



COMMISSION DES COMMUNAUTÉS EUROPÉENNES

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**COMMUNICATION DE LA COMMISSION AU CONSEIL ET AU PARLEMENT
EUROPÉEN**

Contrats pluriannuels concernant la qualité de l'infrastructure ferroviaire

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1. CONTEXTE GÉNÉRAL

1.1. Le financement de l'infrastructure ferroviaire

L'un des objets de la politique des transports de la Communauté européenne est de développer et d'optimiser les infrastructures de transport et d'en assurer une gestion saine en termes de qualité, de fiabilité, de souplesse et d'adaptation à la clientèle. Cela exige de mobiliser les moyens financiers correspondants. Six ans après l'adoption du paquet sur l'infrastructure ferroviaire¹, le financement durable de l'infrastructure existante, la qualité du service d'infrastructure et les moyens d'améliorer les performances des gestionnaires d'infrastructure sont toujours des motifs de préoccupation. C'est l'un des résultats des consultations approfondies des parties concernées qui ont eu lieu entre mai 2006 et septembre 2007².

La présente communication définit les mesures que les États membres et les gestionnaires d'infrastructure doivent prendre pour concilier équilibre financier et niveau approprié des services d'infrastructure ferroviaire. La Commission recommande d'appliquer ces mesures intégralement et de façon cohérente dans l'Union européenne, mais étudiera s'il convient de proposer une législation contraignante pour faire en sorte que le marché européen des services ferroviaires soit parfaitement conforme aux responsabilités incombant aux États membres de développer l'infrastructure ferroviaire.

1.2. Le cadre de référence stratégique du développement de l'infrastructure ferroviaire

La mise à disposition de l'infrastructure est indispensable à un marché concurrentiel des services ferroviaires. Le développement de l'infrastructure concerne deux acteurs principaux: les États membres – en général, les gouvernements nationaux qui détiennent l'infrastructure – et les gestionnaires d'infrastructure ferroviaire. En fonction de leur rôle respectif, prévu par la législation ferroviaire, ils doivent prendre des décisions sur l'ampleur et la nature du développement de l'infrastructure et les ressources financières correspondantes selon une approche cohérente.

La condition préalable est de disposer d'un cadre stratégique cohérent en matière de politique des transports. L'État doit décider quels sont les besoins d'infrastructure à long terme, pour tous les modes de transport faisant l'objet de sa politique, en fonction des besoins futurs des usagers. Cela doit fournir les paramètres nécessaires pour déterminer le niveau optimal de qualité de l'infrastructure et l'étendue du réseau ferroviaire. Cela peut impliquer de supprimer

¹ Les directives 2001/12/CE, 2001/13/CE et 2001/14/CE sont appelées collectivement le "paquet infrastructure".

² Les consultations ont pris la forme d'un atelier destiné aux parties concernées en mai 2006, de deux consultations des parties concernées au titre d'études lancées par la Commission en 2006 et 2007, et d'une consultation publique qui s'est achevée en septembre 2007.

certaines lignes sur lesquelles on ne peut raisonnablement s'attendre à une fréquentation suffisante, ou d'accroître la capacité d'autres lignes pour répondre à l'augmentation de la demande³.

1.3. Le niveau de l'intervention publique

Les États membres ont déclaré avoir dépensé en 2006, au titre de la maintenance⁴ et des nouvelles infrastructures ferroviaires, la somme de 13,9 milliards d'euros qui ne comprend pas les fonds des partenariats public-privé (voir annexes 1 et 2). Si l'on ajoute les recettes tirées des redevances d'utilisation, le coût de la maintenance ferroviaire s'élève à environ 35 milliards d'euros par an. Les recettes tirées des redevances d'utilisation n'en couvrent que 30 à 50%, avec des valeurs extrêmes de 10 et 100%.

La contribution de l'UE est essentiellement consacrée au cofinancement des infrastructures de transport au titre de son budget RTE et de parties des fonds de cohésion et régional. Cela est destiné à la construction et à la réhabilitation de l'infrastructure du réseau ferroviaire transeuropéen et ne représente qu'une petite partie du réseau.

Dans la législation communautaire, la tarification de l'infrastructure ferroviaire au coût d'exploitation d'un service supplémentaire est considérée comme la règle, tandis que le recouvrement total des coûts n'est autorisé que comme exception et sous certaines conditions⁵. Dans de nombreux cas, les États membres jouent un rôle prépondérant dans le maintien de la stabilité financière de leurs gestionnaires d'infrastructure. Les gestionnaires d'infrastructure ferroviaire doivent couvrir une grande partie des dépenses de maintenance par des recettes propres ou des transferts publics. Cela soulève la question des relations entre l'État et les gestionnaires d'infrastructure en ce qui concerne ces transferts.

2. ÉTAT DE LA MISE EN ŒUVRE

2.1. Le cadre juridique dans l'Union européenne

La législation de l'UE exige de définir des mesures incitatives afin de réduire le coût de la mise à disposition de l'infrastructure et des redevances d'utilisation qui en découlent. Il convient de limiter les coûts en tenant dûment compte de la sécurité ainsi qu'en préservant et en améliorant la qualité du service d'infrastructure. Si la Communauté a posé des exigences précises concernant la gestion de la sécurité et la notification des (données relatives aux) accidents, il n'existe encore aucune obligation de ce type, au niveau communautaire, concernant le contrôle du service d'infrastructure.

Les États membres peuvent choisir de remplir cette obligation au moyen de mesures réglementaires et/ou d'accords contractuels appelés contrats pluriannuels⁶. Ces accords sont conclus pour au moins trois ans, c'est-à-dire une période plus longue que l'exercice annuel

³ Par exemple, le gouvernement néerlandais adopte son plan annuel de gestion de l'infrastructure ferroviaire sur la base d'un plan décennal national en matière de mobilité couvrant tous les modes de transport.

⁴ Ce terme recouvre le renouvellement et la modernisation de l'infrastructure ferroviaire.

⁵ Directive 2001/14/CE, articles 7 et 8.

⁶ Directive 2001/14/CE, article 6, en particulier paragraphes 2, 3 et 4.

habituel. Les termes du contrat et le calendrier des paiements doivent être arrêtés au préalable pour toute la durée du contrat.

Dans certains pays européens, les gestionnaires d'infrastructure ont acquis une expérience précieuse en matière de contrats pluriannuels. La Commission estime qu'il serait utile de suivre cette approche plus systématiquement sur la base des meilleures pratiques existantes. Elle a donc invité les États membres à continuer à définir leurs relations avec les gestionnaires d'infrastructure sur une base contractuelle pour ce qui est du financement de la maintenance et de la modernisation de l'infrastructure ferroviaire. C'est aussi le cadre approprié à un régime de performances⁷.

2.2. Autres exigences légales

Outre les règles ci-dessus, qui concernent directement les contrats pluriannuels, les directives ferroviaires de l'UE prévoient d'autres dispositions qui peuvent être utiles en termes de mise en œuvre.

- Les États membres doivent prendre les mesures nécessaires au développement de leur infrastructure ferroviaire nationale⁸. Les États membres peuvent accorder au gestionnaire de l'infrastructure un financement suffisant compte tenu de ses tâches, de sa taille et de ses besoins financiers, notamment pour couvrir des investissements nouveaux⁹. Les gestionnaires d'infrastructure établissent un plan d'entreprise afin de garantir l'équilibre financier et que les moyens sont à la mesure des objectifs¹⁰.
- Les États membres sont tenus de faire en sorte que les dépenses et les recettes des gestionnaires d'infrastructure s'équilibrent sur une période de temps raisonnable. Cela concerne toutes les activités, même si elles n'ont pas directement trait à la maintenance de l'infrastructure.

En outre, la validité et la transparence des transferts de fonds publics font l'objet de dispositions particulières, compte tenu de l'exigence d'indépendance de gestion imposée au gestionnaire de l'infrastructure et de la nature économique de ses activités:

- Le droit communautaire interdit les transferts de fonds publics entre gestionnaires d'infrastructure et entreprises ferroviaires.
- Il est obligatoire de conserver et de publier séparément les comptes de profits et pertes pour la gestion de l'infrastructure.
- Le système de tarification de l'utilisation de l'infrastructure des gestionnaires d'infrastructure ferroviaire de l'UE doit comporter un régime de performances.
- Enfin, les règles concernant les aides d'État doivent être respectées¹¹.

⁷ Voir la communication de la Commission COM(2006) 189, du 3 mai 2006, sur la mise en œuvre du premier paquet ferroviaire (conclusions, page 10).

⁸ Voir l'article 7, paragraphe 1, de la directive 91/440/CEE.

⁹ Voir l'article 7, paragraphe 3, de la directive 91/440/CEE.

¹⁰ Voir l'article 7, paragraphe 4, de la directive 91/440/CEE.

¹¹ La Commission étudie s'il faudrait prévoir des lignes directrices spécifiques aux aides d'État en faveur du secteur ferroviaire qui couvriraient, entre autres, les transferts destinés à l'infrastructure.

2.3. Le recours aux contrats pluriannuels aujourd'hui

La situation concernant le recours aux contrats pluriannuels varie considérablement d'un État membre à l'autre (voir annexe 4). Environ la moitié d'entre eux ne les utilisent pas ni n'envisagent de le faire. Certains États membres ne prévoient aucun financement pour la maintenance de l'infrastructure ferroviaire dans un premier temps, d'autres sont en train de négocier des contrats pour la première fois, et d'autres encore sont disposés à les prolonger pour une nouvelle période pluriannuelle. Parallèlement, un nombre croissant d'États membres prévoient d'introduire ces contrats après avoir instauré les exigences correspondantes en vertu du premier paquet ferroviaire.

Les gestionnaires d'infrastructure en Autriche, Belgique, Bulgarie, Estonie, France, Irlande, Italie, Lettonie, Roumanie et au Royaume-Uni ont passé des contrats pluriannuels avec leur État respectif. Certains États, par exemple le Royaume-Uni, en sont à renouveler des contrats tandis que d'autres, comme l'Allemagne, en préparent pour la première fois. En Autriche, Bulgarie, Hongrie, Irlande, aux Pays-Bas, au Royaume-Uni et en Slovaquie, les paiements au titre de la mise à disposition de l'infrastructure sont déjà conditionnés par des critères de qualité¹².

3. DES FORMES DE FINANCEMENT DE LA MAINTENANCE TRÈS DIFFÉRENTES

La compétitivité du secteur ferroviaire dépend, dans une large mesure, de la disponibilité et de la qualité de l'infrastructure. Toutefois, la maintenance de l'infrastructure ne bénéficie pas toujours de l'attention et des moyens financiers que les entreprises ferroviaires sont en droit d'attendre pour pouvoir concurrencer les autres modes de transport.

Près d'un tiers des gestionnaires d'infrastructure déclarent que les fonds dont ils disposent ne sont pas suffisants pour entretenir leur réseau¹³. Il y a d'énormes différences, entre les États membres¹⁴, en ce qui concerne les dépenses de maintenance par kilomètre de voie qui peuvent varier de 1 à 30. Dans certains États membres, les gestionnaires d'infrastructure n'ont bénéficié d'aucun transfert public entre 2003 et 2006 en dépit de l'importance de leur réseau. Les États membres qui ont rejoint l'UE en 2004 ont dépensé, cette année-là, 280 millions d'euros pour développer l'infrastructure contre plus de 13 milliards d'euros dans l'UE-15 (voir annexe 1).

Un tel écart amène à penser que certains réseaux prennent peut-être un retard de maintenance que le gestionnaire d'infrastructure est incapable d'assumer financièrement.

À titre d'illustration, la figure ci-dessous montre l'évolution des capitaux propres et des dettes des grandes sociétés de chemin de fer européennes (gestionnaires d'infrastructure et entreprises ferroviaires) de 1995 à 2004. Tandis que les capitaux propres des chemins de fer

¹² Source: Communauté des chemins de fer européens (CCFE) et gestionnaires d'infrastructure, 2006. La Suisse est en train de renouveler ses contrats pluriannuels aux termes desquels les paiements dépendent de la qualité de l'infrastructure.

¹³ Une étude intitulée "Guidelines for sustainable partnerships in railway maintenance" et réalisée par Ecorys en 2006 a révélé que 31% des gestionnaires d'infrastructure ne disposent pas d'un budget suffisant. Ces derniers font état de déficits annuels moyens compris entre 10% et 89% de leurs coûts totaux.

¹⁴ Voit le tableau de l'annexe 2.

diminuaient régulièrement, les dettes augmentaient. Il y a des facteurs déterminants autres que la maintenance de l'infrastructure, comme la non-compensation des obligations de service public, mais le résultat, en termes d'instabilité financière, reste le même.

En 2006, les dépenses de maintenance par kilomètre de voie varient de 220 euros en Slovaquie ou 16 000 euros en Pologne à 160 000 euros en Allemagne ou 360 000 euros au Royaume-Uni¹⁵. Cet écart considérable, bien supérieur à la différence des niveaux de coût, indique peut-être que, dans certains cas, la maintenance n'est pas viable tandis que, dans d'autres cas, **les gestionnaires d'infrastructure n'ont pas exploité les possibilités de réduction des coûts de la même façon dans toute l'Europe.**

Le secteur ferroviaire a réussi à améliorer ses performances en termes de sécurité malgré des niveaux de départ élevés. En revanche, il n'en va pas de même de la qualité de l'infrastructure. Lorsque les revenus ne suffisent pas à maintenir de grands réseaux, souvent surdimensionnés, la qualité du service d'infrastructure en pâtit. Faute d'indicateurs de performance (communs) qui soient bien définis et publiés, il est difficile de mettre en évidence la baisse de qualité de l'infrastructure. Ce n'est qu'au terme d'une longue période de temps, au moment où il faut réduire la vitesse pour des raisons de sécurité, que la véritable dimension du problème apparaît.

L'étude de cas exposée à l'annexe 6 montre comment, du fait des défaillances de l'infrastructure, la qualité du service de transport baisse et pourquoi les clients préfèrent la route au rail. C'est le début d'un cercle vicieux car les gestionnaires d'infrastructure perdent alors des revenus qui ne peuvent plus être utilisés pour la maintenance. Un problème analogue peut se poser lorsque les obligations de service public en matière de transport de voyageurs par chemin de fer ne sont pas correctement compensées.

¹⁵ Voir l'annexe 2 du document de travail des services de la Commission.

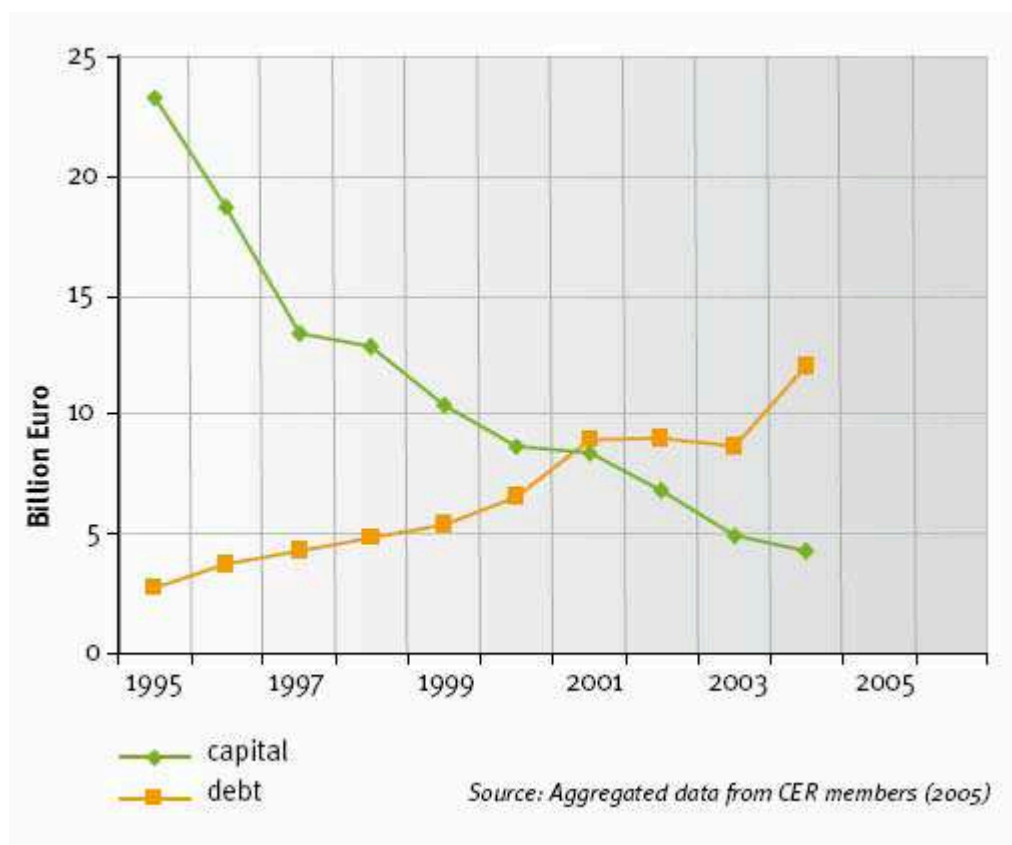


Figure: capitaux propres et dettes des chemins de fer dans les pays d'Europe centrale et orientale.

4. LA FONCTION DES CONTRATS PLURIANNUELS

Les contrats pluriannuels constituent une modalité de financement à long terme de la maintenance de l'infrastructure. L'annexe 3 fournit un aperçu des principaux éléments d'un contrat pluriannuel et des avantages éventuels qu'un tel accord peut procurer s'il est convenablement préparé et négocié.

4.1. Un cadre de financement à long terme de la maintenance

L'approche de la maintenance ferroviaire qui a prévalu pendant de nombreuses années a consisté à conserver le réseau existant selon des critères techniques et une fréquence régulière de renouvellement. Pourtant, ce qui est nécessaire c'est que l'infrastructure ferroviaire corresponde aux futures structures de la demande de transport et provoque ainsi un accroissement du trafic et des recettes tirées des redevances d'utilisation. Les contrats pluriannuels doivent contraindre les deux parties à envisager les choses sur le long terme et à élaborer des programmes de maintenance sur la base du plan d'entreprise du gestionnaire d'infrastructure et donc sur la future demande de services. L'atelier des parties concernées a conclu que les contrats pluriannuels permettent aussi de faire des compromis plus éclairés entre intérêts des contribuables et des usagers, entre maintenance et qualité du réseau, et entre maintenance à court terme et renouvellement.

4.2. Compléter le système de tarification

Dans une situation où la plupart des gestionnaires d'infrastructure ne peuvent pas répercuter l'intégralité des coûts de maintenance sur les redevances d'utilisation, les transferts effectués dans le cadre de contrats pluriannuels viendront compléter les redevances d'utilisation de façon à assurer la nécessaire stabilité financière. Aussi un contrat pluriannuel doit-il être conforme au cadre de tarification, lequel doit respecter les règles tarifaires en vigueur¹⁶, sans préjuger du droit du gestionnaire d'infrastructure de fixer les redevances¹⁷.

4.3. Permettre un contrôle effectif des coûts

La planification à long terme de la maintenance ferroviaire et du renouvellement peut faire baisser les coûts unitaires étant donné que l'équipement et le personnel de maintenance seront mieux adaptés au type et au volume de travail envisagé et qu'il sera moins souvent nécessaire de modifier les plans au dernier moment. Cela vaut tant pour les tâches en interne que pour la maintenance externalisée.

La dotation budgétaire annuelle impose d'utiliser les fonds avant la fin de l'année, même s'il est plus rentable de repousser les travaux, et inversement. En passant d'une dotation annuelle à une dotation pluriannuelle, le gestionnaire de l'infrastructure peut utiliser les fonds de façon plus souple et répondant mieux aux besoins économiques, plutôt que selon les règles strictes applicables aux dépenses publiques.

Le tableau ci-dessous montre les possibilités de réduction des coûts de maintenance quantifiées par les gestionnaires d'infrastructure et les ministères des Transports lors de la consultation de 2007. À partir des réponses qu'ils ont données, on estime que le potentiel absolu de réduction des coûts, pour les seuls États qui ne recourent pas encore aux contrats pluriannuels, s'élève à 580 millions d'euros dont 370 résultant d'une planification plus efficace des travaux de maintenance (voir l'analyse d'impact).

<i>Les contrats pluriannuels feront baisser les coûts de maintenance du fait de</i>	<i>Réduction des coûts escomptée</i>	<i>Nombre de réponses</i>
l'utilisation plus efficace des ressources	2 – 5%	6
l'externalisation plus efficace de la maintenance	5 – 10%	3
politiques plus élaborées de réduction du personnel	0,1 – 3%	3

Tableau: réduction des coûts de maintenance. Source: gestionnaires d'infrastructure ferroviaire de l'UE, PriceWaterhouseCoopers 2007.

Par crainte de perdre un budget inutilisé, les gestionnaires ont tendance à intensifier les activités de maintenance en fin d'année. En effet, la logique du budget public veut que les fonds soient réduits s'ils ne sont pas intégralement utilisés les années précédentes. Or,

¹⁶ Conformément à l'article 4 de la directive 2001/14/CE, les États membres doivent mettre en place un cadre pour la tarification et respecter l'indépendance des gestionnaires d'infrastructure.

¹⁷ Par exemple, voir l'étude de cas sur l'Angleterre et l'Écosse à l'annexe 6 du document de travail des services de la Commission.

d'importants travaux de maintenance à cette époque de l'année entraînent davantage de retards et désorganisent le service. L'abandon de la planification annuelle pour des systèmes pluriannuels a donc pour effet de limiter globalement la désorganisation car les travaux de maintenance peuvent être programmés de façon à perturber le moins possible le trafic. Dès lors que des régimes effectifs de performances auront été instaurés partout, cette stratégie s'avérera encore plus payante car le gestionnaire de l'infrastructure devra indemniser les utilisateurs pour toute perturbation qu'il provoque.

Lorsqu'un contrat pluriannuel ne couvre que certains éléments de coût du cycle de vie, par exemple les coûts de renouvellement ou de maintenance, cela peut inciter à dépasser les coûts de cycle de vie ou pousser les gestionnaires d'infrastructure à faire trop peu de maintenance puisqu'ils savent que les coûts de renouvellement pourront être récupérés ultérieurement auprès de l'État. Un tel report de la maintenance peut entraîner une baisse de qualité de l'infrastructure.

4.4. Permettre l'analyse comparative et la surveillance réglementaire

Les gestionnaires d'infrastructure ne doivent pas demander le traitement confidentiel des informations et, en particulier, de certaines données sur le coût de la maintenance. L'infrastructure étant un monopole de fait, il n'y a normalement pas de concurrence entre services d'infrastructure. L'obligation de publier des données financières est conforme au droit du public de savoir comment les fonds publics sont utilisés.

Dès lors qu'on peut fixer plus précisément des objectifs de performance, il est plus aisé d'évaluer la position relative des gestionnaires d'infrastructure et, partant, il est possible de définir la rentabilité en fonction non seulement des éléments de coût du gestionnaire de l'infrastructure national mais aussi de ses performances par rapport aux autres gestionnaires d'infrastructure. Parallèlement, les organismes de réglementation obligent les gestionnaires d'infrastructure à diffuser les informations sur la détérioration de l'infrastructure bien avant que l'abaissement des vitesses limites ne nuise aux performances.

4.5. Améliorer les performances et le contrôle de qualité

Les contrats pluriannuels permettent de passer de spécifications d'entrée – c'est-à-dire de l'indemnisation du gestionnaire de l'infrastructure pour une dépense particulière – à des spécifications de sortie – c'est-à-dire des paiements liés aux performances. Les indicateurs de qualité devront respecter les principes SMART¹⁸.

Les critères de qualité actuellement utilisés se répartissent en deux catégories: les indicateurs basés sur la qualité du service ferroviaire, par exemple la vitesse et la sécurité, et ceux basés sur la mise à disposition de l'infrastructure. La première catégorie permet de quantifier les retards dus à l'abaissement des vitesses limites, ou les données relatives aux accidents exigées par la loi pour les statistiques sur les accidents de chemin de fer. Concernant les indicateurs relatifs à la mise à disposition de l'infrastructure, il peut s'agir des coûts de maintenance par kilomètre de voie ou du pourcentage de lignes soumises à des limitations de vitesse

¹⁸ SMART signifie Spécifique en termes d'adéquation des indicateurs aux objectifs, Mesurable du point de vue de la quantifiabilité, Accessible compte tenu de la situation économique et des ressources disponibles, en Rapport avec le plan d'entreprise du gestionnaire de l'infrastructure et Temporaire relativement à l'instant précis où le critère est mesuré et comparé.

temporaires. Le gestionnaire de l'infrastructure collecte et calcule déjà la plupart de ces données pour étayer son barème de redevances d'accès aux voies.

Des irrégularités de plus en plus fréquentes (par exemple, rupture des rails, fissures) constituent des signes avant-coureurs d'une baisse de qualité de l'infrastructure. Écourter la durée de vie résiduelle des éléments d'infrastructure peut indiquer que la maintenance n'est pas viable, c'est-à-dire que le réseau est en phase de régression. La disponibilité des voies est également un indicateur de performance important, une distinction devant être faite entre disponibilité programmée et disponibilité non programmée. Dans l'agrégation des données sur la disponibilité à l'échelle d'un réseau entier, les statistiques relatives aux différentes parties du réseau doivent être pondérées en fonction de l'importance de chaque ligne.

L'une des conditions préalables est que le gestionnaire de l'infrastructure contrôle l'état des éléments fixes à l'aide d'un registre de l'infrastructure. Ces registres sont déjà obligatoires pour le réseau ferroviaire transeuropéen¹⁹. Ils sont conçus pour tenir le gestionnaire de l'infrastructure informé de la date de mise en service de chaque élément et de sa durée de vie prévisible. C'est donc un moyen important d'évaluer le retard de maintenance.

La figure ci-dessous montre l'ampleur des retards, comptabilisés en minutes, provoqués au Royaume-Uni par le gestionnaire de l'infrastructure, Network Rail, et les entreprises ferroviaires. Depuis l'introduction des contrats pluriannuels, les retards imputables à l'infrastructure (courbe inférieure) ont régulièrement diminué.

¹⁹ Conformément à l'article 24 de la directive 2001/16/CE relative à l'interopérabilité du système ferroviaire transeuropéen conventionnel, un registre de l'infrastructure concernant le système ferroviaire conventionnel doit être publié et mis à jour chaque année, les caractéristiques détaillées du registre devant être précisées dans une spécification technique d'interopérabilité. Une disposition analogue a été prévue dans la directive 96/48/CE relative à l'interopérabilité du système ferroviaire transeuropéen à grande vitesse.

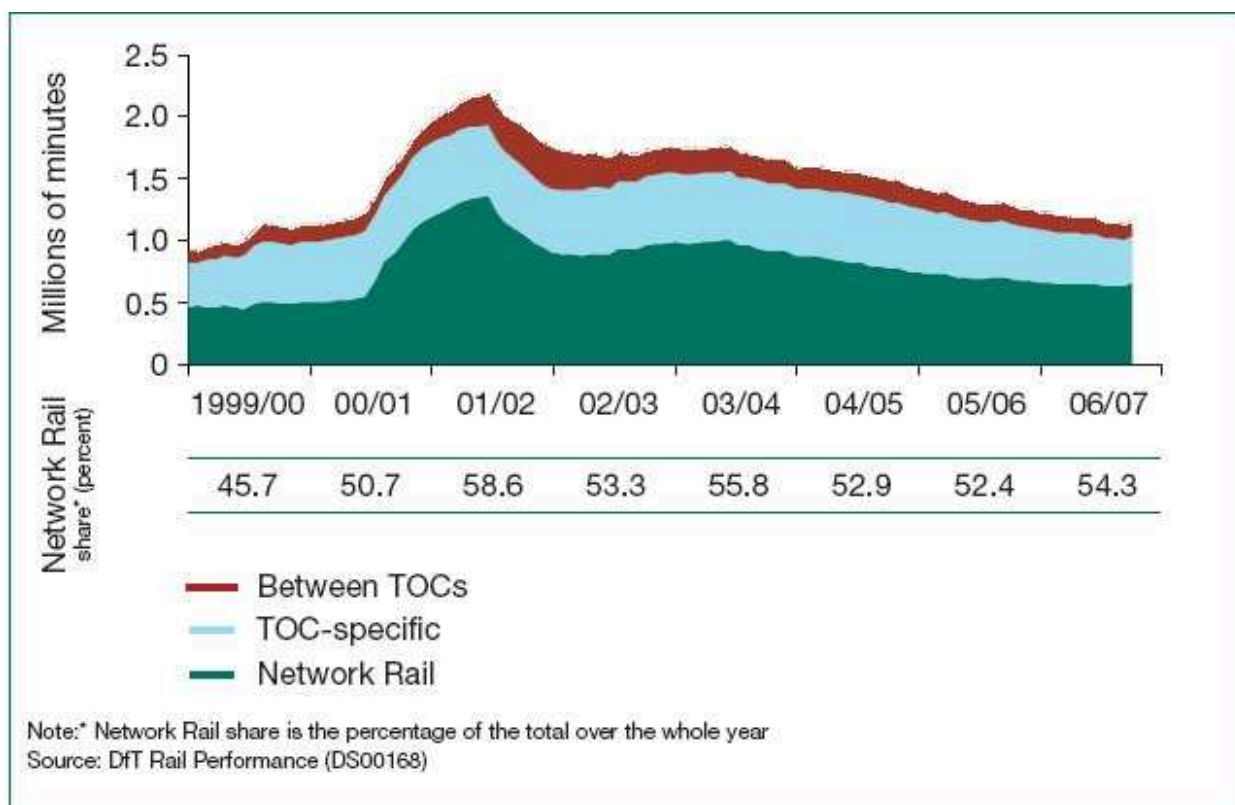


Figure: répartition du retard global entre parties responsables

L'État, l'organisme de réglementation et les utilisateurs de l'infrastructure, en particulier les entreprises ferroviaires et les affréteurs peuvent comparer les performances des différents gestionnaires d'infrastructure (analyse comparative) et fixer des objectifs en conséquence. Cela leur fournit des informations plus fiables sur la qualité de l'infrastructure à laquelle ils doivent s'attendre lorsqu'ils en viennent à établir leur plan d'entreprise. Les utilisateurs pourront aussi évaluer et contrôler la maintenance relativement à la demande prévue²⁰.

4.6. Garantir l'efficacité des accords contractuels

Pour avoir une valeur, tout accord contractuel doit prévoir des sanctions applicables en cas de non-respect. En premier lieu, le contrat doit définir des procédures claires et transparentes sur la façon d'établir qu'une obligation contractuelle n'a pas été remplie, par exemple si le financement est insuffisant ou si l'État n'a pas respecté les modalités de financement convenues limitant ainsi la capacité du gestionnaire de l'infrastructure à accomplir sa mission. Inversement, il se peut que le gestionnaire de l'infrastructure n'ait pas respecté l'un ou plusieurs des critères de performance convenus. Ce processus de contrôle doit être conduit par un organisme indépendant plutôt que par l'État ou le gestionnaire de l'infrastructure. En effet, dans la pratique, un organisme de réglementation, autonome, solide et compétent s'est avéré plus approprié pour autant qu'il ne dépende pas du pouvoir adjudicateur et qu'il dispose du personnel qualifié, du budget et des droits d'accès aux données nécessaires.

Les sanctions peuvent consister en des amendes, une diminution des niveaux de production correspondant à une réduction de l'apport financier, un remplacement des dirigeants ou une

²⁰ Voir l'annexe 5 du document de travail des services de la Commission pour des informations plus générales.

réaffectation de l'infrastructure ferroviaire à un autre gestionnaire. Toutefois, avant que les sanctions ne soient imposées, les deux parties (et l'organisme de réglementation) doivent essayer de trouver un règlement à l'amiable.

Les sanctions doivent être progressives et proportionnées à l'infraction. Au départ, les parties pourraient trouver un consensus, le cas échéant par l'intermédiaire d'un organisme de contrôle. Lorsque le gestionnaire de l'infrastructure ne remplit pas ses obligations contractuelles, l'État peut, en sa qualité d'actionnaire, imposer des sanctions, par exemple le remplacement des dirigeants. Elles peuvent aussi prendre la forme de pénalités ou d'une modification de la concession, certaines parties de l'infrastructure étant transférées à un autre gestionnaire.

Lorsque l'État n'honore pas intégralement son engagement de financement, cela entraîne en général un relâchement des exigences de qualité ou une réduction de la taille du réseau. Encore une fois, l'organisme de réglementation doit prendre part à la médiation et/ou à la renégociation du contrat. Le gestionnaire de l'infrastructure doit être en mesure d'évaluer l'incidence de différents niveaux de financement sur la qualité de l'infrastructure. Pour rendre ce processus plus transparent, il pourrait être utile de disposer d'un modèle de relations entre intrants et extrants.

5. PROMOUVOIR LES MEILLEURES PRATIQUES DANS L'UTILISATION DES CONTRATS PLURIANNUELS

À la lumière de ce qui précède, la nécessité d'engager de nouvelles actions est envisagée à trois niveaux: États membres, gestionnaires d'infrastructure et organismes de réglementation.

Les meilleures pratiques exigent que les États membres **concluent des contrats pluriannuels** avec leurs gestionnaires d'infrastructure, qui couvrent les éléments exposés et sont censés procurer les avantages figurant à l'annexe 3. Toutefois, faute de contrats de ce type, les États membres doivent disposer que **le gestionnaire de l'infrastructure engage des ressources, en interne ou en sous-traitance, sur des périodes d'au moins trois ans.**

Les États membres et leurs gestionnaires d'infrastructure doivent **faire en sorte que les contrats pluriannuels soient conformes** au plan stratégique national en matière de transports et aux plans d'entreprise des gestionnaires d'infrastructure. Cela vaut également pour les concessions d'infrastructure et pour tout contrat-cadre entre entreprises ferroviaires et gestionnaires d'infrastructure.

L'État doit consulter les **parties concernées** sur toute proposition de contrats pluriannuels avant de passer un nouveau contrat ou de renégocier des dispositions existantes. Il négocie ensuite l'étendue et la qualité du réseau.

Les États membres doivent intensifier leurs efforts et réduire les coûts et les redevances pour la mise à disposition et l'utilisation de l'infrastructure. À cet effet, les États membres doivent convenir d'objectifs quantifiés de réduction des coûts sur des périodes d'au moins trois ans, et en contrôler la réalisation.

Les gestionnaires d'infrastructure doivent **apprécier l'état des voies** au moins une fois par an sur toutes leurs lignes, et plus fréquemment sur leurs lignes principales.

En fonction de ces mesures, les gestionnaires d'infrastructure doivent définir et publier des indicateurs permettant d'évaluer et de prévoir la qualité et les performances de l'infrastructure sur une base annuelle et sur la durée du contrat pluriannuel.

L'intervention discrétionnaire de l'État dans la gestion de l'infrastructure doit être limitée aux cas prévus par le contrat, tandis que le gestionnaire de l'infrastructure poursuit les objectifs convenus avec une grande latitude en termes d'**indépendance de gestion**. Sinon, l'accord ou le contrat doit être renégocié.

Les gestionnaires d'infrastructure doivent consigner dans le **document de référence du réseau** les cas où les lignes ne sont pas correctement entretenues et où la qualité de l'infrastructure est jugée en baisse, faute de quoi l'infrastructure sera mise hors service. Ces informations doivent être fournies suffisamment tôt pour pouvoir produire un effet d'alerte rapide vis-à-vis des utilisateurs.

Un **organisme indépendant** doit avoir pour tâche de contrôler la conformité au contrat pluriannuel et d'arbitrer entre les parties au contrat pluriannuel en cas de litige. Cela suppose de disposer du personnel et des compétences appropriés pour effectuer ce type d'évaluation.

Enfin, les contrats pluriannuels peuvent constituer une première étape vers une meilleure utilisation des appels d'offres en matière de services d'infrastructure. Il sera difficile de soumettre en une fois l'intégralité d'un réseau national à appel d'offres. Aussi la procédure pourrait-elle impliquer un nombre accru de gestionnaires d'infrastructure, de documents de référence, de systèmes de tarification et de conditions d'accès. Afin de limiter les éventuels inconvénients, il convient de prendre des mesures de sauvegarde afin que les règles en matière d'accès soient simples et non discriminatoires et que celles relatives à la concurrence soient respectées.

À ce stade, la Commission étudiera la possibilité d'intégrer plusieurs des recommandations ci-dessus dans sa proposition de refonte du premier paquet ferroviaire, qui est prévue en 2008.

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Multi-annual contracts for rail infrastructure quality

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ANNEX 1

Financial contributions provided by Member States for infrastructure operation, maintenance, renewals and construction (in m euro, 2006)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
AT	8.65	8.4	12.98	14.8	13.2	13.2	15.9	12.8	16.3	15.4	16.3
BE	1241.11	1209.58	1221.3	1252.8	1297.5	1322.6	1392.7	1508.1	1135.5	287.9	1807.6
CZ								7.97	15.58	20.7	17.24
DE	3864	2922	2830	3513	3452	3937	4345	4334	3402	3316	3211
DK	0	0	161.14	117.13	176.42	193.23	207.78	198.58	238.59	297.07	310.68
EE								0	0	0	0
EL	253.33	260.98	388.92	412.53	337.01	507.12	447.23	523.4	329	256.9	274.5
ES	464.71	0	311.63	281.3	265.1	292.3	298.4	304.7	315.2	0	0
FI	328	319.15	344.64	355.7	327.9	281.9	330.6	405.7	477.1	430.6	379.5
FR	2666.12	2461.63	2460.63	2477.45	2725.31	3923	3962	2574	4319	4890	4801
HU	49.58	63.48	72.14	78.92	83.54	87.52	95.48	109.97	91.5	105.15	166.1
IE	15.94	45.94	42.05	32.38	195.9	208.5	264	303.4	163.3	310.3	320
IT	3189.51	4172.64	2476.27	2439.3	3176.21	3615.2	4078.3	3933.8	2664.6	3005.6	n.a.
LT								0	3.42	3.97	0
LU	-0.12	-0.12	90.54	112.3	133.84	162.32	177.6	200.7	207.2	192.8	260.3
LV								0	8.68	0	0
NL	1359.05	0.61	1340.25	1693.2	1973.9	2612.6	2865	3232.3	2850	2686.9	2603.2
PL								0	0	0	0
PT	0	0	0	0	0	0	0	0	0	0	0
SE	1081.01	853.92	931.95	754.98	807.1	807.83	843.94	953.58	1121.42	1229.35	1415.35
SI								38.42	70.38	100.46	104.28
SK								0	0.02	0	0
UK	0	0	0	0	10.21	17.61	52.21	64.47	30.24	52.3	0
EU-25	10607.3	9332.73	14793.4	15073.9	16125.2	18740.4	19732.7	18714.9	17466	17209.4	13888.5*
EU-15	10607.3	9332.73	14793.4	15073.9	16125.2	18740.4	19732.7	18558.5	17276.5	16979.1	13600.8*
EU-10	0	0	0	0	0	0	0	156.36	189.58	230.28	287.62

Source: European Commission, German Transport Ministry, data for Hungary for the years 1996-2002 provided by the railway undertaking MAV ZRt.

ANNEX 2

Investments in maintenance, renewals and new construction of rail infrastructure (2005-2010)

2a. Total investments in m EUR

	Investments (in m EUR) in								
	maintenance			Renewals			new construction		
	2005	2006	Forecast 2007- 2010*	2005	2006	Forecast 2007- 2010*	2005	2006	Forecast 2007- 2010*
AT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
BE	275	285	1120	279	367	1745	648	535	3484
BG	75	75	240	41	40	200	n.a.	n.a.	90
CZ	241	242	1006	515	471	3572	83	83	333
DE**	1520	1710	6400	3780	3980	14770	1130	1190	4410
DK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EE	10	10	40	15	15	80	0	0	65
EL	5	3	15	147	143	1142	289	312	3073
ES	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
FI	117	121	490	178	175	600	108	67	550
FR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HU**	96	153	358	73	117	293	60	95	307
IE	66	67	321	65	68	204	0	0	580
IT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
LT	72	73	300	68	51	466	-	-	28
LU	49	48	192	30	44	273	29	67	511
LV	41	54	n.a.	29	29	206	9	2	n.a.
NL	1118	1237	5000	n.a.	n.a.	n.a.	1479	1288	n.a.
PL	n.a.	130	7	n.a.	Investments in renewals and new construction for 2006: 226, for 2007-2010: 3259				
PT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
RO	428	405	1200	28	51	2179	0	0	400
SE	360	372	1441	173	176	774	788	817	4409
SI	61	63	2028	Included in maintenance	Included in maintenance	3111	0	0	6788
SK	0.37	0.36	1.73	0.73	0.45	10	5.48	7.94	40.12
UK**	1838	1702	4642	4102	4103	12603	626	577	6660

* Total value of investment over four years

** Data for DE refers exclusively to DB AG and for HU to MAV Zrt. Data for UK refers to 12-month periods starting in June of the respective year, the 2007-2010 forecast covers time period of three years starting from June 2007

2b. Investments in EUR per km of lines

	Investments (in EUR per km of lines) in								
	maintenance			Renewals			new construction		
	2005	2006	Forecast 2007-2010*	2005	2006	Forecast 2007-2010*	2005	2006	Forecast 2007-2010*
AT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
BE	78571	81429	320000	79714	104857	498571	185143	152857	995429
BG	17606	17606	56338	9624	9390	46948	n.a.	n.a.	21127
CZ	25143	25227	104866	53694	49036	372158	8680	8680	34719
DE**	44546	50114	187562	110779	116640	432859	26205	34875	129242
DK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EE	10592	10903	41745	15576	15576	83074	0	0	67497
EL	2005	1375	6114	58629	57023	455241	115345	124352	1224990
ES	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
FI	19814	20491	82981	30144	29636	101609	18290	11346	93141
FR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HU**	12420	19930	46633	9445	15240	38166	7763	12375	39985
IE	28977	29270	140385	28566	29720	89161	0	0	253496
IT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
LT	40632	41196	169300	38375	28781	262980	-	-	15801
LU	179273	173091	698182	110909	159273	993454	105454	244727	1858545
LV	18189	23803	n.a.	12847	12988	90789	4130	749	n.a.
NL	402738	445605	1801153	n.a.	n.a.	n.a.	532781	463977	n.a.
PL	n.a.	5849	315	n.a.	Investments in renewals and new construction for 2006: 10223 per km of lines; investments in renewals and new construction for 2007-2010: 147078 per km of lines				
PT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
RO	39638	37537	111224	2641	4689	201977	0	0	37075
SE	32270	33345	129168	15507	15776	69380	70635	73234	395213
SI	49398	51139	1650122	Included in maintenance	Included in maintenance	2531326	0	0	5523190
SK	102	99	473	200	124	2734	1498	2170	10967
UK**	116366	107756	293890	259702	259766	797911	39633	36531	421652

Table 2a and 2b: Member States distinguished between the three categories of investments in infrastructure (maintenance, renewals and new construction) on the basis of its own definitions.

Source: RMMS Questionnaires filled in by Member States in May/June 2007, railway undertakings DB, MAV Zrt and SNCB

ANNEX 3

A) MAIN ELEMENTS TO BE AGREED IN A MULTI-ANNUAL CONTRACT

A multiannual contract is an agreement between the State and the infrastructure manager, concluded for a period of at least three years. By laying down mutual responsibilities in a comprehensive way, multiannual contracts make it possible to move away from a conflictual, command-control oriented system, towards a contractual relationship between the State and the infrastructure manager. Existing multiannual contracts typically regulate the following aspects of this relationship::

- The scope of the contract as regards infrastructure and service facilities. It should cover all aspects of infrastructure development, including maintenance and renewal of the infrastructure already in operation. Construction of new infrastructure should be included for information purposes, bearing in mind that this activity is normally financed and implemented under financial and contractual terms which are separate from multiannual contracts.
- Multiannual contracts have to set out user-oriented infrastructure performance targets, in the form of indicators and quality criteria.
- The contract has to designate an independent body (which in most cases will be the regulatory body) to monitor its implementation. This body must be allowed access to information on the network and be able to request all other necessary information from both contracting parties.
- The financial plan agreed in the multiannual contract should also set out the different sources of finance, on an annual basis for the entire duration of the contract. Once again, such a plan has to be consistent with the infrastructure manager's business plan. Often the revenues collected from the users will not be sufficient to cover all costs, and so the State may have to provide additional transfers. Loans are another possible source of finance. A finance plan should cover income and expenditures where the State has certain obligations to balance cash flows for all the activities of the infrastructure manager over a reasonable period of time¹.
- The contract lays down minimum reporting obligations for the infrastructure manager in terms of content and frequency of reporting, covering:
 - train performance and customer satisfaction,
 - network capacity,
 - asset management,
 - activity volumes,

¹ Article 6 of 2001/14/EC also includes all other activities of the infrastructure manager, which can be renting of shops, car parks, real estate sales or operation of trains.

- safety levels and environmental protection.
- The multiannual contract has to specify that the infrastructure manager is obliged to keep an infrastructure register, containing information on the capacity, condition and capability of the assets. The register should contain up-to-date information on the purchase date and purchase value of assets, date and type of maintenance activities undertaken, the predicted year of end-of-life and any irregularities or faults that have occurred in relation to the asset. Updating the infrastructure register can also involve subcontractors carrying out maintenance and renewal works.
- The multiannual contract should specify its duration². Contract duration should be synchronised with the infrastructure manager's business plan, concession or license, and the charging framework set by the State. The contract is agreed on the basis of a given framework of user charges and extending over the entire duration of the contract. Whenever the State decides to change this framework under a current contract, this will have to be reflected in the multiannual contract.
- The contract should stipulate termination clauses, i.e. the conditions under which the State may decide on early termination, to be applied as a last resort consequence of a serious breach of obligations. Contract duration and early termination provisions have to be drawn up in such a way that, if targets are not achieved on parts of the network, only a part of the network can or will have to be passed on to another infrastructure manager
- Multiannual contracts should also stipulate the rules for dealing with disruption of operations, and for the provision of information to and from the users³.
- The contract should also stipulate what is required from each party and what remedial measures have to be taken if either of the parties fails to meet its contractual obligations.
- Maintenance and renewal works are more expensive when they have been neglected and postponed in previous years, as has been the case in several European rail networks. Therefore, the State and the infrastructure manager should also agree on the existing backlog at the start of the contract and lay down obligations and compensatory arrangements for dealing with this backlog. The necessary additional funds should be allocated separately, either under the multiannual contract or as part of a separate agreement concluded at the same time

B) POTENTIAL ADVANTAGES OF MULTI ANNUAL CONTRACTS

By creating a stable and predictable longer-term framework for infrastructure development, multiannual contracts may present the following advantages:

Independence of infrastructure managers

² According to directive 2001/14/EC, article 6, the duration of a contract should be at least 3 years.

³ It can be expected that the Technical Specification on Interoperability on the Telematics applications for freight, and the planned specification on applications for passengers will facilitate the provision of this information.

Infrastructure management should be independent from discretionary state intervention within an agreed regulatory and contractual framework. Multiannual contracts ensure such independence; it enhances business orientation and the application of commercial management principles.

Financial stability of the infrastructure managers

A contractual approach reinforces the financial stability of the infrastructure manager. Only when financing from the various sources - mainly revenues from services and state transfers - is commensurate with the tasks of the infrastructure managers can the various financing decisions be assessed and informed decisions taken.

Transparency of financial transfers from the State to the infrastructure managers

Financing of infrastructure has to be transparent to taxpayers and other stakeholders, such as railway undertakings and shippers. The public is entitled to be informed about the use of any transfer of State money and it expects infrastructure managers to be accountable for spending this money properly.

Cost-efficiency

Multiannual contracts increase the cost efficiency and cost effectiveness of infrastructure provision in relation to a given output. The contract makes it possible to set incentives and reward good performance, when measures do not have an effect until some years later. What is more, infrastructure development is long-term in nature, so fundamental changes to financial decisions cannot be made every year. Life cycle costing is generally recommended for taking investment decisions and, manifestly, long-term contracts are much more suitable for life-cycle costing. Long-term contracts make it possible to exploit the potential of cost reductions that are fixed in the short term and, as a result, cannot be varied. With market volumes for the supply of railway equipment and maintenance works easier to predict, industry can adjust its capacity more smoothly to demand and thus deliver at lower cost.

Predictability in terms of charges

Business models, not just those of infrastructure managers, but also those of railway undertakings and shippers, need a long-term basis, and they rely on being able to predict the costs and charges of infrastructure provision. On average, infrastructure charges account for about 15 to 20 % of the costs of the transport service, while profit margins in the service price are in the range of only 1 to 2 %. Clearly, with abrupt increases in charges, such business models are in danger, and rail cannot compete with other forms of transport.

Service quality

The quality of the infrastructure service must be predictable. Multiannual contracts make it possible to schedule maintenance work and increase the availability and reliability of the infrastructure, thus reducing the bottlenecks which affect rail performance.

Greater responsiveness to customers' needs

Infrastructure services need to be firmly user- and demand-oriented. Network development and maintenance has to attract the most profitable service market segments. Because of the high fixed costs of rail, the only way the infrastructure manager can improve its financial

position is by attracting new services. Due to the long-term nature of infrastructure provision, the measures have to be linked to demand forecasts, i.e. the actual business plans of the shippers, the railway undertakings and the infrastructure managers. The tasks of the infrastructure manager should relate to future demand for the different parts of the network, as set out in its business plan.

Social benefits

Last but not least, a stable financial outlook and business environment will increase staff satisfaction and security of employment. Social peace will in turn increase the reliability of the rail system.

ANNEX 4

State of Implementation of Multi-annual contracts

Country	Existence of MCA (multi annual financing agreement between IM and the State)		Year of implementation and duration (years)	Role of Regulatory Body ⁴	Costs coverage		Maintenance practices	Presence of performance indicators in the MCA	Payment to IM depend upon performance indicators
					State	Charges			
Austria	Yes	Contract for finance and services between the Federation and OBB Infrastruktur Betriebs AG	2003 / 6 years	I / M	Direct contribution from Federal budget for operations and maintenance for the part not covered by charges. Subsidies are required in order to allow the IM to reach financial equilibrium.	Infrastructure charges cover operation and maintenance costs. 27% of total cost is covered by charges. N.B. The construction of new infrastructure is responsibility of OBB Infrastruktur Bau AG, which is a company set up within OBB Holding and which is different from the IM (OBB Infrastruktur Betriebs AG)	In house: the IM (OBB Infrastruktur Betriebs AG) is a part of the OBB AG Holding	Yes	Rationalization of work flow and staff (technical standards), Reliability availability and operational quality of infrastructure quality of maintenance, reductions of speed, network size)
Belgium	Yes	"Contrat de gestion" (Management Contract) Infrabel	2005 / 2 years	I / M	All renewal costs and investment costs and part of maintenance costs are financed by public budget.	Charges cover only part of maintenance costs (the difference between infrastructure maintenance and renewals costs and the State contributions, which are about 600 million euro per year). 20% of total IM expenditures are covered by charges.	Daily maintenance on tracks switches signaling crossings: in house Heavy maintenance and renewals: combination	Partly	Infrabel has to maintain the capacity of all its lines at the same level as in the beginning of its management contract (27/05/2005) and has to conclude SLAs with the RUs with an option of varying the tariffs according to the acquired level of quality (i.e. punctuality, ...)
Bulgaria	Yes	Long-term agreements between the company (SRIC) and the State	2002 / 5 years	W	The State participates in the financing of activities related to the construction, maintenance, development and operation of railway infrastructure, including also in the creation, keeping and maintenance of structures and material means for execution of defensive-mobilization undertakings in the country.	65% of total costs are covered by charges.	n.a.	Yes	Operating speed, capacity, network size

⁴ I = Independent from MoT
W = within MoT
M = the RB is in charge of monitoring IM commitments
A = the RB has an arbitrary task in the relationships between the IM and The State

Country	Existence of MCA (multi annual financing agreement between IM and the State)		Year of implementation and duration (years)	Role of Regulatory Body ⁴	Costs coverage		Maintenance practices	Presence of performance indicators in the MCA	Payment to IM depend upon performance indicators
					State	Charges			
Ireland	Yes	-	n.a.	No regulatory body has been established or notified to the European Commission	100% of infrastructure costs are covered by the State. There is an ongoing financial flow for maintenance. New investments are also financed by EU Cohesion/Structural Funds	-	n.a.	Yes	Safety related performance indicators
Italy	Yes	"Contratto di Programma" RFI - Ministry of Infrastructures	2001 / 5 years	W / A	New investments (included in the RFI's PPI), maintenance and renewals costs are covered by public subsidies.	Infrastructure charges aim only at covering the traffic management costs and salary costs. Only 16% of total IM expenditures are covered by charges.	Daily maintenance on tracks switches signalling and crossings: in house Heavy maintenance tracks: combination Renewal track and superstructure: competitive tendering	No	The financing scheme of infrastructure maintenance includes an objective of cost effectiveness meaning; for the same level of expenses rising levels of reliability, availability and safety of infrastructure services
Romania	Yes	Performance contract between CFR and the the Ministry of Transport, Constructions and Tourism	2004 / 4 years		Renewals and investment costs are covered by public budget.	Charges cover 52% of total infrastructure expenditures. They full recover traffic management, maintenance and salary costs.	n.a.	Yes	Technical speed, punctuality, productivity
UK	Yes	All expenditure is covered by the multi-year arrangements ("binding arrangement"), but not through a direct contract with the State	2005 / 5 years	I / M / A	Network Rail or the train operators are responsible for carrying out the investment in new infrastructure. According to The Ten Year Transport Plan, the Government provide substantial financial support, reflecting the social, environmental and economic benefits that cannot be paid for through fares and charges.	Track charges cover the total cost of the infrastructure (traffic management, maintenance, renewals and part of investment costs)	Daily maintenance on tracks: in house Daily maintenance on switches, signalling and crossing: in house + competitive tendering Heavy maintenance on tracks: in house Renewals and superstructure: in house + competitive tendering	Yes	Targets relating to punctuality of trains related to their timetabled arrival at the end of the journey. It is also monitored for the efficiency of its spending on network enhancements
Denmark	Yes	BS Framework agreement with the Ministry of Transport for maintenance and new investment	2007 / 14 years	I	State contributions (with an annual agreed budget) and infrastructure charges cover investment costs and all infrastructure costs. Charges cover 66% of total infrastructure costs.		n.a.	Yes	Available speed, capacity, network size, punctuality, technical standards (traction, ERTMS)
Germany	under negotiations	Infrastructure investments are handled by means of 120 financing agreements between German Government	-	W / A / M	Investments in new infrastructure, upgrading and major replacements of infrastructure are financed by interest free loans or grants (from the State budget) and own	Infrastructure charges cover the costs of network operation, maintenance, administration and the remaining costs connected to infrastructure investment after State contributions. 60% of total expenditures is covered	Daily maintenance on tracks switches signalling and crossings: combination Heavy maintenance on tracks:	n.a.	n.a.

Country	Existence of MCA (multi annual financing agreement between IM and the State)		Year of implementation and duration (years)	Role of Regulatory Body ⁴	Costs coverage		Maintenance practices	Presence of performance indicators in the MCA	Payment to IM depend upon performance indicators
					State	Charges			
		and DB. Each has specific provisions and a distinctive character.			capital from DB AG.	by charges.	combination Renewal track and superstructure: combination		
Spain	Yes	Framework Contract ADIF - State 2007-2010. In financial terms, the Contract assures 7.281 Mill € to State network in 2007-2010, of which maintenance and operation: 3.439 Mill.€	2007 / 3 years	W / A / M	The State covers part of the total infrastructure costs via the Contract Program (infrastructure, renewal, maintenance and operation costs). Investments in new lines (in charge of GIF) are financed by State funds, EU structural funds and loans.	The charging system is based on 4 different categories: access charges, capacity reserve charge, circulation charge, traffic charge. From ADIF's presentation to EU workshops it is clear that charges do not reflect IM costs. From the RailImplement Country Report, it is assessed that the charges level is fixed as a proxy to marginal cost.	In house (centralised management of maintenance; execution of works by 7 internal Departments) Source: ADIF web site	Yes	Economic indicators, punctuality, quality of service, quality of track, accidents
Poland	Yes (signed in 2006 - to be verified)	Subsidy Contract between Infrastructure Manager (PKP Polskie Linie Kolejowe S.A.) and the State (Ministry of Transport and Construction). The Subsidy Contract is in fact a "multi-annual rail maintenance financing contract"	2006 / 3 years	W + I (UOKK) / M	PKP is subsidised by the government for part of renewals and investments.	Charges cover total financial costs, total maintenance costs, part of renewals, part of investment costs and part of external costs. 81% of total infrastructure expenditures is covered by charges.	Daily maintenance on tracks, switches, signalling and crossings: combination Heavy maintenance: combination Renewals of tracks and superstructure: competitive tendering + outsourcing	No	n.a.
Czech Republic	No	-	-	W / M	Renewals, investments and noise costs are covered by public budget.	Infrastructure charges cover only a part of the total costs; they cover traffic management costs and maintenance. Charges cover 60% of total expenditures.	n.a.	Partly	Rationalisation of work flow and staff, network size, quality of maintenance, ERTMS, technical standards
Estonia	No	-	-	I (Estonian Competition Board) and W (Railway Inspectorate) I also has monitoring roles (M)	No State support	Charges cover 100% of total expenditures. They cover total financial costs, total maintenance and management costs, total renewals and total investment costs.	n.a.	n.a.	n.a.
Finland	No	There is a long term planning but the decision on the budget for infrastructure building, operation and maintenance is on a	-	W + I	The State pays traffic management costs and investments	Charges cover part of maintenance and renewals. The contribution from charges to total costs coverage is between 12 and 16%.	The infrastructure construction and maintenance is carried out by a competitive bidding procedure. In most cases, the State-owned VR-track Ltd	n.a.	n.a.

Country	Existence of MCA (multi annual financing agreement between IM and the State)		Year of implementation and duration (years)	Role of Regulatory Body ⁴	Costs coverage		Maintenance practices	Presence of performance indicators in the MCA	Payment to IM depend upon performance indicators
					State	Charges			
		yearly basis					has won the competitive bidding procedure.		
France	Yes	-	2007 / 4 years	I / M	Costs for the railway infrastructure are covered by the French government, local authorities and infrastructure charges. Rail infrastructure charges shall cover slightly more than an half of the total RFF costs (63% of total expenditures, except the financial charges which are covered by the State through recapitalization).		n.a.	n.a.	n.a.
Hungary	Under Negotiation	-	-	I / A	Public budget finances investments and external costs.	80% of total expenditures is covered by charges. They fully cover renewals, maintenance and traffic management costs, plus part of financial costs.	Daily maintenance in house and outsourced Heavy maintenance outsourced and competitive tendering	Yes	Speed, safety, axle load, reliability, number of disturbances, number of delayed trains
Latvia	No (public financing only for larger international investments)	-	-	W / A	State budget and EC pay part of investment costs.	In Latvia, the charging formula is based on the "Total Cost recovery" approach, so that charges should cover the cost of railway infrastructure maintenance, the amount of replacement investment, the taxes payable by Infrastructure Manager and also include mark-ups. 100% of total infrastructure expenditure is covered by charges.	n.a.	n.a.	Security indicators, operating speed, capacity, punctuality, technical standards, axle load
Netherlands	Yes ⁵	Rolling Plan: a 10 years business plan that ProRail has to provide every year, as requested by the concession governing the relationships between ProRail and the State.	2006 / 10 years	W / M	The 10 years plan indicates the integral amount of public contributions for renewals, investments, salary costs of the IM and external costs.	Charges cover 20% of total expenditures. Part of traffic management costs and the full cost of maintenance is covered by charges.	Daily maintenance on tracks signalling crossing and switches is outsourced For heavy maintenance and renewals competitive tendering is adopted	Yes	IM in absence of a multi-annual agreement has to deliver a certain performance with respect to (the output of) maintenance and renewal. Certain KPI's on reliability and availability of the infrastructure are used. For network extension normal project goals are adhered to: scope, time and money.

⁵ The IM has positively answered to the questionnaire indicating the presence of a MAC with the State for rail maintenance financing. In principle, financing is agreed on annual basis. The MOT specifies: "there is a multi-annual budget (first year fixed budget, consecutive years indicative budgets from a legal point of view) and a multi-annual agreement (concession based on public law) till 2020 based on performance indicators and budget. There is not a multi-annual contract based on private law. The annual subsidy is based on an annual management /business plan according to the multi-annual budget and performance agreement. Although the budget from t+2 onwards is indicative the government has limited possibilities to impose unilaterally substantial (say >10%) changes (decreases) in the budget. If the government would do so the Infrastructure Manager has a legal case for compensation of damages that he might have due to unexpected changes."

Country	Existence of MCA (multi annual financing agreement between IM and the State)		Year of implementation and duration (years)	Role of Regulatory Body ⁴	Costs coverage		Maintenance practices	Presence of performance indicators in the MCA	Payment to IM depend upon performance indicators
					State	Charges			
Slovakia	Under negotiations	-	-	W	The infrastructure costs are covered by SZR incomes, State subsidies and EU programmes and loans. For new investments there is a State financed investment planning. Maintenance and operation are directly financed by the State budget.	Charges accounts only for 25% of total infrastructure costs Charges for the use of railway infrastructure in domestic passenger and freight traffic includes the infrastructure costs relating to the provision of control, organization of transport services on railway infrastructure, maintenance and operation of a railway infrastructure according to special regulations.	Daily maintenance on tracks: in house Daily maintenance on switches, signalling and crossing: in house Heavy maintenance on tracks: combination Renewals and superstructure: combination	Yes	Percentage of fulfillment of yearly timetable - punctuality
Slovenia	No	-	-	W / M	The State budget finances part of operation and maintenance and total investment costs.	Charges finance partly: traffic management costs, renewals and maintenance. 13% of total costs are covered by charges.	n.a.	n.a.	n.a.
Sweden	No	The government does not give any commitment beyond a year, although there is a long-term (up to 15 years) expenditure plan. Agreement 2005-2015 allocates 117 billion€ for new investment in the railway sector	-	W	Banverket is financed through a rolling three year budget plan, which is reviewed every year. The budget and the investment plan has to be approved by the Swedish Parliament. The overall amount coming from the State budget is fixed. Such budget covers: the remaining part of maintenance costs (not covered by charges), the full cost of renewals, investments and salaries.	Charges cover part of traffic management costs and part of maintenance costs. 5% of total expenditures is recovered by charges.	n.a.	n.a.	n.a.
Portugal	No	-	-	I / M	Renewals, investment costs, external costs and salaries are covered by public budget.	Part of maintenance and part of traffic management costs is covered by charges. Only 20% of total IM expenditures is covered by charges.	Daily maintenance on tracks: in house + outsourcing Daily maintenance on switches, signalling and crossing: outsourced Heavy maintenance on tracks: outsourced + competitive tendering Renewals and superstructure: competitive tendering	n.a.	n.a.

Country	Existence of MCA (multi annual financing agreement between IM and the State)		Year of implementation and duration (years)	Role of Regulatory Body ⁴	Costs coverage		Maintenance practices	Presence of performance indicators in the MCA	Payment to IM depend upon performance indicators
					State	Charges			
Greece	No	-	-	No special regulatory bodies exist	State contributions cover the difference between revenues from passengers and freight services and total costs. The State covers the costs of infrastructure investment programmes, maintenance, operating costs not covered by fares revenue, deficits (from State budget or by means of providing guarantees for loans), as well as providing compensation related to concessionary fares, public service obligations and any State-intervention with regards to the level of fares.	Data on charges level are not available.	n.a.	n.a.	n.a.
Luxembourg ⁶	No.	Contrat de gestion de l'infrastructure (22 November 1999)	1999 / 9 years	W / M	Investments on the infrastructure are financed by the State through the "Fonds du Rail" as stated by the law dated 10 May 1995, modified on 28 March 1997. From the income statement, we can also deduce that CFL received €176.3 million in 2003 and €154.9 million in 2002 from the Fonds du Rail for the management of the infrastructure.	The charges received by the Infrastructure Manager for the minimal services are equal to the direct costs related to infrastructure use and include a minimal charge for the scarcities of the capacities. The charging system is very detailed and developed in Luxembourg. The charging structure takes into consideration the key cost components to proxy marginal costs.	Daily maintenance on tracks: in house + combination Daily maintenance on switches, signalling and crossing: in house Heavy maintenance track: competitive tendering - in house - combination Renewals of tracks and superstructure: competitive tendering - in house - combination	n.a.	n.a.
Lithuania	No	Multi annual IM business plan (3 years) but no multi annual contract with the State for maintenance financing	-	W / M	State budget and EU fund cover investment costs.	100% of total infrastructure costs is covered by charges	n.a.	n.a.	n.a.
Switzerland	Yes	Performance agreement (bilateral contract between the Swiss Confederation and the Swiss Railways SBB)	1999 / 4 years	W / M	Funding for new investments by the government. SBB decides on the use of the contributions (weighting up additional maintenance expenses or earlier renewal expenditures). The	Part of costs for operation and maintenance are covered by charges. Charges cover 25% of total infrastructure expenditures.	n.a.	Yes	Security indicators (accidents), Number of level crossings on network, Minutes of delay caused by IM, Network availability

⁶ In the questionnaire filled in for the survey, the IM has stated that a multi-annual contract was already in place. The Ecorys Study had shown that Luxembourg actually did not have a multi-annual contract yet. There is a multi-annual concession for the IM; however, this does not cover multi-annual financial commitments for maintenance.

Country	Existence of MCA (multi annual financing agreement between IM and the State)		Year of implementation and duration (years)	Role of Regulatory Body ⁴	Costs coverage		Maintenance practices	Presence of performance indicators in the MCA	Payment to IM depend upon performance indicators
					State	Charges			
					State pays the infrastructure costs not covered by track access charges.				(%available/planned trainkm), Productivity (CHF/train-km)
Norway	No	Although starting from 2002 there is a national transport plan for 10 years, this plan is not binding for the parliament. The actual amount for the railway infrastructure is decided on an annual basis by the Parliament	-	W / A / M	The Norwegian Parliament determines the annual funding of the Railways sector through the national budget. Long-term planning of rail transport is provided through the Norsk Transportplan (the Norwegian Transport Plan). The IM operates, maintains and develops the national railway network through public funding.	Only 0,82% of infrastructure costs is covered by charges.	Daily maintenance on tracks signalling crossing and switches: in house For heavy maintenance and renewals: competitive tendering and outsourcing is adopted	n.a.	n.a.

ANNEX 5

A) Links between costs and infrastructure quality

The Infracost project⁷ found that cost drivers of infrastructure maintenance are known, but infrastructure managers do not systematically apply them. Life cycle cost strategies are often neglected despite their vast potential to make a contribution to a competitive rail mode. Disruption and downtime costs are rarely considered in the calculation of maintenance cost.

Infracost explored the relationship between various quality aspects, the physical condition of infrastructure and the resulting costs. A cost optimised quality of infrastructure is an appealing, yet still uncharted terrain:

- Infrastructure quality parameters are hardly standardised in Europe. Aggregated indices are monitored over time in several railways. For now, due to non-existing harmonised definitions, a fully-fledged benchmark cannot be established.
- There is no evidence that low life cycle costs coincide with poor quality parameters. Higher costs are not simply justified by higher quality.
- There is no evidence that low life cycle costs coincide with poor quality parameters. Higher costs are not simply justified by higher quality.
- RAMS aspects of railway infrastructure are more easily accessible for bench-marking. Again, there is no clear evidence that railways with high cost figures turn out superior reliability and availability.
- Quality and safety go hand in hand. Investing in modern, high-quality infrastructure improves safety. For Europe, additional safety gains may depend on a careful value-for-money analysis in order to deploy available financial resources more efficiently.
- Although there is still a lot of fruitful work to be done in analysing cost mechanisms of asset ages, asset conditions and reliability, one fundamental thing seems to be clear.

Quality differences do **not** explain cost differences. If quality is handled in the right way, it does sometimes even come at lower costs. The analysis of the network operating costs shows that centralised, automated train control centres have significantly higher productivity and lower operating costs.

B) Monitoring and measuring infrastructure quality

Technological development on the measuring infrastructure condition has considerably developed over recent years. Instead of finding and fixing through inspection, the modern maintenance management relies on predicting and preventing defects through measuring. These strategies have fundamentally changed the skills and number of staff required. Low skill labour is replaced with less and higher skilled staff. The previously high risk exposure

⁷ See <http://www.promain.org/images/publications/ProMain.pdf>

when inspecting track is consequently reduced, work executing is systematically measured and verified.⁸

A significant part of quality monitoring is done through devices mounted on regular services trains, instead of dedicated measuring trains. As a result, train operators collect data, which then can be translated into infrastructure maintenance programmes. Vice versa, track side measurement devices are now able to detect deficient wheels and suspensions. To exploit the mutual benefits of such advance strategies, train operators and infrastructure managers have to introduce arrangement to their contracts. Rather than inspecting and replacing equipment at fixed intervals, infrastructure managers are in a position to take planned preventative interventions based on actual condition.

⁸ Network Rail at EIM conference of 2005

ANNEX 6

National Case studies⁹

Case study: Poland has one of the largest rail networks in the EU. The Polish state contributed only very small amounts to the costs of rail infrastructure maintenance and renewal between 2003 and 2006. Consequently, the infrastructure manager's charges were among the highest in Europe, whereas he could only apply the most urgent maintenance measures. In the meanwhile, 30% of the network are in very poor condition, and on 10% of it speed restrictions have to be applied. This led the state to change legislation and conclude a multi-annual contract as of early 2007. However, its financial volume does not account for the maintenance backlog built up over the years.

Case Study England and Scotland: The state agrees with the national infrastructure manager the charging system for the same period of time as the multi-annual contracts. Besides, the concession for the infrastructure manager and his business plan form two more pillars. The duration ('control period') of all of these agreements, which are synchronised, is at least four years. Their preparation takes more than two years, involving extensive public stakeholder consultation and bargaining. The underlying reason is to combine financial stability with long term infrastructure quality in order to serve user demand. The regulatory body monitors the performance of the infrastructure manager, based on high level output specifications and quarterly traffic data. The regulatory body plays an important role, not only in the preparation of the said agreements, but also in monitoring and arbitrating between the state and the infrastructure manager when planning diverges from execution. The infrastructure manager has to respect detailed reporting obligations, also towards the general public, whereas most continental infrastructure managers consider that as interference in business confidentiality. The multi-annual contract also provides financial incentives for the management in case the infrastructure manager meets objectives or even performs better than planned. After years of neglect after privatisation, the British infrastructure manager has succeeded in turning around the situation in 2004: Since then, expenditures have been dropping, while infrastructure quality has been increasing.

⁹ Source: Presentations and conclusions of stakeholder workshop on 31 May 2006 at http://ec.europa.eu/transport/rail/rb/rb_mac_en.htm

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Multi-annual contracts for rail infrastructure quality

FULL IMPACT ASSESSMENT

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1. PROBLEM DEFINITION

The present report provides an overview of the main impacts involved with three different policy options regarding the implementation of multi annual contracts (MACs) for rail maintenance financing.

The major problem is the declining infrastructure quality in certain parts of the Community, which results from inappropriate funding of infrastructure maintenance. Without this problem solved, maintenance backlogs will build up further and eventually constrain railways' ability to compete with other modes of transport.

EU Member States reported that, in 2004, they spent € 17.5 billion on the maintenance, renewal and new construction of railway infrastructure. This figure does not include funds from public-private partnerships. After adding revenue from user charges, EU infrastructure managers spent well over € 25 billion per year on infrastructure development, which gives some indication of the financial impact.¹

About 69% of infrastructure managers declare² that their maintenance budget is sufficient to maintain a sustainable railway system, hence 31% do not have sufficient budget. Those who do not have sufficient budget have average annual deficits varying from 10% to 89%. Such scarcity of funds has caused an investment backlog in maintenance and modernisation.

The costs covered by the access charges vary substantially in different Member States. Cost recovery ratios of European infrastructure managers vary between 20% and 100%.³ Consequently, state contributions are indispensable for the functioning of the rail infrastructure. Such contribution to the railway sector, meant to cover the financial gap, tend to fluctuate on a yearly basis in the Member States. The insecure outcomes of negotiations on the annual State budget leads to uncertainty regarding the level of funding, and consequently the level of works needed to maintain the railways to a predefined quality standard. Infrastructure managers have traditionally been funded on a year-by-year basis by Member States. In these circumstances, Member States can find it difficult - faced with year-to-year political priorities and budgetary pressures - to resist the temptation to order infrastructure managers to “wait until next year” to fund network renewal and in some cases even maintenance. The cumulative effect of such delays increases the costs of network operation and increases the cost of investment planning.

The practice of year-to-year funding is inconsistent with the objective of efficient, customer-orientated infrastructure management, particularly as rail infrastructure projects i.e. construction, upgrading or major renewal, are capital-intensive and their planning and implementation extends over many years. The infrastructure manager needs long-term financial commitments for its business planning, whereas the State

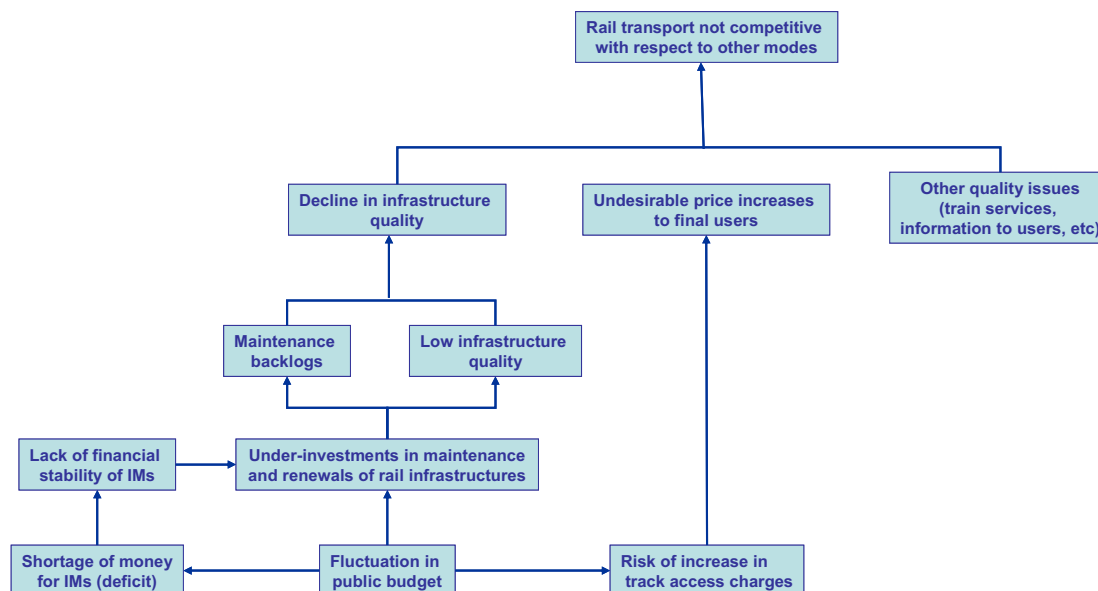
¹ DG TREN consultation document on multi-annual contracts, page 2.

² Guidelines for sustainable partnerships in railway maintenance, Ecorys, November 2006.

³ CEMT Report “Railway reform and charges for the use of infrastructure”, CEMT/CM(2005)6.

(Ministry of Finance) uses to commit funds only for the current budgetary period of one year. A joint approach towards railway maintenance finance is lacking.

Figure 1-1 – Problem Tree



Looking at the problem from an institutional point of view, a major issue is related to the impacts of the restructuring of the rail sector: the lack of separation between infrastructure and service provision have made debts arise as infrastructure quality and the quality of service declined. The problem tree highlights how the different problems impact on one another.

DG TREN identified such problems arising from the lack of a proper contractual framework for infrastructure financing and maintenance and, based on the consideration of such problems, has recognised the importance of multi-annual contracts as a key factor in order to sustain a rail revitalisation strategy.

The EU's right to act is based on the importance of infrastructure quality for establishing an European rail transport service market⁴ and, more specifically, on the obligations on Member States to meet the commitments on sustainable financing they made when adopting the first railway package⁵.

According to the **subsidiarity principle** the problems identified above affect the functioning of cross border railway traffic (e.g. the low quality of infrastructure service combined with high track access charges in certain Member States), involve trans-national aspects that require an action to be taken at the EU level

⁴ Treaty of the European Communities, article 70

⁵ Directives 91/440/EC, 2001/12/EC, 2001/13/EC and 2001/14/EC

2. CONSULTATIONS OF INTERESTED PARTIES

DG TREN organised a stakeholder workshop in May 2006, the main conclusions of which was that multi-annual contracts could increase the performance of infrastructure management. The workshop recommended this mechanism and suggested to apply it more widely.

A study commissioned by DG TREN in 2006⁶ provided best practice information on important features of multi-annual contracts, such as the opportunity to shift from a conflict relationship between the State and the Infrastructure Manager towards to long-term partnership based on clear mutual rights and obligations. This study consulted relevant stakeholders and collected best practice information on important features of multi-annual contracts. It concluded that, though starting positions regarding rail maintenance financing differ in different Member States, the planning mechanisms and contract agreements can substantially be improved in many cases. Whereas the level of investments in the rail network on capital work and maintenance remains a political choice, a possible step ahead would be the use of improved planning mechanisms, in order to make clear what the consequences are of different maintenance budgets on the quality and size of the rail network.

DG TREN launched a public consultation in July 2007, to get the point of view of stakeholders on: a) the problems connected to the lack of a proper contractual framework to finance infrastructure maintenance and renewal, b) the objectives of a multi annual contractual approach between Member States and infrastructure managers, and c) actions needed to promote multi-annual contracts in the EU. The consultation, launched on 12 July, has ended in September: a summary of the results of the consultation was published at the DG TREN web site.

Besides, a specific consultation (survey) with relevant stakeholders has been made within a preparatory study for the present impact assessment⁷, in order to analyse specific arguments/impacts that were not fully analysed in previous studies and not fully stressed in the issued consultation document.

3. OBJECTIVES

The main objectives of a strategy to provide best practice on certain aspects of implementing the first railway package using multi-annual contracts between the State and the infrastructure managers

- to contribute to the stable business models in the sector of rail transport services through long term predictability of charges which allow rail to be competitive towards other modes of transport;
- to shift towards a more cost effective rail infrastructure maintenance along with an stronger orientation on users' needs;

⁶ Guidelines for Sustainable Partnerships in Railway Maintenance, Ecorys, November 2006.

⁷ Preparatory Study for an impact assessment on rail infrastructure quality, PriceWaterhouseCoopers, 2007

- to create the conditions for infrastructure managers' financial stability in the medium term and their management independence.

4. POLICY OPTIONS

DG TREN has identified and presented in its Consultation Document, issued on 12 July 2007, the following policy options.

Option A: "business as usual": implementation of multi-annual contracts only on some Member States, whereas the other decide on an annual basis to cover losses of the infrastructure manager. Some currently observed problems remains. A few examples:

- States requiring the infrastructure manager to keep open lines or terminals in a discretionary manner without respect of profitability;
- no clear sanctions or penalties in case the infrastructure manager fails to deliver the expected infrastructure quality at the expected costs;
- lack of transparent and public information on the network quality and the effective use of the public funds.

This option is similar to the "No EU action" option as defined in the IA guidelines, but it is foreseen that Commission services synthesise best practice, including a reporting format on infrastructure condition and best practice on negotiating, amending and extending multi-annual contracts.

Option B: Obligations regarding the reporting, consultation and publication of information on infrastructure quality and the costs of maintenance: enforcement of the existing obligation of infrastructure managers to reduce costs and charges according to directive 2001/14/EC article 6.2. Member States, assisted by their regulatory bodies, have to agree, monitor and enforce quantified targets on cost reduction. Infrastructure managers publish at least annually on the results. It remains up to Member States whether they conclude multi-annual contracts in addition to regulatory measures. Increased transparency of infrastructure cost / quality data will allow the comparison between infrastructure managers of different rail networks, and allow the public opinion to be informed on public funds' utilisation.

Option C: The obligations under option B plus multi-annual agreements are made mandatory through revised EU legislation: obligation of multi-annual contracts. The state consults stakeholders on a proposal for multi-annual contracts before letting a new contract and then negotiates the size and the quality of the network, which are, then, monitored. Discretionary intervention by the state is strictly limited to cases foreseen in the contract, while infrastructure manager pursues the agreed objectives under large management independence.

5. ANALYSIS OF IMPACTS

Data used for quantitative (but also qualitative) analyses, necessary for the estimates of parameters impacting on the likelihood and /or on the magnitude of the identified impacts have been collected through different sources.

Data related to the infrastructure management policies (existence of multi-annual contracts, their duration and the existence of outsourcing practices), have been collected through desk analyses and a survey. In addition, the most literature was surveyed.

Infrastructure Managers data (economic data and infrastructure and traffic data) and information on State budget, where not available from the PwC survey, have been collected using different source, mainly infrastructure managers' Annual Reports (2005), Survey CE (2006), International Railway statistic – UIC (2005), Eurostat statistics (2005) and PwC Survey for the IA (2007).

The screening of likely impacts has led to the identification of the following direct impacts, which have direct reflections on the infrastructure management and on the infrastructure managers' financial balance⁸:

- Impact n. 4 (a, b and c): infrastructure managers costs savings for maintenance costs reduction;
- Impact n. 5: administrative costs (due to the set-up of a public system for monitoring rail infrastructure quality and costs);
- Impact n. 3 (a and b): impacts on infrastructure quality, because of higher pressure on the infrastructure manager due to the increased transparency of infrastructure and to demand-tailored maintenance and renewal policies allowed by the multi-annual planning framework of those activities.

The total impact on the infrastructure manager's financial equilibrium is given by the balance between the impacts on costs and the indirect impacts on infrastructure manager revenues, which are assessed in the estimate of indirect impacts of multi-annual contracts (Impacts n.6a and 6b and n.11).

For instance, reduced maintenance costs translate into lower infrastructure charges, which affects the infrastructure managers' financial balance. At the same time lower charge will result in lower price for final users and (depending on traffic elasticity to prices) in increased traffic demand, which compensates the infrastructure manager's revenue losses.

For further example, if costs savings are earmarked to improve quality of infrastructure this will probably have no direct impact on the infrastructure managers' financial balance, unless the better quality attracts a higher traffic demand (depending

⁸ The numbering is consistent with the long version of the impact assessment. Certain numbers miss due to insignificant impacts having been skipped.

on traffic elasticity to quality of the service), thus resulting in additional revenues (and variable costs) for the infrastructure managers.

Impacts that could not be analysed in quantitative terms were assessed on the basis of their likelihood (not on their level or magnitude). Furthermore, it is assumed that no impact occurs in the country where a multi annual contract has already been implemented. Other conditions for the impacts to occur regard: the duration of multi annual contracts, the presence / absence of outsourcing for maintenance and, in some cases, quality parameters. In theory, significant cost savings impacts are unlikely in case of networks with very low quality. However, infrastructure quality data are limited available for many countries.

5.1. Economic impacts

Maintenance costs reduction

On the basis of the answers to the survey, these impacts are confirmed as likely or very likely outcome of the implementation of multi-annual contracts.

Table 5-1 – Summary of consultation’s answers on maintenance cost impacts of Multi Annual Contracts

	<i>Multi Annual Contracts will determine maintenance cost savings because of</i>	<i>% of positive answers</i>	
		<i>Infrastructure Managers</i>	<i>Ministries of Transport and Regulatory Bodies</i>
4a	increased efficiency of the use of resources	78%	75%
4b	increased efficiency in outsourcing maintenance	44%	75%
4c	more advanced personnel reduction policies	56%	50%

According to the answers received, the expected magnitude of cost saving is higher for the increased efficiency allowed by better scheduling of works, and for the economy of scale due to longer (and therefore larger) outsourcing contracts, whereas the internal personnel costs appear to be more difficult to reduce even in the medium-term framework of the multi-annual contracts.

Table 5-2 - Expected magnitude of Multi Annual Contracts cost impacts declared by the consulted actors

	<i>Multi Annual Contracts will determine maintenance cost savings because of</i>	<i>Expected % of maintenance cost saving</i>			
		<i>MIN</i>	<i>Average</i>	<i>MAX</i>	<i>N. of answers</i>
4a	increased efficiency of the use of resources	2%	5%	10% or more	6
4b	increased efficiency in outsourcing maintenance	5%	7%	up to 10%	3
4c	more advanced personnel reduction policies	0,1-0,5%	2%	3%	3

The impact on each member country and the annual maintenance cost savings (in % and in Euro) have been estimated and table 5.3 summarizes the result of the calculation. The overall impact can be quantified in 6,77% for Countries where such impact is expected. The most important savings are due to the increased efficiency allowed by better planning of maintenance activities.

Table 5-3 – Results of the estimate of impacts on maintenance costs reduction

	Multi Annual Contracts will determine maintenance cost savings because of	<i>Impact yes / no (n. of countries)</i>					<i>Estimated savings</i>		
		<i>NO because a Multi Annual Contract is already implemented</i>	<i>NO because maintenance is covered by charges</i>	<i>NO because there is no outsourcing</i>	<i>No because maintenance fully outsourced</i>	<i>YES</i>	<i>Total savings (Million Euro)</i>	<i>% of total maintenance costs in countries with impacts</i>	<i>% of total maintenance costs in EU-25</i>
4a	efficiency of the use of resources	5	4			16	337,12	3,50%	2,59%
4b	efficiency in outsourcing maintenance	5	4	2		14	110,07	2,30%	0,85%
4c	Personnel reduction	5	4		1	15	91,34	0,99%	0,70%
	Total						583,53	6,77%	4,12%

Impacts on infrastructure charges

The maintenance cost reduction expected for some countries as result of implementing multi-annual contracts is likely to induce a reduction of the infrastructure charges that the railway undertakings have to pay to use the rail infrastructure. The following table summarizes the result of this analysis. Reduction of charges is likely in 16 Member States out of 25. The average reduction amounts to 0,21 € / train.km in the countries where all the savings are allocated to reduction of charges and 0,07 € / train.km in the countries where only half of them are dedicated to that purpose.

Table 5-4 – Expected charges reduction due to maintenance cost savings

	<i>Countries</i>			
	<i>with maintenance cost savings</i>	<i>Of which</i>		
		<i>with 100% of cost savings allocated to charges reduction</i>	<i>with 50% of cost savings allocated to charges reduction</i>	<i>with 0% of cost savings allocated to charges reduction</i>
Number of countries	16	8	7	1
Average charges reduction per train.km		0,21 € / train.km	0,07 € / train.km	0 € / train.km

The charges reduction appears to be quite low compared to the infrastructure charges that are usually between 2 and 4 Euro / train km on average. Two reasons explain this result, i.e. (1) the estimated savings are less than 7% of total maintenance costs and (2) the charges do not cover maintenance costs only, but also other infrastructure managers' cost items.

Direct impacts on infrastructure quality

Impacts 3a and 3b Improvement of infrastructure quality

In addition to the increase of administrative costs, the set up of a public system of monitoring infrastructure costs and quality is also likely to put higher pressure on infrastructure managers because of the increased transparency of the infrastructure. This, together with the possibility of demand-tailored maintenance and renewal policies, allowed by the multi-annual planning of these activities, will allow a better quality of the infrastructure. Such impacts arise for a small number of countries, as most of the EU countries presents on high average levels of infrastructure quality.

The results of the analyses are summarised in the following Table.

As indicated by the table above, relevant parameters impacting on the magnitude of the effects on the infrastructure quality are safety (expressed in terms of number of derailments/train km) and punctuality (expressed in terms of % of train on time).

The analyses give as a result an average increase in train punctuality of 2,56%, while security will be also significantly improved with the reduction of the number of derailments (average estimate on EU 25: -0,036). The average (EU 25) present level of derailments is 11,08.

Table 5-5 – Impacts on infrastructure quality

<i>Impacts</i>				
	<i>Estimated magnitude on Safety (%)</i>	<i>Estimated magnitude on Punctuality (%)</i>	<i>Safety difference after-before the Multi Annual Contract (# derailments per millions train km)</i>	<i>Punctuality difference after-before the Multi Annual Contract (%)</i>
Average values (EU 25)	5,630%	2,823%	-0,036	2,556%

The following table gives the results of the assessment of the likelihood of economic impacts which have not been the object of quantitative assessment, expressed in total km of tracks in Countries experimenting / not experimenting the impacts.

Table 5-6 – Results of qualitative analyses of economic impacts

<i>N.</i>	<i>Impact description</i>	<i>Impact yes / no- km of network tracks (n. of countries)</i>					<i>YES</i>
		<i>NO because a Multi Annual Contract is already implemented</i>	<i>NO because maintenance is covered by charges</i>	<i>NO because there is no outsourcing</i>	<i>No because maintenance fully outsourced</i>	<i>No because quality is very poor</i>	
1	Improved competitive position of rail transport	72.776 km (5 Countr.)					248.378 km (20 Countr.)
4d	Possibility to avoid training costs for unskilled resources that results when maintenance is defined on an annual basis	72.776 km (5 Countr.)			4.698 km (1 Country)		243.679,520 (19 Countr.)
4e	Additional (unplanned) savings generated by incentives on managers (and possibly staff) on achieving the planned ones.	72.776 km (5 Countr.)					248.378 km (20 Countr.)
6b	Better quality and better availability of the service for final users because of better infrastructure quality	72.776 km (5 Countr.)				26.060 km (3 Countr.)	229.288 km (17 Countr.)
7	Costs savings can be used to reduce the State financial commitments ⁹	72.776 km (5 Countr.)	22.104 km (4 Countr.)			26.060 km (3 Countr.)	207.183 km (13 Countr.)
2	Tendering of infrastructure management	72.776 km (5 Countr.)				26.060 km (3 Countr.)	229.288 km (17 Countr.)

⁹ The likelihood of this impact has been evaluated regardless the hypotheses on impacts on charges.

(*) The magnitude of the impacts is expressed in terms of km of tracks of the network where the impact is expected.

5.2. Social impacts

Impact n.6 a) - Impact of infrastructure charges reduction on service price to final customers

The expected reduction in infrastructure charges is likely to reduce the total train operating costs for railway undertakings, and, potentially, the final service price to users¹⁰. The service price decrease is estimated between 0,003% and 4,917 % in the 8 countries where all infrastructure managers' cost savings are supposed to be allocated to charges reduction, and between 0,121% and 2,646% in the 7 countries where only a portion of the infrastructure manager's savings are used to reduce the charge.

Given the above presented rail price reduction for the user, the likely increase in traffic has been estimated¹¹. A shift from road traffic to rail is likely to happen in 14 countries (where a service price reduction >0% is expected). The total estimated reduction of road traffic will be 6.545 million ton km (i.e. 861 million vehicle.km) per year.

Table 5-7 – Results of qualitative analyses of social impacts

N.	Impact description	Impact yes / no- km of network tracks (n. of countries)					YES
		NO because a Multi Annual Contract is already implemented	NO because maintenance is covered by charges	NO because there is no outsourcing	No because maintenance fully outsourced	No because quality is very poor	
8	Security of employment facilitating new job creation over a long-term perspective	72.776 km (5 Countr.)					248.378 km (20 Countr.)
9	Stable financial perspective, allowing more secure jobs, will also increase staff satisfaction and job quality.	72.776 km (5 Countr.)					248.378 km (20 Countr.)

¹⁰ Theoretically, the railway undertakings can also decide to recover a part of their operating deficit (if any) or to use the saved resources to other purposes (e.g. new rolling stock investments). Within this IA, however, it is assumed that the savings will be entirely transferred to final users, as already stated in the Inception Report.

The reduction rate in service price will be calculated as the ratio between the total savings in charges for the railway undertaking (expected infrastructure charges reduction per train.km multiplied by the total traffic on the given network) and the total user revenues on that network. The estimated reduction in % will be considered as equally applied to all type of traffics: freight trains, long distance passenger trains, regional trains.

¹¹ The analysis has been focused on freight traffic only, because the elasticity of the demand for passengers transport presents a higher variance between different Member States than values of freight transport elasticity. Furthermore, an average value for passengers transport elasticity is not available, while such an average value is present for freight transport in literature (Winston 1985, Small & Winston 1999; Wohlgemuth 1998 gives an estimate for different groups of OECD Countries, and, therefore for the EU 25).

N.	Impact description	Impact yes / no- km of network tracks (n. of countries)					YES
		NO because a Multi Annual Contract is already implemented	NO because maintenance is covered by charges	NO because there is no outsourcing	No because maintenance fully outsourced	No because quality is very poor	
10	Improved transparency to member States, taxpayers and other stakeholders regarding financing of infrastructures.	72.776 km (5 Countr.)					248.378 km (20 Countr.)

(*) The magnitude of the impacts is expressed in terms of km of tracks of the network where the impact is expected.

5.3. Environmental impacts

Impact n.11 - Impact of rail traffic increase on environment

Given the calculated road traffic reduction and the emission factor of the pollutants (g / vehicle.km), the expected impact of multi-annual contracts on air pollution will be the following¹².

Table 5-8 – Impacts on environment

	<i>Reduction of emission due to the reduction of road traffic</i>	<i>Increase of emissions due to the increase of rail traffic</i>	<i>Total net effect</i>
NOx	- 6.482,9 tons / year	+ 783,3 tons / year	- 5.699,6 tons / year
PM10	- 161,3 tons / year	+ 47,4 tons / year	- 113,9 tons / year
CO2	- 608.933,1 tons / year	+ 44.173,5 tons / year	- 564.759,5 tons / year

The modal shift to rail will cause a slight increase in rail transport emissions, due to the diesel traction of some trains. This increase is, however, much lower than the reduction of air pollutants (NOx, PM10) and greenhouse gases (CO2) expected as result of road traffic diminution.

It is important to highlight that these impacts on environment concern only 15 countries where the conditions exist for such impacts: no multi-annual contracts in the current situation, charges covering (but not totally) the maintenance costs, infrastructure quality not very poor.

¹² Emission factors for the more significant pollutants (CO2, NOx, PM) have been applied to the estimated reduction of road traffic in order to estimate environmental benefits. The emission factors are derived from the TREMOVE database.

5.4. Impacts on administrative costs

Impact n.5 Administrative costs

Implementing multi-annual contracts according to policy options B and C provides the infrastructure managers with obligations regarding reporting, consultation and publication of information on infrastructure quality and the costs of its maintenance. The main responsible for data collection and reporting will be most probably the infrastructure manager. Thus, the obligations will cause additional administrative costs to the infrastructure managers.

Two cases have been considered:

- (a) the infrastructure manager has to collect only data about train traffic regularity (e.g. delay minutes and causes, presence of temporary speed restrictions and their duration) and amount of accidents, incidents, deaths and injured people (all these data depend also on the performances and responsibilities of railway undertakings and on human factors).

In case a), the required measuring system is certainly necessary also for traffic control (requiring computerized systems to register all train movements and measure irregularities) and for allocating delays responsibility, not just for monitoring. Further administrative costs due to compliance of the system in place to the requirements of the new system could be eventually only those due to a new way of collecting and elaborating the raw data for calculating the new agreed indicators.

- (b) the infrastructure manager has to collect, in addition, more infrastructure-specific quality data (rail consumption, track geometry, catenary consumption and geometry, ...) and calculate specific indicators representative of its infrastructure management effectiveness.

Cost for the data collection system of case b), are much higher than those arising in case a), in particular when from the survey emerges that regularity is already monitored (as in countries where there is a legally compulsory performance regime).

Taking into account the above-mentioned conditions, apart from the existence of a multi-annual contract in the Member State, administrative costs have been estimated in terms of:

- total costs for the duration if each infrastructure manager has to buy the number of measurement train necessary for its network;
- total costs for the contract taking into account the possibility of buying and selling the measurement train service in the European network (i.e. sharing the trains among the networks)

The impact is likely to arise for 21 Member States.

Table 5-9 – Infrastructure Managers’ Administrative costs estimate

<i>Impacts</i>		
<i>Hypotheses</i>	<i>Initial investment expenditure [M€]</i>	<i>Annual operating costs [M€/year]</i>
Each Member State buys and operate its own measurement train	513,83	35,16
Sharing of the measurement train service within the European network	69,44	4,75

An “optimal” duration of 4 years has been used within the present impact assessment. Besides administrative costs arising for the infrastructure managers for the collection and elaboration of data, some costs are likely to arise for the controlling body, in charge of monitoring the performance of the contract as regards fixed objectives and, in case, of solving disputes between the State and the infrastructure manager, in case objectives are not reached. This controlling role has to be continuing over time in order to allow the regulatory body to intervene on time. The monitoring body exerts competences as regards (1) technical matters, in order to evaluate the network quality, (2) economic matters necessary for the evaluation of financial indicators and (3) legal and administrative competences, for the decisions to be taken in case of disputes. The following table summarises the administrative cost for the regulatory bodies.

Table 5-10 – Independent monitoring bodies’ administrative costs estimate

<i>Type of employees</i>	<i>FTE</i>		<i>Estimated total personnel cost / FTE * (€ / year)</i>	<i>Total personnel cost * (€ / year)</i>	
	<i>Small networks</i>	<i>Medium / large networks</i>		<i>Small networks</i>	<i>Medium / large networks</i>
Specialised professional for monitoring and reporting	2	4	88.000	176.000	352.000
Specialised technicians	2	3	48.000	96.000	144.000
Total				272.000	496.000
Other monitoring office costs (utilities, etc.) (10% of personnel costs)				27.200	49.600
Total				299.200	545.600

* These amounts are valid for the Italian labour market. For the other Countries the equivalent costs per FTE have been estimated taking into account the ratios of GDP per head with respect to Italy.

Based on the above hypotheses, administrative costs of independent monitoring bodies for all 25 Member States will be 844.800 € / year (299.200 for small networks and 545.600 for medium large networks).

6. COMPARING THE OPTIONS

The evaluation of the impacts related to the proposed options A, B and C (see chapter 4 for the description of the policy options), is presented in **Table 6-1**. The evaluation has been carried out according to the following assumptions:

- for option C, the estimated impacts concern all countries where no multi-annual contract was in place in the basis year considered in this analysis (2005); this corresponds then to the full impacts estimated in previous chapter;
- for option A, the impacts estimated in option C will occur only in the countries that have already implemented multi-annual contracts after 2005 (France, Poland, Spain, Netherlands and Denmark) or that are likely to implement it (Germany, Slovak Republic and Hungary) because already negotiating such a kind of agreement between the infrastructure manager and the State;
- for option B, we consider same situation as in option A + the quality-related impacts of option C, since such impacts depend mainly on the monitoring system that is foreseen also in option B.

Table 6-1 – Quantitative assessment of impacts of the proposed options

For qualitative impacts, the number of countries that are concerned by the impact & the km of tracks of their networks are presented

Macro-category of impacts	Impacts on:	Identified impact	Unit of measure	Option A	Option B	Option C
Economic	Operating costs and conduct of business	4a)infrastructure manager cost savings because of increased efficiency of the use of resources, in particular maintenance works scheduled more efficiently (i.e. tailored to forecasted traffic)	Million Euro / year	257,0	257,0	337,1
		4b)infrastructure manager cost savings because of increased efficiency in outsourcing maintenance activities (economy of scale obtained by tendering longer multi-annual contracts)	Million Euro / year	95,7	95,7	110,1
		4c)infrastructure manager cost savings because of more advanced personnel reduction policies thanks to medium-term planning horizon	Million Euro / year	76,4	76,4	91,3
		4d)infrastructure manager cost savings because of the possibility to avoid training costs in cause of use of unskilled resources that results when maintenance level are defined on a year-by-year basis	km of tracks & number of countries	163.104,2 km (7 Countries)	163.104,2 km (7 Countries)	243.679,5 km (19 Countries)
		4e) Additional (unplanned) infrastructure manager cost savings generated by incentives on managers (and possibly staff) on achieving the planned ones.	km of tracks & number of countries	167.802,3 km (8 Countries)	167.802,3 km (8 Countries)	248.377,5 km (20 Countries)
		3) Improvement of infrastructure quality because of higher pressure on infrastructure managers due to the increased transparency of infrastructure (due to the set-up of a public system for monitoring rail infrastructure quality and costs) and demand-tailored maintenance and renewal policies allowed by multi-annual planning	Reduction of n. derailments per million train km	- 0,009	- 0,036	- 0,036
			Increase in punctuality	+ 2,73%	+ 2,56%	+ 2,56%

Macro-category of impacts	Impacts on:	Identified impact	Unit of measure	Option A	Option B	Option C
Economic		framework	Traffic involved by the increase in punctuality (million train km)	1.291,5	1.776,5	1.776,5
	Administrative costs on business	5) Cost for the infrastructure managers for the implementation of the system (investment costs), where it does not exist yet. Further costs (maintenance costs) will be connected to the necessity of maintaining the system and for the development and measurement / monitoring of synthetic indicators.	Million Euro Investment Costs (option: investments by each MS)	178,5	513,8	513,8
			Million Euro Investment Costs (option measurement trains shared among European rail networks)	44,2	69,4	69,4
			Million Euro / year management costs (option: investments by each MS)	12,2	35,2	35,2
	Administrative costs on business	5) Cost for the infrastructure managers for the implementation of the system (investment costs), where it does not exist yet. Further costs (maintenance costs) will be connected to the necessity of maintaining the system and for the development and measurement / monitoring of synthetic indicators.	Million Euro / year management costs (option: measurement trains shared among European rail networks)	3,0	4,8	4,8
	Administrative costs on business	5) Cost for the Regulatory Bodies for specialized professional for monitoring and reporting, specialized technicians and other monitoring office costs (utilities, etc.)	Million Euro / year	3,3	9,9	9,9
Consumers and	6a) Reduction of train price to the final users in case the cost savings are totally or partially used to reduce	(% price reduction)	0,76%	0,76%	0,70%	

Macro-category of impacts	Impacts on:	Identified impact	Unit of measure	Option A	Option B	Option C
	households	infrastructure charges, and the financial situation of railway undertakings allows them to transfer the savings to the final customers	Traffic involved by the price reduction (million train km)	2.361,3	2.361,3	3.972,6
		6b) Better quality and better availability of the service for final users because of better infrastructure quality	km of tracks & number of Countries	167.802,3 km (8 Countries)	229.287,5 km (17 Countries)	229.287,5 km (17 Countries)
	Public Authorities	7) Costs savings can be used to reduce the State financial commitments	km of tracks & number of Countries	167.802,3 km (8 Countries)	167.802,3 km (8 Countries)	207.183,4 km (13 Countries)
Economic	Competition in the internal market	1) Improved competitive position of rail transport because of better financial stability of infrastructure managers, and (possibly) additional resources arising from infrastructure manager efficiency that can be used a) to reduce the rail charges to be paid by rail undertakings, and / or b) to improve the quality of infrastructure.	km of tracks & number of Countries	167.802,3 km (8 Countries)	167.802,3 km (8 Countries)	248.377,5 km (20 Countries)
		2) Tendering of infrastructure management: after the end of a MAC and the evaluation of its performance, the infrastructure management could be tendered, thus creating a new market	km of tracks & number of Countries	167.802,3 km (8 Countries)	167.802,3 km (8 Countries)	229.287,5 km (17 Countries)
Social	Employment and labor markets	8) More stable financial perspective both for infrastructure managers and maintenance suppliers potentially improving security of employment	km of tracks & number of Countries	167.802,3 km (8 Countries)	167.802,3 km (8 Countries)	248.377,5 km (20 Countries)
	Standards and rights related to job quality	9) Stable financial perspective, allowing more secure jobs, and also increasing staff satisfaction and job quality.	km of tracks & number of Countries	167.802,3 km (8 Countries)	167.802,3 km (8 Countries)	248.377,5 km (20 Countries)

Macro-category of impacts	Impacts on:	Identified impact	Unit of measure	Option A	Option B	Option C
Social	Governance, participation, good administration	10) Improved transparency to member states, taxpayers and other stakeholders regarding financing of infrastructures; public will be being informed about the use of any transfer from public money.	km of tracks & number of Countries	167.802,3 km (8 Countries)	167.802,3 km (8 Countries)	248.377,5 km (20 Countries)
Environmental	Air quality	11) Modal shift from other modes to rail is likely to be produced by the improvement of rail competitiveness.	tons NOx / year	- 5.075,9	- 5.075,9	- 5.699,7
			tons PM10 / year	- 101,4	- 101,4	- 113,9
	Climate		tons CO2 / year	- 502.947,1	- 502.947,1	- 564.759,6

It is important to highlight the difference between maintenance cost savings and additional administrative costs, in order to understand the likely effect of each options to the costs of infrastructure management after the implementation of multi-annual contracts.

The following tables give figures related to total impact on the infrastructure managers' annual operating¹³ income and expenses; the impact remains positive in both options for the purchase of measurement trains presented in chapter 0., despite the hypothesis of transferring a significant part of the cost savings to the market in terms of infrastructure charges' reduction.

Table 6-2 – Total impact on infrastructure managers' income and expenses - Option: each MS buys its own measurement train

Values in Million Euro

	Option A	Option B	Option C
Maintenance cost savings (4a-4b-4c)	429,02	429,02	538,54
Savings allocated to reducing the charges	-261,33	-261,33	-282,52
Increase in revenues from infrastructure charges (because of additional traffic) ¹⁴	26,34	26,34	28,02
IM administrative costs (management costs)	-12,21	-35,16	-35,16
Total	181,82	158,87	248,88

¹³ Capital costs for measurement trains' purchase are not included.

¹⁴ The estimate of the increase in revenues from infrastructure charges (because of additional traffic) takes into account the amount of rail additional traffic (whose values is estimated on the basis of the rail transport demand elasticity (values from literature) and the estimated rail service price reduction) and average values of freight train access charges (€/train-km, 2005 values from ECMT).

**Table 6-3 - Total impact on infrastructure managers' income and expenses-
Option: measurement trains shared among European infrastructure managers**

Values in Million Euro

	Option A	Option B	Option C
Maintenance cost savings (4a-4b-4c)	429,02	429,02	538,54
Savings allocated to reducing the charges	-261,33	-261,33	-282,52
Increase in revenues from infrastructure charges (because of additional traffic) ¹⁵	26,34	26,34	28,02
IM administrative costs (management costs)	-3,02	-4,75	-4,75
Total	191,01	189,28	279,29

6.1. Multi Criteria Analysis for the comparison of the Policy Options

A Multi Criteria Analysis (MCA) has been developed in order to allow the comparisons of the three policy options proposed and described in previous chapters. Key steps followed for the MCA of the three Policy Options have been:

- establishing criteria to be used to compare the options, both for quantitative and qualitative impacts (unite of measures and parameters for the estimate of different impacts);
- scoring how well each option meets the criteria: scores vary between 0 and 3 (where 3 corresponds to the most positive impact, or to the less negative in case of disadvantageous effects);
- assigning weights to each criterion to reflect its relative importance in the decision; the proposed weighting criteria have been decided on the basis of the consideration of the impact magnitude and of the significance of the impact within the context of the European policies (transport policy, social policies, etc);
- ranking the options by combining their relative weights and scores.

Table 6-4 shows the scoring of the single impacts for the three options and the relative weights, while **Table 6-5** provides the results of the analysis in terms of score of each option, calculated as the weighted average of the scoring of the single impacts.

¹⁵ Same as previous footnote.

Option C gets the highest score; this result indicates the highest coherence of this option, compared to the others, to the objectives of multi annual contracts expressed in terms of the identified impacts.

Table 6-4 –Multi Criteria Analysis of the Policy Options

Identified impact	Unit of measure	Option A	Option B	Option C	SCORING			WEIGHT
					Option A	Option B	Option C	
Economic impacts (numbers 1-8)								
4a)infrastructure manager cost savings because of increased efficiency of the use of resources, in particular maintenance works scheduled more efficiently	Million Euro	257,0	257,0	337,1	2	2	3	1
4b)infrastructure manager cost savings because of increased efficiency in outsourcing maintenance activities	Million Euro	95,7	95,7	110,1	2	2	3	1
4c)infrastructure manager cost savings because of more advanced personnel reduction policies thanks to medium-term planning horizon	Million Euro	76,4	76,4	91,3	2	2	3	1
4d)infrastructure manager cost savings because of the possibility to avoid training costs in cause of use of unskilled resources	Total km of tracks of Countries experimenting the impact	163.104,3	163.104,3	243.679,5	2	2	3	0,25
4e) Additional (unplanned)infrastructure manager cost savings generated by incentives on managers (and possibly staff) on achieving the planned ones	Total km of tracks of Countries experimenting the impact	167.802,3	167.802,3	248.377,5	1	1	3	0,25
3) Improvement of infrastructure quality (Reduction on n. derailments)	Reduction of n. derailments per million train km	-0,009	-0,036	-0,036	0	3	3	1
3) Improvement of infrastructure quality (% Increase in punctuality)	Increase in punctuality	+ 2,73%	+ 2,56%	+ 2,56%	2	3	3	1
	Impacted traffic (Million train km) (*)	1.291,5	1.776,5	1.776,5				
5) Cost for the theinfrastructure managers for the implementation of the system (investment costs)	Million Euro	222,7	583,3	583,3	3	1	1	0,75
5) Cost for thetheinfrastructure managers for the implementation of the system (management costs)	Million Euro / year	15,2	39,9	39,9	3	1	1	0,5
5) Cost for the regulatory bodies for specialised professional for monitoring and reporting and for the monitoring office	Million Euro / year	3,3	9,9	9,9	3	1	1	0,5
6a) Reduction of train price to the final users (passengers, shippers)	% price reduction	0,76%	0,76%	0,70%	1	1	3	1
	Impacted traffic (Million train km) (**)	2.361,3	2.361,3	3.972,6				
6b) Better quality and better availability of the service for final users	Total km of tracks of Countries experimenting the impact	167.802,2	229.287,5	229.287,5	2	3	3	0,5
1) Improved competitive position of rail transport	Total km of tracks of Countries experimenting the impact	167.802,2	167.802,2	248.377,5	2	2	3	0,5
2) Tendering of infrastructure management	Total km of tracks of Countries experimenting the impact	167.802,3	167.802,2	229.287,5	2	2	3	0,25

Identified impact	Unit of measure	Option A	Option B	Option C	SCORING			WEIGHT
					Option A	Option B	Option C	
7) Costs savings can be used to reduce the State financial commitments	Total km of tracks of Countries experimenting the impact	167.802,3	167.802,3	207.183,3	2	2	3	0,75
8) Social: More stable financial perspective both for infrastructure managers and maintenance suppliers potentially improving security of employment	Total km of tracks of Countries experimenting the impact	167.802,3	167.802,3	248.377,5	2	2	3	0,5
9) Social: Stable financial perspective, allowing more secure jobs, and also increasing staff satisfaction and job quality	Total km of tracks of Countries experimenting the impact	167.802,3	167.802,3	248.377,5	2	2	3	0,5
10) Social: Improved transparency to member states, taxpayers and other stakeholders regarding financing of infrastructures	Total km of tracks of Countries experimenting the impact	167.802,3	167.802,3	248.377,5	2	2	3	0,25
11) Environment: air pollution	NOx tons/y	-5.075,9	-5.075,9	-5.699,7	2	2	3	0,5
11) Environment: air pollution	PM10 tons/y	-101,4	-101,4	-113,9	2	2	3	0,5
11) Environment: climate	CO2 tons/y	-502.947,1	-502.947,1	-564.759,6	2	2	3	1

(*) The scores are based on the impact level (% of increase in punctuality) weighted by the impacted traffic.

(**) The scores are based on the impact level (% of price reduction) weighted by the impacted traffic.

Table 6-5 – Total scoring of the Policy Options

Final score	
Option A	25,50
Option B	26,50
Option C	37,00

On the basis of the results of the impact assessment and in order to perform the risk analysis, a sensitivity analysis has been carried out for some variables / parameters of the major positive impacts. The sensitivity analysis has been performed with the reference to Option C as proposed by the DG TREN. The results of quantitative assessment of Option C (see previous chapter) are considered as the base case. Parameters affecting the magnitude of the different identified impacts have been given a different value, in order to examine their effects on the impacts analysis results for Option C.

It is evident from the result of the sensitivity analysis that using in the analyses the minimum values (percentages) of cost savings resulting from the survey, gives as a result, values of costs savings between 20 % and around 70% lower than the base case (the total effect is a decrease in savings by 38%).

Besides the decrease in costs savings, the most significant variations in the results of the assessment are related to the indirect effects of maintenance costs reduction. An important result is also related to the impacts on traffic and the environment: the decrease of the threshold used for the estimate of costs savings gives, as a result, a reduction of NO_x, PM₁₀ and CO₂ emissions (around 40% lower than in the base case).

7. MONITORING AND EVALUATION

The definition of a monitoring and evaluating system starts with the identification of the key indicators.

A set of core indicators relating to the main policy objectives are suggested as part of a monitoring system. The indicators have been identified according to the criteria adopted by the European Commission's impact assessment guidelines (the so-called “SMART” criteria): Specific, Measurable, Accepted (by staff, stakeholders), Realistic (closely related to the objectives to be reached) and time-dependent.

Furthermore, the selection of the proposed indicators have privileged indicators which are credible for non expert, unambiguous and easy to interpret; easy to monitor and robust against manipulation.

On consideration of the different objectives of the proposed policy options, indicators have been chosen in order to measure the impacts on “infrastructure” parameters (e.g. infrastructure quality) and the economic and financial aspects of the infrastructure management (e.g. infrastructure managers’ financial stability).

The proposed set of indicators shall be further specified according to ex-ante conditions of the specific networks and to choices by single Member States.

Case a) – Basic set of infrastructure quality and financial indicators

The basic set of indicators will include all quality and economy parameters that do not require sophisticated measurement tools (such as the measurement trains described in the chapter “administrative costs”). For the infrastructure quality, they represent the minimum requirements to verify the evolution of the infrastructure quality in terms of its impacts on the service (“perceived infrastructure quality”). All economic indicators are also included.

Infrastructure quality indicators

		Causes for delays allocated to the infrastructure manager;
Punctuality		Classification of causes of delays by kind of damage and / or kind of irregularity allocated on the different assets managed by the infrastructure manager;
		Possibility of grouping the causes of irregularities by line, region and single asset.
Speed restriction		Number and duration per type of line
		Theoretical or monitored journey time lost for speed restrictions
Unplanned disruptions	service	Number and duration of disruptions (due to failure on the infrastructure, e.g. broken rails, broken signalling contact wires) per type of line
Age of facilities	specified	
Traffic safety indicators		Number of accidents, incidents, deaths and injured people due to failure on the infrastructure
		Outcomes of litigations.

Financial indicators

Annual maintenance costs (or, better, costs related to duration of the planned maintenance cycle, e.g. infrastructure life cycle costs - LCC):		It should be taken into account the following parameters:
per region and per line*		Costs for renewals
		Duration of renewals cycles
		Unit costs for single maintenance work;
per km of track and per train.km (ratios between line LCC and traffic over the life-cycle time span)		Type of lines;
		Traffic entity;
		Future investments planned;

Future dismissing of the line (in this case, lines whose dismissing is planned shall not be considered in the evaluation of the proposed financial indicators at network level, with preventive agreement between infrastructure manager and State)

Revenues from infrastructure charges	per region and per line total and per train.km
State subsidies	Disaggregation depends on how they are distributed (as a total amount, or per km of track or line, or per region etc.)
Financial stability ratios	annual rail charges' revenues / annual maintenance costs + renewal costs (to be transformed in annual costs according to the renewal cycles) for the whole network, as well as by region and (possibly) by line*
Overhead costs (%)	
Financial Efficiency Index	IMs total expenditure as the sum of operating costs and total expenditures on maintenance, adjusted for traffic patterns and network size, plus the total expenditure on plain line track renewals, normalised for the volume of tracks replaced
Financing – Debt to Regulatory Asset base (RAB) ratio	Measure of the infrastructure managers' financial indebtedness

* Availability of detailed cost data by line is suitable but it will require significant data collection and elaboration effort (especially for large networks), whereas network-wide data (or regional data in case of large networks) are the minimum dataset.

Case b) – Extended set of infrastructure quality indicators

Indicators for case b) will include all the indicators chosen for case a) plus further quality indicators based on train measurement parameters, such as:

- Voltage at pantograph for monitoring traction current supply reliability;
- Quality of the geometry of the overhead cable;
- Number of broken rails not due do a bad functioning of pantograph;
- Quality of the geometry of tracks;
- Number of malfunctioning due to buckling of the track, track gauge, track wear;
- Indicators of the quality of train running;
- Number of malfunctioning of signalling systems / Coverage of communication systems.

The specificity of the above proposed indicators (both the set and the set b) to the purpose of monitoring infrastructure management is evident (all directly concern the infrastructure quality and the infrastructure manager expenditures and revenues, that are the objects of the monitoring system).

The measurability of set b) indicators can be ensured by availability of the monitoring resources defined in the chapter on administrative costs. Measurement of infrastructure quality indicators of set a) does not require instead additional resources compared to the ones requires by the performance regimes and by the normal traffic monitoring.

As far as financial indicators are concerned, measurability is certainly ensured for network-wide data on maintenance and renewal costs, whereas many infrastructure managers probably still lack of continuous monitoring of such kind of data by regions or, even more, by line. Availability of detailed cost data will allow internal benchmarking and more precise monitoring of expenditures, as well as easier comparison between expenditure levels and quality levels. Simplified network-wide monitoring of maintenance and renewal costs can be a first step.

Concerning acceptability and realism, this shall be guaranteed by the target levels defined for each indicators, more than the by the definition of the indicator in itself.

Concerning the time definition, using indicators require the definition of appropriate monitoring and reporting frequency; for the financial indicators and the punctuality indicators, a monthly reporting is proposed including total values for the whole network in the previous month (to be compared with the agreed targets).

In the present report, the estimate of the impacts on infrastructure quality and costs, although based on more aggregated data than those necessary for the estimate of the proposed indicators, has provided percentages of improvement in the quality levels for each country. Such estimates can be used as a starting point for a more accurate analysis of initial conditions of single countries, in order to define improvement trends for every proposed indicator. The point in time when the quality criteria will be measured has to be previously agreed.

It must be mentioned here that the precise definition of rail infrastructure quality indicators and their desirable target value is one of the main goals of the EU project “Integrail”, funded with 11 M€ within the 6th Framework Programme for Research and Technological Development.

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**COMMUNICATION DE LA COMMISSION AU CONSEIL ET AU PARLEMENT
EUROPÉEN**

Contrats pluriannuels concernant la qualité de l'infrastructure ferroviaire

RÉSUMÉ DE L'ANALYSE D'IMPACT

**{COM(2008) 54 final}
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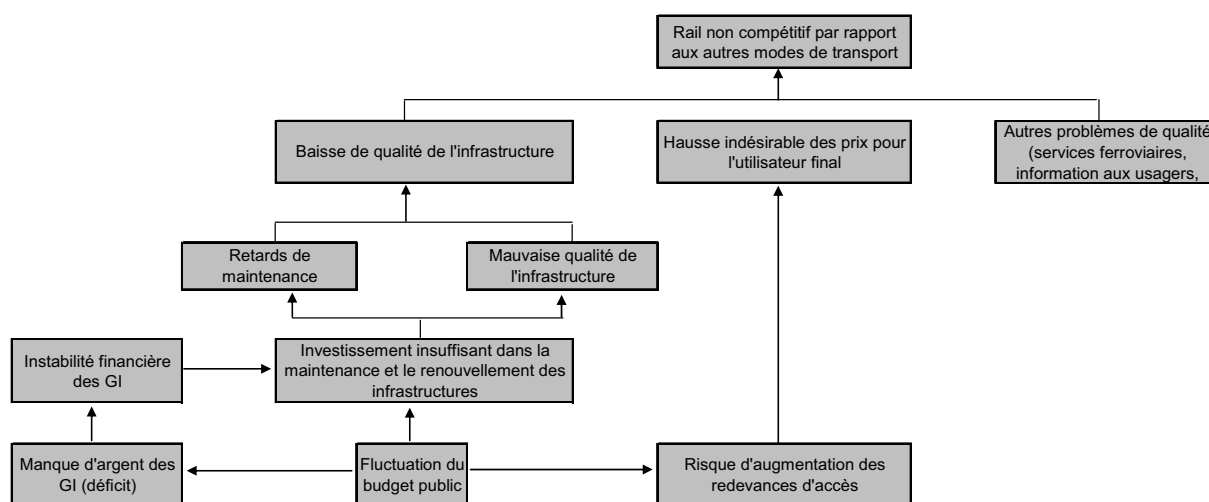
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1. LA NATURE DU PROBLEME

Le présent rapport décrit les incidences principales de trois options stratégiques différentes en matière de contrats pluriannuels de financement de la maintenance ferroviaire.

Le problème majeur réside dans la baisse de qualité de l'infrastructure, dans certaines parties de la Communauté, qui résulte d'un financement insuffisant de la maintenance. Si ce problème n'est pas résolu, les retards de maintenance vont s'accroître et finir par limiter la capacité des chemins de fer à concurrencer les autres modes de transport.

Figure 1-1 – Arbre des problèmes



2. CONSULTATION DES PARTIES INTERESSEES

La CE admet qu'il est important de consulter les parties concernées à propos des problèmes relatifs au financement de la maintenance ferroviaire. Les consultations qui ont eu lieu en 2006 et 2007 ont permis de formuler les options stratégiques et d'évaluer l'impact probable des mesures prises dans ce domaine.

3. OBJECTIFS

Les principaux objectifs d'une stratégie en matière de contrats pluriannuels sont les suivants:

- permettre aux chemins de fer d'être compétitifs par rapport aux autres modes de transport;
- passer à une forme plus rentable de maintenance de l'infrastructure ferroviaire qui réponde mieux aux besoins des utilisateurs;
- créer les conditions permettant aux gestionnaires d'infrastructure de bénéficier de la stabilité financière et d'une indépendance de gestion.

4. OPTIONS STRATEGIQUES

La DG TREN a défini et présenté, dans son document de consultation publié le 12 juillet 2007, les options stratégiques suivantes.

Option A: statu quo. Les contrats pluriannuels sont utilisés dans quelques États membres seulement et les autres décident, chaque année, de couvrir les pertes subies par le gestionnaire de l'infrastructure. La Commission recense les meilleures pratiques de négociation, de modification et d'extension des contrats pluriannuels, y compris le format pour rendre compte de l'état de l'infrastructure.

Option B: obligations en matière de notification, de consultation et de publication des informations sur la qualité de l'infrastructure et les coûts de maintenance. Les États membres, assistés par leur organisme de réglementation, doivent convenir d'objectifs quantifiés de réduction des coûts et en contrôler la réalisation. Les gestionnaires d'infrastructure publient des résultats au moins annuels. Les États membres prennent la décision de conclure ou non des contrats pluriannuels en plus de mesures réglementaires.

Option C: obligations de l'option B plus des contrats pluriannuels rendus obligatoires par une révision de la législation communautaire. L'État consulte les parties concernées sur toute proposition de contrats pluriannuels avant de passer un nouveau contrat, puis négocie l'étendue et la qualité du réseau qui sont ensuite contrôlées. L'intervention discrétionnaire de l'État est strictement limitée aux cas prévus par le contrat, tandis que le gestionnaire de l'infrastructure poursuit les objectifs convenus avec une grande indépendance de gestion.

5. ANALYSE DES INCIDENCES¹

5.1. Incidences économiques

5.1.1. Réduction des coûts de maintenance

D'après les réponses fournies, les réductions de coût devraient être plus fortes (de 2 à 10%) en raison du gain d'efficacité dû à une meilleure planification des travaux et des économies d'échelle résultant de contrats de sous-traitance plus longs, donc plus importants (de 5 à 10%). Les frais de personnel interne (de 0,1 à 3%) s'avèrent plus difficile à réduire, même dans le cadre à moyen terme des contrats pluriannuels. Le tableau 5-1 récapitule les réductions de coût (en millions d'euros et pourcentage des coûts).

¹ La séquence des incidences correspond à celle figurant dans la version intégrale de l'analyse d'impact. Les données proviennent de sources telles que les rapports annuels (2005) des gestionnaires d'infrastructure, l'étude sur les contrats pluriannuels réalisée pour la DG TREN par Ecorys (2006), les statistiques des chemins de fer internationaux de l'UIC (2005), les statistiques Eurostat (2005) et l'enquête réalisée pour la présente analyse d'impact (2007).

Tableau 5-1 – Estimation des incidences sur la réduction des coûts de maintenance²

	<i>Les contrats pluriannuels entraîneront une réduction des coûts de maintenance du fait de</i>	<i>Non (contrats pluriannuels déjà en vigueur)</i>	<i>Non (maintenance entièrement couverte par les redevances)</i>	<i>Non (pas d'externalisation)</i>	<i>Non (maintenance entièrement soustraite)</i>	<i>Oui</i>	<i>Total des économies (million d'euros)</i>	<i>% des coûts de maintenance dans les pays impactés</i>	<i>% des coûts de maintenance dans l'UE-25</i>
4a	l'utilisation efficace des ressources	5	4			16	337,12	3,50%	2,59%
4b	l'externalisation efficace de la maintenance	5	4	2		14	110,07	2,30%	0,85%
4c	la réduction du personnel	5	4		1	15	91,34	0,99%	0,70%
	Total						583,53	6,77%	4,12%

5.1.2. Incidences sur les redevances d'infrastructure

Le tableau ci-après récapitule les incidences de la réduction des coûts de maintenance sur les redevances d'infrastructure dans 16 pays (États membres – EM).

Tableau 5-2 – Réduction des redevances escomptée de la réduction des coûts de maintenance

	<i>Dans les EM où la réduction des coûts est destinée à 100% à réduire les redevances</i>	<i>Dans les EM où la réduction des coûts est destinée à 50% à réduire les redevances</i>	<i>Dans les EM où la réduction des coûts est destinée à 0% à réduire les redevances</i>
Réduction moyenne des redevances par train-km	0,21 € / train-km	0,07 € / train-km	0 € / train-km

La réduction des redevances semble assez faible par rapport à une moyenne des redevances d'infrastructure généralement comprise entre 2 et 4 € / train-km parce que: (1) la réduction estimée des coûts de maintenance est inférieure à 7% et (2) les redevances ne couvrent pas uniquement les coûts de maintenance, mais aussi d'autres éléments de coût des gestionnaires d'infrastructure.

5.1.2.1. Incidences directes sur la qualité de l'infrastructure (incidences 3a et 3b)

Instaurer un système public de contrôle des coûts et de la qualité de l'infrastructure aura probablement un effet incitatif accru sur les gestionnaires d'infrastructure. Cela rendra la fourniture des services d'infrastructure plus transparente. Conjugué à la possibilité d'appliquer

² La probabilité des incidences est exprimée par le nombre de pays où l'incidence est / n'est pas observée.

des politiques de maintenance et de renouvellement de l'infrastructure adaptées à la demande dans le cadre d'une planification pluriannuelle, cela contribuera à améliorer la qualité de l'infrastructure et donc aussi la qualité du service.

Ces incidences ne seront observées que dans un nombre limité de pays car la plupart des pays de l'UE ont des niveaux moyens de qualité de l'infrastructure élevés (tableau 5-3).

Table 5-3 – Incidences sur la qualité de l'infrastructure

	<i>Magnitude estimée de l'incidence sur la sécurité (%)</i>	<i>Magnitude estimée de l'incidence sur la ponctualité (%)</i>	<i>Variation de la sécurité entre avant et après le contrat pluriannuel (# de déraillements par million de train-km)</i>	<i>Variation de la ponctualité entre avant et après le contrat pluriannuel (%)</i>
Valeurs moyennes (UE-25)	5,630%	2,823%	-0,036	2,556%

Les incidences économiques suivantes doivent être évaluées de façon plus qualitative³. Comme indication de l'ordre de grandeur, le tableau suivant précise le nombre d'États membres où les différentes incidences seront probablement observées ainsi que la longueur de voie correspondante.

Table 5-4 – Évaluation qualitative des incidences économiques

N°	Description de l'incidence	Non (contrats pluriannuels déjà en vigueur)	Non (maintenance entièrement couverte par les redevances)	Non (pas d'externalisation)	Non (maintenance entièrement soustraite)	Non (très mauvaise qualité)	Oui
1	Compétitivité accrue du transport ferroviaire	72.776 km (5 EM)					248.378 km (20 EM)
4d	Possibilité d'éviter le coût de formation du personnel non qualifié	72.776 km (5 EM)			4.698 km (1 EM)		243.680 km (19 EM)
4e	Économies supplémentaires (non prévues) dues aux mesures incitatives pour les gestionnaires (et éventuellement le personnel)	72.776 km (5 EM)					248.378 km (20 EM)
6b	Meilleure qualité et disponibilité accrue du service pour les utilisateurs finals	72.776 km				26.060 km	229.288 km (17 EM)

³ La magnitude des incidences est exprimée en km de voie sur le réseau où l'incidence est escomptée; le nombre correspondant d'États membres (EM) figure entre parenthèses.

N°	Description de l'incidence	Non (contrats pluriannuels déjà en vigueur)	Non (mainte- nance entière- ment couverte par les redevan- ces)	Non (pas d'exter- nalisa- tion)	Non (main- tenance entière- ment sous- traitée)	Non (très mau- vaise qualité)	Oui
		(5 EM)				(3 EM)	
7	Réduction des coûts servant à limiter les engagements financiers de l'État ⁴	72.776 km (5 EM)	22.104 km (4 EM)			26.060 km (3 EM)	207.183 km (13 EM)
2	Soumission de la gestion de l'infrastructure à appel d'offres	72.776 km (5 EM)				26.060 km (3 EM)	229.288 km (17 EM)

5.2. Incidences sociales

Incidence 6a – Incidence de la réduction des redevances d'infrastructure sur le prix du service pour les utilisateurs

La réduction escomptée des redevances d'infrastructure va probablement faire baisser le coût total d'exploitation pour les entreprises ferroviaires et, peut-être, le prix du service de transport⁵. La baisse estimée du prix du service de transport est comprise entre 0,003 et 4,917% dans les huit pays où la réduction des coûts des gestionnaires d'infrastructure est censée être totalement destinée à réduire les redevances, et entre 0,121 et 2,646% dans les sept pays où la réduction des coûts ne sert que partiellement à réduire les redevances.

Un abandon de la route pour le rail est probable dans 14 pays (où une réduction du prix du service supérieure à 0% est prévue). La diminution totale du trafic routier⁶ est estimée à 6,545 millions de tonne-km (c'est-à-dire 861 millions de véhicule-km) par an. D'autres incidences sociales ont été évaluées de façon qualitative⁷.

Table 5-5 – Évaluation qualitative des incidences sociales

⁴ La probabilité de cette incidence a été évaluée sans tenir compte des hypothèses relatives aux incidences sur les redevances.

⁵ En théorie, les entreprises ferroviaires pourraient tenter de recouvrer une partie de leur (éventuel) déficit d'exploitation ou utiliser les fonds économisés à d'autres fins (par exemple, investir dans du matériel roulant neuf). Néanmoins, dans la présente analyse d'impact, on suppose que les économies réalisées seront intégralement répercutées sur l'utilisateur final, comme cela a déjà été indiqué dans le rapport initial.

⁶ L'analyse ne portait que sur le fret, car l'élasticité de la demande de transport de voyageurs est plus variable, d'un État membre à l'autre, que celle du fret. En outre, il n'existe pas de valeur moyenne de l'élasticité du transport de voyageurs alors qu'on trouve, dans la littérature spécialisée, une valeur moyenne pour le fret.

⁷ La magnitude des incidences est exprimée en km de voie sur le réseau où l'incidence est escomptée; le nombre correspondant d'États membres (EM) figure entre parenthèses.

N°	Description de l'incidence	Non (contrats pluriannuels déjà en vigueur)	Non (mainte- nance entièrè- ment couverte par les redevan- ces)	Non (pas d'exter- nalisa- tion)	Non (main- tenance entièrè- ment sous- traitée)	Non (très mau- vaise qualité)	Oui
8	Sécurité de l'emploi facilitant la création d'emplois	72.776 km (5 EM)					248.378 km (20 EM)
9	Perspectives de stabilité financière contribuant à des emplois plus sûrs et plus qualifiés, et à une plus grande satisfaction du personnel	72.776 km (5 EM)					248.378 km (20 EM)
10	Transparence accrue concernant le financement des infrastructures	72.776 km (5 EM)					248.378 km (20 EM)

5.3. Incidences environnementales

Incidence 11 – Incidence de l'accroissement du trafic ferroviaire sur l'environnement

Compte tenu de la réduction du trafic routier et du coefficient d'émission des polluants (g / véhicule-km), l'incidence escomptée des contrats pluriannuels sur la pollution atmosphérique sera la suivante⁸.

Table 5-6 – Incidences sur l'environnement

	Réduction des émissions due à la réduction du trafic routier (tonnes / an)	Augmentation des émissions due à l'augmentation du trafic ferroviaire (tonnes / an)	Effet net total (tonnes / an)
NO _x	- 6.482,9	+ 783,3	- 5.699,6
PM10	- 161,3	+ 47,4	- 113,9
CO ₂	- 608.933,1	+ 44.173,5	- 564.759,5

Ces incidences ne concernent que les 15 pays où elles peuvent être observées: absence de contrat pluriannuel dans la situation actuelle, redevances couvrant (mais partiellement) les coûts de maintenance, qualité de l'infrastructure pas très mauvaise.

⁸ Il a été appliqué les coefficients d'émission des principaux polluants (CO₂, NO_x, PM) à la réduction estimée du trafic routier afin d'évaluer les avantages environnementaux. Les coefficients d'émission sont tirés de la base de données TREMOVE.

5.4. Incidence sur les frais administratifs

5.4.1. Incidence 5. Frais administratifs

Avec les contrats pluriannuels, les gestionnaires d'infrastructure s'engagent en matière de notification, de consultation et de publication des informations sur la qualité de l'infrastructure et les coûts de maintenance. Deux cas ont été envisagés: Dans le cas a), seules sont collectées les données sur la qualité du service de transport, par exemple le nombre de lignes où la vitesse effective est inférieure à la vitesse théorique. Ces données sont déjà disponibles et entraînent donc peu de frais supplémentaires. Dans le cas b), les gestionnaires d'infrastructure apprécient l'état des voies à l'aide de trains de mesure. Cela aura probablement une incidence dans les 21 États membres où un tel matériel n'est pas encore en service. À la lumière de ce qui précède, et dans l'hypothèse d'un contrat pluriannuel en vigueur dans l'État membre, les frais administratifs sont estimés comme suit:

- coût total pour la durée du contrat pluriannuel si chaque gestionnaire d'infrastructure acquiert et utilise en exclusivité des trains de mesure: **513,8 millions d'euros au titre de l'investissement initial, plus 35,2 millions d'euros par an de coût d'exploitation;**
- coût total pour la durée du contrat pluriannuel compte tenu de la possibilité d'acquérir et de céder le service du train de mesure sur le réseau européen (c'est-à-dire de partager les trains entre les réseaux): **69,44 millions d'euros au titre de l'investissement initial, plus 4,75 millions d'euros par an de coûts variables.**

Les frais administratifs qui augmenteront probablement pour l'organisme indépendant (organisme de réglementation) chargé de vérifier l'exécution du contrat en ce qui concerne les objectifs fixés et le règlement des litiges entre l'État et le gestionnaire de l'infrastructure, lorsque les objectifs ne sont pas atteints, sont estimés à⁹:

- petits réseaux: 299.200 euros par an
- moyens et grands réseaux: 545.600 euros par an.

6. COMPARAISON DES OPTIONS

Les trois options stratégiques décrites dans les parties précédentes ont été comparées selon une analyse multicritères. Le **tableau 6-1** montre quelles sont les incidences des trois options avec leur poids relatif tandis que le **tableau 6-2** indique la note de chaque option, obtenue par calcul de la moyenne pondérée des points de chacune des incidences.

L'option C obtient la note la plus élevée, ce qui reflète la cohérence de cette option par rapport aux autres options et aux objectifs des contrats pluriannuels.

⁹ Voir le rapport de synthèse pour connaître les hypothèses qui ont servi à estimer le volume et le coût unitaire (EPT) des frais de personnel (spécialiste du contrôle et du compte rendu et techniciens spécialisés) et les autres frais d'exploitation de l'organisme de réglementation.

Tableau 6-1 – Analyse multicritères des options stratégiques

Incidence	Unité de mesure	Option A	Option B	Option C	POINTS			POIDS
					Option A	Option B	Option C	
4a) Réduction des coûts des gestionnaires d'infrastructure due à l'utilisation plus efficace des ressources	Million d'euros	257,0	257,0	337,1	2	2	3	1
4b) Réduction des coûts des gestionnaires d'infrastructure due à l'externalisation plus efficace des activités de maintenance	Million d'euros	95,7	95,7	110,1	2	2	3	1
4c) Réduction des coûts des gestionnaires d'infrastructure due aux politiques plus élaborées de réduction du personnel	Million d'euros	76,4	76,4	91,3	2	2	3	1
4d) Réduction des coûts des gestionnaires d'infrastructure du fait que le coût de formation du personnel non qualifié est évité	km de voie dans les pays impactés	163.104,3	163.104,3	243.679,5	2	2	3	0,25
4e) Économies supplémentaires (non prévues) dues aux mesures incitatives pour les gestionnaires	km de voie dans les pays impactés	167.802,3	167.802,3	248.377,5	1	1	3	0,25
3) Amélioration de la qualité de l'infrastructure (diminution du nombre de déraillements)	Diminution du nombre de déraillements par million de train-km	-0,009	-0,036	-0,036	0	3	3	1
3) Amélioration de la qualité de l'infrastructure (% d'augmentation de la ponctualité)	Augmentation de la ponctualité	+ 2,73%	+ 2,56%	+ 2,56%				
	Trafic impacté (Million de train-km) (*)	1.291,5	1.776,5	1.776,5	2	3	3	1
5) Coût de l'investissement pour les gestionnaires d'infrastructure au titre de la mise en œuvre du système	Million d'euros	222,7	583,3	583,3	3	1	1	0,75
5) Coût de la maintenance pour les gestionnaires d'infrastructure au titre de la mise en œuvre du système	Million d'euros / an	15,2	39,9	39,9	3	1	1	0,5
5) Coût pour les organismes de réglementation au titre du personnel spécialisé en contrôle et compte rendu et du bureau de contrôle	Million d'euros / an	3,3	9,9	9,9	3	1	1	0,5
6a) Réduction du prix pour les utilisateurs finals (passagers, affrêteurs)	% de réduction du prix	0,76%	0,76%	0,70%				
	Trafic impacté (Million de train-km) (**)	2.361,3	2.361,3	3.972,6	1	1	3	1
6b) Meilleure qualité et disponibilité accrue du service pour les utilisateurs finals	km de voie dans les pays impactés	167.802,2	229.287,5	229.287,5	2	3	3	0,5
1) Compétitivité accrue du transport ferroviaire	km de voie dans les pays impactés	167.802,2	167.802,2	248.377,5	2	2	3	0,5
2) Soumission de la gestion de l'infrastructure à appel d'offres	km de voie dans les pays impactés	167.802,3	167.802,2	229.287,5	2	2	3	0,25
7) Réduction des coûts servant à limiter les engagements financiers de l'État	km de voie dans les pays impactés	167.802,3	167.802,3	207.183,3	2	2	3	0,75
8) Perspectives de stabilité financière accrue pour les gestionnaires d'infrastructure et les prestataires de maintenance pouvant contribuer à une plus grande sécurité de l'emploi	km de voie dans les pays impactés	167.802,3	167.802,3	248.377,5	2	2	3	0,5

Incidence	Unité de mesure	Option A	Option B	Option C	POINTS			POIDS
					Option A	Option B	Option C	
9) Perspectives de stabilité financière permettant d'offrir des emplois plus sûrs et aussi d'accroître la satisfaction du personnel et la qualification des emplois	km de voie dans les pays impactés	167.802,3	167.802,3	248.377,5	2	2	3	0,5
10) Transparence accrue concernant le financement des infrastructures	km de voie dans les pays impactés	167.802,3	167.802,3	248.377,5	2	2	3	0,25
11) Environnement: pollution atmosphérique	Tonnes de NO _x / an	-5.075,9	-5.075,9	-5.699,7	2	2	3	0,5
11) Environnement: pollution atmosphérique	Tonnes de PM10 / an	-101,4	-101,4	-113,9	2	2	3	0,5
11) Environnement: climat	Tonnes de CO ₂ / an	-502.947,1	-502.947,1	-564.759,6	2	2	3	1

(*) Les notes sont basées sur le degré d'incidence (% d'augmentation de la ponctualité) pondéré par le trafic impacté.

(**) Les notes sont basées sur le degré d'incidence (% de réduction du prix) pondéré par le trafic impacté.

Tableau 6-2 – Total des points des options stratégiques

Note finale	
Option A	25,50
Option B	26,50
Option C	37,00

7. CONTROLE ET EVALUATION

Pour les principaux objectifs stratégiques, il a été défini un ensemble d'indicateurs de base en fonction des critères utilisés pour les lignes directrices concernant l'analyse d'impact (critères SMART: Spécifique, Mesurable, Accepté (par le personnel, les parties concernées), Réaliste (en rapport étroit avec les objectifs à atteindre) et Temporaire). En outre, les indicateurs ont été sélectionnés de façon à être crédibles pour le profane, sans ambiguïté et faciles à interpréter, simples à contrôler et non manipulables.

Les indicateurs ont été choisis pour mesurer l'incidence sur les paramètres d'infrastructure (par exemple, la qualité de l'infrastructure) et apprécier les aspects économiques et financiers de la gestion de l'infrastructure (par exemple, stabilité financière des gestionnaires d'infrastructure). L'ensemble d'indicateurs proposés sera étoffé en fonction des conditions ex ante de chaque réseau et des choix individuels de chaque État membre.

Cas a) – Ensemble de base d'indicateurs financiers et de la qualité de l'infrastructure

Tous les paramètres qualitatifs et économiques qui n'exigent pas d'instrument de mesure sophistiqué (comme les trains de mesure décrits à la partie "Frais administratifs"). Pour la qualité de l'infrastructure, il s'agit des exigences minimales pour vérifier comment la qualité évolue en termes d'incidences sur le service ("qualité apparente de l'infrastructure"). Tous les indicateurs économiques sont également inclus.

Cas b) – Ensemble étendu d'indicateurs de la qualité de l'infrastructure

Les indicateurs pour le cas b) reprendront tous les indicateurs choisis pour le cas a) plus d'autres indicateurs de qualité basés sur les paramètres du train de mesure.