Alternative Compliance
• Update, Overview, and Recommendations for Research

Report of Alternative Compliance Subcommittee
TRB ANB70 Committee on Truck and Bus Safety
January, 2012

Background

In 2004, the Truck and Bus Safety Committee sponsored two program sessions at the TRB Annual Meeting on Carrier Self Evaluation and Certification, featuring approaches in Australia, Canada, and the United States. Following that session the Committee decided to form a Carrier Self Evaluation Committee to monitor certification and self evaluation programs and recommend related research.

In early 2007 TRB published a follow-on CTBSSP Synthesis Report on Certification and Self Evaluation. In summary, the Report found that there is generally a common understanding of the appropriate elements for self evaluation and certification, but before such programs could become the basis for alternative compliance approaches, additional validation of the effectiveness of these programs in reducing safety incidents is needed.

Also in early 2007, TRB published a companion CTBSSP Synthesis Report on the Role of Safety Culture in Reducing CMV Crashes and Incidents. This report included discussions of Best Practices in Safety Performance, outlining those practices which could be the foundation of a carrier self evaluation or certification program.

As follow-on to these and related studies, the American Transportation Research Institute (ATRI) in January, 2011, published a paper assessing the benefits of Alternative Compliance.

The ATRI report and ongoing interest in the Truck and Bus Safety Community has spurred this paper by the Alternative Compliance Subcommittee of the Transportation Research Board Committee on Truck and Bus Safety (ANB70). The Subcommittee's charge is to monitor and report on various projects relating to self evaluation, certification and alternative compliance through these activities:

- Provide an ongoing inventory and reporting of international efforts and research could provide an informed basis for considering and comparing US efforts
- Perform an independent overview of all programs and projects could provide a credible basis for evaluating program effectiveness
- Make an assessment of research results and gaps that could aid the Federal Motor Carrier Safety Administration (FMCSA)and other organizations in developing research agendas relating to self evaluation and alternative compliance
- Serve as an information clearinghouse on carrier self evaluation and alternative compliance programs

In the fall of 2011, The Subcommittee undertook a focused effort to provide an update, overview, and recommendations related to its charge. The take off point for the effort was the Transportation Research Board Commercial Truck and Bus Safety Synthesis 12 – *Commercial Motor Vehicle Carrier Safety Management Certification*, published in 2007.

The Subcommittee has reviewed each program element reviewed in the synthesis, following the general organization and approach of the original document, and the results are the overview that follows. In addition, the Subcommittee identified some additional initiatives and programs that are closely tied to alternative compliance concepts. These are also discussed below. Finally, the Subcommittee has developed some general recommendations relating to additional research that could clarify the effectiveness of alternative compliance schemes, and spur continued progress in developing effective programs.

What is "Alternative Compliance"?

The focus of this paper is a concept termed "Alternative Compliance". It is essential for the reader to understand the nature and scope of this concept. The following excerpts from the ATRI publication relating to effectiveness of alternative compliance programs is a useful starting point.

> *"Both the U.S. DOT and the trucking industry have invested hundreds of millions of dollars to develop and test innovative safety research, technologies and initiatives. In a number of instances, this research has included critical cost-benefit analyses providing documented and replicable evidence that certain non-traditional safety approaches can reduce truck-involved crashes, injuries and fatalities. These "alternative" efforts – strategies that are typically voluntary relative to traditional activities – have given rise to an innovative concept known as "alternative compliance." **The goal of alternative compliance is to improve upon, or in some instances supplant, certain traditional safety management and compliance practices.** This research was premised on the hypothesis that, for many carriers, new approaches were needed to address what appears to be a plateau in national safety statistics.*
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> *Alternative compliance is tangentially grounded in the theory that "the best compliance is voluntary compliance." The alternative compliance concept derives from empirical data generated by analytical, objective research and "safe" carrier best practices. **The ultimate objective of alternative compliance is to develop, evaluate and promote new safety strategies to appropriate carriers using discrete incentives or inducements.***

Organization of this Paper

The following sections are in three parts.

1. Updates of programs set out in Synthesis 12
2. Discussion of new or related alternative compliance programs or concepts
3. Summary and recommendations for additional research and pilot efforts

Note: Not all of the programs described in Synthesis 12 are continuing or have changed in any significant way. This paper has included updates that are informative and useful in considering potential future efforts toward alternative compliance schemes. For example the Canadian Standard Association program relating to transportation standards, has not been further developed. The NPTC Best Practices program still exists, but has not grown significantly or been used as a foundation for alternative compliance. There have been no significant changes in the Military Surface Deployment and Development Command requirements that might further alternative compliance schemes.

UPDATE OF SYNTHESIS 12 – *"ALTERNATIVE MOTOR VEHICLE CARRIER SAFETY MANAGEMENT CERTIFICATION"*

ISO 9000/9001 Certification

Synthesis 12 set out a study by Naveh et al (2003), which analyzed the safety impacts of ISO 9000 on motor carrier safety performance. The Subcommittee found this more general information on this certification scheme in addition to the information set out in the synthesis report.

Traditionally, the effectiveness of ISO certification has been evaluated in terms of organizational outcomes, such as profitability, while its impact on employee outcomes has been less well researched. Levine and Toffel (2008) conducted a large-scale study of close to 1,000 manufacturing companies and found that ISO 9000 certified companies experienced improvements to employment, employee annual earnings, health, and safety, compared to non-ISO certified companies.

Nonetheless, company and employee benefits derive from competitive advantage, which depends on distinguishing oneself from the competition. Recent research (Benner & Veloso, 2008) has demonstrated that, when the majority of companies in an industry become ISO 9000 certified, the relationship between certification and financial benefits weakens considerably for those who are late adopters of the standards. Therefore, it appears there is a point at which an industry can experience ISO saturation and lose the advantages typically associated with being certified.

Older research suggests that ISO can still lead to improvements for late comers granted they buy into the standards (rather than using them because it is expected), assimilate them into their practices and go beyond minimal requirements (Naveh & Marcus, 2004). In this sense, learning associated with implementing ISO standards, whether from their own experience or the experience of early adopters, may be a better indicator of how effective ISO 9000 certification is expected to be (Naveh, Marcus, & Koo Moon, 2004).

Other notes: Standards have been updated from ISO 9001:1994 (which was the certification that carriers had in the Naveh study) to ISO 9001:2000 and now ISO 9001:2008. There were major changes between the 1994 and the 2000 standards, with the 2000 standards being more oriented to business processes and customer satisfaction, whereas the older standards were clearly focused on the management of operational processes. Comparatively, the 2008 update was relatively minor, primarily updating the 2000 standards by clarifying ambiguities

Insurance Practices

The biggest development relating to insurance practices following publication of Synthesis 12 surrounds FMCSA's new Compliance, Safety, Accountability (CSA) regulatory initiative, which launched nationally on December 10, 2010. CSA publicizes the violation and crash histories for all interstate trucking companies, updating the most recent two years of data on a monthly basis. Similarly, a Pre-Employment Screening Program (PSP) was created to allow carriers to view the most recent three years of violation data and five years of crash involvement data for all prospective truck drivers who apply for work.

Most insurers have already incorporated CSA data into their underwriting processes, evaluating risk exposure based on CSA performance over time and safety trends identified therein. As a result, insurers recommend that carriers regularly monitor their scores and address problem areas in a timely manner. Insurers have also increasingly recommended that carriers incorporate PSP standards into their hiring criteria to ensure prospective drivers meet safety standards.

In addition to new recommended practices stemming from these recent developments in driver and carrier safety records, a 2011 ATRI survey of CMV insurers revealed that many insurers also recommend formal Fatigue Management Programs (FMPs). This involves screening and treating drivers for sleep disorders and customizing optimal schedules for each driver, among other practices. To a lesser degree, some insurers also encouraged carriers to utilize onboard safety systems, such as FCWS, LDWS, EOBRs, RSC and speed limiters. Deploying technology alone, without a requisite commitment to safety, was not seen as sufficient for lowering risk, however. In fact, one insurer stated that "if these technologies are not managed properly, they may actually have the opposite effect [on safety] and create drivers who now believe that they are invincible and don't have to worry about speed and control of their unit, as they have the technology which will protect them from themselves."

As an incentive for superior safety management, ATRI's survey discovered that the CMV insurance industry appears somewhat receptive to offering immediate front-end "incentives" (e.g. insurance premium discounts) to motor carriers that proactively manage safety through proven best practices. For instance, one insurer stated, "We support the use of management tools and technology that will control the risk exposures that commercial auto drivers face on the job." When discussing incentives, premium discounts were the most popular method for rewarding recommended safety practices, followed by reductions to deductibles and formally recognizing or offering awards to exceptional carriers. These incentives are already being implemented by some insurers, while others plan to implement them in the next 12-24 months.

Australian Programs

Background

The (Australian) National Transport Commission's draft National Heavy Vehicle Enforcement Strategy , discussed in Synthesis 12, aims to boost the effectiveness of three components of the Smart Compliance Program: effective & well-targeted enforcement practices, education & communication, and training.

The idea is to build an approach that features a balance between regulatory means of ensuring transport safety and encouragement of innovation by industry to find and implement effective safety management strategies.

There are a number of ways that transport companies attempt to assess and assure that they have good safety practices in place. The primary reasons for this are to avoid costs associated with regulatory compliance procedures and insurance premium levels. The types of safety certification programs can be categorized into four distinct options: self-evaluative, alternative compliance, formal certification and mandated standards and practices.

The Australian Trucking Association (ATA) introduced a scheme called TruckSafe in 1996. This scheme aimed to lift the profile of the trucking industry and to improve the safety performance of heavy vehicle transport operators.

The successful implementation of the mass and maintenance management pilots led to the development of a national accreditation scheme. At their meeting in late 1997, Australian Transport Ministers approved the national framework for 'Alternative Compliance' schemes and agreed to offer industry a scheme that became known as the National Heavy Vehicle Accreditation Scheme (NHVAS). Then in 1999 the National Road Transport Commission - now National Transport Commission (NTC) - worked together with State road authorities to a pilot an accreditation scheme in Mass Management in Victoria and another pilot in Maintenance Management in New South Wales. A third pilot in Fatigue Management was instigated in Queensland at the same time as a collaborative effort by the Queensland road authority and the Australian Trucking Association.

Following these pilots, the Australian Trucking Association, subsidiary company, TruckSafe Pty Ltd has continued to develop and administer a series of safety management modules in TruckSafe.

In June 2006, the Ministers approved new business rules for NHVAS and the addition of a new standard for the maintenance of vehicle suspensions in the Mass Management module. This was introduced as part of the concessional mass limits package for accredited operators. Concessional Mass Limits (CML) for National Heavy Vehicle Accreditation Scheme (NHVAS) mass accredited vehicles were introduced on 1 July 2006. The concessions provided an extra one tonne for vehicles up to 55 tonnes gross weight and two tonnes for vehicles exceeding 55 tonnes gross.

Further changes to NHVAS were proposed and approved by Ministers in January 2007 to facilitate NHVAS accredited operators gaining access to the Commonwealth diesel fuel tax credit. These changes, affecting the Business Rules and the Maintenance Management module, became the second revision of NHVAS.

In 2002, Western Australian Government introduced a compulsory accreditation scheme for restricted access vehicles, including B-Doubles, over-dimensional vehicles and road trains. For other vehicles, the NHVAS accreditation is voluntary.

All other Australian States administer the NHVAS as a voluntary scheme that carries concessions.

Current Situation

National Heavy Vehicle Accreditation (NHVAS) modules were developed to support the National Transport Commission's (NTC) Heavy Vehicle Driver Fatigue (HVDF) reform, which was approved by the Australian Transport Council (ATC) in February 2007. The new laws took effect in 2008.

Benefits of HVDF accreditation include:
• Improved fatigue management practices;
• Meeting 'general duty' obligations;
• Better rostering flexibility;

- Alignment with OH&S laws;
- Assure customers that fatigue risks are being managed effectively;
- Improved road safety; and
- Potential for reduced insurance premiums. The two NHVAS modules are:

Basic Fatigue Management (BFM) – BFM helps manage the risk of working long hours and night work. In return, accredited heavy vehicle operators get a greater say in their work and rest schedules.

Advanced Fatigue Management (AFM) – operators can develop their own fatigue management system to meet the specific risks of their business. AFM is based on the current Fatigue Management Pilot (FMP).

More recently, Australian Transport Ministers have agreed to develop a new Heavy Vehicle National Law. The object of this Law is to establish a national scheme for facilitating and regulating the use of heavy vehicles on roads in a way that—

   (a)   Promotes public safety; and
   (b)   Manages the impact of heavy vehicles on the environment, road infrastructure and public amenity; and
   (c)   Provides for efficient road transport of goods and passengers by heavy vehicles; and
   (d)   Encourages and promotes efficient, innovative, productive and safe business practices.

The object of this Law is to be achieved by a regulatory framework that—

   (a)   Establishes an entity (the National Heavy Vehicle Regulator) with functions directed at ensuring the object is achieved; and
   (b)   Provides for the national registration of heavy vehicles; and
   (c)   Prescribes requirements about the following—
         (i)   The standards heavy vehicles must meet before they can be used on roads;
         (ii)   The maximum permissible mass and dimensions of heavy vehicles used on roads;
         (iii) Securing and restraining loads on heavy vehicles used on roads;
         (iv) Preventing drivers of heavy vehicles exceeding speed limits;
         (v)   Preventing drivers of heavy vehicles from driving while fatigued; and
   (d)   Imposes duties and obligations directed at ensuring heavy vehicles and drivers of heavy vehicles comply with requirements mentioned in paragraph (c)(i) to (v) on persons whose activities may influence whether the vehicles or drivers comply with the requirements; and
   (e)   Includes measures directed at the matters mentioned in section 3(c) and (d) by allowing improved access to roads in certain circumstances, including by—
         (i) Allowing heavy vehicles, that would otherwise be prevented from being used on roads, access to the roads through exemptions or authorizations granted in circumstances in which the matters mentioned in section (a) and (b) will not be compromised; and
         (ii) Providing for accreditation schemes allowing operators of heavy vehicles who adopt best practices directed at the objectives of the Law to be subject to alternative requirements more suited to the operators' business operations.

Industry managed schemes

TruckSafe

TruckSafe Pty Ltd is a wholly owned subsidiary company of the Australian Trucking Association. TruckSafe is a business and risk management system that is aimed at improving the safety and professionalism of trucking operators nationwide. It is an industry initiative, which delivers competitive advantages to accredited operators. TruckSafe accreditation is based on four key standards:

> **Management -** Aimed at ensuring that a trucking operator has a documented business system which covers each of the standards

> **Maintenance -** Aimed at ensuring vehicles and trailers are kept in a safe and roadworthy condition. This standard covers the requirements for daily checks, fault reporting and recording, fault repair, scheduled maintenance, maintenance records and documentation, maintenance responsibilities, internal review, and maintenance training and education. TruckSafe maintenance also complies with NHVAS maintenance standards.

> **Workplace and Driver Health -** Aimed at ensuring that drivers are fit and healthy and Occupational Health and Safety requirements are met. This standard covers requirements for Workplace Health and Safety, Driver Health Screening (including medicals), the role of the medical practitioner, rehabilitation and fatigue management.

> **Training -** Aimed at ensuring that drivers are licensed, authorized and trained for the tasks, which they are undertaking.

These are the minimum standards a trucking business should meet for it to be a safe, responsible operation. For operators, accreditation shows that they are meeting their due diligence and duty of care.

For customers, TruckSafe provides confidence that contractors have responsible work practices, well maintained vehicles, healthy and trained drivers and management systems to meet their transport needs. This also helps customers to meet their due diligence requirements.

On 11 October, the Victorian Government formally recognized the trucking industry's safety accreditation program, TruckSafe, as an industry code of practice under the State's Road Safety Act.

The decision means it will be easier for TruckSafe accredited operators to prove they have taken reasonable steps to prevent breaches of the road safety laws. It recognizes that TruckSafe operators are required to meet stringent standards to maintain their accreditation.

The Chairman of the Australian Trucking Association, David Simon, said, "Under the chain of responsibility laws, all parties in the supply chain must take reasonable steps to prevent breaches of the driver fatigue, speed, and mass, dimension and load restraint rules." "The Victorian Government's recognition of TruckSafe as an industry code of practice confirms that complying with the letter and spirit of the TruckSafe standards, rules and code of conduct is a way that businesses can take reasonable steps to prevent road transport law breaches," Mr Simon said.

 "A growing number of industry customers now require firms to be accredited, to meet their own chain of responsibility obligations. Independent statistics show that TruckSafe businesses are twice as safe as non-accredited operators, with far fewer vehicle defects. And now the Victorian Government has recognised that proven compliance with the TruckSafe standards is evidence that you have taken reasonable steps to prevent safety breaches in the areas covered by the standards. It's an extra level of assurance for

TruckSafe operators and their customers or prime contractors," he said.

TruckSafe accredited operators are required to meet special management, maintenance, driver health and training standards. Their compliance with those standards is audited regularly by external auditors, drawn from RABQSA[1] and selected by the TruckSafe Board.

Operators accredited under TruckSafe automatically meet the environmental criteria to receive the Australian Government's 15.043 cents per litre fuel tax credit, and automatically meet the Queensland Government's requirement that all its contractors have quality assurance programs.

ATA comments about its program:

- Incentives to participate
    - *Better business outcomes, positive view by one primary insurance provider, marketable commodity*
- Percentage of industry uptake
    - *Less than 10% of the industry*
- Cost effectiveness of implementation
    - *Industry run scheme seen by members as value for money if safety focused company*
- Impact on regulatory compliance
    - *Proof of higher levels of compliance*
- Impact on safety outcomes
    - *Twice as safe*
- Impact on vehicle fleet safety standards
    - *Proven higher levels of road worthiness than non members or member of Government run schemes*
- Reach to all players in the supply/logistics chain
    - *COR (Chain of Responsibility) links strong clients increasingly looking on Trucksafe with very positive eyes. Some even require it for their contractors.*
- Integration or complementarily to the regulatory regime
    - *Complementary now recognized as establishing prima facie reasonable steps defence*
- Integrity of the audit process
    - *Very high due to policies about who and how auditors as selected and frequency of use for same operator also accreditation decisions are made by independent body, with community police and regulator involvement as well as industry.*
- Participant satisfaction (including bosses and workers/drivers)
    - *Highly recognized good driver health promotion program, and safety outcomes also held dearly my members for rigor in instilling risk management in to business.*

Retail Logistics Supply Chain Code of Practice (RLSC)

The RLSC began in 2006 with five members – retail majors Woolworths, Coles and Metcash and transport giants Toll and Linfox. It has grown to include more than 60 businesses involved in the retail logistics supply chain. The Australian Food and Grocery Council, the National Transport Commission and the Australian Trucking association have also been centrally involved. The Australian Logistics Council (ALC) is the custodian of the Code.

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[1] RABQSA is an Australian personnel and training certification body. RABQSA was created in 2004 from the acquisition of the personnel certification activities of United States of America-based Registrar Accreditation Board (RAB) by Australia-based Quality Society of Australasia (QSA).

The ten-point code supports a clear chain of responsibility in freight logistics, which involves all parties in the operation from the supplier and retailer to the carrier and logistics provider. In setting clear operational and administrative guidelines for compliance with the spirit and letter of law, the code recognizes the importance of public safety and amenity in retail logistics operations.

While the Code of Practice is voluntary and applies only to signatories, it will be a requirement of doing business with the major retailers. It reinforces minimum levels of behavior to help those in the retail logistics supply chain manage their obligations under relevant road transport and occupational health and safety laws.

The Code of Practice is made up of 3 parts:
1. the 10-point Code of Practice document (which is signed by the company and ALC) which is the formal commitment
2. a document which sets out the operational and administrative guidelines
3. a responsibility matrix which details the responsibilities for each specific role in the supply chain

The RLSC Code of Practice requires all signatories to undertake annual compliance audits conducted by a 3rd party independent auditor who has been specifically chosen because of their RABQSA[2] accreditation for heavy vehicles and industry experience.

In September 2011, the RLSC was registered as a Code of Practice under Victoria's *Road Safety Act 1986.* Registration of the Code means that if a company is changed with a breach under one of the provisions of the Act, it can use the Code to provide the basis for a 'reasonable steps defense'.

The RLSC is a license to the NLSC (see below) and with the Heavy Vehicle National Law (HVNL) set to commence in 2013, ALC will now work towards having the RLSC and NLSC registered under the HVNL.

National Logistics Safety Code (NLSC)

The NLSC is an industry based Code setting out clearly all logistics chain participant's responsibilities when they control or influence the movement of freight in the supply chain, particularly road transport laws and OH&S legislation.

The NLSC has been developed by the Australian Logistics Council (ALC) by the harmonization of the Retail Logistics Supply Chain Code of Conduct (now a Code of Practice) with the Steel Code of Practice. Further industry codes are currently being assessed for inclusion in the NLSC.

The NLSC was registered as a Code of Practice under the Victorian Road Safety Act 1986 and is the third ALC Code to receive Code of Practice status, with the RLSC Code of Practice and the Steel Code already recognized.

ALC Managing Director, Michael Kilgariff says: "Registration of the NLSC as a Code of Practice under the Heavy Vehicle National Law would be a significant breakthrough in terms of assisting companies better understand their Chain of Responsibility requirements.

"With the Heavy Vehicle National Law expected to deliver a greater national approach to Chain of Responsibility (COR) obligations, registration of the NLSC would provide Code participants with greater

assurance that they were meeting their COR requirements. This is an important concept for all company employees, including management, as directors may be liable for a breach under the Heavy Vehicle National Law."

The NLSC is:
- Single, comprehensive code for transport and logistics (T&L)
- Flexible and adaptable for the needs of each individual business
- Voluntary code of minimum operational standards that meet the highest level of regulation impacting T&L throughout Australia.
- Industry based and designed to be used as a condition of business
- Independent third party audited

The Code applies to regulation and standards applying to the following activities within the supply chain:
- Chain of Responsibility
- Occupational Health & Safety
- Scheduling and transit times
- Time slot management
- Safe loading practices including mass, dimension and load restraint
- Driver fatigue management including driver health and fitness for duty
- Speed compliance
- Vehicle safety

ALC comments:
- Incentives to participate
    Nationally consistent approach to CoR
    Requirement of doing business
- Percentage of industry uptake
    Very low at this point
- Cost effectiveness of implementation
    Significant safety improvement, operating efficiencies and understanding of legislative requirements by all of business
- Impact on regulatory compliance
    In 2006 average reported compliance was 40%.
    In 2011 Average reported compliance is 85%
- Impact on safety outcomes
    Significant reduction (as reported by signatories)
- Impact on vehicle fleet safety standards

- Reach to all players in the supply/logistics chain
    Both the RLSC and NLSC contains signatories from all aspects of their respective supply chains
- Integration or complementarity to the regulatory regime
    100% integration into current business systems to better assess individual company compliance to regulatory requirements
- Integrity of the audit process
    All audits are independently audited by 3rd party independent auditor that have been specifically selected with the necessary heavy vehicle and safety requirements
- Participant satisfaction (including bosses and workers/drivers)
    Generally well accepted by all signatories

In 2009 the ALC granted TruckSafe permission to conduct a gap analysis between the Retail Logistics Supply Chain Code of Practice and TruckSafe so that TruckSafe members who are current signatories to the Retail code could integrate the 2 into their normal business practices.

The module allows TruckSafe member companies who are already signatories to the RLSC to be compliant with the Australian Logistics Council facilitated Code of Practice, which is designed to ensure that all participants in the supply chain are aware of their legal and safety responsibilities.
The module is designed to ensure that TruckSafe accredited trucking companies, who are current signatories to the RLSC Code of Practice, identify the extra requirements over the existing mandatory TruckSafe modules that are required to be compliant with the code.

TruckCare

The Australian Livestock Transporters Association - made up of State associations across Australia developed TruckCare on its own initiative, in response to the need to improve animal welfare, food safety, OH&S and biosecurity risks in the industry. It is the Australian Livestock Transport Industry's independently audited quality assurance program. The program is built around the quality assurance principles contained in international standards and also uses hazard analysis of critical control points, to manage the risks and give customers, governments, the wider community and the trucking operator themselves confidence that the livestock transport task is being carried out professionally at all times. TruckCare is designed to integrate with other quality programs across the Australian meat and livestock sector.

The TruckCare program introduces a quality management system into your livestock transport business. TruckCare has been professionally developed with input from leading edge veterinary science, peak animal welfare bodies, Governments across Australia and the meat and livestock industry.

The focus of this scheme is planning and preparation for safe livestock transportation. The primary aim is to assist compliance with animal welfare laws for stock in transit.

Government managed schemes

National Heavy Vehicle Accreditation Scheme (NHVAS)

In June, 2009 a report on a review of the Accreditation Policy, prepared by the National Transport Commission, was released. It concluded that the intention to provide more flexibility in the operations of the transport industry through alternative means of demonstrating compliance with good safety management practices was realized, and that significant productivity benefits were achieved. Moreover, governments and businesses alike are generally happy with the schemes – although some government agencies have questioned whether the safety benefits have been achieved and seek improvements to the policy.

With additional standards and flexible management arrangements offered by NHVAS, the schemes have evolved from alternative compliance programs to being better described as audit-based compliance, or a national permitting policy.

In addition, the policy needs to take into account changes to national regulation and enforcement infrastructure currently taking place. A national regulator for heavy vehicle road transport has been approved with transport regulation now being established at a national level. The model adopted for this

is one of passing legislation in the Queensland Parliament, followed by each State and Territory adopting the legislation in their own Parliaments.

An independent National Heavy Vehicle Regulator (NHVR) responsible for regulating all vehicles in Australia over 4.5 tonnes will become operational in 2013. While the NHVR office will be based in Queensland, it will provide services through each existing state or territory road or transport authority.

The NHVR will also be responsible for ensuring consistency in operational policies and the services it provides, including compliance and enforcement. All levels of government are working together to develop the intergovernmental arrangements necessary to implement and support the new national system.

Integral to establishing an independent National Heavy Vehicle Regulator is the release of the Draft Regulatory Impact Statement (RIS) and the draft Heavy Vehicle National Law. The National Transport Commission (NTC) and the National Heavy Vehicle Regulator (NHVR) Project Office are working together in this critical consultation phase to ensure stakeholders have the opportunity to comment. The NTC is leading this consultation phase.

This consultation phase provides an opportunity for everyone in the heavy vehicle transport chain to have their say in shaping the laws and how a national regulator should operate. A series of forums were held around Australia during the ten-week public consultation period from 28 February 2011.

The NHVR Board was established in 2010 and has approved the operational policy and systems to be progressed for detailed development for the Regulator. These include 16 projects grouped into four topic areas:
- access: single point of contact, national heavy vehicle network mapping, and decision making.
- compliance and enforcement: strategy, data audit and intelligence, data capture and sharing, on-road processes, product services and support, fatigue exemptions and accreditation, intelligent access.
- vehicle standards: accreditation and authorization, audit processes, and inspection standards.
- registration and plates: minimalist approach, operations policy and procedures, long term strategy.

The NHVR Project Office has been working with state and territory governments through a number of workshops to present information on what policies and systems for each topic area may look like once the NHVR is established. As a crucial step in this process, each state and territory government has been asked to analyse, define and map their current policies and procedures for each topic area.

The majority of freight transport that occurs in Australia relates to intrastate movements. The National Heavy Vehicle Regulator is more than just about harmonizing laws across state and territory borders.

The NHVR will provide a platform for unifying industry and governments in adopting approaches based on evidence and applied to all aspects of heavy vehicle regulation. As an independent entity the NHVR has the potential to assist with identifying issues and trends and ascertain measures that will meaningfully improve safety, promote better productive and innovative arrangements, and make customer service more efficient.

For this and other reasons, the NTC recommended to the Australian Transport Council (of State and Federal Ministers) to give approval to the following proposals:
- To update the policy objectives for audit-based compliance;

- To amend the model legislation for audit-based compliance, including ensuring that there is flexibility for additional standards;
- To review the mass and maintenance standards;
- To review the auditor standards and arrangements;
- To consider amendments to the Compliance and Enforcement Bill to provide further incentives for meeting audit-based compliance standards; and
- To consider having a single national administrator for the policy.

The objectives of the revisions to the existing alternative compliance policy are to:
- Update the policy objectives to reflect how the policy is used;
- Improve the integrity of the policy to increase confidence that the policy is delivering its objectives;
- Have a single national entity to administer or oversee the policy; and
- Explore further incentives for participating in the Scheme.

Auditor Certification Scheme Updated: 21 July 2009

The NTC reported that RABQSA International is offering a scheme for the certification of auditors for the three main heavy vehicle accreditation schemes in Australia. The heavy vehicle accreditation auditor certification scheme replaced the existing arrangements for the National Heavy Vehicle Accreditation Scheme, WA Heavy Vehicle Accreditation and TruckSafe from 16 October 2006.

The scheme effectively created a single national pool of highly qualified and competent auditors to serve the interests of the three schemes. It was seen as a significant step in maintaining the integrity of the schemes.

Not only will it be in the interests of the three scheme owners but also it will raise the level of professionalism in the auditing industry. With accreditation being a feature of a number of NTC reforms, it is imperative that the quality of auditors be maintained at a high level.

There was a two-year transition period for auditors who were certified for any of the existing schemes to become certified under the revised arrangements. A requirement for entry to the scheme is for auditors to undergo a skill examination in a real life situation under the watchful eye of a RABQSA Skills Examiner. The three scheme owners have recognized that this involves an additional cost and agreed to subsidise this part of the certification process for an existing auditor during the transition period.

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NTC, Accreditation Policy Review, June, 2009

Discussions with Justin Fleming, TruckSafe, Duncan Sheppard, Ian Ross and Michael Kilgariff, Australian Logistics Council

Canadian Programs

The principal ongoing Alternative Compliance Program in Canada is the Partners in Compliance Program in the Province of Alberta. The following is a description of the current program.

Program description:

The Partners In Compliance (PIC) initiative is a carrier excellence program available to truck and bus operators in Alberta, Canada who can demonstrate excellence in safety compliance as well as low collision and injured- worker statistics achieved through proactive safety practice and programming. PIC has been operating in Alberta since 1998 other than an eight month period in 2006 in which the program was halted while undergoing a review and re-design to attract more carrier support. The program had 15 member carriers in 2006 prior to the review, and since then has grown to 39 member companies with more than 6500 vehicles involved. The steady growth can be attributed to the benefits for member carriers that were provided by the Government of Alberta in 2006.

Benefits of membership:

- PIC carriers are provided with driver profile documents free of charge, that would normally sell for $15.00 per copy
- PIC Carriers are the only carriers in Alberta that have the privilege of full highway bypass of inspection stations and are enabled to do so through the use of roadside readers and transponders.
- PIC carriers are awarded "Excellent" safety ratings.
- PIC carriers are provided with a quarterly safety report that provides them with their safety record in all areas of operation, and in comparison both the PIC safety benchmarks and with other PIC carriers.
- Carriers and their employees have identified a number of non-tangible benefits of PIC membership including; positive attitude and pride of employees, a lower rate of worker time loss due to injury and illness, less driver turnover and better relations with customers and enforcement agencies.

Criteria for carrier admission include:

- Participation in a National Safety Code audited safety rating
- Submission to a PIC audit where the carrier safety practices are documented and an R-Factor (risk) assessed that compares the carrier's safety record with pre-established safety benchmarks. The risk or (R) factor is calculated by assigning a numeric weight to each collision, poor inspection result and enforcement action and applicants must achieve a specific level in order to be considered for membership.
- Acceptance of a management interview and recommendations for change by PIC administrators
- The completion of a quarterly PIC safety report with no area exceeding the safety benchmarks.
- Submission of a workers' safety certificate of recognition which confirms that the carrier's health and safety systems have had an impact on reducing workplace injuries.

Evaluation:

Although no formal evaluation on PIC has been done to determine the impact on commercial vehicle safety, safety benchmarks achievement and a low risk (R-Factor) are readily available for all carriers, and re-calculated quarterly. The only data available to suggest that PIC carriers have achieved a higher level of safety risk is a six month tracking of out-of-service rates for the entire fleet of PIC trucks, which was found to be 9.6 %. In spite of the lack of formal research to determine the impact on safety, the program has resulted in the creation of an industry safety culture, wherein the growing esteem associated with an Excellent safety rating through PIC membership is viewed by industry leaders and government sponsor to be an effective approach to ensuring a higher level of commercial vehicle safety.

North American Fatigue Management Program (NAFMP)

The NAFMP is a comprehensive program, developed by a consortium of government, insurance and trucking agencies in Canada and the U.S., to mitigate driver fatigue in commercial vehicle operations. Rather than focus on one fatigue countermeasure, the NAFMP includes:
- Education and training for family members, corporate executives, safety supervisors, dispatchers and drivers on the recognition, causes and mitigation of fatigue
- Corporate culture change to support FMP
- Sleep-disorder screening and medical support
- Scheduling tools for dispatchers
- Fatigue management technology

Each countermeasure developed as part of the total program was tested in a real-time carrier working environment and measured for effectiveness in its own right, and as part of the total program effectiveness. The research indicated that the integrated and comprehensive approach to fatigue management is a realistic and effective means of dealing with fatigue in truck and bus operations.

The NAFMP is currently being prepared for use by the motor carrier industry whereby all materials, guidance and support for deployment of a comprehensive and integrated FMP will be made available on the NAFMP website. An instruction manual for implementation and a carrier business case for FMP will also be included.

The NAFMP was presented to the Motor Carrier Safety Advisory Committee and all components of the NAFMP were identified as being essential elements of an FMP and "identified this practice as a significant non-regulatory safety practice that could be implemented throughout the motor carrier industry." MCSAC also suggests there should be consideration of incentives to promote the use of FMP. The NAFMP will be available to carriers, government, and insurance companies by mid-2012.

Preclearance Programs

Both the PrePass and NorPass Preclearance programs are continuing, basically in the form described in Synthesis 12. As stated in the Synthesis: "carrier safety performance is 'built in' to the programs because carriers must maintain threshold performance to remain eligible for participation in the programs."

Carrier qualification for both programs is based on performance measured against FMCSA safety evaluation criteria. These criteria have continued to evolve following publication of Synthesis 12. Interestingly, ***implementation of FMCSA's new Compliance, Safety and***

Accountability Initiative (CSA) evaluation criteria is raising a number of questions as to the application of performance measurements. The dilemma stems from the "alternative compliance" nature or preclearance programs (that is carriers deemed safe are not required to stop for inspections) and the "inspection-based" nature of CSA. Under CSA carrier scores are based in part on inspection results, with positive results leading to higher scores, and thus reducing FMCSA interventions and direct reviews. A minimum number of inspection scores is an element in evaluation of each carrier. Thus some "safe" carriers, from the standpoint of preclearance programs, are finding that their lack of inspections is potentially lowering their CSA scores.

From an "alternative compliance" standpoint, this is a perverse result. This concern has been raised within the Commercial Vehicle Safety Alliance (CVSA), and is being addressed through CVSA's interaction with the PrePass and NorPass organizations.

NEW ALTERNATIVE COMPLIANCE CONCEPTS

Following publication of Synthesis 12, and on the basis of industry interest in innovative safety practices and concern over the questionable effectiveness of traditional compliance efforts, ATRI and CVSA explored various nontraditional approaches to safety management. Specifically, an ATRI/CVSA report was prepared in early 2011 to examine the potential of several "alternative" (and voluntary) efforts for improving upon, or in some instances supplanting, certain traditional safety management and compliance practices in the U.S. trucking industry. Already, a number of alternative compliance tools, strategies and devices are available to trucking companies; however, carrier utilization of these options would be significantly more rapid and widespread if carriers were given immediately visible incentives for adopting these unconventional approaches to safety management. One such option would be easing or removing current regulatory burdens in exchange for participating in alternative compliance.

Focus and Objectives. ATRI and CVSA embarked on research to document current compliance programs, regulations, policies and procedures across the trucking industry. Once identified, traditional compliance activities were mapped to potential alternative compliance activities, as seen in Table 1. The ATRI/CVSA report describes in great detail how each alternative compliance method is capable of improving safety and financial performance, over and above the respective traditional approaches. Evidence of increased efficacy is gathered from existing literature and data sources that point to positive safety and return on investment (ROI) results for the "toolbox" of alternative compliance options found in Table 1.

Table 1. Traditional Compliance (TC) and Alternative Compliance (AC) Activities

Existing TC Activity	Potential Corresponding AC Activity
Driver Annual Motor Vehicle Record (MVR) Review	Employer Notification System (ENS)
Driver Logs (paper copies)	Electronic Onboard Recorders (EOBRs)
Hours-of-Service (HOS)	Fatigue Management Program (FMP)

Existing TC Activity	Potential Corresponding AC Activity
Commercial Driver Drug Testing using Urine	Commercial Driver Drug Testing using Hair
Entry-Level Driver Training	Simulator-based Training
Driver Speed Management	Speed Limiters/Speed Governors
Highway Enforcement and Vehicle Inspections - Traditional Carrier Safety Management Practices	E-Screening Programs Forward Collision Warning System (FCWS) Lane Departure Warning System (LDWS) Roll Stability Control System (RSC) Tire Pressure Monitoring Systems (TPMS)

Next, to evaluate the need for alternative compliance, carrier safety data were analyzed to determine the safety impact and significance of existing compliance activities. Comprehensive compliance reviews (CRs) were used as a proxy for traditional compliance. These CRs consist of an intensive multi-day on-site process in which FMCSA audits a carrier's compliance with existing regulations, policies and management tools, examining HOS compliance, driver qualifications and licensing, drug and alcohol testing procedures and vehicle maintenance and inspection procedures.

ATRI used 2009 FMCSA data to compare carrier crash rates during the 12 months preceding a CR to their crash rates in the 12 months following a CR in order to determine whether traditional CRs translated into positive safety outcomes. Longitudinal data were used to evaluate CR effectiveness from 2004 through 2008 and results were reported separately for carriers of varying fleet sizes. Findings revealed that safety gains (i.e. crash rate improvements) from CRs varied significantly depending on fleet size, with safety benefits diminishing (and even disappearing) as fleet size increased (see Figure 1). For instance, between 2004 and 2008, carriers with 1-5 power units experienced a sizeable reduction in crash rates following a CR (mean = 51%). Similarly, carriers with 6-20 and 21-100 power units also saw crash rate reductions following a CR, though only by 32 and 18 percent, respectively. Larger carriers, however, seemed to benefit least from a CR. In 2004, carriers with fleet sizes of 251-1,000 and 1,000 or more had crash rate reductions of five percent or less, suggesting that the CRs were not highly beneficial for these fleet groups. By 2007, both large and very large carrier groups had experienced *higher* crash rates after receiving a CR intervention.
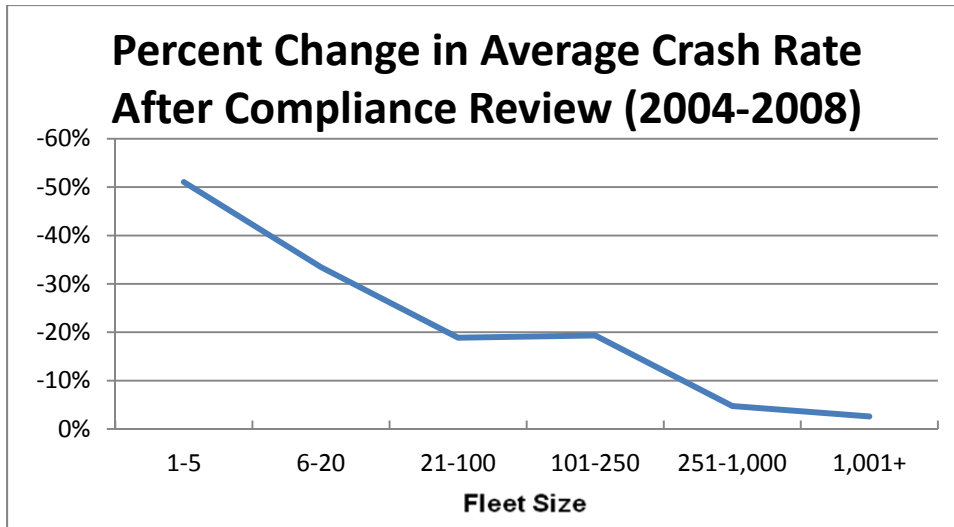
Figure 1. Percent Change in Average Crash Rate After Compliance Review (2004-2008)

Development Process. Given the potential safety benefits associated with specific alternative compliance tools, and the limitations of time- and resource-intensive CRs, an investigation into an alternative compliance program is warranted. ATRI and CVSA, with input from industry stakeholders and safety experts, proposed a blueprint for a pilot program to test the value of an alternative compliance certification concept.

Several ideas were put forth for how an alternative compliance program could be integrated into the traditional system, with two examples highlighting opportunities related to Compliance, Safety, Accountability (CSA) management and Inspection Selection System (ISS) scores.

Concerning CSA, FMCSA could offer carriers the opportunity to select one or more "toolbox" items that address one of the seven Behavior Analysis and Safety Improvement Categories (BASICs) in exchange for a reduced score in the affected BASIC. Since all interstate carriers must participate in CSA and most BASIC scores are publicly accessible (for viewing by regulators, shippers, brokers, insurers, etc.), it is in a carrier's best interest to have and maintain low (i.e. safe) CSA scores. Carriers could thus self-select the BASIC(s) where the most improvement is needed and choose from an array of alternative compliance tools to improve performance in that BASIC (see Table 2 for an example of which innovative tools and strategies could be used in various safety categories).

Table 2. Compliance, Safety, Accountability BASICs and Alternative Compliance

BASICs vs. AC
Unsafe Driving ➡ Speed Limiters
Fatigued Driving ➡ Fatigue Management Program
Driver Fitness ➡ Employer Notification System
Controlled Substances ➡ Hair Testing or Sliding Scale
Vehicle Maintenance ➡ Tire Pressure Monitoring

A similar approach could be used as the basis for rewarding alternative compliance participation with reduced ISS scores, which are the basis for selecting vehicles for roadside inspections. Carriers certified under the proposed system could decrease delays and increase revenue and productivity by bypassing inspections in exchange for participating in alternative compliance activities. In either case, these voluntary alternatives to conventional enforcement shift the burden for safety management from enforcement personnel to the carriers themselves, ensuring limited enforcement resources are spent only where they are most needed.

For carriers interested in the alternative compliance program, the certification process and guidelines could be made readily available through both industry and government websites. Once certified, a carrier's compliance could be audited by trained third party safety compliance firms that already provide such services for traditional compliance.

Ultimately, for alternative compliance to become a viable option, new legislation would need to be proposed to formalize a certification model and monitoring program that provides exemptions from (or modifications of) certain traditional compliance requirements, similar to those proposed above. Only then could government agencies, carriers and other industry stakeholders both easily identify participating carriers and make transparent the process which carriers would need to undergo in order to become certified.

Program Costs. Start-up funding for the program may be an issue since alternative compliance costs for carriers could not reasonably be expected to exceed those of traditional compliance. This would also be an issue, at least initially, for enforcement agencies to develop and manage the certification program. However, once instituted, the overall compliance resource requirements would be expected to decrease through improvements in strategic, targeted enforcement of unsatisfactory carriers.

It is expected that short-term incentives would be required to offset the high initial costs of alternative compliance investments, particularly for small carriers who are unable to wait for long-term ROIs (e.g. fewer safety incidents, better insurance rates, increased operational efficiency, improved customer satisfaction).

Pre and Post Attitudes. Focus groups that ATRI conducted with carriers reveal a strong level of support for an alternative compliance program, as described above. Carriers particularly believe that such a program would improve how they are evaluated by shippers, brokers and insurers.

Continuity of Program. Program participation is expected to be high, since all interstate carriers, particularly those with large fleets, stand to benefit from a shift away from traditional compliance. This is particularly true if carrier CSA scores see beneficial adjustments on the basis of alternative compliance adoption.

Marketing and Public Relations. Carriers would publicize their alternative compliance certification to improve their company image. Again, should CSA scores become impacted, this information alone would help improve relationships with regulators, shippers, brokers, insurers and the general public.

Evaluation Processes. It is expected that an alternative compliance program, as envisioned by ATRI and CVSA, would reduce FMCSA administrative costs and burdens, since carriers would have increased options for preventing high BASIC scores that necessitate CRs or other government interventions. Additionally, FMCSA could presumably conduct a greater number of CRs targeting small carriers for

whom traditional compliance is actually effective, while allowing larger companies that do not benefit from traditional compliance the opportunity to address safety problems using more innovative approaches. A pilot program, similar to FMCSA's pilot test of CSA, could be designed to evaluate the safety and financial benefits of alternative compliance.

SUMMARY AND RECOMMENDATIONS

The above discussions highlight these developments and opportunities for considering alternative compliance programs following publication of Synthesis 12.

- Significant progress has been made in Australia relating to motor carrier safety efforts. Australian Federal and State governments have stressed best practices and the promotion of "concessions" for those carriers that follow those practices. Formal evaluation schemes are being developed to measure the impacts or "trusting" carriers that are committed to best safety practices.
- The PIC program in Alberta continues to develop a partnership between the provincial government and committed carriers, however the scope and breadth of the efforts is somewhat limited and has not spread to other Canadian provinces.
- Preclearance programs in the United States continue, and are now dealing with their relationships to the overall FMCSA safety evaluation system – CSA.
- CSA was developed by FMCSA with an effort to focus agency efforts on carriers whose performance is below safety based thresholds; however the program is still based on an inspection oriented system, and post incident activities. The associated incentives are external more than internal; that is, good CSA scores can aid carriers with Shippers and insurance companies, but the carriers are still required to follow regulatory schemes fully.
- CVSA and ATRI have developed a proposed scheme for providing a degree of "alternative compliance" that is linked to CSA performance, and would introduce incentives through minimized oversight.
- Little effort has occurred following publication to further develop and recognize best practice operations

Recommendations

Chapter 6 of Synthesis 12 raised several questions relating to the potential for integration of best practices programs with alternative compliance schemes. Specifically, these questions were posed:

- Is there potential interest and possible objectives for consideration of roles of certification and self evaluation programs in relation to motor carrier regulatory programs?
- Should there be an "alternative compliance or regulatory exemptions trade –off as an incentive for participation?
- What elements of regulatory schemes might be waived?
- What evaluation criteria could be elements of a program?

The Synthesis also set out a potential developmental, ***Pilot Program*** approach which included the following:

- Formation of a Best Practices Alternative Compliance Pilot Program Steering Committee
- Definition of Program Elements
  - Best Practice Components
  - Audit Approaches
  - Measures of Effectiveness for Evaluation
  - Baselines for Measures of Effectiveness and Evaluation
  - Compliance Exemptions and other Incentives for Participating Fleets
  - Pilot Scope
- Recruiting of Test Participants
- Evaluation and Test Results

The ATRI/CVSA report also set out a suggested Pilot concept, to determine effectiveness of best practices applications in return for credits or other incentives related to CSA scoring and oversight. As shown above, Australian governments have also applied incentives in return for relaxation or exemption from certain regulatory requirements.

The Subcommittee has concluded that the most effective way to explore and advance concepts of Alternative Compliance is the conduct of a Pilot Program, which <u>at a minimum</u>, will integrate best practices applications with credits or exemptions relating to CSA implementation.

The Subcommittee therefore recommends that FMCSA initiate a pilot test program to determine both the effectiveness of alternative compliance concepts, and the potential for expanding such concepts as a mean to expand the agency's reach and coverage of fleets throughout the nation. Such a Pilot Program could include the following elements:

1. Establishment of an overview Steering Committee, perhaps through a subgroup of the Motor Carrier Advisory Committee, and to include representatives from FMCSA, CVSA, Insurance Company representatives, industry representatives, and representatives from truck safety related organizations
2. A synthesis of research and performance data relating to application of best practices and safety technology applications, and their effectiveness in reduction of truck related accidents and incidents
3. Identification of potential incentives including CSA related scoring or exemptions, possibly tax incentives, and other potential regulatory exemptions trade-offs that could be applied in return for assurances of best practices and technology applications by participating carriers and fleets.
4. Development of evaluation criteria, drawn from existing programs and other research, that can be effectively applied to various schemes to enable determinations of safety impacts following implementation of incentives or regulatory waivers
5. Consideration of audit, documentation, or certification schemes to assure best practices and technology applications do occur.
6. Development of a Pilot Program applying elements as suggested by the ATRI/CVSA report, and the Synthesis 12 recommendations, and considering effective program elements already applied in Australia.
7. Conduct of a Pilot Program, and evaluation of results.

Conclusions

The Subcommittee believes that alternative compliance schemes have great potential for widespread expansion of safety practices and technologies throughout the nation's commercial truck fleets. CSA itself will likely double the enforcement and oversight coverage of FMCSA, but that number will possibly only yield oversight of just 5% of the regulated community. An alternative compliance scheme could potentially yield far more safety gains than just expanding current enforcement and regulatory strategies. The time to determine that potential is NOW!