to 10 pm (Mon & Fri); 5 am to 8 pm (Tues - Thurs)		7	7 am - 11 pm (Sat - Sun)	1
	Varies by county segments (9) and 20 subsegments - primarily peak hours 6 am - 9 am & 2 pm - 6 pm. One segment is 6 am - 6 pm.		5	Generally 10 am - pm (Sat - Sun)	
8 - hour shifts	5 am to 11 pm		5	7 am to 11 pm	1
	5:30 am to 7 pm	Yes	5	5:30 am to 7 pm (Seattle only)	1
Work 2 shifts	6 am to 2 pm and 2 to 10 pm		5		1
	6 am to 7 pm		5	10 am to 6 pm (weekends)	1
	6 am to 9 pm		5	Weekends in Charlotte only and 24/7 on 20 miles of I-40	1
	6 am to 10 pm		5	8 am to 8 pm (weekends)	2
10-hour shifts	6 am to 12 am		5	12 pm to 10 pm weekends	1
Daytime hours	8 hours		5	10 am to 7 pm (Sat) and 9 am to 7 pm (Sun)	

Hours	Operating Hours	Extended on Call	Days per Week	Sat/Sun	# Agencies Responded
Daytime hours	8 hours		5	0	1 (3 service patrol vehicles)
	14 hours		5	14 hours (weekends)	
	16 hours		5	0	1 (Service patrol vehicles)
Rush hours	AM/PM rush hours		5	0	2 (One is looking to expand hours 6am-10 am and 3 pm to 7 pm)
Rush hours	5:30 am to 9:30 am and 3 pm to 7 pm		5	0	1
Rush hours	6 am to 9 am and 3 pm to 6 pm		5	0	1
Rush hours	6:30 am to 9 am and 3 pm to 6 pm		5	On call	1
Rush hours	6 am to 9 am and 3 pm to 7 pm		5	0	1
Rush hours	6 am to 9 am and 2 pm to 6:30 pm		5	0	1

• Other Operating Hours Notes:

- 3 shifts: 5 am to 1:30 pm, off on Sat/Sun; 11 am to 7:30 pm, off on Tues/Wed (cover the weekend); 1 pm to 9 pm, off on Sat/Sun (1 response)
- Hours and days of the week vary by district, highway segment, and time of day (District 1: 5 am to 9 pm, Monday to Friday; 7 am to 11 pm, Saturday and Sunday. 16 hours a day, 7 days a week, 365 days a year. District 2: 6:30 am to 6:30 pm, Monday to Friday. Districts 3 through 7 and FL Turnpike: 24 hours a day, 7 days-a-week, 365 days a year)
- On weekdays, there are three morning shifts: 3:30 am to 11:30 am, 4:30 am to 12:30 pm, and 5:30 am to 1:30 pm. There are two afternoon shifts: one from 12:15 pm to 8:15 pm and another from 11:00 am to 9:00 pm.
- The decision to only cover certain hours of the day is a monetary one. We would like to have all 24 hours covered—perhaps by having SPVs on standby for the night shift and extending the coverage hours of the six SPVs to 16 hours a day.
- The Freeway Service Patrol operates during the morning and evening commute hours, 5:30 am to 9:30 am and 3 pm to 7pm, 5 days a week, 52 weeks a year (excluding specified holidays). San Diego County FSP hours coincide with the commute traffic times of San Diego County, and they operate on all major freeways that have congestion only within San Diego County.

Holiday, Weekend, and Special Event Information

<p>Holidays</p>	<p>Can change for holidays and special events Cover approximately 50 hours per year in RFP. If additional hours are required, 24 hours notice must be given to the contractor. Extend hours for heavy holiday traffic (2) Holidays are modified depending on demand Holiday patrols may extend patrol hours from 7 pm until midnight May have skeleton crew and we have people on call Most holidays except Memorial (1), Independence Day (1), Labor Day, Thanksgiving (4), Christmas (5), and New Year's Day (3) Some/limited holiday coverage (2) The hours of operation are often expanded for holidays and planned special events We schedule for holiday coverage</p>
<p>Weekends</p>	<p>As warranted Some weekend coverage in busy areas like Cape Cod Weekends on call unless working a special event We don't normally have weekend coverage anywhere but in Seattle (because of traffic conditions) Weekends 10 am to 6 pm</p>
<p>Special events</p>	<p>As warranted Extend hours events or incidents past normal shift hours Extended for weather events Hours change for special events as requested by KHP or KDOT May extend hours for weather events Modify coverage for major construction projects No special event coverage (2) Schedule for special events as needed Special events are on a pre-determined basis or as traffic dictates in emergency situations Special event coverage on request on an overtime basis Special event support may extend patrol hours from 7 pm until midnight Specifics in proposed RFP for coverage for scheduled sports events and community events. If additional hours are required, 24 hours notice must be given to the contractor. The only other time the schedules may change is during inclement weather events where the incident responders revert to a 12 hour schedule without a day off until the termination of the event. During this time the shifts are 3am - 3pm - 3am. We schedule if there are major events such as weather, football games, etc. 14 hours per day, 7 days per week. These change for planned events (football games, etc). Project Engineer can authorize additional hours.</p>

9. **What are the service areas? What criteria were used to select the service area or beats? Were other government agencies or executives consulted in choosing the service area?**

- Service Areas:

- All major freeways in Harris County.
- All major freeways that have congestion only within San Diego County.
- Baltimore metropolitan area, Washington metropolitan area, and Frederick metropolitan area. During the summer months, we also serve the Eastern shore routes of Maryland on weekends.
- Baton Rouge area, New Orleans area, Shreveport/Bossier City Motorist, and Calcasieu Parish.
- Busy roads in the metro area, some routes in the mid area, less in the west, expanding to cover most of busy corridors in the states. Some revisions for next contract.
- Cover the entire freeway region in Maricopa County.
- Covers specific interstates and U.S. routes in 9 counties in Milwaukee region. Divided into 9 segments and 20 subsegments.
- Dallas County, parts of Denton and Collin counties—mostly Dallas because Dallas County personnel, but state would like to expand to other counties, which are in the process of doing. Trying to get assistance from other sheriff department, highways and service roads—major roads and some highways have service roads that we also cover. Don't cover local streets.
- Entire PTC system – 21 responders 24-7 covering approximately 25 miles each.
- Interstate 78 and Route 22 in the Lehigh Valley.
- Link to web page. 80percent of coverage is on I-5 Puget area; most coverage is in Seattle/Tacoma metropolitan areas.
- Major metropolitan areas.
- On part of I-95 and all of I-76 (three SPV), 16 hours a day; the other six operate 8 hours a day.
- Our Incident Response Program covers 3 Districts divided into 4 patrol regions. Freeways include Interstates 5, 84, 205, 405 and State routes 217, 26 and 30.
- Service areas focus on high congestion corridors around four major cities in Tennessee.
- Service areas vary by FDOT district, highway segment, and time of day.
 - *District 1:* Interstate 75 – Collier, Lee, Charlotte, Sarasota, Manatee Counties; Interstate 275 – From the I-75 Interchange (exit 228) over the Sunshine Skyway Bridge to the North Rest Area; Interstate 4 – Polk County;
 - *District 2:* Interstate 10 – From SR 200 (US 301) to San Marco Blvd.; Interstate 295 – From Old St. Augustine Road north to Pulaski Road; Interstate 95 – From San Marco Road north to Pecan Park Road and from Old St. Augustine Road north to College Street. J. Turner Boulevard (SR 202) from I-95 east to SR A-1-A;
 - *District 3:* I-10 from mile marker 195 - 203 (Construction area) Tallahassee; I-10/ Escambia Bay Bridge – I-10, from Exit 13 (SR 291 to Davis Hwy) to Exit 22 (SR 281 to Avalon Blvd); 1 truck (24 hours per day) and a second truck for 14 hours per day (6:00 am to 8:00 pm); I-10/I-110 – I-10 (Exit 11 to Exit 13) and I-110 (Exit 3 to Exit 6); 1 truck working 6:00 am to 8:00 pm (Monday to Friday), 7:00 am to 7:00 pm (Saturday), and 9:00 am to 5:00 pm (Sunday);

- *District 4:* Broward County – Interstate 95 from Ives Dairy Road to Palmetto Park Road; Interstate 75 – From Miami Gardens Drive north to Sunrise Boulevard (SR 838); Interstate 595 – From Eller Drive to Alligator Alley Toll Plaza; Palm Beach County – Interstate 95 from Hillsboro Road (SR 810) north to County Road 708 in Martin County;
 - *District 5:* Interstate 4 – From County Rd. 532 (Polk/Osceola County Line) to I-95 (Volusia County);
 - *District 6:* Interstate 75 – From SR 826 north to the Miami-Dade/Broward County Line; Interstate 95 – From US 1 north to the Miami-Dade/Broward County Line; Interstate 195 – From I-95 east to Alton Rd; Interstate 395/MacArthur Causeway – From I-95 east to Alton Road; State Road 826 – From US 1 north to the Golden Glades Interchange; State Road 5/ US 1 – From SW 112 Street north to I-95; MDX: State Road 112 – From LeJeune Road east to I-95; State Road 836 – From Florida's Turnpike east to I-95; State Road 874 – From Florida's Turnpike north to SR 826; State Road 878 – From SR 874 east to US 1; State Road 924 – From SR 826 east to NW 27 Avenue;
 - *District 7:* Interstate 4 – From I-275 (MP# 0) in Hillsborough County, east to milepost 25 (County Line Road) at the Polk County Line; Interstate 75 – Hillsborough County, from the Leroy Selmon Expressway north to Bruce B. Downs Boulevard Selmon Expressway (full length); Interstate 275 – From the rest area north of the Sunshine Skyway Bridge (milepost 12.1) in St. Petersburg, Pinellas County, north to milepost 61 (I-75/I-275 apex) in Hillsborough County; Leroy Selmon Crosstown Expressway – Full length/14.2 miles; FL Turnpike: All of Florida's Turnpike (including the Homestead Extension) from Mile Post 0 to Mile Post 309 and the entire Sawgrass Expressway.
- The PennDOT personnel patrol the Parkway North (Ft. Duquesne Bridge to Camp Horne on I-279). The contracted service personnel patrol the Parkway East (I-376), Parkway West (Pittsburgh International Airport to Fort Pitt Tunnels on I-279), and I-79 from Exit 55 (Bridgeville) to Exit 73 (Wexford).
 - The service areas are the freeways within the 8-county metropolitan area (Minneapolis).
 - Varies by state of operation. Service areas selected primarily based on patrolling authority recommendations.
 - We currently cover 500 of our 1,100 miles of interstate system. The areas are Raleigh, Durham, Greensboro, Winston Salem, Charlotte, Asheville, and I-40 in the Pigeon River Gorge. The areas were based on urban congestion demands, but we now look at other things, such as 1500 vehicles/hour/lane as a warrant.
 - We patrol seven major expressways around the metropolitan Chicago area. Also expanded into Indiana recently as well (southeast), a 2-mile stretch. May average 70 assists in Indiana jurisdiction.
 - We use (3) patrol zones to cover 45 miles of interstate around the capital beltway.
 - Within the metro Atlanta area.
- Criteria used to select areas:

- Areas were selected based on volumes of traffic and number of incidents, and experience knowing the area. Mainly, the whole metro area needs to be covered due to sheer volume of traffic. As we expand operations, we know which areas are worse than others, just by experience and data, and traffic cams.
- Because the program was developed 20 years ago, they are not familiar with criteria, etc.
- Coverage area was based on the Tri-County area around the beltway and its major feeders.
- Criteria used to select the routes included mileage, congestion, and number of incidents.
- Higher volume interstates received the first vehicles and the service is expanding to the expressways as the interstate coverage becomes more complete. The higher volume roadways receive the highest priority.
- Limitations on coverage area were based on the boundaries of the Portland Metropolitan Area.
- Traffic volumes, crash history, and incidents covered by the FSP such as disabled vehicles and roadway debris.
- We worked with the patrol and local jurisdictions. They are based on calls for service and data (traffic volume and calls for service).
- When service areas are selected both AADT and crash rates are considered.
- Other agencies consulted in service area definition:
 - Yes, all of them
 - Atlanta Regional Commission, the Governor, and GA Regional Transportation Authority were consulted. They had information that we were seeking.
 - DOT and other transportation authorities provide input (from a private provider).
 - Initially input from other agencies was considered, however once funding was found determination on the corridors managed by ODOT were determined by the agency.
 - Regional response stakeholders are also consulted when service areas are selected.
 - State patrol was involved in choosing the service area.
 - There is an Incident Management Task Force group representing many agencies that had an influence in deciding the coverage area.
 - We worked with the patrol and local jurisdictions. Sometimes, it's political with local politicians. Also, we have a small program in Spokane and Vancouver, and seasonal truck at Steven's Pass on Highway 2, and full-time truck that operates year round. We had requests to have incident response, but don't have funding. Always ask for more when we go through legislative process.
 - No
 - I do not believe that other agencies were consulted in choosing the service areas.

10. A: What type of vehicle does the service use? Were there specific reasons for picking this vehicle over others? Could you provide a copy of the vehicle specifications?

Vehicle Type	Description	Comments/ Reasons for Choosing This Vehicle Type(s)
Mixed Fleet	We run four types: Light-duty tow trucks, custom response vehicles (modified box truck), pickup trucks, and vans. Supervisors use the pick ups.	The light-duty trucks have ability to pickup, push, and drag large vehicles and debris. Custom response vehicles carry equipment, tanks, lighting, cones, and equipment needed for incidents. Vans (which we started with) can hold more equipment and people.
Mixed Fleet	Four ramp tow trucks (areas without a break-down lane, and critical choke points). Rest of fleet is vans.	Vans – easier for storage of equipment (especially in bad weather). Vans are less expensive and easier to get operators. Not convinced sponsors like the room for ads on a van.
Mixed Fleet	We use from one-ton pick-ups to light, medium, and heavy trucks. We use a combination. Lightest are one-ton. Heavies have capability to pump diesel, carry 100 gallon tanks. With price of gas trying to maintain a few heavies. Six tow trucks in Seattle area strategically assigned to floating bridges. Our IR trucks are identified as authorized IR vehicles so we have lights, sirens, etc.	Price of fuel has caused us to expand use of lighter vehicles. We can respond to minor stuff, which saves troopers from having to respond.
Mixed Fleet	The FSP program uses flat bed tow trucks and wheel lift tow trucks. The new addition to our fleet is regular extended cab pickup trucks.	Regular extended cab pickup trucks to assist the tow trucks with extra passengers and to assist with service calls when a tow truck is busy on another call or is not required.
Mixed Fleet	The current vehicles in operation are 1-ton tow trucks. The recent purchase of three new vehicles for operation will include 2 tow trucks and 1 one-ton crew cab truck equipped with push bumper.	The reason for using a crew cab instead of a tow truck is that most of the vehicles are pushed from the roadway. There are only a few times a year vehicles need to be towed from the roadway.
Mixed Fleet	Typically, three-quarter-ton truck, but some districts use wrecker type medium-duty trucks.	Cost, functionality, and durability are primary considerations for the vehicles chosen.
Tow Trucks	A 16,500 GVW wrecker is used.	Needed a tow vehicle to get disabled vehicles off the highway and transported to a safe drop-off area.
Tow Trucks	The service patrol vehicle that we use is a 16,500 GVWR class Expressway tow truck equipped with a 3-foot high by 6-foot wide arrow panel with a raise and lower mechanism.	

Vehicle Type	Description	Comments/ Reasons for Choosing This Vehicle Type(s)
Tow trucks	Tow trucks are utilized to allow for clearing incidents.	
Wreckers/ Flat beds	Per the proposed RFP for contracted service: The primary service vehicles shall consist of a car carrier with a minimum gross vehicle weight rating of 14,500 pounds, dual wheel chassis, and four (4) ton recovery equipment rating. The backup vehicle may be another car carrier with the same specifications as described above or a tow truck/wrecker with a minimum gross vehicle weight rating of 10,000 pounds. The model year of each FSP vehicle is 2005 or newer. Both types of vehicles are able to safely and legally transport three people, including the driver and two passengers, in the cab.	Support quick clearance and facilitate vehicle removal.
Trucks	F-350 trucks	Low bid
Trucks	We currently have ¾ ton Fords and Chevys with extended cabs. We also have three V-10s (Fords). All are outfitted with CMS, an arrow stick, rotating beacons, and blue strobes.	
Trucks	Have moved to large trucks that have more equipment.	Started with minivans (phased out). Trucks are more functional.
Trucks	F-350s with emergency unit, F-250 open bed pick up – cones, jacks, fuel – for better movement. Durangos – for supervisors. All are 4wd.	Fords are the most functional – saw from other agencies and was impressed with them.
Trucks	Ford F450, Dualies, 4-wheel drives have big box containers on back and look like an ambulance. 2 wheels on each side of the rear axle.	F450 was more of a contract deal. We had a low-bid situation; Ford came in with low bid. Body was developed/ designed for protection of equipment and visibility.
Trucks	We use a medium-duty chassis with a tow-recovery boom.	It's a good size vehicle to relocate cars and tow cars.
Trucks	Three-quarter-ton vehicle is currently being used but would like to switch to a 2-ton truck.	

Vehicle Type	Description	Comments/ Reasons for Choosing This Vehicle Type(s)
Trucks	Chevy pickup trucks, Full size. 1500 model.	Originally started with Astro vans but that didn't work well. Deputy actually got injured so they changed this around. They carry a lot of chemicals and equipment in the car that wasn't good with the Astro. Furnes from carrying all these chemicals and equipment are much safer with the current truck.
Trucks	1st responder vehicles (F-150 4 door crew cab)	
Trucks	Pickup truck (4-door crew cab allowing transport of 4 adults)	
Trucks	Standard vehicle is a Ford 1 ton heavy duty. Currently we have three 2004's, one 2005, two 2006's, and four brand new 2008 1 ton Super Heavy Duty's.	Torque, work load potential along with industrial strength led to the purchases
Vans	Ford, E-350 diesel vans	Most efficient in resolving incidents.

B: What type of equipment is carried on-board the vehicle? Check all that apply.

Traffic Control Equipment	Yes (20) • Cones (2) • Flares (3)
First Aid Kit	Yes (21)
Message Board Mounted On Vehicle	Yes (19) • Arrow boards, vehicle message boards for text messages. VMS cost more, so have combination of both • Vehicle mounted VMS with 99 preprogrammed messages
Gas	Yes (19) • Diesel • Spare gas only on tow trucks, no diesel unless requested
Push Bumper	Yes (21)
Air Compressor	Yes (18)

Communication Equipment	Yes (18) <ul style="list-style-type: none">• CB radios (4)• Cell phone (9)• County city radios (1)• Nextel (8)• Onboard computer tapped into responder network (2)• Police radio (7)• Scanner (5)• State highway/tumpike radio (13)• Two-way radio (2)
Basic Tools	Yes (18) <ul style="list-style-type: none">• Broom/Whisk broom (3)• Hydraulic jack (4)• Pillars• Pry bars• Shovels• Wrenches (3)

Other	<ul style="list-style-type: none">• Amber and red warning lights meeting the requirements of Wisconsin statute 347.26(6) (b)• Antifreeze (2)• Arrow board on vehicle (2)• Bags of salt and sand• Battery booster box• Blanket• Booster/jumper cables (3)• Chairs (2)• Child safety seat in case a child needs to be transported in the service patrol vehicle• Defibrillator• Diesel recovery system• Direct oil attack pack to absorb spills/ Oil dry (2)• Duct tape• Emergency phone numbers• Extensive automotive, medical, fire, HazMat, and animal control equipment and supplies• Fire extinguisher (2)• Fuel transfer kits to pump diesel from leaky tanks• Funnels• Fuses• Hand cleaner• Hazardous material guide book• Highway maps• Local phone book• Minor spill containment supplies (3)• Oil (2)• Paper towels• Pen and paper• Power outlets, front and rear mounted, with outlets compatible to 12-volt booster cables with a minimum length of 15 feet• Power steering fluid• Public address system with an external speaker• Pump to off load diesel/fuel out of a subtank (can of load about 100 gallons)• Rear work lights• Spotlight capable of directing a beam centered in any direction of a 360-degree horizontal arc around the truck• Traffic control equipment• Trailer hitch (2)• Vests• Water for cooling system (3)• Wheel lift• White and amber emergency lights• Winch cables
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11. What are the personnel qualifications/training requirements for service patrol operators? Do you have position descriptions or a current training syllabus you could share?

- All carried out by DPS are civilian employees of DPS. Backgrounds checks similar to officers; DPS has a training program.
- All FSP Drivers/Operators are required to have a valid Wisconsin driver's license and other appropriate licensing for operating the FSP vehicle. All operators are 18 years of age or older. Prior to the contract start date, the Contractor must submit a list of all potential FSP Drivers/Operators to the Contract Administrator. Contractor must certify that all Drivers/Operators have a good (clean) driving record and have no felony convictions. The Contractor will perform background checks and obtain the driver's permission to submit background results to the Contract Administrator. All FSP Drivers/Operators are approved at the sole discretion of the Contract Administrator prior to performing any services for the FSP Contract. Within sixty (60) calendar days from the date of contract award, all FSP Drivers/Operators, shall complete level one of the National Driver Certification Program at the Contractor's expense. This training includes education on customer service, roadside service safety, attitude, appearance, incident management, vehicles, and equipment. Each FSP driver must be certified within one year of employment in the following: National Institute for Automotive Service Excellence (ASE) Automotive Technician, National Emergency Vehicle Operators Course, Occupational Safety and Health Administration (OSHA) HAZMAT First Responder Program, CPR and Basic First Aid Certification.
- Check oil, radiator overheating, change a tire, lift at least 50 lbs. Don't need a CDL; provide training for them—have on-the-job training where they are matched with a training coordinator, also have formalized training with formalized training for 3 days, an incident management course, have to do ride alongs with experienced operators.
- Do training and ride-alongs; 50 hours of training required in new contract. They receive training in CPR first aid, methods of operation, portable highway operation, hazmat response, customer service, traffic control, work zone safety. All drivers come from our maintenance facilities, and we train them to our specifications.
- For qualifications, we look for someone who can work independently, prefer some type of emergency background to work in stressful conditions. They have to be 18 with high school education or GED. For training system, 300 hours of in-class training and 200 hours of ride time for training are required. Training stuff can be found at <ftp.dot.state.ga.us> user name "hero", password "hero\$" —to download our training specs, SOPs.
- FSP operators are State Certified EMTs or Paramedics, National Certified Automotive Technicians., State Certified Fire Fighter Level I or equivalent, National Certified Animal Control Officers.
- Full-time employees of TDOT. Training program includes first aid and emergency medical care, hazardous materials, traffic control, radio communications, highway

incident management, diversity, extinguishing vehicle fires, using emergency equipment. See operations guide.

- Maintenance Utility Worker – job description attached
- Minimum Qualifications for the positions are: Two years of public contact experience, which included gathering, relaying and providing information to others; and evaluating activities or incidents and determining an appropriate course of action. One year of this experience must have included roadway/highway, bridge, sign or drawbridge maintenance operations or Public Safety work such as police, fire, emergency medical, incident responder, hazmat responder or towing.
- Motorist Assistant Technician (MAT) – \$12.66/hour. Duties: Assist motorists with vehicle and travel problems by fixing tires; providing basic temporary mechanical assistance; providing directions; providing gasoline; providing water/antifreeze; calling for wrecker service; etc. Knowledge of mechanical structure of vehicles; area and services available; repair procedures; and Highway Patrol policies and procedures. Assist motorist at traffic crashes by calling for law enforcement officers; service vehicles or emergency vehicles by providing emergency first aid/CPR to victims. This is done through knowledge of first aid and CPR; when to move or not move crash victims; safety procedures; and priorities at a crash scene. Observe suspected criminal activity or hazardous drivers reporting incidents and remaining at a safe distance until law enforcement officers arrive. Knowledge of Highway Patrol policies and procedures; criminal activity; and ability to properly describe and locate vehicles geographically. Minimum Requirements: High school diploma or GED equivalent and a valid driver's license. Training program for MAT is in the process of being reviewed and revised.
- Must have a valid driver's license, be at least 18 years of age, no moving violations in past 6 months, have a high school diploma, no DWI arrests, must be familiar with the use of the radio and the "10 code language" and pass a criminal background check (more details in attachment). Must have Red Cross or approved equal course certification in first aid and CPR.
- Not currently. We are in the process of standardizing our training. It varies in each area covered.
- Wreckmaster certified or equivalent, clean driver's record, background check, class C driver's license.
- SPV operators shall have a basic knowledge in the tasks of tow truck operations to provide safe and proper service and must be capable of demonstrating their operational abilities prior to beginning their first day of work. They are required to have a current PA class C driver license and pass a course detailing the Expressway Service Patrol program, minor vehicle repair, customer service, and roadside safety. The training material include work zone traffic control, tow truck operators manual, proper tow truck maintenance, all towing safety procedures, driver vehicle daily inspection report be in truck with driver, tow truck preventive maintenance

procedures, proper tow truck and equipment pre-operation inspection procedures, lubrication procedures, control/gauges, proper start up, use of transmission, backing procedures, over the road techniques, proper shot down, air tank drain, proper setting of brakes, cleaning of equipment, post inspection of tow truck and equipment, proper connection of towed vehicles, equipment being towed, securing towed vehicle, emergency warning lights, towing of vehicle, parking of towed vehicle, securing towed vehicle, American Red Cross first aid (or equivalent), knowledge of the geographic area to be covered.

- The operators attend an initial 16-hour training course put on by the California Highway Patrol. Every 3 months, they have to attend refresher training put on by the California Highway Patrol to remain certified in the FSP program.
 - The operator qualifications require a safe driving record and they must be 18 years of age. They are also required to attend a Wreckmaster or similar hands-on training at the expense of the contractor.
 - The service patrol operators must be a minimum of 18 years old, have PA Class C driver's license and a safe driving record, be sufficiently experienced in tow truck operations, and have Wreckmaster or similar training, American Red Cross First Aid or CPR and attend the contractor's Freeway Service Patrol training program. We utilize the Department's Traffic Control Technician 2 (TCT 2) and Traffic Control Technician 1 (TCT 1) positions for the TMC dispatchers.
 - Their training comes when they trained as deputies and were on patrol. Not specialized in patrol service.
 - They receive training in CPR, first aid, methods of operation, portable highway operation, hazmat response, customer services, traffic control, and work zone safety. All drivers come from our maintenance facilities, and we train them to our specifications.
 - Training requirements vary slightly by district with Road Rangers receiving 72 to 80 hours of initial training with 32 to 40 hours of the initial training taking place in the field.
 - We hire highway maintainers, and train them in Emergency Traffic Patrol in house. We keep staff updated with all training and have refresher courses that we give to current employees as well. We have guidelines that we follow (federal and state), and we have classroom and on-the-job training for 12 weeks before they go out on their own.
 - We hire them as maintenance technicians. Normally, we like them to have highway maintenance experience, and then they are eligible to get in response program. A few we hire directly into Incident Response.
12. **Are the service patrols/operators dedicated solely to the program?**
- Yes
 - Contractors have at least 2 spare operators.

- During peak hours, we have additional vehicles we bring out from the maintenance shop. Staff are on an overtime basis to increase our size during peak hours.
- Yes, but the PennDOT personnel also work in the tunnels performing various duties.
- Yes, it is a specialized position. Some drivers also plow snow (overtime).
- 10 on staff [8 on road], it is their only function.
- Yes, dedicated solely to program. (6)
- Yes. We have seasonal patrol on Highway 2. Would be a part of another maintenance crew, but from November 1 through April 15 (on Stevens Pass), they are dedicated solely. But other times available for call out.

If not, what other duties are they expected to perform?

- Being that services are contracted, it is not expected that operators be solely dedicated to the program, except during the hours of operation.
- Janitorial functions
- Other things – dispatch trucks out there, program manager, supervisor, and 3 shift leaders, also have a maintenance technician
- The operators are allowed to work for their companies as tow operators during non FSP hours if the company decides as long as they do not go over their required federally mandated driving hours in a day.

13. A: What type of communications capabilities with transportation agencies, specifically Traffic Management Centers, and/or other responders, does the service patrol have?

CB radio	4
CCTV – ITS cameras	1
Cell phone (some GPS/AVL equipped)	10
County/city radios	1
Media-Affiliate 2-way radio	1
Nextel phone	9
Onboard wireless laptop	2
Police dispatch radios	7
State highway/turnpike radios (most 800 MHz)	14
Scanner	5
2-way radios	2
VHF highband radios	1

- Other comments regarding communications:

- Cell phones and 800 MHz Radio. Use a stop time and service time to locate vehicle and dispatch to closest located vehicle.
- Co-housed with TMCs – constant 2-way radio communication, cameras and traffic surveillance in Nashville, Knoxville, and Chattanooga TMC is closely monitoring them and their action via GPS, etc
- Communicate directly via CapWIN system (onboard wireless laptop), state highway radios. We communicate with TMCs and other agencies in the field.
- County and city radios in the trucks. Talk to Transstar. TxDOT picks that stuff up.
- Drivers use radio procedures such as 10-8 (in service) at the beginning of the shift and 10-10 (off duty) at the end of the operation. Drivers need to advise the COMM Center whenever their status changes and should monitor their CHP frequencies. Drivers also use text messaging features of the mobile data terminal (MDT) such as the on-board computer.
- Initially, when we launched in 2000, we envisioned that this would be an integral part of ITS system. Wanted to alert TMC about traffic, etc. via DOT radios – didn't happen. Instead use DPS radios to talk with TMC.
- Use a Nextel phone to communicate with dispatch. Trying to get for all the trucks (have some) – radio system to communicate with sheriff and police.
- Service patrols use different systems. Some use 800 MHz state law enforcement radio systems (SLERS) telephones, others are getting radios that communicate with DOT maintenance offices and maintenance yards, and all have cell phones.
- We have our own Main channel between the FIRST units and dispatch; FIRST units monitor the State Patrol Main channel and Maintenance Main channel; FIRST units and beat troopers can communicate via talkgroups on the 800 MHz radio. We also have Nextel cell phones with AVL and are soon going to be having shared CAD/AVL in laptop computers in all the trucks so FIRST will be able to communicate directly with SP via text messaging with regard to location, incident status, etc. The biggest advantage we have is that all dispatchers (FIRST, MnDOT Maintenance, and State Patrol) are all housed in the same room in the RTMC, and we all have the capability to look at the same camera monitors and hear each other over the radio.
- 800 MHz radios that communicate directly with our TMC, cell phones, and state patrol radio communications. We are dispatched by the state patrol, so we can talk to troopers directly.

B: Does the service patrol provide the TMC with traffic updates?

- Yes (12)
 - All the time. They let the dispatcher know.
 - Communications – Verbal 2-way, also have police scanners.
 - If they respond to an accident or come across an unusual occurrence like an object blocking the traffic lanes they shall report it to dispatch. If they encounter heavy traffic and it is just congestion, no need to tell dispatch.
 - Incident Responders relay information from the specific corridors they are patrolling when encountering any incidents impacting the transportation system.

- Some info provided to 511 operator. Some info provided, not too much. No cameras in vans.
 - They provide updates on their location, incident status, etc. Traffic is continuously updated through an extensive network of detection on the freeway system.
 - Yes, as requested.
 - Yes – dispatch, TMC in same building as dispatch. Motorists and patrols can call in and then info is given to the media and info posted on Internet.
 - Yes, they relay everything from center to the field and vice versa.
 - Yes, the patrol operators are in constant communications with the TMC and the local State Police Barracks to ensure everyone is up to speed on any situation.
- No (2)* [* One has added it as a requirement in their new RFP for contract services]

C: What notification procedures and dispatch procedures are used?

- Cell phones and 800 MHz radio.
- Dispatch radio room in Schaumburg, IL, dispatches us to the locations/incidents.
- If we know that there is a disabled vehicle, we dispatch. There is a number, but we don't respond to calls all day.
- Just a drive by.
- No, can only call dispatch and can be patched through. Dispatch center number is public. Emergency response number on the back of every driver's license. 70 percent of incidents we just drive up on it and 30 percent of people get in touch with us. Can give out the cell phone number of the truck.
- Notification comes from the TMC or State Police directly. The TMC has provided the State Police with an 800MHz radio as well that can communicate directly to the service patrol vehicles. The service patrol numbers are located on the side of the vehicle along with a PennDOT symbol and "Freeway Patrol."
- Notification/dispatch procedures may be either an Incident Responder who comes across an incident (be it debris, stalls, or accidents) and relays that information back to the TMOC or the TMOC being called by a civilian or a police agency, who will then dispatch an Incident Responder to confirm the incident with eyes on scene.
- Number for general public to call.
- Our people are dispatched by Washington State Patrol. So our people respond like their troopers do.
- Our TMC is a 911 dispatch center and a traffic management center with State Police presence. All information on the system and off the system is reported to the operations center.
- Road Rangers are dispatched by the Traffic Management Centers, the contractor, or via self dispatch when they observe a motorist in distress or when they observe an incident such as debris on the highway or an accident that has just occurred.

- Sign in and sign off. They use unique numbers to locate staff. They use push cards, tear out numbers and *67.
- SP Dispatched by TMC, PA State Police, and self.
- SPVs will communicate and take orders and directions from the Department. At the beginning of each service, or upon finding any disabled vehicle, the SPV operator will notify the TMC of location model, color, and plate number of disabled vehicle. At the end of each service call, the SPV operator will notify the TMC and will fill out an incident information form and submit these to the Department on a weekly basis. If a repair will take more than 10 minutes to complete, the vehicle is relocated to a safe location off the interstate and the motorist is provided with a cell phone to use in order to obtain further help.
- The FSP is a roving service and this is how they locate the majority of the stops they make. At this time local law enforcement partners also have the ability to dispatch the FSP when needed.
- The service patrol calls in to the TMC dispatcher at beginning and ending of shift. For each motorist assisted, the FSP contacts the TMC dispatcher upon arrival, during the service and at the end of the service to log times, location of service, vehicle information, and services provided. The TMC phone number is available to the public.
- We have a large paging system for a multitude of state and federal agencies. State police are required to call and notify us of anything they know. We also monitor on our own using scanners.
- We have a navigator system, called call takers. We find out about accidents by driving up on it or being notified by the TMC. The TMC houses our dispatch operation. Call takers manage 511 system and take calls (from 911, the public, police, etc.).
- We typically receive calls for assistance from law enforcement. The number for our program is not advertised. Dispatch is either directly with law enforcement, through the TMC, or they self dispatch when incidents are discovered along their routes.
- 2-way radio, Nextel Direct Connect, cell phone dispatch to support roving service patrol service.
- 10-10, 10-8, 10-7, etc.

Kansas Motorist Assist Vehicle Kansas Department of Transportation Is the service patrol number available/advertised to the general public for roadside assistance?

- Yes
 - Advertised as calling *FHP for roadside assistance.
 - Motorist may call *99 for roadway assistance.
 - Number for general public to call operated by local law enforcement and can call *THP and *847.

- To advertise to the public, they use key chains, pencils, go to the auto shows and go to booths to advertise programs. Sheriff just did a commercial for their anniversary as a public announcement.
 - 511 is the service patrol number.
 - No
 - No, not directly. But, the public can dial #77 for state police or 911 to get through to the local dispatch center.
 - No patrol number is available/advertised to the general public.
 - No release of Incident Response numbers occurs to the general public, these identification numbers are used solely in house for identification purposes.
 - No, service patrol number direct communication by the public is not available.
 - No, the number is not published.
 - Public can't call, can only call 911. No one knows the other number.
 - Public is directed to call 911 for roadside assistance and then the state patrol can dispatch our folks.
 - The service patrol number is not advertised to the general public, we advise the general public to call 911.
 - There is no one dedicated service patrol phone number and therefore nothing is available/advertised to the general public.
 - There is no present advertising of the service.
 - We do not provide motorists with a number to call for roadside assistance.
- 14. Describe any other support elements to the service patrol program, such as:**
- Vehicle maintenance:
 - Done by our Maintenance Department
 - Done within DOT by our office of equipment management. We handle the normal routine. We have the ability to use our state/fuel express cards to get oil changes. Basic maintenance is done through our Office of Equipment Management.
 - Handled by DPS
 - Incident Responders work hand in hand with maintenance crews to mitigate an accident or provide traffic control. Typically IR is the first on scene and establish temporary traffic control until maintenance shows up. Once maintenance crews arrive they take over long term traffic control and the Responders are released to resume patrols of his corridor.
 - Sheriff's department handles maintenance and the facilities—they own trucks and operate
 - Provided by our Equipment Unit
 - TDOT maintenance centers, on same campus, dedicated mechanic or 2
 - Used by Harris County. Take care of all the maintenance
 - We maintain our own vehicles
 - Contractor responsible:
 - All of the tow trucks are taken care of by the individual companies.

- By contractor.
- Contractor provided.
- Contract out vehicle maintenance or use state highway facilities for vehicle maintenance. Our maintenance vehicles may be overburdened so we go outside for quicker service to ensure vehicles are on the road.
- Drivers are contracted, so most of the elements are the responsibility of the contractor.
- FSP vehicle maintenance is the responsibility of the FSP contractor.
- It is part of the contract for the contractor to provide.
- The contractor is responsible for the vehicle maintenance during non-patrol hours.
- Combination services:
 - In-house and outside vendors to repair our vehicles. Three mechanics on one shift working together. Major repairs go to outside vendors.
 - Varies by contract and city. Guys are responsible for maintaining their own vehicles (to an extent), monthly service coupon (brakes). Dealership does major work (mostly are still under warranty).
- General comments on maintenance:
 - Regular oil changes, fluid changes, etc. Each truck puts on about 65,000 to 70,000 miles per year, and each truck is replaced approximately every 3 years (200,000 miles). Snow tires are used in the winter.
- Maintenance facilities:
 - In-house/DOT/city/county/law enforcement facilities used:
 - All trucks are maintained at a MnDOT maintenance facility.
 - Handled by DPS.
 - Maintenance facilities are used a strategic staging areas for the Incident Response trucks. Instead of having one centrally located facility that all the trucks are staged at, we have strategically placed Incident Response trucks at the nearest maintenance facility closest to the Responders home address (within the Metropolitan area) to decrease response times when responding to emergencies or when reporting to their corridors for day to day operations.
 - Park at state police/highway patrol barracks. Don't have much tied up in the overhead of maintenance facilities. Try not to put money into the program into items that don't add to service.
 - PTC maintenance sheds.
 - We call out maintenance when we need them. We have a partnership with the state patrol where they provide training to our people.
 - Work with TDOT Maintenance.
 - Contractor responsible:
 - By contractor.

- Contractor provided.
- Drivers are contracted, so most of the elements are the responsibility of the contractor.
- The contractor provides as part of the contract.
- Other:
 - Numerous facilities in our area that we go to.
 - Trucks are taken to downtown facilities.
- Outreach and awareness:
 - Yes
 - At the end of the service call.
 - By DOT.
 - FTOs (field training officers) within the unit and supervisors go out on shifts in different areas and do outreach to different fire/police departments to let them know what our capabilities are, let them see trucks, go to roll calls, etc.
 - In the beginning when the FSP service first started, there was a press conference held to inform the public about the service.
 - Instant management committee around the state, public affairs office, communicate and development relationship with radio and TV traffic reported – cheerleaders, operators go to community events and schools.
 - MAG Web site—that's the only place with an update. Also, show off vehicles at events; well recognized; lots of support from public; 12,000 motorists were helped last year.
 - Media outreach (ride along with the Service Patrol).
 - Most recently a public awareness campaign was held referencing the "Move Over Law" that has been recently approved and released within Oregon. During this campaign it was identified that the Incident Response trucks performing motorist assists on the side of the highway are also certified emergency vehicles that fall under the category of this law.
 - Only do if there is a request. TxDOT is looking into this; no plan yet.
 - Our people to call in and update the TMC and that information gets put out via web site, etc., and released to public
 - Probably not enough of this done. A few years ago, due to budget shortfalls, the legislature and MnDOT were looking at ways to reduce costs and they considered eliminating this program. After much education effort, we were able to convince them that the FIRST program is a vital component of our Incident Management program and has many benefits to the public including congestion reduction and crash reduction.
 - Public Affairs department that handles that.
 - Talk to Exxon, have booths at conferences, speak to citizen's groups.
 - We promote the program through brochures and posters.

- WisDOT has developed a brochure describing the service and FSP operators hand the brochure out at each assist they make.

Standard Operating Procedures/Guidelines - Yes/No, if yes may we have a copy?

- Yes
 - A copy of the contract can be made available upon request.
 - Being reviewed and updated. We keep up on everything from state and federal.
 - DPS has them.
 - Guidelines are included in the FSP contract language and the draft RFP for contract services (copy provided).
 - Our current Standard Operating Guideline is being revised (copy provided).
 - Pretty standard. Didn't feel comfortable giving the SOP Guidelines as they are in the midst of updating. Will be out shortly.
 - Under redevelopment at this time.
 - We have guidelines for the service patrol vehicles in the contract, but there are no Standard Operating Procedures.
 - Yes, Unified Incident Command plan.
- No
 - Not yet developed.
 - There are no written standard operating procedures; the contract indicates how the FSP are to operate.

15. In this era of National Preparedness for disasters, how is the service patrol/ personnel anticipated to be used during a major disaster?

- Add vehicles as necessary to facilitate traffic.
- Any motorist that stops on the highway or on top or under structures is checked and encouraged to move on as a normal part of business. Removing incidents quickly and helping keep motorists moving during any type of evacuation by opening the lanes with either providing fuel or fixing minor issues or towing vehicles is an asset besides the normal elements of protecting the scene by blocking lanes in a very expeditious way until additional help arrives.
- Assistance to highway patrols, both PSP and local police, for disabled vehicle removal and for assistance with traffic control.
- By DOT or patrolling authority as requested. All depends on the agency. For example, hurricane in Florida—sent a bunch of trucks down there, vans are there to be used as needed, but not part of a plan or a first responder list, no MOU.
- During Hurricane Rita it was a big deal. They were escorting field trucks and offering cases and cases of water. Fuel was also provided. Escort of fuel tanks. Whatever they could help with for people.

- If a disaster happens, FSP is not allowed to go outside their scope of work. Based on the type of and seriousness of disaster, the FSP program will be suspended for that day.
- In accordance with UIC, evacuation, and detour plans.
- Incident Response and the TMOC would perform their duties as they do on a day to day operation. Both crews are fluent in the Incident Command System and its intent. Specific guidelines are referenced out of our Emergency Operations Plan that outlines specific procedures above and beyond current day to day operations.
- It is anticipated that the FSP would operate during a disaster - i.e. if there was an evacuation the FSP could provide a valuable service in quickly assisting/removing stalled vehicles, which could have significant impact on traffic flow.
- Not part of a formalized plan—in the process of formalizing. Are responsive to the sheriff's department. Have the capability to call people, though not in contract.
- Provide traffic control assistance.
- Road Rangers provide evacuation support for motorists. Beats can be expanded, and can be augmented with emergency contracts to function on short notice once a state of emergency is declared.
- They are all ICS 100 & 200 certified. The supervisors are kept up to date on Hurricane routes that they will patrol and other disaster-related information that is shared with NCDOT by State Emergency Management through regular meetings.
- They will be used as they are during normal rush-hour operations unless called upon to provide traffic control at a specific location, e.g., a ramp to the interstate, etc.
- Use them like we would use for any major emergency, have the ability to call them in to keep the roads open with tow trucks. No disaster training being done.
- We have held meetings with the MnDOT Director of Homeland Security and are part of the established metropolitan evacuation plan. We will follow the incident command structure in any major incident. We are generally used to provide traffic control and block ramps, etc.
- We help with evacuations in times of contraflow. Our role is to assist in helping to keep roads open during an evacuation.
- We do a variety of things. We act as state highway liaison; provide traffic control, clearance support, and equipment support; act as liaison for equipment routing; and serve as a conduit to signal operations to retime signals along alternate routes.
- We would do the same as we do now, respond to highway emergency initially and then assist state patrol or National Guard as needed. We are support to Wisconsin patrol or National Guard. We would be involved in wind storms, for example. We would shut down roads and put traffic control in place. Once situation is stabilized, assist with traffic control. Our function at a big emergency is the same, but the scale is

larger. Our people are all trained in NIMS and know their role in terms of assisting and supporting that system.

- Work with other agencies as needed and provide support to homeland security, etc.
- Work with TEMA, employee staffed with them that coordinates management of activities, included in state disaster plan, part of Nashville downtown evacuation planning. Value is traffic control; constantly in training.

5.4 Benefits and Lessons Learned

16. A: How is the general performance of the program measured? (NOTE: Some service patrols use more than one method to measure performance so those were separated into the categories below.)

- Comments cards/survey forms:
 - An FSP Assisted Motorist Survey Form has been developed to collect information. It is included as a component of the FSP Program Brochure. The driver distributes a copy to each party they assist.
 - By motorists feedback, immediate contact evaluations.
 - Public comments.
 - Public feedback—comment card, often via email.
 - Push to have comment cards that they give to the motorists. Most are very positive.
 - Self addressed/postage paid survey cards are provided to every motorist assisted.
 - The operators are also required to distribute motorist comments cards to each motorist they assist. These cards are sent directly back to WisDOT and are regularly reviewed.
 - Visibility on the roadway and a State Farm customer satisfaction reply card
 - We get comment cards, letters, number of stops, and types of service provided information from the districts. Rangers carry comment cards with them. The comment cards are provided to the motorist, and it is requested that the motorist fill out the card and mail (postage is paid by FDOT) them to the central office. We review and scan for data and provide summary back to districts.
- Program Statistics:
 - By number and type of assists. This year, TMC is dispatching so response time and incident duration will be measured.
 - Contractors are required to maintain detailed service logs, which are used to identify simple performance measures such as number of motorist assists and type of service provided.
 - Currently, the program is measured only by the number of incidents removed, type, and duration.
 - Have them report on activities, daily, weekly, and monthly reports. Record successful assists.

- Incidents can be queried to determine response, clearance and reporting times for local agencies to determine the efficiency of the program and identify improvement areas during lessons learned debriefs.
- Measured by the number of calls received.
- Patrol statistics (specific incident info). All vehicles have mobile data computer that is entered in real time—know what happened during all calls. If there is a vehicle that isn't meeting standards, need to reevaluate operating and/or route.
- Performance of the program is measured by how many motorists are assisted each year and how quickly vehicles are removed from the roadway.
- Statistics. How many contacts are made on the street with other motorists. Statistics that are generated based on work being done. Collect info on amount of work being done. Comment sheet from public, 15-20 responses/month – mostly positive.
- We have a gray notebook, quarterly reporting of performance throughout agency. We also participate in the government accountability program, and partner with patrols to report performance, response times, and clearance times with Governor's GMAP program.
- We have performance goals in business plan that we try to meet every year as far as response times, etc.
- We have only been using number of stops. We are changing to a more performance-based management and will grade the program based on response times, clearance times, and congestion levels. This is under development.
- We look at the number of assists, clearance times, travel lanes broken down into commercial incidents vs. incidents that don't have commercial vehicles involved. We look at time frames as far as roadway clearance and incidence clearance, and the time it takes to get all responders off scene. We look at response times to get all equipment off scene.
- We measure incident clearance times including interim measures of FIRST arrival, State Patrol arrival, tow arrival, lanes clear, etc. We also document numbers of incidents we respond to and type of incident (stall, stall blocking, crash, debris, etc.).
- We measure performance based on the number of motorists that have been helped. Get a break down of how many and circumstances.
- No real measurement:
 - Hard to measure; didn't do a lot of pre-program analysis. Don't have a cost-benefit, just use TTI figures. They project savings of \$15, keep count of traffic of numbers—biggest challenge.

B: Has a benefit/cost ratio been determined? If so, does a report/document exist that summarizes how the ratio was calculated and what assumptions were made and may we obtain a copy?

- No (7):
 - If it has, I don't remember. Not sure.
 - No, wish there was a national standard for cost benefit.

- Not been attempting yet, thinking about getting some.
- Not to my knowledge. But University of Washington Research Center has a program to do a benefit/cost study. Should be available in 2008/09.
- Thought about it, but thought it was a waste of time. Other studies indicate better than 1:35; not a danger because funded for 20 years.
- Unknown.
- Yes:
 - A B/C ratio has not specifically been determined, although a formal evaluation of the program was conducted by Marquette University and the University of Wisconsin in 2000.
 - A cost benefit analysis was completed in November of 2005. The overall cost benefit ratio for the Florida Road Ranger Program is 25.8 to 1. A summary of the report has been attached.
 - Customer service value and P3 offsetting costs.
 - In some markets, yes.
 - The effectiveness of the FSP program is assessed by calculating the annual benefit/cost ratio of each FSP beat. First, the annual savings in incident delay, fuel consumption and air pollutant emissions due to FSP service are calculated based on the number of assists, beat geometries and traffic volumes. The savings are then translated into benefits using monetary values for delay (\$10/hr.) and fuel consumption (\$2/gal.). The costs include the annual capital, operating and administrative costs for providing FSP service. The FSP evaluation methodology is incorporated into an Excel spreadsheet. Input data requirements consist of beat geometries (number of lanes, presence of shoulders), traffic volumes, and the number and characteristics of FSP assists. The statewide average benefit/cost ratio for fiscal year 2006/07 was 6.3-to-1.
 - There was an evaluation completed by the Pennsylvania Transportation Institute 1 ½ years after the onset of the Parkway Service Patrols. This report included the benefits of having the service patrol. It was never matched against the costs associated with having the patrol.
 - We have a cost-benefit ratio study done every year by the University of Maryland. Ours is one of the premier benefit-cost ratios in the country, along with Washington State. Older studies also on www.chart.state.md.us Reading room.
 - Yes, attached (NCDOT).
 - Yes, 15.8:1.
 - Yes, in 2004 Portland State University Center for Transportation Department of Civil & Environmental Engineering Center for Transportation Studies created the document titled *Using Archived Data to Measure Operational Benefits of ITS Investments: Region 1 Incident Response Program*.

C: How is contractor performance measured?

- Comments cards/surveys
 - At the end of each service call, the motorist is provided with a self-addressed stamped post card evaluating the service he received. If an operator receives more

than one unfavorable review in the last six shifts he worked, he will be counseled, a second such situation will result in a warning, a third will result in a suspension, and a fourth will cause a dismissal.

- It is measured on the responses we get from the traveling public. At the onset, there were pre-paid post cards that were given to motorists on the service they were provided. These cards were sent to the TMC Manager and tracked.
- Public comments are the best indicator.
- Survey cards.
- The operators are also required to distribute motorist comments cards to each motorist they assist. These cards are sent directly back to WisDOT and are regularly reviewed.
- Through the use of the Survey Cards.
- Statistics and public comment
 - By number and type of assists and customer survey cards.
 - Contract compliance, patrol statistics, patrolling authority and public feedback.
 - Contractors are required to maintain detailed service logs, which are used to identify simple performance measures such as number of motorist assists and type of service provided.
 - There are regular employee evaluations. Performance based on number of contacts per day. As individuals, they've helped on the road to fill out a survey. They receive hundreds of thank you letters that they also use as a performance measure.
- Statistics/contract requirements/inspections
 - Contractors are gauged by number of trucks on road; trucks are reviewed and inspected for proper equipment by district supervisor.
 - Every month, the truck and driver is inspected by a FSP coordinator and they can receive a grade of needs improvement, meets, exceeds, and outstanding. Every 3 months, we give an award for driver of the quarter. Driver of the quarter is based on the monthly inspections, citizen write-ins, no complaints, no accidents, and not being counseled for the 3 months. Once a year, we give an award for driver of the year. The driver of the year is picked from the four drivers of the quarter.
 - Submitting reports, close handle on it so we are very in the loop. Send out own inspectors. Hear from State Police.
- Other comments
 - Partnering with other agencies to help growth. Active participants in FHWA; would like to see a national coalition.

17. A: From your experience what are your top lessons learned?

- Coordination/relationships with other agencies:
 - Effective communications with all the partners is key to clearing incidents quickly and safely.

- Getting agency (and the right agencies) so that it can be sustained. Lucky to get with the MPO without having to dance around for funding. If you are doing this, look at integration into overall transportation planning process.
- Incident response is part of overall traffic incident management program within the state. It's bigger than just Washington patrol and DOT. It is a true partnership with other agencies. And trying to maintain partnerships is cost intensive and time intensive, with all the counties and personnel. So it's a challenge. Also, dealing with local agencies that don't have centralized command and control. So it's a challenge to reach out and touch all the people in all the areas that you need to partner with.
- It is all about the relationships; most traffic incident management problems can be handled through communications and relationship building. If there's a need to spend money on equipment training, the biggest bang for buck is developing relationships and everyone working together. Goes a long way. When those relationships get built, we are able to discuss the real issues out there in a non-confrontational manner and start discussing solutions. We work together as a group to get those things done.
- It is very important to establish positive relationships with law enforcement and the towing industry before implementing a freeway service patrol program. Convincing everyone that a service patrol is an integral part of an Incident Management Program and getting support from all involved will make for a smooth transition.
- When we first began program, there was a lot of interaction with law enforcement, but not much with fire department. We needed to have more with fire department. And we have been working on building that relationship and coordinating with them.
- Funding:
 - Funding—not that high. Can't hire auto mechanics; get people who are interested in autos and trucks.
 - Insure the portion of program funding dollars is directed towards program operation rather than administration of the program.
 - One of the challenges is the higher fuel costs. Fuel is such a huge part of what we do. Trying to absorb cost of higher fuel is impacting our program.
- Incident management:
 - Incident response is more than just incident response trucks. We have agreements with 14 counties to haul vehicle/body and do extrication there and reduce exposure of responder. Incident response is just one piece of incident traffic management. It involves a lot of different players, so we have to work with them.
 - In minor incidents where vehicles could be moved from the roadway, their quick removal by the FSP has allowed us to restore traffic flow more quickly and reduce the traffic queuing (observations made during events by watching the CCTV cameras in the area).
 - The effectiveness of the VMS boards on the FIRST trucks is invaluable in helping to direct traffic and slow motorists down.

- The program is needed for both managing traffic congestion, providing customer service, and assisting with NIMS. With three service vehicles, we had been helping 8,000 motorists a year, and since we contracted out six more at reduced hours, we are up to 14,000 assists. The emergency responders love the service and continuously ask to increase the hours of coverage.
- Outreach:
 - A lot of motorists aren't aware the service is available, so we need to make sure motorists are more aware.
 - Provide Community Safety Education and event support.
 - There is public education and outreach. Folks out there that know about us are the ones that see and use us, but we need to reach out more to those who haven't yet used our services.
 - We are also providing more public information on the Move Over law that is in effect in Florida as well as other states.
- Personnel:
 - Biggest challenge is turnover of personnel within the contractor; his was the low bid so quality can be marginal, because he is just squeaking by. Trying to establish a minimum wage to the drivers. If I had it my way "take a serious look at making it state employees because you can give them more experience and responsibility;" states would take over all together. Also, would like to have at least 16 hours a day coverage; would be easier to get with state workers.
 - Expanding a program with temporary employees minimizes growth. Turnover and retention is a constant issue. Constant retraining of new employees is also an issue. With experience comes the benefits of added safety (with additional knowledge) and efficiencies in clearance techniques with the added skills learned over time.
 - From the contracting side, make sure the hours of operation equals a full shift for each driver to enable each driver a 40-hour work week (you will end up paying the same amount for a 6-hour day as you would for an 8-hour day).
 - Managers deal mostly with personnel. Get qualified people who are interested in doing the work.
 - Match personnel training to incidents expected to resolve. Hire and support the best people as operators.
 - More positions are needed to effectively mitigate traffic in the upcoming future. Traffic congestion will only increase with more vehicles on the road and with limited construction capabilities we will be forced to find unique ways to manage incidents thru contra-flow during big incidents, most efficient access points for emergency services, etc.
- Public Benefit:
 - Has always been a great benefit to our customers.
 - I've learned this is a great program and it is a great benefit to the public.
 - Public has embraced the service.

- The MAP program has been received well by the public and provides an opportunity to foster good will and to increase mobility on the transportation system.
- The program is very beneficial to traveling motorists, and the majority of people sincerely appreciate service when received.
- The public is appreciative of the service, but holds very high expectations of PennDOT for this. If a motorist is in distress during times when the service patrols are not active, they asked about it and wanted to know why they were not assisted as others have been. These times show that through the expansion of the service patrol, more motorists would be assisted.
- The public survey cards returned indicate very positively that the public likes and approves of the service.
- Very valuable tool for the taxpayers. They are pleased with the service and how fast we react and respond to calls for help. Supervisors and staff do a great job.
- Safety/training:
 - Any program that deals with highway safety can always do better at providing more training. We want to have as many patrols on the road as possible. Maximizing service is the goal, so training is hard to coordinate because we have to pull patrols off the road. Priorities are making sure they focus on safety and providing continuing education for the operators.
 - “Don’t turn your back to traffic” – training is important. Have to be aware of environment because it’s dangerous out on the road. Safety is important.
- Other lessons:
 - Always stock up on water and always be prepared.
 - Implement web-enabled systems to monitor personnel attendance and performance.
 - Provide public safety level AVL/GPS systems. Design, build, and equip service vehicles to address a wide variety of incidents.

B: What has been your biggest challenge and what lessons learned can you offer from your experience administering the program?

- Contracting:
 - Progressing through the contract process with all the different departments/divisions that need to assist, review, and approve the contract documents. Insuring that the payments to the contractor are processed in the system in a timely manner for the services that have been rendered.
 - WisDOT has found that it is very important to have dedicated staffing for contract administration when services are contracted out. Additionally, a comprehensive contract with clear, strong contract language is invaluable. Finally, one of the biggest challenges has been ensuring that contractors follow driver training requirements and hire good, well qualified operators for the service.
- Explaining the benefits/quick clearance:

- Balancing our IMAP program with our ITS program. For a long time, we focused on traveler information and installed message boards, detection and cameras to tell the public what was in the road. Explaining the benefits of actually clearing the road has been difficult. Without proper reporting, expanding our program has been difficult.
 - Biggest challenge is communicating and demonstrating to ITS managers and consultants the value of implementing public safety level freeway service patrols and why they meet the needs of the motoring public and patrolling authorities alike.
 - Even with the assistance of the service patrols, we still have to coordinate better with our local partners to build an understanding of “quick clearance.” We communicate that through our service patrols, but since we do not have control of the incident, it is impossible to clear in an efficient manner.
 - We are working hard to provide better communication between the program and other emergency responders.
 - Funding:
 - Funding is always an issue. Fuel costs and such make it tough to expand program.
 - This has been the most positive program implemented. However, we would like to see more patrol services and our own department personnel, instead of having to contract out. The biggest challenge is identifying money to support the program.
 - Other challenges:
 - AVL tracking is a good way to monitor the daily operation and having a good database helps to manage the program.
 - Expansion is a challenge because the personnel that work in Dallas County live there, makes getting around a challenge. Might have to get people and trucks from the other counties. Frustration for motorists—get a call at 8:45pm, but can’t help people because trucks have to be back by 9pm.
 - They have not yet encountered any major challenges and the program is currently running very smoothly.
 - Qualified personnel:
 - As populations increase so too will traffic. Without the appropriate level of positions that will increase at an equitable rate with the population growth, the traffic situation will far outweigh the staffing agencies will have to combat the growing problem.
 - Keeping qualified personnel. Currently union personnel at a low rate. Personnel tend to be up out of the position.
 - The biggest challenge to our FSP program is the rotation of the drivers. New drivers constantly need training on radio procedures and how to respond to calls.
18. **If more funding was to become available, how would it best be spent? (Some had several priorities so these have been split into the categories below.)**
- Expand service areas/hours

- Add more patrols and mileage to be able to assist on the side of the road for minor incidences. More coverage to expand to the highway and not only the interstate.
- Expand and increase our patrol.
- Expand to York and Lancaster metropolitan areas (add 5 to 6 more trucks).
- Expanding the coverage area to incorporate all of the freeway miles in the Lehigh Valley, which would require more FSP vehicles as well as expand the hours of operation to cover the portion of the day that carries the majority of the traffic (currently Monday to Friday 6 am to 9 am and 3 pm to 7 pm, consider Monday to Friday 5 am to 10 pm).
- Have a night shift and weekend shift.
- I would increase the service.
- I would like to expand our coverage on I-79 to the north and south, and I would include major arterials that lead into the City of Pittsburgh. These facilities are very narrow and any incident causes major motorist delay. With the help of service patrols in these areas, I believe we would be able to assist more motorists and clear smaller incidents more quickly.
- Increase hours and service areas.
- Increase the hours of operation, would be good to expand to the shoulders areas of the peak periods. Extra special event coverage.
- Increased patrols would provide more public benefit.
- More coverage, additional routes and expanded hours (2nd more important).
- Probably to expand coverage (add routes).
- Provide additional service vehicles to patrol roadways and extending patrol hours of existing routes.
- Right now, we've got a lot of funding coming our way because we're expanding our operation and the program even more. So that would be the biggest thing. Expanding the area, more trucks, and more territory.
- Then consider expanding the patrols.
- We also would like to have 24/7 patrols.
- We would extend the hours of coverage in some existing areas, and add new coverage areas.
- WisDOT would expand the hours of operation and possibly the areas of service. Specifically, services would be expanded to further support seasonal and special event traffic demands.
- Would like a 24/7 operation
- Additional staffing/contracting/increase pay levels:
 - Change salary and allow for advancement for the personnel.
 - If acquiring permanent positions remains as it is now, the money would be spent contracting our additional patrols and looking into putting a skeleton patrol out for a 24/7 response. We are still a response agency after notification. We need to become an emergency response agency that is more proactive in clearing lanes. Expanding this program is the best, most cost effective way to bridge the gap to having NCDOT become a truly proactive response agency.

- Increasing positions for the Incident Response Program since we will never be able to build ourselves out of congestion, we will have to mitigate incidents thru effective and efficient traffic management of which the Incident Responders are an integral piece of a successful program.
- More positions would be great to expand program.
- Most important, would like to give pay increases to employees to hire additional people who have the education and skill level to do the job right.
- We are interested in pay incentives to heavy truck tows to clear traffic.
- Update fleet/equipment:
 - Equipment and more training to begin with. Funding priorities right now are to ensure all rangers have the best equipment, provide more training, and expand program. We want to make sure the guys out there right now have the best equipment they can have.
 - If more funding was available, it would best be used for newer radios.
 - Update our fleet and add more trucks and equipment. Hire more employees and mechanics. Purchase more equipment that is needed to update the fleet.
 - Upgrade equipment (including cameras, detection, etc. in addition to equipment in and on the trucks).
- Additional priorities:
 - Additional detection on system to monitor things and react electronically.
 - Do more outreach and marketing.
 - Interested in having regional traffic incident management teams to support local programs. We would also like to continue and expand a statewide traffic management conference. We had the first conference last year on a shoestring budget. Need 400 or 500 people there to do something.
 - Interested in traffic incident management training at fire academies and schools.
 - We could use more funding for tow-away zones in metro areas.
 - We would like to have funding for rural fire departments. Complaints that they have to come out on state highway and get no revenue for that.

Washington State Department of Transportation



WSDOT Incident Response Team truck

CHAPTER 6. GLOSSARY OF ABBREVIATIONS AND TERMS

AADT – Annual Average Daily Traffic

AASHTO – American Association of State Highway and Transportation Officials

ADOT – Arizona Department of Transportation

AED – Automated External Defibrillator

ATIS – Advanced Traveler Information Systems

AVL – Automatic Vehicle Location

Caltrans – California Department of Transportation

CapWIN – Capital Wireless Information Net

CCTV – Closed Circuit Television

CDL – Commercial Driver's License

CDOT – Colorado Department of Transportation

CHP – California Highway Patrol

CMAQ – Congestion Mitigation and air Quality

Congestion Initiative – The National Strategy to Reduce Congestion on America's Transportation Network. Announced initiative and plan by U.S. DOT to reverse trends of congestion.

ConOps - Concept of Operations. A formal document that provides a user-oriented view of a proposed new system. (Source: IEEE Guide for Information Technology-System)

DDOT - District Department of Transportation

DHS – Department of Homeland Security

DMS – Dynamic Message Sign also referred to as a Variable Message Sign (VMS)

DOT – Department of Transportation

DOTD – Louisiana Department of Transportation and Development

DPS – Arizona Department of Public Safety

DWI – Driving While Intoxicated

EMS – Emergency Medical Services
EMT – Emergency Medical Technician
EOC – Emergency Operations Center
ESF – Emergency Support Function
ETO – Emergency Transportation Operations
FDOT – Florida Department of Transportation
FFSP – Full-Function Service Patrol
FHP – Florida Highway Patrol
FHWA – Federal Highway Administration
FSP – Freeway Service Patrol
FTO – Field Traffic Officer
GDOT – Georgia Department of Transportation
GED – General Equivalency Diploma or General Educational Development
GPS – Global Positioning System
HAZMAT – Hazardous Materials
HAZWOPER - Hazardous Waste Operations and Emergency Response Standard
HOT – High Occupancy Toll
HOV – High Occupancy Vehicle
HSPD – Homeland Security Presidential Directive
IC – Incident Commander
ICS – Incident Command System
IDOT – Illinois Department of Transportation
IMAP – Incident Management Assistance Patrol
IR – Incident Response
IRU – Incident Response Unit
ITS – Intelligent Transportation Systems
ITS JPO – ITS Joint Program Office
KDOT – Kansas Department of Transportation
KHP – Kansas Highway Patrol

- MAG** – Maricopa Association of Governments
- MAP** – Motorist Assistance Program
- MDOT** – Michigan Department of Transportation
- MDX** – Miami-Dade Expressway Authority
- MnDOT** – Minnesota Department of Transportation
- MoDOT** – Missouri Department of Transportation
- MOU** – Memorandum of Understanding
- MPO** – Metropolitan Planning Organization
- MUTCD** – Manual on Uniform Traffic Control Devices
- NCDOT** – North Carolina Department of Transportation
- NDOT** – Nevada Department of Transportation
- NFPA** – National Fire Protection Agency
- NHS** – National Highway System
- NHTSA** – National Highway Traffic Safety Administration
- NIMS** - National Incident Management System. “The National Incident Management System provides a systematic, proactive approach guiding departments and agencies at all levels of government, the private sector, and nongovernmental organizations to work seamlessly to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life, property, and harm to the environment.” (Source: National Incident Management System, FEMA 501, Draft August 2007)
- NRF** - National Response Framework
- NTIMC** – National Traffic Incident Management Coalition
- NTTA** – North Texas Tollway Authority
- NUG** – National Unified Goal. Established by the NTIMC, the NUG is: responder safety; safe, quick clearance; and prompt, reliable, interoperable communications.
- NYSDOT** – New York State Department of Transportation
- OSHA** - Occupational Safety and Health Administration
- ODOT** – Oregon Department of Transportation
- PennDOT** – Pennsylvania Department of Transportation
- PIO** – Public Information Officer

PPP – Public-Private Partnership

RITA - Research and Innovative Technology Administration

ROP – Roadway Operations Patrol

RTMC – Regional Traffic Management Center

SANDAG – San Diego Association of Governments

SHSP – Strategic Highway Safety Plan

SLERS – State Law Enforcement Radio System

SOG – Standard Operating Guideline

SOP – Standard Operating Procedure

SPV – Service Patrol Vehicle

TCL - Target Capabilities List

TCT – Traffic Control Technician

TDOT – Tennessee Department of Transportation

TEMA – Tennessee Emergency Management Agency

TIM – Traffic Incident Management. Defined as “the systematic, planned, and coordinated use of human, institutional, mechanical, and technical resources to reduce the duration and impact of incidents, and improve the safety of motorists, crash victims, and incident responders.” (Source: Traffic Incident Management Handbook)

TIM Responder – Personnel responding to an incident that mitigate its effects. May include personnel from law enforcement, fire service, emergency medical services, HAZMAT, emergency management and public works

TMC – Traffic Management Center, may also be known as a Traffic Operations Center

Traffic Control Device – “All signs, signals, markings, and other devices used to regulate, warn, or guide traffic placed on, over, or adjacent to a street, highway, pedestrian facility, or bikeway by authority of a public agency having jurisdiction.” (Source: MUTCD)

Traffic Incident – “An emergency road user occurrence, a natural disaster, or other nonrecurring or unplanned event that affects or impedes the normal flow of traffic” (Source: MUTCD); or “Non-recurring event that causes a reduction of roadway capacity or an abnormal increase in demand” (Source: Freeway Management and Operations Handbook)

TTC - Temporary Traffic Control. In the context of the Service Patrol Handbook, TTC services are used in emergency or traffic incident situations. TTC devices, equipment, and personnel are implemented in response to an unplanned traffic incident. Typically includes resources that are “on-hand” and readily available to TIM responders and the FFSP. Should not be

confused with TTC imposed in response to highway maintenance, highway work zones or planned major events with longer durations.

TxDOT – Texas Department of Transportation

U.S. DOT – United States Department of Transportation

WSDOT – Washington State Department of Transportation

WisDOT – Wisconsin Department of Transportation



Florida Department of Transportation

Florida Department of Transportation radio truck

441x

CHAPTER 7. REFERENCED DOCUMENTATION

The following sections list the resources, documentation, interviews, and research used to support the development of the Service Patrol Handbook.

7.1 Interviews, Questionnaires, and Research

Using a standard questionnaire, 24 existing service patrol programs (listed below) were surveyed from across the United States. In many cases, the programs supplied supporting documents such as training materials, vehicle specifications, presentations, and SOPs for review. Chapter 5 contains the results of the interviews with these agencies.

- Boston Samaritan Program, Samaritan
- California Highway Patrol, San Diego Freeway Service
- Florida Department of Transportation, Road Ranger Program
- Georgia Department of Transportation, HERO – Incident Response Units
- Houston (City of) Metro Police Department, Motorist Assistance Program
- Illinois Department of Transportation, Emergency Traffic Patrol (Minutemen)
- Kansas Department of Transportation, Motorist Assistance Program
- Louisiana Department of Transportation, Motorist Assistance Patrol
- Maricopa Association of Governments (MAG), Freeway Service Patrol (Arizona)
- Maryland Department of Transportation, Emergency Traffic Patrol
- Massachusetts Highway Department, CaresVan/Samaritan
- Minnesota Department of Transportation, Freeway Incident Response Safety Team (FIRST)
- New York Department of Transportation, Highway Emergency Local Patrol (HELP)
- North Carolina Department of Transportation, Incident Management Assistance Patrols
- Oregon Department of Transportation, Corridor Management Team (COMET)
- Pennsylvania Department of Transportation (Engineering District 5-0), Expressway Service Patrol
- Pennsylvania Department of Transportation (Engineering District 6-0), Expressway Service Patrol
- Pennsylvania Department of Transportation (Engineering District 8-0), Expressway Service Patrol
- Pennsylvania Department of Transportation (Engineering District 11-0), Expressway Service Patrol
- Pennsylvania Turnpike Commission, State Farm Safety Patrol
- Tennessee Department of Transportation, HELP
- Texas Department of Transportation, Courtesy Patrol
- Washington State Department of Transportation, Incident Response Units
- Wisconsin Department of Transportation, Gateway Service Patrol.

7.2 Service Patrol Ride-Along

A researcher also conducted a ride-along with the Florida Department of Transportation (District 5) Road Ranger program, operated by the Central Florida Regional Transportation Authority (dba LYNX), the region's public transit agency. The researcher accompanied the service patrol operators during their daily routine to experience the patrols' duties first hand.

7.3 Resources and Documentation

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SEPTEMBER 16, 2010 MEETING
Committee Room 11

Submitted by Frank Forst, representing Local 194, International Federation of Professional and Technical Engineers:

“The public spirit,” Viewpoint, *The Star-Ledger*, March 24, 1995.

Submitted by John Costa, Chair, Amalgamated Transit Union:

“Bus privatization has not worked for some,” editorial letter from Marjoire W. Barnes, *Indianapolis Star*, October 18, 1999.

Dan Feldstein, “Critics rip privatized bus routes; shaky service draws 754 rider complaints,” *The Houston Chronicle*, February 28, 1997.

Jonathan Shikes, “Bus Stopped: The wheels on the bus go round and round as RTD struggles to find competent contractor,” *Denver Westword*, January 31, 2002.

Tom Held, “Rides for disabled cost county \$20 each; inefficiencies have pushed Transit Plus expenses far higher than expected,” *Milwaukee Journal Sentinel*, June 30, 1999.

Steve Gibson and Tony Bizjak, “Yolo County looks to fix bus woes,” *Sacramento Bee*, April 7, 2004.

Joe Goldeen, “San Joaquin County, Calif., to Hire Some Laidlaw Transit Service Workers,” *The Record*, October 14, 2002, 8Knight Ridder/Tribune 2002.

Submitted by Daniel J. O’Connell, New Jersey State Legislative Director, United Transportation Union:

“This road looks familiar,” Editorial, *Philadelphia Enquirer*, July 18, 2010.