Consultations particulières et auditions publiques à l'égard du document de consultation intitulé : **La sécurité routière au Québec : les cellulaires au volant, la vitesse excessive, les motocyclistes et les conditions hivernales**.

AVIS SUR LA VITESSE EXCESSIVE

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Le radar photo est-il une mesure justifiée ?[1]

Vingt, et sans doute même trente millions de morts dans le monde: c'est le tribut payé au cours des 100 dernières années pour avoir accédé à l'automobile. Des progrès indéniables ont été réalisés au Québec puisqu'on y observe depuis la fin des années 70 une baisse quasi constante du nombre de décès et de blessures, et ce, malgré la hausse du nombre de conducteurs, du parc automobile et du kilométrage parcouru. L'insécurité routière demeure néanmoins une question préoccupante puisque les bilans des cinq dernières années indiquent que la tendance à la baisse s'essouffle et que nos routes sont encore le théâtre, bon an mal an, d'environ 35 000 accidents où périssent plus de 600 personnes et où plus de 50 000 autres sont blessées.

On doit toutefois s'inquiéter de l'augmentation de l'augmentation de 33% des décès constatée au cours des 6 premiers mois de la dernière année. Le ministre des Transports, Michel Després, envisage de modifier le Code de la sécurité routière afin de permettre l'utilisation des radars photo afin de mieux contrôler la vitesse sur les routes. Sa proposition est légitime : la vitesse excessive et l'alcool au volant sont les deux principales causes d'accidents et les travaux de la Commission parlementaire sur le Projet de loi n° 17 (pilotés par le Ministre Guy Chevrette) avaient montré que le cinénomètre photographique était la mesure susceptible d'être la plus efficace.

La proposition n'a jamais été mise en œuvre pour des raisons politiques mais il faut rappeler que les représentants de l'opposition libérale doutaient de la pureté des intentions gouvernementales : le radar photo serait une façon détournée de soutirer encore plus d'argent aux contribuables. Rappellons-le, le Québec, à la fin des années 60, fut le premier état en Amérique du Nord à introduire le radar photographique pour le contrôle automatique de la vitesse. Nous avons aussi été les premiers à en proscrire l'usage : plusieurs municipalités y avaient vu plus une *pompe à fric* qu'un outil pour améliorer la sécurité sur les routes.

Nos études et recherches sur le cinémomètre photographique permettent d'avancer que son utilisation – lorsqu'elle est appropriée –, permettrait d'améliorer sensiblement le bilan routier tout en demeurant une mesure socialement acceptable. Ces dispositifs permettent d'effectuer des contrôles autrement impossibles pour des raisons de nombre ou de sécurité et ils permettent aux policiers de consacrer plus de temps aux autres activités de contrôle et de prévention.

Plus de 70 pays dans le monde, plusieurs états américains et quelques provinces au Canada en font usage mais ce sont les exemples plus récents de l'Australie, de la Grande-Bretagne et de la France qui retiennent notre attention. Il n'est pas possible de déterminer avec précision les gains en sécurité puisque l'implantation de systèmes automatiques de contrôle de la vitesse est toujours accompagnée d'importantes campagnes de sensibilisation. On peut toutefois affirmer que la combinaison de ces deux mesures a permis en chaque cas de diminuer le nombre de décès et de blessés graves dans une proportion d'au moins 20% ; signalons qu'on leur attribue parfois des réductions dépassant les 50%.

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[1] Section références : Paquette (2005)

Le « succès » dépend toutefois de plusieurs conditions qu'il serait trop long d'énumérer ici mais l'acceptation sociale de cet instrument de contrôle est de première importance. Cela suppose le respect de règles claires pour tous. Par exemple, que ces dispositifs ne soient utilisés que dans des zones à forte concentration d'accidents liés à la vitesse, que ces zones soient clairement identifiées afin que les conducteurs ajustent leur vitesse en conséquence, qu'ils soient informés sur le champ d'un constat d'infraction (via des panneaux lumineux) ou dans des délais très courts (par la poste ou par courriel), et que les marges de tolérance (en km/hre) soient rendues publiques. Les routes limitées à 70 ou à 90 km/hre, les zones scolaires et les zones de travaux sont des lieux à privilégier mais certainement pas les autoroutes tant qu'elles demeureront limitées à 100 km/h.

Soulignons que la technologie à utiliser n'est pas nécessairement celle, plutôt ancienne, du radar photo. Des dispositifs électroniques[2] implantés dans les plaques d'immatriculation – tels les systèmes utilisés pour les postes de péages automatiques sur les autoroutes américaines – seraient probablement plus fiables et plus faciles à mettre en place.

Il est vrai de dire que les radars photo peuvent générer des revenus considérables, mais encore faut-il souligner que les amendes récoltées diminuent d'autant plus rapidement que le système est efficace. Par exemple, le nombre de véhicules photographiés dans l'état de Victoria (Australie) est passé de 23 % à 3,6 % au cours des quatre premières années. Tout juste pour assurer les coûts d'achats et d'entretien mais rien pour améliorer la situation financière d'un gouvernement ...

Le Ministre Després savait que plusieurs douteraient de la pureté de ses intentions et il a évoqué l'augmentation de 300 millions en indemnisations versées par la SAAQ. Il faut lui donner entièrement raison : la réduction des coûts sociaux est de loin le principal argument justifiant l'utilisation de dispositifs automatiques de contrôle (vitesse, caméras feux rouges, etc.).

Une vie humaine est sans prix mais les coûts pour la préserver sont quantifiables. Les analyses statistiques utilisées permettent d'établir le coût moyen d'une vie perdue, de blessés graves, etc., ce qui permet alors d'apprécier plus justement la pertinence des interventions. On estime par exemple que les coûts des 6 279 000 accidents de la route aux États-Unis en 1999 se sont élevés à 167 milliards de dollars américains. En appliquant la même méthode de calcul à la situation du Québec, on arrive à des coûts de plus de quatre milliards de dollars pour les seuls accidents corporels. On pourrait probablement réduire cette « facture » de 25% si l'on mettait en place des systèmes de contrôles tels ceux utilisés en France ou en Grande-Bretagne.

Les bénéfices prévisibles pour le Québec outrepassent largement les inconvénients inhérents à toute intervention visant l'amélioration de la sécurité des usagers du réseau routier. L'enjeu en cause est plus moral que politique.

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[2]Identification des véhicules par radiofréquence (RFID tag).

Campagnes de communication

Les campagnes de publicité (SAAQ & MTQ) ne semblent pas avoir eu d'effets significatifs sur les comportements de vitesse. La littérature scientifique en sécurité routière montre que les campagnes portant sur la vitesse ne s'avèrent profitables qu'en les combinant avec d'autres interventions telle une augmentation significative des contrôles routiers. Par ailleurs, le ton « adouci » des campagnes des dernières années en a probablement diminué l'efficacité.

R1 : *Renforcer nettement le caractère dramatique des campagnes si elles continuent d'être utilisées isolément.*

R2 : *Déployer une importante campagne de communication lors de la mise en place de toute nouvelle intervention afin d'augmenter la perception subjective du niveau de contrôle et de la probabilité d'être sanctionné.*

Dispositifs automatiques de contrôles

L'expérience étrangère en matière de vitesse, plus particulièrement depuis les quinze dernières années, démontre sans ambiguité l'efficacité des dispositifs de contrôle automatiques. L'effet dissuasif des radars photographiques est solidement établi et il s'agit du type d'intervention le plus efficient (coûts/bénéfices). Les exemples récents de la France et de la Grande-Bretagne sont particulièrement éloquents mais on peut aussi rappeler celui d'une portion d'autoroute problématique en Allemagne où depuis plus de 30 ans on a diminué les décès de 7 à 0 sur une base annuelle et les accidents avec blessés de 80 à 5.

Les cinémomètres photographiques utilisent un radar conventionnel couplé avec un appareil photo à procédé argentique ou numérique. Cette méthode qui a peu évolué depuis les 50 dernières années requiert le déchiffrement manuel ou automatisé des photographies; les données inutilisables ou erronées sont parfois très importantes. La mise en place d'un système à base de radiofréquence (RFID *tag*) implanté dans les plaques d'immatriculation permettrait de réduire les coûts tout en améliorant sensiblement la qualité des données recueillies.

R3 : *Modifier le Code de la sécurité routière afin de permettre l'utilisation de dispositifs automatisés de contrôle. Le propriétaire du véhicule devrait être considéré responsable de toute infraction constatée – au même titre que les infractions en matière de stationnement.*

R4 : *Autoriser sous l'autorité du Ministre des transports la mise en place de dispositifs de contrôle de la vitesse, du respect des feux de circulation et des voies réservées.*

R5 : *Renouveler l'ensemble des plaques d'immatriculation du Québec afin d'incorporer l'identification des véhicules par radiofréquence.*

Choix des sites

L'acceptation sociale de dispositifs automatiques de contrôles est fonction de la justification perçue et les campagnes de communication ne sont pas en soi suffisantes pour en convaincre la population. Des règles précises devront être adoptées et abondamment publicisées.

R5 : *Autoriser l'implantation de dispositifs automatiques de contrôle dans les zones scolaires et les aires de travaux en tout temps mais soumettre les autres lieux à l'approbation du MTQ sous réserve d'un diagnostic d'insécurité ne pouvant raisonnablement être amélioré par d'autres méthodes d'intervention.*

R6 : *Permettre l'utilisation de ces dispositifs sur l'ensemble du réseau routier à l'exception des autoroutes à moins d'en réviser la vitesse maximale.*

Sanctions

Le caractère dissuasif du système de sanction actuel (échelle des amendes et des points d'inaptitude) ne gagnerait rien à devenir plus sévère encore puisque la probabilité réelle d'être contrôlée est extrêmement faible.

R7 : *Maintenir le système actuel même en cas d'implantation de dispositifs de contrôles automatisés.*

R8 : *Mettre en place un système de désignation permettant au propriétaire d'un véhicule d'imputer les sanctions à un autre conducteur.*

R9 : *Assurer le traitement des infractions (du constat à sa notification) dans un délai maximum de 5 jours ouvrables.*

Application

La crédibilité des intentions du Gouvernement doit se manifester par une série d'engagements tels la signalisation de tout lieu objet de contrôles automatisés et la déclaration des marges de tolérance utilisées.

R10 : *Informer précisément les usagers du réseau, notamment par internet et par panneaux de signalisation, des zones sous contrôles automatisés.*

R11 : *Informer rapidement les contrevenants fautifs, notamment par courrier électronique et par affichage électronique sur les lieux du constat d'infraction.*

R12 : *Utiliser une marge de tolérance fixe de 10 km/h et en informer le public.*

R13 : *Consacrer les revenus générés à l'amélioration de la sécurité routière.*

ANNEXES

PROBLÉMATIQUE[1]

Le radar photo est-il une mesure justifiée ?

Vingt, et sans doute même trente millions de morts dans le monde: c'est le tribut payé au cours des 100 dernières années pour avoir accédé à l'automobile. Des progrès indéniables ont été réalisés au Québec puisqu'on y observe depuis la fin des années 70 une baisse quasi constante du nombre de décès et de blessures, et ce, malgré la hausse du nombre de conducteurs, du parc automobile et du kilométrage parcouru. L'insécurité routière demeure néanmoins une question préoccupante puisque les bilans des cinq dernières années indiquent que la tendance à la baisse s'essouffle et que nos routes sont encore le théâtre, bon an mal an, d'environ 35 000 accidents où périssent plus de 600 personnes et où plus de 50 000 autres sont blessées.

On doit toutefois s'inquiéter de l'augmentation de l'augmentation de 33% des décès constatée au cours des 6 premiers mois de la dernière année. Le ministre des Transports, Michel Després, envisage de modifier le Code de la sécurité routière afin de permettre l'utilisation des radars photo afin de mieux contrôler la vitesse sur les routes. Sa proposition est légitime : la vitesse excessive et l'alcool au volant sont les deux principales causes d'accidents et les travaux de la Commission parlementaire sur le Projet de loi n° 17 (pilotés par le Ministre Guy Chevrette) avaient montré que le cinénomètre photographique était la mesure susceptible d'être la plus efficace.

La proposition n'a jamais été mise en œuvre pour des raisons politiques mais il faut rappeler que les représentants de l'opposition libérale doutaient de la pureté des intentions gouvernementales : le radar photo serait une façon détournée de soutirer encore plus d'argent aux contribuables. Rappellons-le, le Québec, à la fin des années 60, fut le premier état en Amérique du Nord à introduire le radar photographique pour le contrôle automatique de la vitesse. Nous avons aussi été les premiers à en proscrire l'usage : plusieurs municipalités y avaient vu plus une *pompe à fric* qu'un outil pour améliorer la sécurité sur les routes.

Aujourd'hui, plus de 70 pays dans le monde, plusieurs états américains et quelques provinces au Canada en font usage mais ce sont les exemples plus récents de l'Australie, de la Grande-Bretagne et de la France qui retiennent notre attention. Il n'est pas possible de déterminer avec précision les gains en sécurité puisque l'implantation de systèmes automatiques de contrôle de la vitesse est toujours accompagnée d'importantes campagnes de sensibilisation. On peut toutefois affirmer que la combinaison de ces deux mesures a permis en chaque cas de diminuer le nombre de décès et de blessés graves dans une proportion d'au moins 20% ; signalons qu'on leur attribue parfois des réductions dépassant les 50%.

Les enjeux

La vitesse est devenue au cours des dernières années l'une des cibles privilégiées par la majorité des intervenants en sécurité routière[2]. Après avoir été assiégés de toutes parts en vue de les amener à porter la ceinture de sécurité, puis à dissocier conduite et consommation d'alcool, les conducteurs de véhicules automobiles sont maintenant appelés à respecter les limites de vitesse

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[1] Ce texte reproduit de très larges extraits de celui présenté en 2001 en Commission parlementaire lors des audiences sur le Projet de loi 17.

[2] Voir entre autres INSPQ, *La vitesse au volant : son impact sur la santé et des mesures pour y remédier*, 2005.

prescrites (Paquette, 2000). Nos études et recherches sur le cinémomètre photographique permettent d'avancer que son utilisation – lorsqu'elle est appropriée –, permettrait d'améliorer sensiblement le bilan routier tout en demeurant une mesure socialement acceptable[3].

Le Projet de loi n° 17 présenté en 2001 visait notamment à modifier le Code de la sécurité routière afin de permettre l'utilisation du cinémomètre automatique. Tous ont pu constater que les avis et les commentaires entendus lors de la Commission parlementaire étaient loin de faire consensus.

Les représentants des treize groupes et organismes qui participèrent à cette consultation desservaient des intérêts divers : certains s'inscrivaient dans une démarche de sécurité publique et de protection des personnes, d'autres, pour l'essentiel, ont fait valoir des opinions de nature défensive destinées à les protéger des conséquences anticipées de l'implantation des cinémomètres automatiques. Nous avons choisi de revenir sur certains des principaux arguments présentés à l'époque puisqu'il est peu probable qu'il s'en ajoute de nouveaux.

ARGUMENTS DÉFAVORABLES

La responsabilité indue des propriétaires de véhicules

Le propriétaire d'un véhicule serait tenu responsable d'une infraction constatée au moyen de dispositifs automatiques tel le photoradar. Plusieurs s'inquiètent des injustices d'un tel système car le propriétaire n'est pas nécessairement le conducteur responsable de l'infraction. Trois scénarios sont envisageables mais leurs « coûts » sont forts différents :

- identifier le conducteur lors de l'infraction,
- identifier le conducteur *a posteriori* par une procédure de « nomination »,
- traiter les constats d'infraction au même titre que les contraventions pour stationnement.

Le premier cas suppose une photographie prise de face qui permette l'identification ultérieure du conducteur par jumelage avec les photos tirées des fichiers des détenteurs de permis de conduire. Peu d'administrations dans le monde ont opté pour cette solution compte tenu de ses difficultés d'application et de l'intrusion qu'elle constitue dans la vie privée. Le véhicule circule dans un espace public mais ses occupants sont en territoire privé.

Quelques pays, dont la Grande-Bretagne et l'Australie, permettent au propriétaire d'identifier le conducteur fautif par voie de « nomination ». Cette procédure que d'aucuns assimilent à la dénonciation apparaît justifiée lorsque des points d'inaptitude frappent les propriétaires. Cas extrême : la dénonciation par des tiers contre récompense financière (Soh-jung, 2001).

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[3] (Paquette, 2005, 2000, 1999, 1998a, 1998b, 1997, 1995; Paquette et Beaulieu, 1996)

Le troisième scénario est le plus fréquemment retenu en raison des inconvénients mineurs qu'il comporte. En pratique, le parc automobile augmente beaucoup plus rapidement que le nombre de titulaires de permis de conduire et on peut postuler qu'une très forte proportion des conducteurs sont propriétaires de leurs véhicules. Tout propriétaire est responsable de la conformité du véhicule aux normes et règlements (état mécanique, couverture d'assurances, etc.) et, lorsqu'il consent à ce qu'un tiers en fasse l'usage, il présume de son bon usage – qu'il s'agisse de son enfant, d'un ami ou d'un locataire[4].

Nous considérons que les bénéfices attendus en terme de sécurité dépassent très largement les coûts de ce scénario[5]. Signalons qu'il s'agit de l'option retenue par une majorité d'administrations locales ou nationales faisant usage du cinémomètre photographique. Ajoutons que cette façon de faire est également appliquée dans le cas des caméras feu rouge[6].

Le radar photo est une violation du droit à la vie privée

La question du droit à la vie privée a donné lieu à diverses contestations dans les états où le radar photo fut introduit. L'Attorney général du Texas écrivait à ce propos: « *There is no actionable invasion of the right of privacy of a person whose photograph is taken on a public highway by a traffic surveillance system when such photo is used solely for speed enforcement or traffic surveying purposes.* » (cité dans Fitzpatrick, 1991).

Par ailleurs, le jugement rendu sur appel d'une cause antérieure en vertu de la section 7 de la Charte des droits et libertés a confirmé la responsabilité du propriétaire d'un véhicule moteur lors de la commission d'infractions au Code de la route (Wong, 1988). Comme le rappelle le juge Montgomery dans un autre jugement rendu en Alberta, le droit de libre circulation est traditionnellement reconnu cependant que la conduite d'un véhicule automobile ne peut être considérée comme un droit fondamental; il ajoute que « *If it were, then, of course, all driver licensing regulation, is prima facie violative of the Charter (...) the liberty to operate a motor vehicle (...) is not a fundamental liberty like the ordinary right of movement of the individual, but*

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4 Et en assure le contrôle en certains cas. Par exemple des agences de location de véhicules vérifient électroniquement si le conducteur respecte les limites de vitesse et imposent des frais additionnels en conséquence (Lemos, 2001). À Londres, des caméras sont employées également pour les infractions de stationnement interdit (Das Gupta, 2001).

5 Difficultés pour certains propriétaires à retracer le conducteur responsable de l'infraction.

6 S'ajoutent également les infractions pour défaut de péage, l'usage de voies réservées, des distances intervéhiculaires trop courtes, surcharge [poids maximal autorisé] (Sagberg, 2000), mais aussi pour vitesse excessive sur des ralentisseurs [*speed hump* muni d'une caméra] (Yahoo, 2001).

a licensed activity that is subject to regulation and control for the protection of life and property. » (Montgomery, 1990, p. 6-7).

Par ailleurs, la prolifération récente des caméras de surveillance, de cinémomètres photographiques et de caméras feu rouge ont alimenté le discours de plusieurs politiciens qui s'inquiètent de la concrétisation d'un *Big Brother* dont les intentions ne seraient pas forcément axées sur l'amélioration de la sécurité (Kilday, 2001; Shaver, 2001; Cole, 2001). En Grande-Bretagne où les projets pilotes ont été couronnés de succès tout en étant bien reçus dans l'opinion publique, on commence à s'interroger sur la pertinence de procéder à des déploiements massifs compte tenu des gains moindres escomptés au plan de la sécurité (Milmo, 2001).

Le radar photo ne permet pas d'intervenir sur les comportements dangereux

Le cinémomètre photographique ne peut que contrôler la vitesse en regard des limites imposées. De la même manière, une caméra feu rouge ne sert qu'à identifier les véhicules y contrevenant. La majorité des pays industrialisés recourrent aux systèmes automatisés en raison de leur efficacité : le contrôle peut être effectué en des lieux où les interventions sont problématiques pour la sécurité des usagers et des patrouilleurs mais surtout ces contrôles peuvent être effectués en permanence[7] (Paquette, 1998b). Par ailleurs, compte tenu de la simplicité et de l'automatisation des opérations, ces systèmes sont beaucoup plus productifs que la surveillance policière habituelle.[8]

La vitesse excessive ou inadaptée est reconnue comme un important facteur provoquant et/ou contribuant à la survenue des collisions. Elle est identifiée comme principal facteur dans 25% des accidents mortels (MTQ et SAAQ, 2001). Nul ne peut contester que la vitesse excessive soit l'indicateur d'un comportement dangereux ni que le cinémomètre automatique peut la contrôler efficacement. L'examen de la littérature existante démontre la pertinence de ce type de dispositif pour le contrôle de la vitesse et on ne trouve aucune étude en contestant l'efficacité lorsque ces systèmes sont convenablement utilisés.

Il est juste d'affirmer que lors de certaines interceptions pour vitesse excessive les policiers patrouilleurs constatent d'autres infractions telle que la conduite en état d'alcoolémie. Les

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7 Dans le cas des installations fixes.

8 Le temps d'intervention et de production d'une contravention pour excès de vitesse est d'environ 15 minutes avec les méthodes conventionnelles. Un cinémomètre automatique peut théoriquement enregistrer une infraction deux (2) fois par seconde ...

dispositifs automatisés n'ont pas pour fonction de se substituer aux policiers mais bien d'améliorer leur efficacité en les dégageant de tâches qu'ils jugent eux-mêmes souvent ingrates[9]. L'ajout de dispositifs automatiques de contrôle permet le redéploiement des effectifs policiers vers des tâches beaucoup plus complexes tout en améliorant la productivité globale. Les policiers craignent souvent les effets de la mise en place de radars photographiques en y voyant une menace directe à leur sécurité d'emploi (Paquette, 1997). Dans la pratique on peut constater l'effet inverse en raison des besoins accrus en personnel pour la formation et l'opération des appareils non-stationnaires.

Le radar photo : instrument de taxation

Cet argument fait partie de ceux qui sont le plus fréquemment évoqués chez ceux qui s'objectent à l'utilisation de dispositifs automatiques. Il est vrai que l'efficacité de ces dispositifs est susceptible de générer des revenus considérables, mais encore faut-il souligner que les amendes récoltées diminuent d'autant plus rapidement que le système est efficace. Par exemple, le nombre de véhicules photographiés dans l'état de Victoria serait passé de 23 % à 3,6 % au cours d'une période de quatre ans (Traffic Technology International, 1994); en 1996, le taux n'était plus que de 2,7 %. En moyenne, on enregistrait 80 contrevenants par heure de contrôle en 1990 ; en 1996, ce taux n'était plus que d'environ 18 à l'heure. Même si Michael Harris, alors qu'il était candidat au poste de Premier ministre de l'Ontario, a décrit les radars photographiques comme étant des « *Government cash grab* » et « *an Orwellian cash machine* » (Bikersweb, 2001) en raison des 130 millions de dollars par année que le Gouvernement escomptait retirer des cinémomètres photographiques, l'Ontario n'en aura finalement retiré qu'une vingtaine de millions après dix mois (Truck News, 1995).

L'expérience récente des villes de Portland et Beaverton (Oregon) montre que les revenus sont très modestes, même avec une formule de location et de traitement des infractions confiés au secteur privé (Paquette, 1998). Il est préférable d'estimer les gains en fonction de la diminution des indemnités versées par l'État et les sociétés d'assurances plutôt que de s'intéresser aux revenus directs résultant des amendes perçues.

La majeure partie des « revenus » est réalisée auprès de ceux qui, les premiers mois, doutent de l'efficacité des appareils ou des suites qui seront données aux infractions. Le faible nombre de

[9] La surveillance des arrêts aux carrefours, les « opérations radar » sont souvent perçues comme faisant partie des tâches les plus monotones et fastidieuses confiées aux policiers-patrouilleurs.

conducteurs récidivistes ne suffit probablement qu'à défrayer les coûts d'opération du système. Encore là, cette assertion n'est vérifiable que lorsque ces appareils sont correctement utilisés : sites désignés, signalisation appropriée, marge de tolérance fixe, informations publicisées. Aucun conducteur « raisonnable » ne devrait être « pris » à son insu : le Projet de loi prévoit que les sites seront clairement signalés.

ARGUMENTS FAVORABLES

Le cinémomètre photographique améliore la sécurité

Les arguments en faveur des systèmes automatisés de contrôle sont avant tout fondés sur leur efficacité (Fitzpatrick, 1992)[10]. Ces dispositifs permettent d'effectuer des contrôles autrement impossibles pour des raisons de nombre ou de sécurité[11] et ils permettent aux policiers de consacrer plus de temps aux autres activités de contrôle et de prévention.

Le programme d'implantation de radars photo de l'État de Victoria est l'un des plus documentés et souvent cités en référence par les promoteurs de systèmes automatisés de surveillance. Au rythme de 4 000 heures de surveillance par mois, les données révèlent que le nombre de morts a chuté de 51 % entre 1989 et 1994, le nombre de blessés a diminué de 38 %, et le nombre de collisions de 22 %. Le nombre de décès est passé de 777 en 1989 à 417 en 1996, ce qui représente une baisse de 46 % (Victoria Police Speed Camera Program, 1997).[12]

Plus significative en raison de sa durée, l'étude de Lamm & Kloeckner (1984) s'appuie sur des observations pratiquées pendant dix ans, de 1971 à 1982, sur une autoroute problématique reliant Francfort et Cologne. Le nombre d'accidents avec blessures y a été réduit dans une proportion de 18 pour 1 alors que le nombre de décès est passé de 7~8/an à 1 par année. Pour les auteurs de l'étude, ces résultats *« has to be attributed to the lane-related speed limits and the strict surveillance by police, which became possible for the first time in the Federal Republic of Germany by use of the automatic radar devices. »* (p.13)

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[10] *« Their demonstrated productivity suggest that these devices could be highly cost effective in increasing speed limit compliance even with their high initial costs. »* (p. 184)

[11] *« Les énormes flots de circulation ne permettent plus (...) de se limiter aux procédés traditionnels d'observation et d'interception des contrevenants. »* (Commission de la sécurité routière, 1990, p.115). Un autre argument concerne le danger des activités de surveillance et d'interception sur diverses portions des réseaux routiers.

[12] L'État reconnaît toutefois que ces résultats découlent de la stratégie générale d'intervention (programme radar-photo, programme anti-alcool, campagnes d'information, programmes éducatifs, etc.).

La Grande-Bretagne vient de terminer l'évaluation de 8 projets pilote et le ministre des transports, John Spellar, vient d'annoncer[13] l'implantation des cinémomètres photographiques à large échelle[14] en se fondant sur les résultats observés :

1- la proportion de véhicules excédant les limites de vitesse est passée de 55% à 16%,
2- la réduction moyenne des vitesses aurait été de 4.2 mph,
3- le nombre d'accidents aurait diminué dans une proportion de 28%,
4- le nombre de décès et de blessés graves aurait chuté de 47%[15]
5- ces accidents graves aurait diminué dans une proportion de 18% dans les régions environnantes (DTLR, 2001).

Plusieurs évaluations – dont certaines sont d'une rigueur exemplaire –, ont été faites au cours de la période d'essai afin d'examiner l'impact des cinémomètres automatiques, l'influence de la signalisation[16], l'efficacité des campagnes publicitaires et les effets propres aux sanctions. Les résultats des enquêtes menées auprès de 6 879 conducteurs révèlent que chacune de ces mesures s'est avérée positivement significative notamment auprès des personnes sanctionnées. Trois constats intéressants méritent d'être signalés : une très forte augmentation des conducteurs disant respecter les limites de vitesse (de 26% à 87%), un effet de généralisation aux zones périphériques qui ne faisaient pas partie des sites sous surveillance automatisée et une opinion publique de plus en plus favorable. (Corbett et Simon, 1999)

La réduction des coûts sociaux

Il s'agit là d'un argument peu utilisé mais qui aurait tout avantage à l'être. Cette approche est de nature économique puisqu'elle vise à chiffrer les coûts de l'insécurité routière. Une vie humaine est sans prix mais les coûts pour la préserver sont quantifiables. Les analyses statistiques utilisées permettent ainsi d'établir le coût moyen d'une vie perdue, de blessés graves, etc., ce qui permet alors d'apprécier plus justement la pertinence des interventions.

Pareilles études ont été réalisées depuis plusieurs années dans de nombreux pays et les estimations varient considérablement : de 150 000$ à 30 millions de dollars[17] pour une vie humaine (SMOV, 2001). On estime par exemple que les coûts des 6 279 000 accidents de la route

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[13] (News Release, 2001)
[14] Il est question de porter le nombre d'appareils à 6 000 (Milmo, 2001).
[15] Comparaison effectuée sur la moyenne des 3 années précédentes pour les mêmes sites.
[16] Signalisation des zones sous surveillance par radar photographique.
[17] Dollars américains, année de référence : 1996. À titre d'exemples : Australie = 1 227 290$, Danemark = 2 858 260$ (Kidholm 1998 p. 41), Grande-Bretagne = 2 357 312$ (la valeur que nous avons utilisée).

aux États-Unis en 1999 se sont élevés à 167 milliards de dollars américains (NHTSA, 2000). La Grande-Bretagne fait partie des pays les plus enviables au plan de la sécurité routière; les coûts estimés pour 1998 s'élèvent néanmoins à 24 milliards $18 (PACTS, 2000).

En appliquant la même méthode de calcul à la situation du Québec pour l'an 2000, on arrive à des coûts de plus de quatre (4) milliards de dollars pour les seuls accidents corporels.[19] Si notre « performance » au chapitre de la sécurité avait été équivalente à la situation britannique nos coûts totaux auraient été réduits d'un milliard $.

Le Parliamentary Advisory Council For Transport Safety (2000) a tenté d'estimer l'efficacité de diverses interventions destinées à diminuer le risque de collision. Le réaménagement des infrastructures – de type traffic calming par exemple – permettrait d'obtenir des réductions allant jusqu'à 60% des accidents mais ses coûts sont fort élevés : entre 1/4 et 1/2 million de dollars par site. Les caméras feu rouge auraient un potentiel de réduction de 18% pour un coût annuel (amortissement et entretien) de ± 12 600$. Les cinémomètres photographiques représenteraient le meilleur retour sur l'investissement : réduction de 28% des accidents pour un coût de 12 600$/an.

CONCLUSION

L'image du radar photographique en tant que supposé nouvel instrument de taxation n'a ni sa place dans une problématique de sécurité routière, ni sa raison d'être dans les estimés de ses coûts d'implantation. L'expérience étrangère est suffisamment documentée pour que l'on puisse s'attendre à des coûts d'acquisition et d'entretien récurrents élevés. L'importance des revenus anticipés permet peut-être d'absorber ces coûts, mais l'efficacité attendue (diminution du nombre de contrevenants) a pour corollaire direct une diminution de ces mêmes revenus.

L'analyse des expériences antérieures permet de conclure que l'usage judicieux de ces dispositifs peut apporter une contribution significative à l'amélioration du niveau de sécurité. Les dispositifs de contrôle automatiques constituent des mesures peu coûteuses compte tenu de leur efficacité. Le respect de critères définissant précisément leurs conditions d'utilisation, la transparence des opérations et la rigueur des évaluations doivent accompagner leur déploiement progressif. Les bénéfices prévisibles pour le Québec outrepassent largement les inconvénients inhérents à toute

[18] Dollars canadiens.

[19] ± 950 millions blessés légers, ± 1,4 milliards blessés graves, ± 1,8 milliards décès.

intervention visant l'amélioration de la sécurité des usagers du réseau routier. L'enjeu en cause est plus moral que politique.

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THE WORLD'S RFID AUTHORITY

Passive Tags Track Cars

Jonathan Collins

Aug. 9, 2004—South African RFID chip and reader design firm iPico Holdings announced the commercial availability of its Electronic Number Plate (ENP) RFID technology. The company says its technology is already being deployed in a pilot in South America.

IPico's new UHF ENP technology uses the company's existing EM4222 passive chip design already used for supply chain management and tire-tagging applications. For its ENP system, however, the company redesigned the tag so it could be attached to the inside of a vehicle's windshield and developed readers for roadside placement.

Using RFID in electronic vehicle identification promises to support a range of applications both for government and local authorities and for businesses. The technology is being considered for electronic vehicle licensing, traffic, speed and cross-border control and traffic ticketing, as well as for existing operations such as road toll collection and fleet and parking management.

According to iPico, car makers have indicated a desire for its technology "Various motor manufacturers in South Africa, Australia and Europe have shown interest in both supply chain and in manufacturing, process control and services record applications [tracking the service history or a vehicle]," says Luther Erasmus CEO of iPico, which is based in Pretoria.

iPico's ENP tag operates in the UHF band between 860 MHz and 960 MHz. Its read-only memory is factory programmed with a unique 64-bit ID. Once attached to a windshield by means of its self-adhesive backing, the tag will become destroyed if anyone tries to remove it.

The company maintains that when used with its readers, the ENP tag can be read at distances that allow readers to be placed at the roadside or on bridges over roads. In July, the company demonstrated the technology at an automotive test track operated by Gerotek Test Facilities in Pretoria. Four Smart cars, a DaimlerChrysler line of very small vehicles sold in South Africa as well as in Europe and Asia, were each fitted with two ENP tags to simulate eight vehicles. The system was tested as the cars drove closely together at both at low speed (80 kph, or 50 mph) and high speed (120 kph, or 75 mph), says iPico, and all the tags were read each time they passed roadside readers. In addition, an ENP tag placed on the inside windshield of a Mercedes Benz C55 model was also succesfully read while the car traveled at speeds in excess of 250 kph (160 mph).

According to the company, its system can read up to 200 tags per second; on a continuous basis, the system can read an average of 7,200 tags per minute. These volumes can be read either by a single reader, by a single reader that has an array of up to four antennas, or by multiple readers in close proximity (say four readers covering four lanes of a highway) that are connected with iPico's DIMI (Device Information & Management Interface) middleware platform. The company does not anticipate that any application involving its tag would require a reading the ability to read more than 100 tags per second, or 6,000 tags per minute.

The iPico UHF RFID readers used in the demonstration were placed 2 meters (6.5 feet) from the road for the side reads. An overhead clearance of 5.2 meters (17 feet) was allowed for mounting readers on bridges. IPico reports that the demonstration was attended by representatives from a number of South African government organizations, including the National Department of Transport and vehicle crime and border police divisions of the South African Police Services .

The company also says that its ENP system is being tested in a pilot deployment in South America. "We have already deployed on a state level, and a national deployment will be determined on the success of that current project. Deployment has already started with 5 million tags ordered, and the first batches already delivered," says Erasmus. ENP readers are likely to be priced around US$1,000, depending on volume and on the housing design selected by the customer. The company also sells OEM reader modules—RFID readers without antennas or the

final housing—for below US$1,000 each.

By using what are basically the same chips iPico offers for other applications, the company says that it expects the windshield ENP tags to eventually cost less the 50 U.S. cents each. "We already ship at prices below 60 U.S. cents for a volume of 5 million. For orders of 20 million or more, prices will be below 50 U.S. cents," says Erasmus. In September, the company plans to offer a 1-kbit read-write version that has 16 pages of WORM (write once read many) and/or OTP (one-time programmable) EEPROM memory; although the EEPROM memory would not be accessible at vehicle speeds greater than 60 kph, or 40 mph. In 2005 iPico will launch a 256-bit WORM tag that can be read at long range and high speed (180 kph, or 120 mph).

Because the ENP tags are tamper proof, they could eventually be used for antitheft applications, although iPico would not be the first company to offer such a solution (see Smart License May Cut Car Theft). The company says it plans to use either the 1-kbit read-write tag or the 256-bit WORM tag to also write the vehicle identification number, registration and/or owner detail to the tag, which will, together with the unique ID and iPico proprietary asymmetric encryption techniques, enable a 100 percent secure antitheft solution.

http://www.rfidjournal.com/article/articleprint/1078/-1/1/

Brit License Plates Get Chipped
Mark Baard

The British government is preparing to test new high-tech license plates containing microchips capable of transmitting unique vehicle identification numbers and other data to readers more than 300 feet away.

Officials in the United States say they'll be closely watching the British trial as they contemplate initiating their own tests of the plates, which incorporate radio frequency identification, or RFID, tags to make vehicles electronically trackable.

"We definitely have an interest in testing an RFID-tagged license plate," said Jerry Dike, chairman of the American Association of Motor Vehicle Administrators and director of the Vehicle Titles and Registration Division of the Texas Department of Transportation.

So-called "active" RFID tags, like the one in the e-Plate made by the U.K. firm Hills Numberplates, have built-in batteries, allowing them to broadcast data much farther than the small passive tags used to track inventory at retail stores. Active RFID is already enjoying limited use on U.S. roadways. Under a new program, the U.S. Department of Homeland Security is issuing RFID tags to foreign freight and passenger vehicles as they enter the country.

The technology is also used in electronic toll-collection systems in the United States to automatically charge participating drivers as they breeze past unstaffed toll booths. In the San Francisco Bay Area, FasTrak toll transponders are also polled at readers away from the toll booths, to determine how quickly traffic is moving through particular areas.

Proponents argue that making such RFID tags mandatory and ubiquitous is a logical move to counter the threat of terrorists using the roadways, and that it will scoop up insurance and registration scofflaws in the process.

"We see tremendous advantages to the (e-Plate) for everything from verifying registration and insurance to Amber (missing child) Alerts," said Dike. But because the RFID plates can cost 10 times more than ordinary plates, they will need strong support from governors and state legislatures before they are tested in the states, Dike added. "It will be several years before Texas will be able to test the e-Plate" on any of the 4 million to 4.5 million cars it registers annually.

Privacy advocates are less enthusiastic about the technology.

"It's too easy for (RFID license plates) to become a back-door surveillance tool," said Jim Harper, director of information studies at libertarian think tank the Cato Institute and a member of the U.S. Department of Homeland Security's Data Privacy and Integrity Advisory Committee.

Civil libertarians don't object to an RFID automatic toll-collection system that "anonymizes" vehicles in databases once a transaction is completed. But they doubt the government -- given its thirst for intelligence -- will use such privacy-protection measures. From a law-enforcement perspective, "there is no reason to have privacy for anything," said Lee Tien, senior staff attorney at the Electronic Frontier Foundation.

Active RFID is a huge improvement over cameras that use optical character recognition to read license plates and are accurate only 75 to 90 percent of the time, said Michael Wolf, president of the EVI Management Group.

The U.K. Department for Transport gave the official go-ahead for the microchipped number plates (as they are called in the United Kingdom) last week, and the trial is expected to begin later this year. The government has been tight-lipped about the details. One of the vendors bidding to participate in the trial said it would start with smartplates added to some police cars.

The point of the test is to see whether microchips will make number plates harder to tamper with and clone, said U.K. Department for Transport spokesman Ian Weller-Skitt.

Many commuters use counterfeit plates to avoid the London congestion charge, a fee imposed on passenger vehicles entering central London during busy hours.

2005-08-10

http://www.wired.com/news/privacy/1,68429-0.html

e-Plate

PRODUCT OVERVIEW

What is e-Plate?

e-Plate is an electronically-tagged self-powered number plate developed and patented by Hills Numberplates Ltd of Birmingham, UK. All vehicles fitted with e-Plate can be securely identified whether stationary or on the move. e-Plate is read by a fixed roadside reader at a range of up to 100 metres. Alternatively, for mobile or handheld use, the reader can take the form of a PCMCIA card inserted in a laptop PC or alternatively can take the form of a handheld device.

During manufacture, an active broadcast RFID tag (see fig 1) is permanently embedded in the number plate with a design life of 10 years.

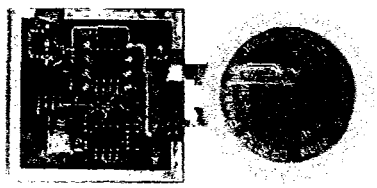


Fig 1. Active Tag

No other modifications are required to the vehicle beyond fitting the tagged plate in the same place as a non-tagged one. Appearance is virtually identical to a standard plate.

After activation, the tagged plate continually broadcasts its encrypted identification. In this way, a positive, secure and totally reliable record of the identity of a vehicle is made when it comes within range of an e-Plate reader.

Each e-Plate reader can read up to 200 moving vehicles per second.

Who are Hills Numberplates?

Hills are a major manufacturer of number plates in the UK. Incorporated as far back as 1927 (as Hills Patents) it has a string of innovations to its credit and boasts a highly automated production plant with an enviable share of the UK market in excess of 50%.

Due to the seemingly unstoppable rise in recent years of serious crime in which vehicles, often with false identities have been used, governments in the UK and around the globe have indicated the need for more secure identification while retaining the conventional license plate. This continues to serve adequately as the prime visual identifier in normal, law-abiding usage but has become increasingly vulnerable to falsification – especially with the growing use of enforcement cameras.

It was to meet this need for a secure number plate that Hills developed the e-Plate concept. Its use is highly applicable to ensuring compliance with valid vehicle documentation, tracking stolen or suspect's vehicles, access control for entry to sensitive areas, commercial parking or inner-city congestion charging.

e-Plate may be seen as a viable, cost-effective alternative or adjunct to camera-based automatic number plate recognition systems (ANPR). It is unaffected by environmental conditions. The e-Plate system can be integrated with existing roadside infrastructure and networks, does not rely on direct line-of-site detection and, most importantly, offers vehicle identification system resistant to falsification of number plates.

e-Plate

SYSTEM COMPONENTS

e-Plate RFID-enabled number plates

❑ ***Physical***
e-Plate can be produced in any size, format and construction (aluminium, embossed or flat, or plastic, vinyl etc), reflectivity or colour to suit licence plate regulations throughout the world.

❑ ***Position***
A single e-Plate mounted at the front of a vehicle or at the rear in the case of motorcycles in place of a conventional plate is sufficient.

❑ ***Tamperproof***
e-Plate is always tamperproof (self-destructing in case of attempts to remove it).

❑ ***Mounting***
e-Plate is fitted to the vehicle utilising the vehicle's existing number plate mounting points.

❑ ***Other options***
For non-regulatory applications, such as tracking or access control of commercial fleets for operational requirements, a small sign with the embedded tag *(e-Sign)* or the encapsulated tag alone *(e-Tag)* may be specified for installation elsewhere in or on the vehicle instead of the number plate.

e-Plate Readers

Fixed roadside reader station

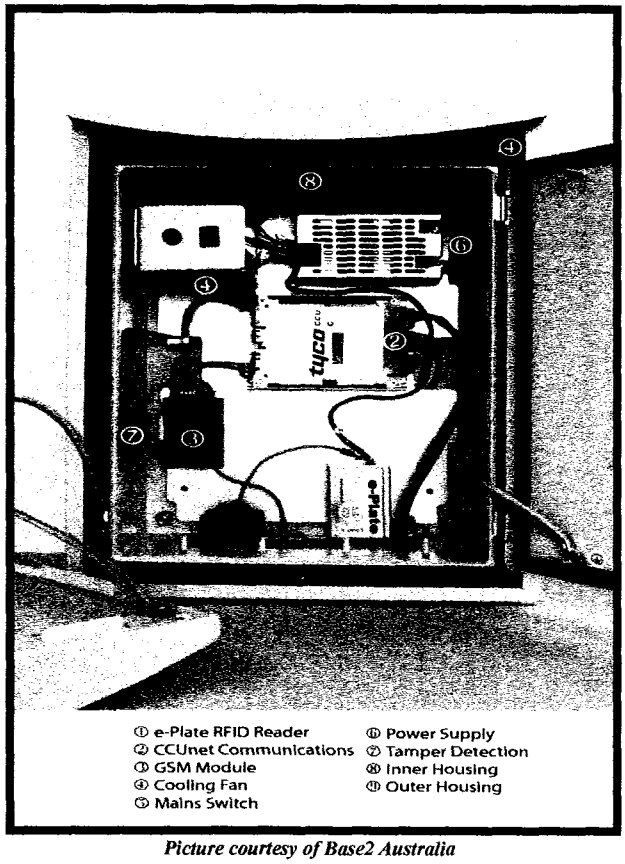
- The fixed roadside reader station is ruggedised enclosure housing all the required components to enable reliable and accurate detection, storing and transmission of e-Plate enabled number plates. It has been designed to withstand all weather conditions

Communications

- By using a modular approach, the reader station can utilise all existing network infrastructures, such as, Copper, Fibre, GSM and GPRS.

Security

- The housing is of a metal double skin and double lock construction. Tamper switches are fitted to both inner and outer doors which when opened will notify the user immediately.

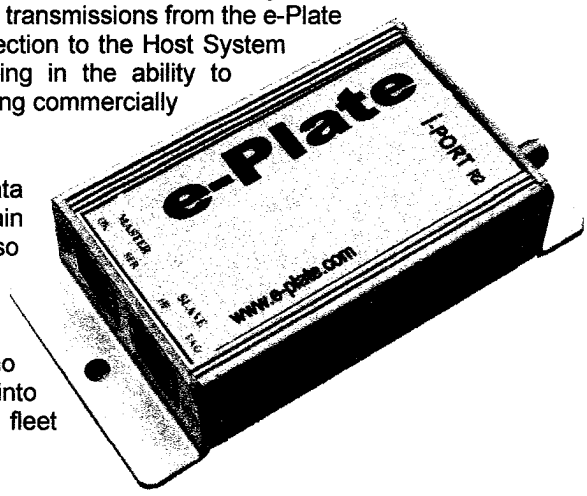


Picture courtesy of Base2 Australia

e-Plate

e-Plate Stand Alone Reader

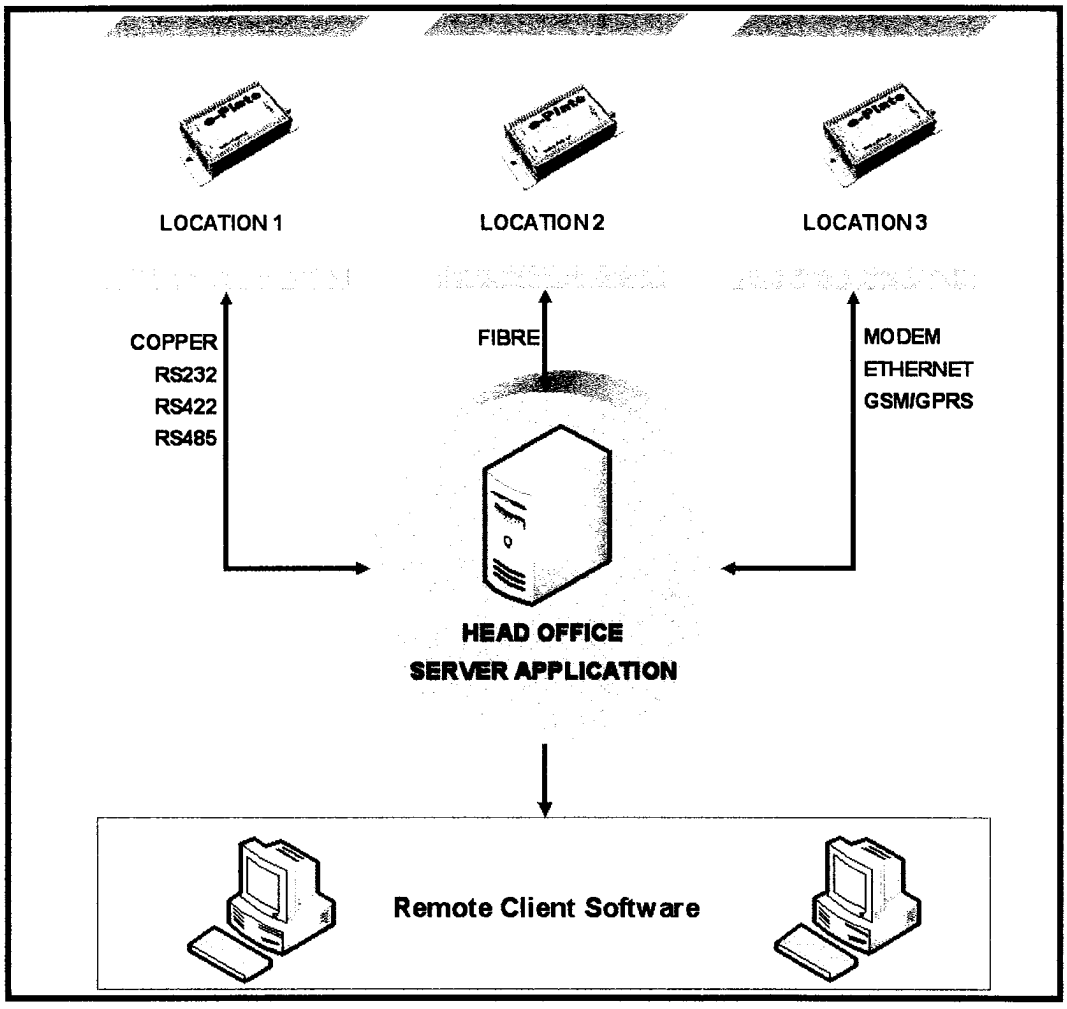
- The i-PORT R2 is a reader for the e-Plate series of Broadcast Tags. Built into a compact metal housing, the i-Port R2 receives transmissions from the e-Plate tags at distances of up to 100 meters. Connection to the Host System takes place via an RS422 interface, resulting in the ability to connect up to 32 readers in a Daisy Chain using commercially available CAT5 cabling.



- A simple master/slave protocol enables data exchange. Not only does the protocol contain the data received from the tag, but it also provides information about the time of data reception, field strength, and duration stay.

- This reader is an ideal base for integrators who wish to incorporate the benefits of e-Plate into existing systems such as asset tracking, fleet monitoring etc.

Simple Network Configuration



Test Report : Single-lane Vehicle identification with UHF RFID

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iPico RFID Application Case Studies

Module 1403

High Speed Vehicle Identification

Test Objective

To determine the identification performance of

- a iP-URDR-4Watt-Fixed Reader

and

- 2 iP-UTAG-915-Vehicle tags
- 2 iP-UTAG-915- Linear tags
- 1 iP-UTAG-915- CC Inlet Licence holder tags

in two single-lane vehicle traffic scenarios as per diagrams 1 and 2 below:

Diagram 1: Over-Head Fixed Reader in Standard single-lane "no-obstruction tunnel"

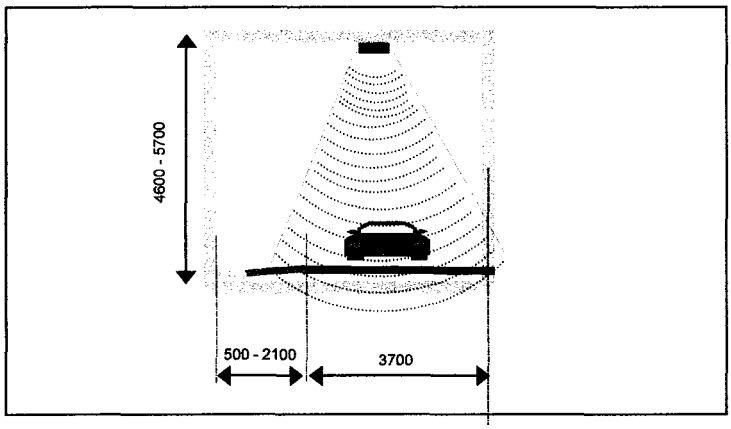
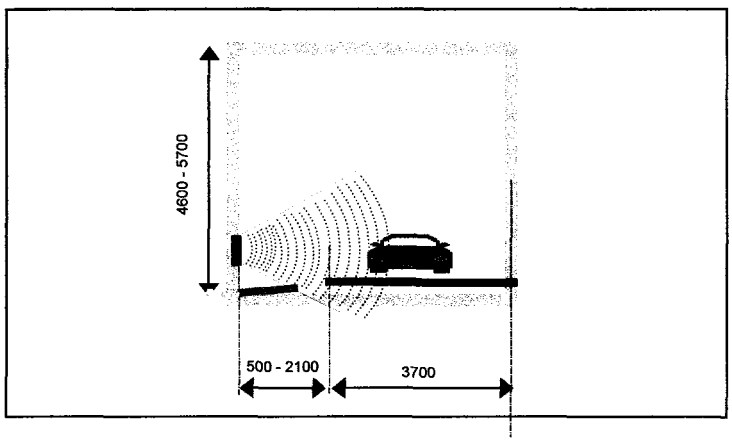


Diagram 2: Pole-Mounted Road-Side Fixed Reader in Standard single-lane "no-obstruction tunnel"



1. Tests Requirements

1.1 Establish the number of times five specific tags on a vehicle are identified whilst moving through a portal-frame with an overhead reader set-up.

- Speed intervals: 80, 120 and 160 km/h.
- Reader height: 4m, 5m and 5.7m above road surface.
- Reader at 45 degrees towards vehicle approach.
- UHF (915MHz) tags: (refer diagram for tag attachment positions)
  - 2 x Linear type
  - 1 x License Holder type
  - 2 x Industrial Vehicle type
- Fixed Overhead Reader – 4 Watt

1.2 Establish the number of times four specific tags on a vehicle are identified whilst passing a pole-mounted road-side reader set-up.

- Speed intervals: 80, 120 and 160 km/h.
- Reader height: 1.5m.
- Reader at 90 degrees (parallel to) towards line of movement.
- UHF (915MHz) tags: (refer diagram for tag attachment positions)
  - 2 x Linear type
  - 2 x License Holder type
- Road-side Fixed Reader – 4 Watt

2. Test Venue

Test Date – 12 June 2003

Test Facility – Gerotek High Speed Vehicle Track, Pretoria, South Africa

3. Tests Set-up

3.1 Portal-frame with an overhead reader set-up.

Refer diagrams 3 and 4 below:

Diagram 3 : Reader and portal frame set-up

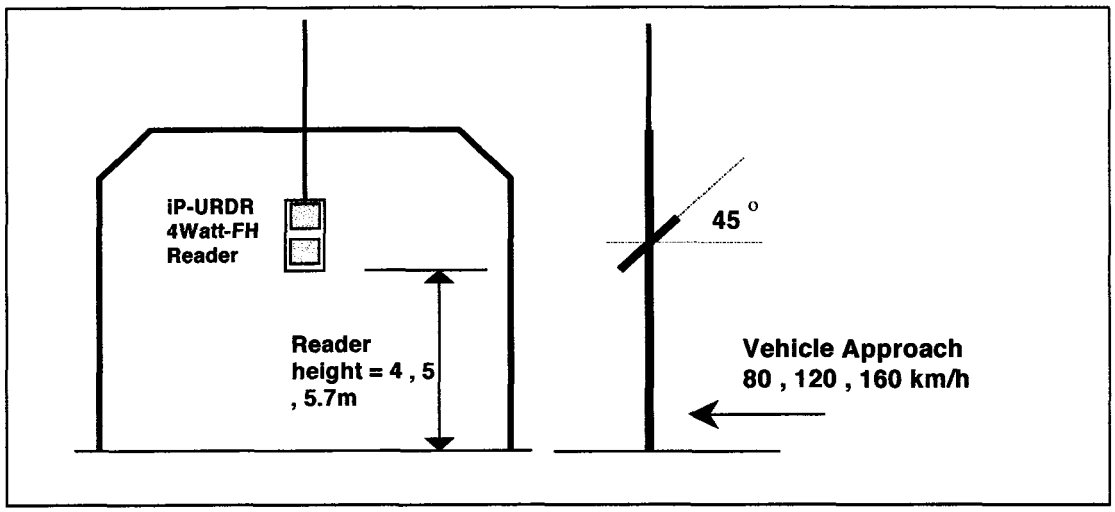
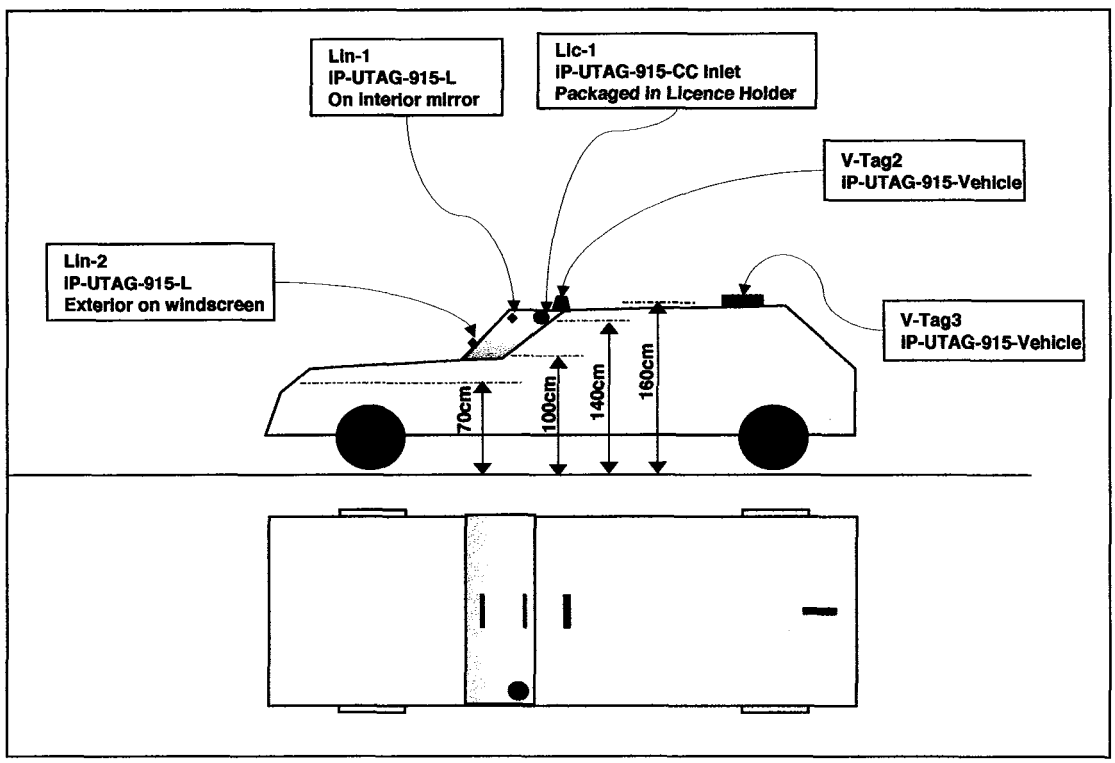


Diagram 4 : Tag types and attachment positions to vehicle



3.2 Pole-mounted road-side reader set-up.

Refer diagrams 5 and 6 below:

Diagram 5 : Reader and portal frame set-up

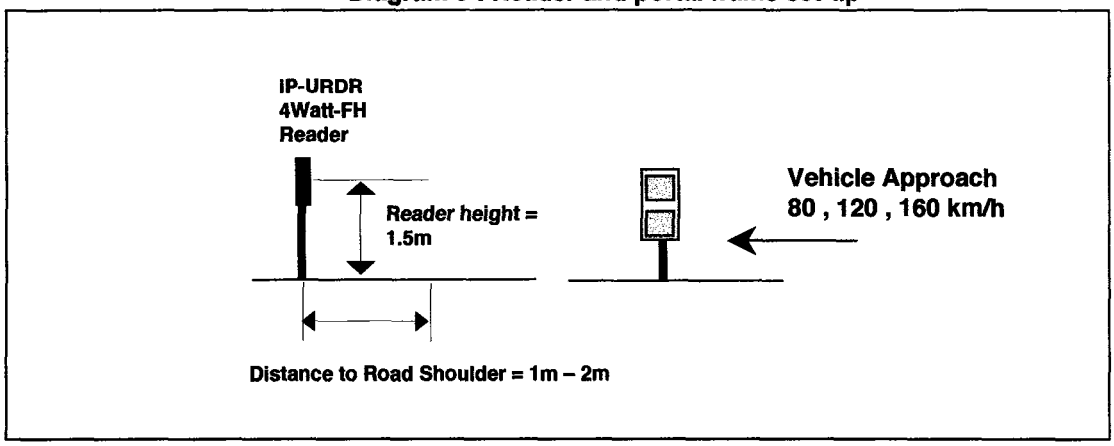
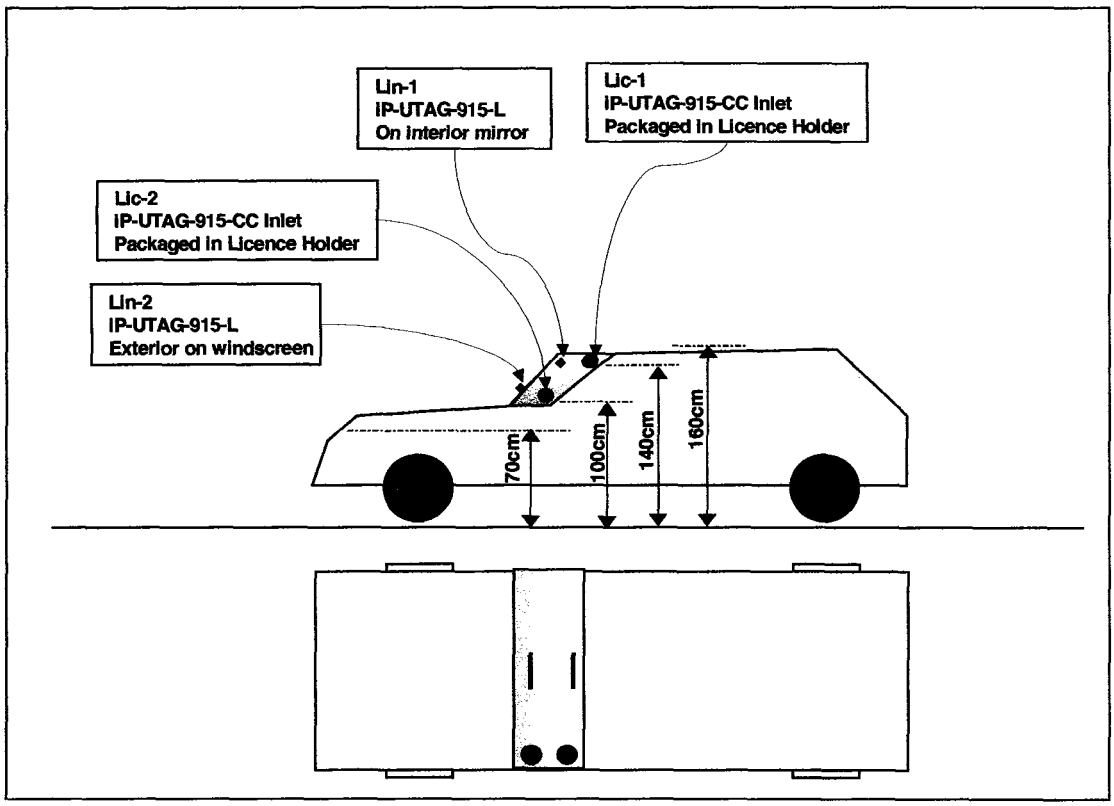


Diagram 6 : Reader and portal frame set-up

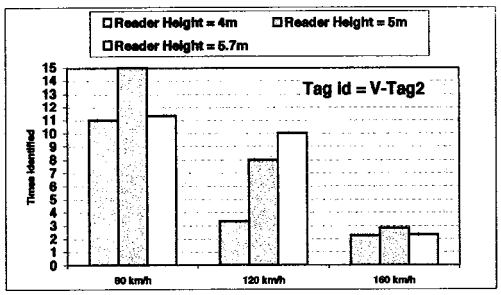


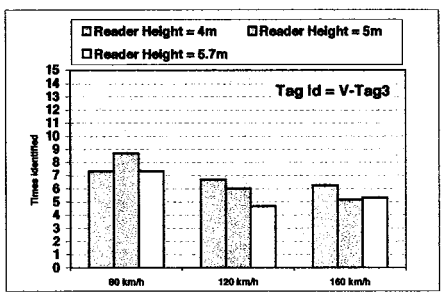
4. Test Results

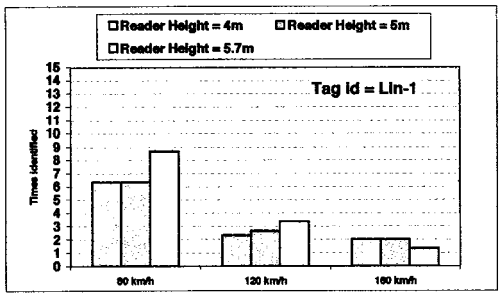
4.1 Portal-frame with an overhead reader set-up.

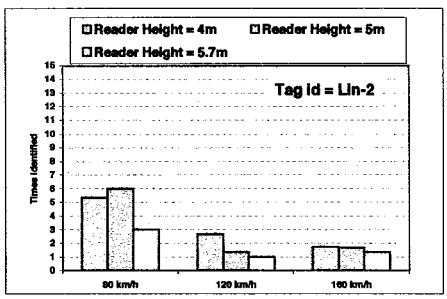
Number of identifications

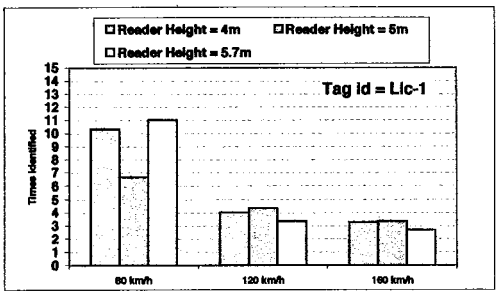
Tag Id	Portal Height above surface = 4m			Portal Height above surface = 5m			Portal Height above surface = 5.7m		
	80 km/h	120 km/h	160 km/h	80 km/h	120 km/h	160 km/h	80 km/h	120 km/h	160 km/h
V-Tag 2	11	3	2	15	8	3	11	10	2
V-Tag 3	7	7	6	9	6	5	7	5	5
Lin-1	6	2	2	6	3	2	9	3	1
Lin-2	5	3	2	6	1	2	3	1	1
Lic-1	10	4	3	7	4	3	11	3	3





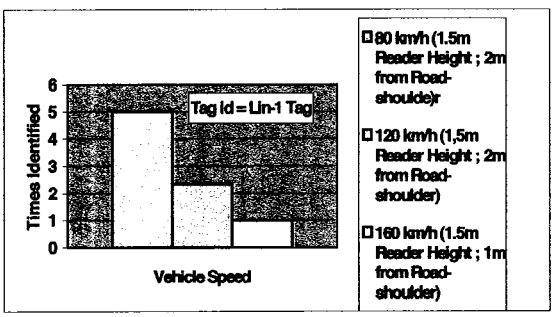


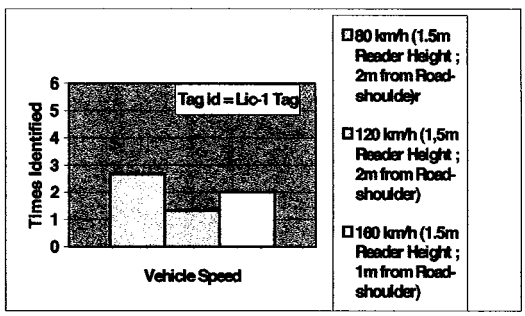


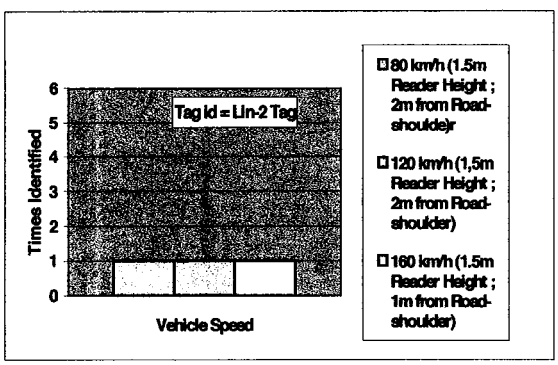


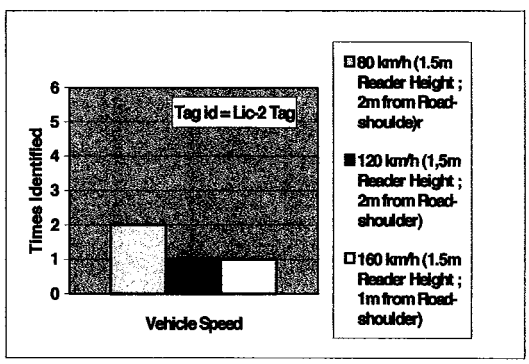
4.2 Pole-mounted road-side reader set-up.

Number of identifications			
Tag id	Reader Height above surface = 1.5m and Reader = 2m from tar surface		Reader Height above surface = 1.5m and Reader = 2m from tar surface
	80 km/h	120 km/h	160 km/h
Lin-1	5	2	1
Lin-2	1	1	1
Lic-1	3	1	2
Lic-2	2	1	1









5. Discussion

5.1 Portal-frame with an overhead reader set-up.

- The identification results represent a 100% success rate - all (5) type tags were identified (between one and fifteen times per vehicle-pass)
  - at the 80, 120 and 160 km/h speed intervals
  - for each of the different reader heights.
- It must be noted that this test method introduced 5 tags per read incident into the reader beam. This resulted in high-density different tag signals - specifically at the relative high-speed intervals. The identification incidence per tag will be much higher with fewer tags introduced.
- In practice (vehicle identification) scenarios each vehicle will be single tagged which will result in higher read incidences than experienced in these tests.
- Lower speeds shall result in higher read incidences.

5.2 Pole-mounted road-side reader set-up.

- The identification results represent a 100% success rate - all (3) type tags were identified (between one and 5 times per vehicle pass) at the 80, 120 and 160 km/h speed intervals.
- It must be noted that this test method introduced 3 tags per read incident into the reader beam. This resulted in high-density different tag signals - specifically at the relative high-speed intervals. The identification incidence per tag will be much higher with fewer tags introduced.
- In practice (vehicle identification) scenarios each vehicle will be single tagged which will result in higher read incidences than experienced in these tests.
- Lower speeds shall result in higher read incidences.

6. Conclusion

The iPico

- iP-URDR-4Watt-Fixed Reader

and

- iP-UTAG-915-Vehicle tags
- iP-UTAG-915- Linear tags
- iP-UTAG-915- CC Inlet Licence holder tags

can reliably be used in electronic vehicle identification applications.

Handbook of Rules and Guidance for the National Safety Camera Programme for England and Wales for 2005/06

November 2004

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Contents

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Preliminary Statement

The vast majority of speed and red-light cameras used on the roads are operated by safety camera partnerships. Most police and local authorities have now joined the national programme. The rules and guidance contained in this handbook apply only to those camera sites operated by these partnerships.

This handbook defines the rules and guidelines that partnerships within the national safety camera programme in England and Wales are required to follow.

Depending on the alleged offence, drivers/registered keepers of vehicles detected by safety cameras can be prosecuted for committing offences covered by the Road Traffic Offenders Act 1988, the Road Traffic Act 1988 or the Road Traffic Regulation Act 1984 and their subsequent amendments.

Compliance with these rules has no bearing on the enforcement of offences detected by the use of safety cameras. Non-compliance with these rules and guidelines by a partnership, or representative of a partnership, does not provide any mitigation of, or defence for, an alleged offence under current UK law committed by a driver or registered keeper.

Executive Summary

This handbook sets out the rules and guidance relating to the national safety camera programme in England and Wales for 2005/06. It switches emphasis from the initial roll out of the programme and the establishment of new camera sites to the on-going management of partnerships.

The safety camera programme's objective is to reduce deaths and serious injuries on our roads by reducing the level and severity of speeding and red-light running. The aim is to do this by preventing, detecting and enforcing speed and red light offences, including by encouraging changed driver behaviour, through local safety camera partnership's approved programmes of work. The programme supports Great Britain's Road Safety Strategy and its ambitious targets for casualty reduction

The Government's Road Safety Strategy, published in 2000, set targets of a 40% reduction in the number of people killed or seriously injured by 2010, compared to the average for 1994-98, and 50% reduction in number of children killed or seriously injured.

Following the legislation in 1991 which permitted the use of safety cameras to detect road offences, the programme was introduced in 2000 to allow the costs of prevention, detection and enforcement of speed and red-light offences detected by cameras to be reclaimed from the related fines. Following a successful trial, the programme was extended nationally, and is now operating across most of the UK.

An independent review of the programme's first three years 2000/01 to 2002/03, carried out by University College London and PA Consulting Group, concluded that the programme was contributing to reduced collisions, casualties and deaths.

The national safety camera programme is managed by a number of government departments and key stakeholders

The Department for Transport (DfT) and its Ministers have lead responsibility for managing the programme, together with the HM Treasury, the Home Office and other Departments.

A national safety camera programme board assists the DfT in overseeing the programme, including representatives of the police, local government, the Scottish Executive and the Welsh Assembly Government.

The enforcement of speed and red-light offences is delivered through local partnerships of police, highway and other authorities

Local partnerships have been formed to deliver the programme. These comprise local authorities, the police, the Magistrates' Courts, the Highways Agency (where appropriate) and other key stakeholders, including the local health authority, to ensure that the safety camera programme operates in the most effective way.

Partnerships' objectives are to prevent, detect and enforce speed and red-light camera offences, including encouraging road users to drive safely and legally, with the overall objective of reducing road collisions, casualties and deaths.

Partnerships set out their proposals for the operation of cameras for the year ahead in an operational case

The operational case sets out the partnership's proposals for the forthcoming year in terms of their financial proposals, their governance arrangements, the enforcement strategy, and confirmation of compliance with the programme's rules and guidance. Each year this case is assessed and approved by Ministers, with the advice of the national safety camera programme board.

The safety camera programme is based on visible speed enforcement, ensuring maximum opportunity for drivers to keep to speed limits

Clear rules are set out defining how cameras should be signed. All speed camera sites must also be conspicuous and visible.

Vehicle activated signs (VAS) and speed indicator devices (SID) which meet DfT signing regulations may also be used at core or roadworks sites with the objective of securing the most effective impact through preventing and reducing speeding and collisions.

The police have statutory discretion to undertake speed enforcement separately from the programme, including covert speed enforcement to deal with exceptional circumstances. This police enforcement does not form part of the safety camera programme. The police and partnership should work closely together to ensure that enforcement activity is complementary.

Partnerships are asked to review their existing sites to ensure that the deployment of cameras and enforcement resources achieves the maximum road safety benefit

As the programme matures, the systematic evaluation of existing sites becomes more important as circumstances may have changed. Partnerships are asked to look in particular at:

- camera sites where a good safety record has been achieved, assessing whether they need to be retained for maintaining effective compliance
- sites where there appears to be a continuing problem of high numbers of collisions notwithstanding the use of cameras, assessing whether further or different action should be taken.

Partnerships are also asked to select the type of camera (fixed, mobile or other) for each site, and to deploy camera resources between cameras, on the basis of securing the maximum road safety benefit.

New sites must comply with national rules and guidance

There are clear criteria and rules for new sites covering the site's casualty history, together with requirements on the site length, the levels of speeding, and the need to ensure that a camera is the best solution.

Partnerships are also able to enforce at exceptional sites, including sites where the community have expressed concerns about speeding and casualties. To maintain the programme's focus on casualty reduction at the core sites with the most serious collision history, exception sites must not exceed 15% of total camera time.

Performance measurement must be monitored on a regular basis

Partnerships are required to monitor the success of the programme in their area, both to inform local enforcement strategies, and to help the achievement of national road safety objectives. A standard reporting tool is available to do this. Using this information an independent assessment of the results and performance of the national programme will be performed.

Local communications underpins the drive to reduce casualties through changing driver behaviour

As part of their operational case, partnerships are asked to demonstrate that they have developed communications plans to increase understanding and awareness of the programme in their partnership area, to help change driver behaviour related to excessive speeding and red-light running and to demonstrate the role safety cameras play in preventing casualties and collisions.

Partnerships' communications staff should work closely with key stakeholders to ensure that all communications activity is complementary and messages are communicated consistently. They should also disseminate messages from national initiatives, such as the THINK! campaign.

The costs of approved camera operation and enforcement are reclaimed by partnerships

Subject to strict rules with regard to allowable expenditure, partnerships can recover the costs directly attributable to the prevention, detection and enforcement of speed and red-light offences detected by cameras, including encouraging drivers to change their behaviour.

Each partnership is required to have their record of expenditure and receipts audited

As part of the annual operational case, each partnership is required to submit details of their expected financial expenditure for the following year. Once approved, this provides the basis for monitoring actual spend and partnerships are paid grants accordingly.

Within each partnership, a lead partner (normally a local authority) is responsible for maintaining the record of expenditure and receipts for the partnership. The partnership's records are audited each year by the auditor appointed to the lead authority by the Audit Commission.

Chapter 1
Programme background, aims and results

1.1 BACKGROUND TO THE PROGRAMME

In 2000, the Government published its ten-year road safety strategy[1]. This set out challenging casualty reduction targets for 2010 to achieve (compared with the average for 1994-1998):

- 40% reduction in the number of people killed or seriously injured (KSI)
- 50% reduction in the number of children killed or seriously injured
- 10% reduction in the slight casualties rate, expressed as the number of people slightly injured per 100 million vehicle kilometres.

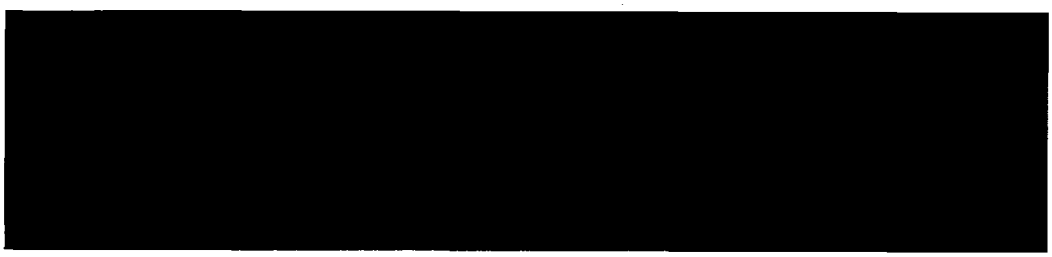
The road safety strategy also set out a wide range of initiatives to achieve these targets, including the introduction of a cost recovery programme for speed and red-light camera enforcement (the programme).

Research has demonstrated that reducing excessive and inappropriate speeds on roads can reduce the number of collisions and severity of injuries. The Transport Research Laboratory (TRL) reported in 1993 that every 1mph reduction in average speed led to a 5% reduction in collisions[2]. A study in 2000[3] confirmed this figure.

A study in 1996[4] concluded that, whilst speed and red-light cameras were effective in reducing road casualties, the full benefits were not being realised due to budgetary constraints.

In April 2000 the Department for Transport (the DfT), working together with Her Majesty's Treasury (HMT) and other key stakeholders, piloted a scheme whereby fixed penalty receipts from offences detected by speed and red-light cameras were used to cover the costs of camera installation and enforcement. Eight partnerships across the UK, comprising representatives from local authorities[5], police forces, Magistrates' Courts and other key stakeholders, were set up to pilot the arrangements.

In April 2001, legislation was introduced that enabled full national roll-out. By April 2004, 35 partnerships in total had joined the programme.



1.2 THE AIM OF THE NATIONAL SAFETY CAMERA PROGRAMME

The aim of the programme is casualty reduction and is a key driver to meeting the 2010 casualty reduction targets. The programme also aims to educate drivers about the consequences of speeding and to improve compliance with speed limits and traffic signals.

The first three-year review of progress against the 2010 targets was published in April 2004[6]. Casualty data to 2002 indicated that good progress is being made towards the two KSI targets with reductions of 17% in KSI casualties and 33% in child KSI casualties. In addition, the slight casualty rate target has already been achieved with reductions of 12% against the baseline, although the report is cautious as to whether this has been achieved as a result of genuine improvements in safety.

1.3 PROGRAMME RESULTS TO DATE

In June 2004, a report was published[7] on the first three years of the programme (April 2000 to March 2003). Twenty-four partnerships were included in the analysis. The results were as follows.

Extract from 'The national safety camera programme – three year evaluation report' PA Consulting Group and University College London, June 2004:

- **Vehicle speeds were down:** surveys showed that vehicle speeds at speed camera sites had dropped by around 7% following the introduction of cameras. At new sites, there was a 32% reduction in vehicles breaking the speed limit. At fixed sites there was a 71% reduction and at mobile sites there was a 21% reduction. Overall, the proportion of vehicles speeding excessively (i.e. 15mph above the speed limit) fell by 80% at fixed camera sites and by 28% at mobile sites.
- **Both casualties and deaths were down:** after allowing for the long term trend there was a 33% reduction in personal injury collisions (PICs) at sites where cameras were introduced. Overall, this meant that 40% fewer people were killed or seriously injured. At camera sites, there was also a reduction of over 100 fatalities per annum (40% fewer). There were 870 fewer people killed or seriously injured and 4,030 fewer personal injury collisions per annum. There was a clear correlation between reductions in speeds and reductions in PICs.
- **There was a positive cost-benefit of 4:1:** In the third year, the benefits to society from the avoided injuries were in excess of £221 million, compared to enforcement costs of around £54 million.
- **The public supported the use of safety cameras for targeted enforcement:** this was evidenced by public attitude surveys both locally and at national level.

Overall, safety cameras have reduced collisions, casualties and deaths.

[6] *Tomorrow's roads – safer for everyone: The first three year review* (2004) Department for Transport.
[7] *The national safety camera programme – three-year evaluation report.* PA Consulting Group and University College London (2004).

France (F)

Road Safety Country Profile

COUNTRY FACTS

Area:	**551 500 km²**
Inhabitants:	**59 344 025 (2003)**
Road Network:	**981 766 km (2000)**
Passenger Car Ratio:	**491 per 1 000 inhabitants (2002)**

Over the last 5 years, public awareness of road safety has increased considerably. It was a political issue in the 2002 French election, resulting in road safety becoming one of the main priorities of the current administration.

The main measures taken initially were related to improved control of road offences and increased penalties for speeding, drink-driving and not using seatbelts.

This shift in public opinion and the action plans drawn up by the government have been reflected in a reduction in the number of fatalities on the French roads, as well as a decline in the number of accidents and injuries.

From 2002 to 2003, the number of fatalities decreased from 7 655 to 6 058, or a decline of approximately 20 %. The main reason for this decline is a reduction of the average speed (40 %), improvement of drink-driving behaviour (17 %), and improved seatbelt use (11 %). This positive trend continued in 2004.

This should be compared to the period 1994-2000 in which the number of fatalities declined from approx. 9 000 to 8 000. It should be noted that for this period, the road traffic volume and the number of cars increased considerably more than in recent years.

Table 1. Annual development in injury accidents, injuries and fatalities in France, 1991-2004. Please note that only the number of fatalities is comparable to similar statistics for the other Member States due to differences in data collection procedures for the number of accidents and injuries.

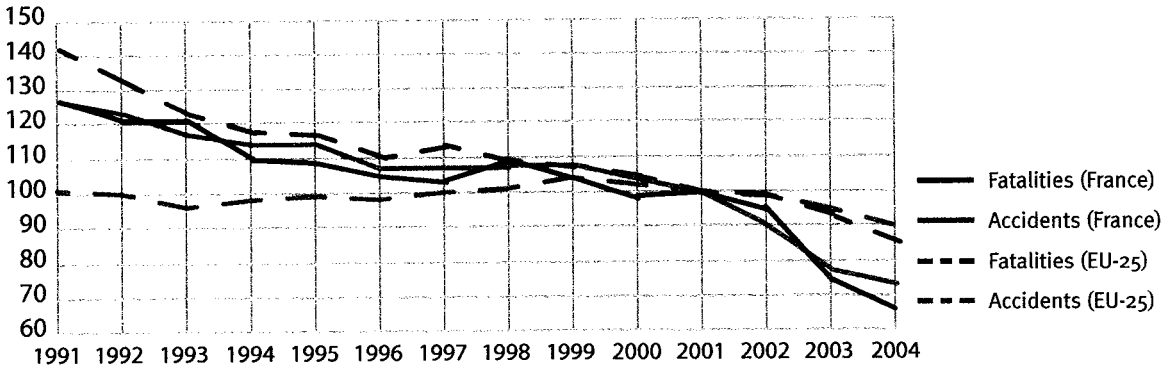
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Accidents *	148 886	143 361	137 500	132 726	132 949	125 406	125 202	124 387	124 524	121 223	116 745	105 470	90 220	85 390
Injuries	205 968	198 103	189 020	180 832	181 403	170 117	169 578	168 535	167 572	162 117	153 945	137 839	115 602	108 429
Fatalities **	10 483	9 902	9 865	9 019	8 892	8 540	8 445	8 920	8 486	8 079	8 162	7 655	6 058	5 530
per million inhabitants	184	173	172	157	154	147	145	153	145	138	138	129	102	93

* Accidents with injuries
** Death within 30 days of accident

Source: CARE project data (see also: http://europa.eu.int/comm/transport/care/index_en.htm)

If the trend continues as expected, France is likely to reach the EU target of reducing the number of fatalities in 2010 as compared to 2000. However, such targets have not been established formally and are not an integrated part of the current road safety policy in France.

Figure 1. **Annual developments (year 2001 = 100) in fatalities and accidents on national and EU-25 level.**



Source: CARE project data (see also: http://europa.eu.int/comm/transport/care/index_en.htm)

Country organisation, responsibilities and resources

The **Inter-ministerial Committee for Road Safety (CISR)** is the overall decision-making body for road safety in France. The Committee is chaired by the Prime Minister with the objective of defining the government's road safety policy and to ensure its implementation. The Committee meets approximately twice a year. It was created in 1972 and comprises the ministers concerned with road safety.

The inter-ministerial delegate for road safety (the Director of the Directorate for Road Safety and Traffic Department within the Ministry of Transport) acts as secretary to the CISR and coordinates the actions of the different ministries involved.

The **National Inter-ministerial Road Safety Observatory** is in charge of collecting, analysing and dissemination of road safety data from various ministries and reports directly to the inter-ministerial delegate. This includes continuous evaluation and monitoring of road safety problems and achievements at national level.

The observatory also operates the secretariat of the **National Road Safety Council (CNSR)** responsible for conducting studies and making proposals to the Government on road safety.

The **National Road Safety Council (CNSR)** is attended by all stakeholders (associations, administrations, etc.) concerned with road safety.

The **Road Safety and Traffic Department** within the **Ministry of Equipment, Transport, Housing, Tourism and the Sea** is responsible for the implementation of CISR decisions, technical regulations for vehicles, driver training, communication and promotion of road safety. Furthermore, the department is responsible for implementing and defining traffic conditions for the road network (200 staff and a budget of € 110 million in 2003).

Within the Ministry of Transport, **the Road Directorate** deals with design, planning and maintenance of the road and highway network, the Land Transport Directorate deals with road transport regulations.

The Gendarmes under the Ministry of Defence act as road police for the rural road network and are therefore actively involved in the enforcement of road safety (approx. 12 000 staff). **The National Police Force** under the Interior Ministry is responsible for local enforcement of road safety policies (approx. 5 000 staff).

Other ministries involved in various aspects of road safety are the ministries of: Justice, National Education, Research and Technology, Health, as well as Youth and Sports.

Approx. 100 national and local associations and lobbying groups (e.g.: motorcyclists) act in partnership with the French Authorities on road safety issues or concrete measures. Other stakeholders are the road concessionaires, the insurance companies and a number of large private companies (signatories of road safety charters).

Various institutions are involved in studies and research on road safety: INRETS (technical improvements for infrastructure and vehicles), SETRA (road safety in non-urban areas), CERTU, etc.

The French State budget (all concerned ministries) dedicated to road safety amounted to € 1 629 million in 2003. This budget was broken down between the different Ministries involved in road safety. In comparison, the cost of road accidents was estimated at € 24 200 million in 2003.

Transport policies

Due to increased public awareness of the importance of road safety following campaigns and intense media attention raising concerns and debates animated by the road victims association, road safety became a priority issue for the French Government following the results of the 2002 elections. A debate took place on the traditional amnesty given to road penalty code offenders after the election. The CNSR recommended the Government not to issue the amnesty law in 2002. The recommendation was followed and appreciated in the French public opinion. It was argued that particularly speeding increased, and reduced enforcement lead to more traffic accidents during the election campaign period (2001).

The change in the political agenda and public awareness, together with increased media coverage, has been a main factor in defining and implementing new road safety measures in France in recent years.

The main cause of road fatalities is speeding, followed by drink-driving. These have been defined as initial priority areas together with seatbelt use, combined with increased police enforcement of traffic offences and increased fines, as well as reinforcement of the penalty system for road offences.

The increased fines and revision of the penalty system have had on the effect of road users respecting the new sanctions, particularly because of the risk of losing the driving licence. This has been noticed by the police force who believes that this is an incentive to improve enforcement.

In addition, several other measures have been taken, such as improving education, driving licence schools, improving infrastructure etc.

The main measures issued by the CISR in 2003 and 2004 were:

- launching promotion campaigns concerning alcohol and driving
- reforming the written driving licence test (to eliminate fraud)
- a law against drivers' use of illegal or controlled substances
- tougher penalties for the failure to use a helmet or a seatbelt and prohibition of the use of mobile phones while driving
- decision to deploy an automated control penalty system throughout the country (targeting first French cars but to be extended to foreign licence plates and trucks)
- introduction of probationary driving licence (with only 6 points) for young (new) drivers
- registration of mopeds
- 0.2 g/l maximum alcohol limit for bus drivers
- increased sanctions for excessive speeding (more than 50 km/h above the maximum speed limit)
- continuous road safety education targeting pupils and schools (school road safety certificate)
- Road safety week (in October) dedicated to road victims
- recommendation of using daytime running lights outside urban areas

Road safety action plans

France does not have a road safety plan with pre-defined targets in terms of fatalities to be reached within a time period. The approach is a sliding (annual) action plan issued and monitored by the CISR. The major idea underlying the actions undertaken in the period 2003-2004 is that the road safety rules should apply to all citizens without distinction and should be enforced strongly and equally (mainly speeding, alcohol and seatbelts). Therefore, a new law was adopted in 2003, reinforcing provisions against road violence and imposing more severe penalties in the event of fatal or injury road accidents. Speeding has become an administrative offence which has relieved the courts of justice from an excessive workload. Furthermore, a range of measures such as automatic radar controls (every citizen is treated equally and the police can focus on other tasks), more enforcement, as well as almost immediate application of higher penalty fines or sanctions have been introduced.

The reports on accidentology published by the Road Safety Observatory have helped to focus political opinion on these issues although some members of parliament still argue for increasing maximum speed limits, based on the liberty of choice principles. The CISR now faces the task of better explaining this new law, its consequences and its benefits for society.

Automated speed controls are being introduced in France (studied and recommended by the CNSR in 2002), with 100 units installed in 2003, increased to 1 000 by the end of 2005. 30 % of the installations are mobile on police and gendarme vehicles, whereas the remaining installations are on stationary sites. The locations are chosen on the basis of traffic statistics, taking into account accident rates, speeding behaviour and the probability of being monitored on the road network. The system is under ongoing improvement to also recognise foreign number plates and trucks, at the latest by the end 2005. Research is being carried out to monitor other traffic offences such as crossing red lights and distances between cars, train crossings and bus lanes. This measure explains up to 40 % in the decrease of fatalities observed in 2003-2004.

The penalty point system for breaking the road code was reinforced in July 2003, by increasing the number of penalty points from 1 to 3 for not using seatbelts (explains 12 % of the decrease) and speeding, and 3-6 points for drink-driving (this explains 18 % of the decrease). The driving licence is confiscated when 12 points are reached; however, points are fully restored if no offence occurs within 3 years. It is possible to gain 4 points by attending a 2-day road safety class. Inexperienced drivers only have 6 points, thus the penalty points have double weight, and a drink-driving offence leads to confiscation of the driving licence.

The public awareness of road safety as an important issue is relatively new in France. The media has paid more attention to road safety issues since the autumn of 2002. Therefore the communication approach has been to increase the common awareness that road safety is everyone's responsibility. Following information campaigns on road safety, the statistics display a reduced number of fatalities, indicating a clear impact of informing the public. In 2003, the following campaigns took place:

- speeding campaign underlining the fatality risk of speed in comparison to the amount of saved time
- speeding near road works campaign
- vacation campaign focussing on the risk of heavy traffic and speeding during the holiday season
- alcohol - several campaigns informed of the risk associated with drink-driving.
- in addition, several documents have been published and road safety has been discussed at different events. Several Websites also deal with the issue.

The driving license test has been evaluated in terms of theoretical and practical exams with a focus on road behaviour and reform of the road test.

Topics

According to statistics and analyses, the rural roads are the most dangerous in France. Speeding is the most common traffic offence and cause of death. The male age group of 15-24 is the most exposed group and motorcycles are the most dangerous means of transport.

Road users

The introduction of automated control systems, followed by information campaigns on how they function and where they are placed, has had a considerable positive impact on the number of speeding offences, as well as a reduction of cases of extreme speeding. As French traffic offenders are forced to pay high fines and many lose their driving licences, the lack of punishment of foreign drivers (apart from immediate perception of the fines) is perceived as unfair – it is estimated that foreign drivers are responsible for 25 % of all offences while they contribute to 10 % of the traffic volume. The French Government has therefore started to implement a system which allows across-border enforcement (with Luxembourg in the first phase, but to be extended to the other neighbouring countries which have penalty point systems).

Daytime running lights are recommended by the French administration; however it is a voluntary measure which may become compulsory in the future.

United Kingdom (UK)

Road Safety Country Profile

COUNTRY FACTS

Area:	**242 500 km²**
Inhabitants:	**59 554 000 (2003)**
Road Network:	**417 140 km (2003)**
Passenger Car Ratio:	**538 per 1 000 inhabitants (2003)**

There are two separate road safety strategies in the UK: The programme "Tomorrow's Roads – Safer for Everyone" covers Great Britain (i.e. England, Scotland and Wales), whilst there is a separate strategy for Northern Ireland. Please note that some of the following statistics apply to the UK, whilst others only apply to Great Britain.

In 2000, the Prime Minister launched the Road Safety Strategy "Tomorrow's Roads – Safer for Everyone", which set out the Government's framework for improving road safety in Great Britain. By 2010, compared with the baseline average for 1994-98, the aim is to achieve:

- a 40 % reduction in the number of people killed or seriously injured (KSI) in road accidents
- a 50 % reduction in the number of children killed or seriously injured (child KSI) in road accidents
- a 10 % reduction in the slight casualty rate, expressed as the number of people slightly injured per 100 million vehicle kilometres.

In 2004, the government published the first three-year review of the strategy for Great Britain, which evaluated the effectiveness and the likelihood of delivering the 2010 targets. The review reports that the overall number of people killed or seriously injured on Britain's roads in 2002 was 17 % lower than in 1998. The same figure for children shows a reduction of 33 % compared with the 1994-1998 average. The review confirms that the 2010 targets remain appropriate and that the country is on the right track, but it also proves that the strategy must develop continuously in response to developments in casualty figures and new ideas and technology in order to achieve these goals.

In Great Britain in 2003, 3 508 people were killed in road accidents and 33 707 people were assessed as seriously injured.[1] This is 22 % below the baseline level – almost halfway to the 40 % target set for 2010. In 2003, 171 children were killed in road accidents and 3 929 were seriously injured. This is 40 % below the baseline – over three quarters of the way to the 50 % target set for 2010. For slight injuries, the reported rate in 2003 was 17 % below the baseline, but it is possible that this is partly due to a drop in reporting of less serious accidents and casualties.

The Northern Ireland Road Safety Strategy 2002-2012 was published in 2002. The long-term targets are a 33 % reduction in KSI's and a 50 % reduction in child KSI's by 2012. The vision of the strategy is "safe road use for the whole community".

[1] *Details of the Department's principal road safety targets.* June 2004. Department for Transport.

Table 1. Annual development in injury accidents, injuries and fatalities in United Kingdom, 1991-2004. Please note that only the number of fatalities is comparable to similar statistics for the other Member States due to differences in data collection procedures for the number of accidents and injuries.

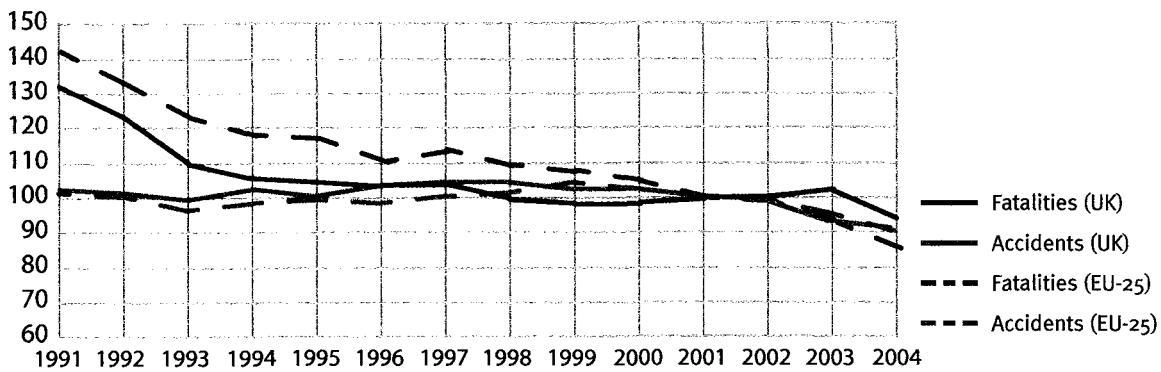
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Accidents *	242 060	239 754	235 492	241 037	237 336	243 286	247 479	246 410	242 610	242 117	236 461	234 247	220 079	213 043
Injuries	316 929	317 638	313 278	323 646	318 647	329 413	336 758	321 791	316 887	316 874	317 306	305 958	297 274	286 979
Fatalities **	4 753	4 379	3 957	3 807	3 765	3 740	3 743	3 581	3 564	3 580	3 598	3 581	3 658	3 368
per million inhabitants	82	76	68	65	64	64	64	61	60	60	60	60	62	56

* Accidents with injuries
** Death within 30 days of accident

Source: CARE project data (see also: http://europa.eu.int/comm/transport/care/index_en.htm)

As shown in Table 1, the number of accidents in the UK in 2004 has decreased by 10 % compared to 1994, while the number of fatalities fell by 11 % in the same period.

Figure 1. **Annual developments (year 2001 = 100) in fatalities and accidents on national and EU-25 level.**



Source: CARE project data (see also: http://europa.eu.int/comm/transport/care/index_en.htm)

Country organisation, responsibilities and resources

The national road safety policy is the responsibility of the **Department for Transport (DfT)**. The Road Safety Strategy that came into force in 2000 sets the national framework for policies up to 2010. Local authorities have a statutory duty to ensure safety on the roads for which they have responsibility. Targets are set at the national level, and local authorities set their own targets, consistent with the national targets, in their Local Transport Plans. Programmes are funded by national and local taxes. The DfT is also responsible for the evaluation of the road safety programme. Routine monitoring is carried out annually, and formal programme reviews are planned to be carried out every three years. General monitoring indicators are the number of crashes and casualties by severity and by road user group, drink-driving, use of seatbelts, use of cycle helmets, speed, road user attitudes surveys, and other ad hoc surveys. Other indicators that are monitored are: traffic volume by vehicle type, travel patterns, modal split, vehicle registrations, driving test volumes and pass rates. Cost-benefit studies of the various measures are an integral part of programme evaluation. In-depth analyses are made on a sample of all road accidents (approximately 2 000).

Policies on issues such as drink-driving, speed limits, driver training and testing are set nationally. Local authorities are responsible for local safety engineering schemes and road safety education, in accordance with national regulations and best practice guidance.

The **Highways Agency** is responsible for operating, maintaining and improving the strategic road network in England on behalf of the Secretary of State for Transport. The agency plays a major role in delivering the Government's Ten Year Plan for Transport. The Highways Agency is gradually moving away from road building to a more network management role. The existing network is optimised by means of a comprehensive traffic monitoring system.

The **Scottish Executive,** the **Welsh Assembly** and the **Northern Ireland Assembly** have devolved power and responsibility for the strategic road network. In Northern Ireland the Roads Service is the sole road authority.

The **Road Safety Advisory Panel (RSAP)** was set up in 2000 to help the government take forward the Road Safety Strategy and to review progress. Chaired by the Road Safety Minister, the panel has members representing some of the main stakeholder bodies.

The **Vehicle and Operator Services Agency (VOSA)** provides a range of licensing, testing and enforcement services, with the aim of improving the roadworthiness standards of vehicles, ensuring the compliance of operators and drivers with road traffic legislation, and supporting the independent Traffic Commissioners.

The **Driving Standards Agency (DSA)** is responsible for testing drivers, motorcyclists and driving instructors through the theory test and practical driving test, maintaining the registers of approved driving instructors (ADIs) and heavy goods vehicle instructors and supervising training for learner motorcyclists. The DSA has over 400 practical driving test centres across Great Britain.

The **Driver and Vehicle Licensing Agency (DVLA)** is responsible for vehicle taxation and registration, number plates and registration marks and issuing of driving licences.

The **Vehicle Certification Agency (VCA)** is the UK approval authority for the type approval of new road vehicles, agricultural tractors and off-road vehicles.

The **Police** are responsible for enforcement.

The DfT Road Safety Division spend around £10 million every year funding pilot projects in partnership with local authorities, £14 million on the THINK! campaign and £5 million on road safety research.

Local Councils in England spend about £90 million per year on safety engineering schemes and £21 million on education, training and publicity.

In Northern Ireland the **Department of the Environment** (DoE) has the overall lead in implementing the road safety strategy.

Transport policies

A comprehensive Road Safety Bill was introduced to the House of Commons on 30 November 2004, containing a draft of measures designed to help achieve the road safety targets and improve safety on Britain's roads. The bill completed all stages in the House of Commons, but has not begun its passage through the House of Lords. Due to the announcement of a General Election on 5 May 2005, the Road Safety Bill will not reach the statute book.

Legislation banning the use of mobile phone whilst driving other than in association with a hands-free kit was introduced in Northern Ireland on 1 February 2004

Road safety action plans

In 2000, the road safety strategy for Great Britain entitled: "Tomorrow's Roads – Safer for Everyone" was published jointly by the UK Government, the Scottish Executive and the National Assembly for Wales. The strategy outlines casualty reduction targets for 2010 with particular emphasis on child casualties. This road safety programme contains many specific recommendations, but is not intended to be a rigid blueprint. The strategy and targets are reviewed every three years by a Road Safety Advisory Panel.

The road safety programme is very comprehensive, covering ten priority themes, with a host of specific measures, together with an implementation timetable. The themes, measures and timing are presented above with results from the first review.

A Child Safety Action Plan was published in 2002. It presents a range of on-going projects and research that will contribute to delivering the 2010 targets set in the road safety strategy "Tomorrow's Roads – Safer for Everyone".

The Northern Ireland Road Safety Strategy 2002-2012 was published in 2002. The strategy contained 161 action measures grouped into the following six strategic objectives: [2]

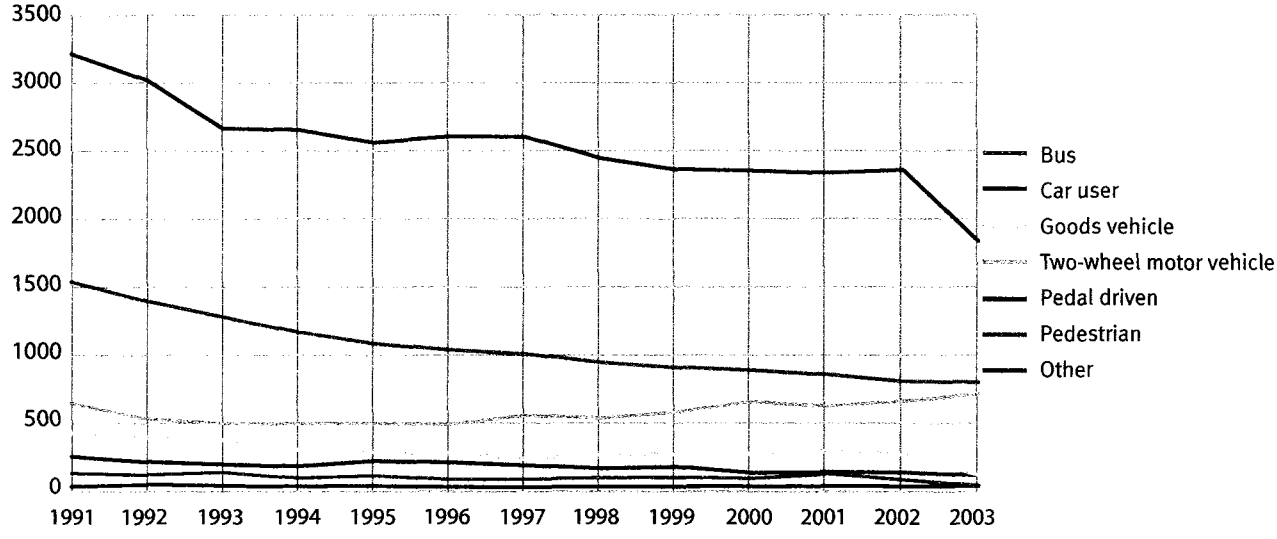
- safer children
- improved safety for pedestrians and other vulnerable road users
- improved driver training, testing and licensing
- improved driver behaviour
- safer roads infrastructure
- safer vehicles

Topics

In Great Britain the road safety work is organised by ten priority themes, whereas in Northern Ireland it is organised under six strategic objectives. The two strategies cover similar issues though the work in Great Britain is more extensive. Two of Great Britain's main themes – 'better enforcement' and 'promoting safer road use' – are not mentioned specifically in the overall objectives of the Northern Irish programme. Instead in Northern Ireland they are covered within the objective concerning 'better driver behaviour'.

The descriptions in the following sections are mainly based on the road safety work in Great Britain. However, in many cases they are also valid for Northern Ireland, although in a smaller scale. For some topics the measures in Northern Ireland merit particular mention.

Figure 2. **Fatalities by class of road users.**



Source: CARE project data (see also: http://europa.eu.int/comm/transport/care/index_en.htm)

[2] *Northern Ireland Road Safety Strategy 2002-2012. Annual Report 2003.* Department of the Environment.

Safer drivers – training and testing. Better driving skills and better driving behaviour would make an enormous difference to reducing the number of road casualties. The following measures are introduced:

- instil the right attitudes towards road safety and safe driving in young people
- guide learner drivers to take a more structured approach to learning, to prepare them for their driving career, not just to pass a test
- raise the standard of tuition offered by driving instructors
- improve the driving test in the light of better understanding of what needs to be examined and effective ways to do it
- focus on the immediate post-test period for novice drivers
- enhance the status of advanced motoring qualifications
- address the needs of professional drivers
- improve safety benefits for all categories of motor vehicle.

Some of the measures which have been carried through and will be put into force during coming years are:

- improvement of the driving theory test: A new syllabus and a new vehicle safety element were introduced into the practical test in 2003. A hazard perception test has been added to the driving theory test in both Great Britain and Northern Ireland
- new and more demanding special exercises will be added to the practical motorcycle test in 2008
- continue publicity to warn drivers of the dangers of using any type of mobile phone while driving.

Safer drivers – alcohol, drugs and drowsiness: Estimates for 2002 suggest that 6 % of all road casualties and 16 % of all road deaths in Great Britain occurred when someone was driving under the influence of alcohol (over the legal limit). The provisional estimate of people killed in drink-driving accidents in 2003 is 560, which is 15 % of all fatalities. The following measures are proposed:

- introduce new measures to further reduce drink-driving
- develop more effective ways to tackle drug-driving
- carry out research to improve understanding of drug-driving
- strengthen and enforce laws on driving time for lorry, bus and coach drivers
- make people aware of how much tiredness contributes to road accidents and advise drivers and employers how to avoid the risks.

Some of the measures which have been carried through are:

- Since 2000, legislation has been made to improve effectiveness of Police enforcement powers to carry out roadside breath testing of drivers. The Police Reform Act 2002 gives the Police the power to obtain evidential blood samples from unconscious suspects at hospitals and require them, on regaining consciousness, to agree to their analysis
- A national 'Don't Drive Tired' campaign was started in 2000 and included leaflets, posters, TV and radio advertising, motorway variable signs and signs on the back of trucks
- In Northern Ireland an anti drink-driving campaign was launched in 2003.

The 2004 review points out the following trends on drink-driving: The estimated number of drink-driving related accidents and casualties has increased steadily, and was the highest for ten years in 2002. There is clear evidence that drink-driving is increasing amongst younger age groups. Research has shown that at a blood alcohol concentration of 80 mg, which is the UK prescribed limit, a driver is five times more likely to be involved in a crash. Statistics show a steady decline in the number of breath tests administered by the police in England and Wales since 1998. Meanwhile, the percentage of tests that have proved positive over this period has risen from 13 %, back to the early 1990's level of 16 %. In 2002, the total number of breath tests in Great Britain was 764 000.

Safer speeds. Research has shown that excessive and inappropriate speed is a major contributory factor in about one third of all fatalities in Great Britain. In Northern Ireland it is the principal contributory factor in approximately a quarter of all collisions that result in death or serious injury. This is far more than any other single contributor to casualties on the roads. The following measures are taken:

- widely publicise the risks of speeding and reasons for speed limits
- develop a national framework for determining appropriate vehicle speeds on all roads, and ensure that measures are available to achieve them
- research a number of speed management problems to gain the necessary information to develop and test new policies
- take into account environmental, economic and social effects of policies when assessing their ability to reduce accidents.

Commitments already made are (amongst others):

- establishing the policy that 30 mph should be the norm for villages in the United Kingdom, supported by traffic-calming measures where appropriate
- securing type approval for and issuing guidance promoting wider use of speed activated signs, which are triggered when they detect a vehicle exceeding the speed limit, flashing up a warning to make drivers and riders aware of the limit and/or any hazard ahead
- improvements and clarifications to speed limit and speed camera signing through publication of revised Traffic Signs Regulation and General Directions 2002 in January 2003
- 45 police authorities in England, Scotland and Wales are engaged in safety camera partnerships
- In Northern Ireland a pilot safety camera scheme was introduced in 2003 together with an extensive speed awareness campaign.

In Great Britain the road safety benefits of camera enforcement show that there has been a 35 % reduction of people killed or seriously injured (KSI) at camera sites, compared to the long-term trend, and that the average speed at all camera sites fell by 10 % or 3.7 mph. In Northern Ireland a 27 % reduction in the KSI's has been estimated on roads where safety cameras have been used.

Further measures with the potential to deliver noticeable improvements between now and 2010 include:

- revised guidance on setting local speed limits on all roads, including the associated speed management assessment framework
- subject to legislation, introduction of a two-tier fixed penalty for speeding, whereby those exceeding limits by a wide margin receive tougher penalties.

Promoting safer road use. Based on the achievements of publicity campaigns in the past, the strategy is to target those areas where there is a need to change attitudes and behaviour. The motor manufacturing and retail industry should be a natural and powerful ally in promoting road safety generally because they have a shared interest in promoting safety by, for example, producing safer vehicles.

Progress so far includes the re-launch of the long-running road safety umbrella campaign 'THINK!' in 2000, which covers several themes. The five main themes, however, deal with drink-driving, speed, seatbelt use, children and motorcyclists. The campaign encourages all road users to think about safety more. The web site provides details of the latest campaigns, general road safety advice and downloads of THINK!-leaflets, fact sheets and posters. The Department for Transport has also built partnerships with private sector companies, encouraging them to reinforce road safety messages to their customers and employees.

Vehicles

Safer vehicles. Improvements in vehicle safety have contributed significantly to reducing road deaths and injuries, and will continue to do so. The strategy is to further improve vehicle safety by encouraging:

- improvements which protect car occupants in the event of an accident
- improvements which protect other road users
- better information for consumers, helping them to choose safer vehicles (The Department for Transport is a partner in the EuroNCAP).
- better standards for vehicle maintenance
- renewed emphasis on new vehicle safety inspections by manufacturers and dealers.

The progress on this theme so far in the UK includes, for example, a number of European Directives that have come into force since the strategy was launched. Great Britain also continues to be actively involved in the development of vehicle design and the pursuit of research to find new approaches to vehicle safety, for instance via the EuroNCAP. Further progress expected by 2010 includes, for example, voluntary agreements with car manufacturers to fit anti-lock brake systems to all new cars and car derived vans, advanced side-impact protection and better frontal impact protection through vehicle compatibility. During 2003, functional annual testing of speed limiters on buses and goods vehicles was introduced in Northern Ireland.

The DfT is funding a research project in which 20 vehicles equipped with ISA (Intelligent Speed Adaptation) are moved between different cities in Great Britain and tested by private and commercial drivers.