

Title: How best to implement the European Directive on the Interoperability of the Rail System IA No: DfT00126 Lead department or agency: Department for Transport Other departments or agencies: Office of Rail Regulation, DRDNI NI	Impact Assessment (IA)			
	Date: 09/12/2011			
	Stage: Final			
	Source of intervention: EU			
	Type of measure: Secondary legislation			
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Summary: Intervention and Options

RPC: AMBER

Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as One-Out?
£75.14	£75.16	£2.08m	Yes OUT

What is the problem under consideration? Why is government intervention necessary?
 Interoperability provides benefits which can reduce the cost of the railways through the standardisation of rail subsystems such as vehicles and signalling. Government intervention is required to realise these benefits in order to create an authorisation regime linked to compliance with standards. The UK already has an interoperability regime in place through existing regulations. These now need revising to meet the requirements of Directive 2008/57/EC (Interoperability of the Rail System) as well as to consolidate and extend the benefits further. The deadline for transposing the Directive has now passed (19 July 2010).

What are the policy objectives and the intended effects?
 Interoperability is designed to improve the competitive position of the rail sector through the introduction of a regulatory framework which encourages technical harmonisation in the EU and common assessment and authorisation processes. The changes introduced by these Regulations will contribute to the further development of the interoperability of the EU rail system and the progressive creation of the internal European market in equipment and services. New improvements will be made to the UK regime to enable a streamlined authorisation process for vehicles and infrastructure, and to make it easier to use vehicles which have already been authorised outside of the UK.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)
 Option 1: Do nothing - so that the existing regime stays in place;
 Option 2: Implement the Directive but go beyond a minimal or "copy out" approach when it is possible to offer more flexibility, cost effectiveness and clarity for industry and to offer the best value for money overall;
 Option 3: Implement the Directive with a minimal or copy out approach
 The final package could include elements of options 2 and 3. The evidence base explains the detailed options. Option 2 is preferred because it ensures the regulations maximise the provisions to achieve the lowest cost, or greatest benefit, where possible.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 02/2017

Does implementation go beyond minimum EU requirements?		Yes			
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: 0	Non-traded: 0	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: _____ Theresa Villiers _____ Date: 22/12/2011 _____

Summary: Analysis & Evidence

Policy Option 2

Description: Implement the Directive with provisions which will give as much flexibility and clarity for industry as possible, in some cases this may mean going beyond a minimum or “copy out” approach

FULL ECONOMIC ASSESSMENT

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: £68.88	High: NA	Best Estimate: £75.14m

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	£11.76m	£1.97m	£28.70m
High	NA	NA	NA
Best Estimate	£14.70m	£2.46m	£35.87m

Description and scale of key monetised costs by ‘main affected groups’

Costs are itemised for this option in Table 1 in the evidence base. The largest cost is for the Infrastructure Register (£35.8 M) and minor costs for Government in the provision for DfT to publish lists (25k). Responses to our latest consultation suggested that both costs and benefits relating to the Infrastructure Register may be *lower* than previously stated but proposed no alternative figures. We have therefore run a sensitivity test, in which all costs and benefits for this are reduced by 20% (the “LOW” estimates).

Other key non-monetised costs by ‘main affected groups’

Enabling voluntary reauthorisations may involve business incurring additional costs, but they have the choice under this option whether to seek the reauthorisation; we therefore expect they would only exercise this choice where they see net positive value - ie benefits are greater than costs. All other costs on business are expected to be negligible. Type authorisation will have negligible costs to the safety authority and Appeals will impose a small additional cost on Government.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	£0	£11.47m	£97.57m
High	NA	NA	NA
Best Estimate	£0m	£13.08m	£111.00m

Description and scale of key monetised benefits by ‘main affected groups’

Benefits are itemised in Table 1 below and include: the infrastructure register (the largest benefit at £65.4M); type authorisation (£19.3M); conditions and restrictions for authorisations (£23.6M). Also, DfT Publication of lists saves businesses costs of £0.86m otherwise incurred in Option 3. The “LOW” estimates show a sensitivity test in which all benefits from the Infrastructure Register (as noted above) and, in the same way, type authorisation for non-vehicles benefits were reduced by 20% (see para 4.7 and text box)

Other key non-monetised benefits by ‘main affected groups’

Option 2 allows businesses to opt for voluntary re-authorisation of vehicles. We have been advised that they see value in this option, and although it is not possible to monetise with any precision we know that businesses would only undertake this if they consider it has a positive NPV.

Key assumptions/sensitivities/risks	Discount rate (%) 3.5%
Enforcement - we assume the Option 2 proposal to decriminalise minor offences has no cost; as the provision has never been used in practice and key criminal offences remain in place. Type authorisation – we assume type reauthorisation saves 75% of the costs of a full assessment and that 10 batches of 20 passenger vehicles and 20 batches of 20 freight vehicles are produced per annum.	

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:	In scope of OIOO?	Measure qualifies as
Costs: 0	Yes	OUT
Benefits: £2.08m		
Net: £2.08m		

Summary: Analysis & Evidence

Policy Option 3

Description: Implement the Directive with a minimal or copy out approach.

FULL ECONOMIC ASSESSMENT

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: £42.99	High: NA	Best Estimate: £48.91

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	£11.76m	£1.97m	£28.67m
High	NA	NA	NA
Best Estimate	£14.70m	£2.46m	£35.84m

Description and scale of key monetised costs by 'main affected groups'

The largest cost element is for the Infrastructure Register (£35.8M). Responses to our latest consultation suggested that both costs and benefits relating to the Infrastructure Register may be *lower* than previously stated but proposed no alternative figures. We have therefore, as in Option 2, run a sensitivity test, in which all costs and benefits for this are reduced by 20% (the "LOW" estimates)

Other key non-monetised costs by 'main affected groups'

These mainly fall to business and are estimated as negligible. Type authorisation imposes negligible costs on the safety authority.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	£0	£8.48m	£71.66m
High	NA	NA	NA
Best Estimate	£0m	£10.03m	£84.75m

Description and scale of key monetised benefits by 'main affected groups'

Benefits for business: the infrastructure register shows the largest benefit (£65.4M). The other main benefit to business is from type authorisation (£19.3M) As noted above, the "LOW" estimates were generated by a sensitivity test in which all benefits from the Infrastructure Register were reduced by 20%

Other key non-monetised benefits by 'main affected groups'

Key assumptions/sensitivities/risks

Type authorisation – we assume type authorisation saves 75% of the costs of a full assessment and that 10 batches of 20 passenger vehicles and 20 batches of 20 freight vehicles are produced per annum.

Discount rate (%)

3.5

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:	In scope of OIOO?	Measure qualifies as
Costs: NA	No	NA
Benefits: NA		
Net: NA		

Evidence Base (for summary sheets)

1. Title of Proposal

- 1.1. How best to implement in the UK the European Directive on the interoperability of the rail system within the EU.

2. Purpose and intended effect

Problem addressed

- 2.1 Interoperability is a European initiative aimed at improving the competitive position of the rail sector so that it can compete effectively with other transport modes, and in particular with road transport. It is intended to help create a harmonised European railway system that allows for safe and uninterrupted movement of trains. The key aims can be summarised as follows:
 - ensure compatibility between European railways to allow for through running of trains between Member States;
 - harmonise Member State design assessment, acceptance and approval processes to prevent barriers to trade and to promote a single European market for railway products and services; and
 - deliver benefits of standardisation through economies of scale for railway components, improving the economic performance of European railways and the environmental performance of the whole European transport system.
- 2.2 The Railways (Interoperability) Regulations 2011 (“the RIR Regulations”) are being proposed to consolidate the existing interoperability regime and where necessary amend the 2006 interoperability regulations (“RIR 2006”) which will be revoked, subject to appropriate savings being made.

The 2008 Interoperability Directive

- 2.3 These proposed regulations implement Directive 2008/57/EC on the Interoperability of the Rail System. The annexes of the 2008 Directive were later amended by Directives 2009/131 and 2011/18. The original 2008 Directive and the amendments in the 2009 Directive were required to be implemented by 19 July 2010 and the amendments in the 2011 Directive are required to be implemented by 31 December 2011. References in this Impact Assessment to “the 2008 Directive” are intended to also cover the 2009 and 2011 amendments.
- 2.4 The 2008 Directive is a recast of two earlier rail interoperability Directives: the High-Speed Directive 1996 and the Conventional Directive 2001. These were implemented in the United Kingdom by the Railways (Interoperability) Regulations 2006 (“RIR 2006”, S.I. 2006/397, as amended by S.I. 2007/3386 and S.I. 2008/1746). These two Directives were repealed with effect from 19 July 2010.
- 2.5 RIR 2006 creates a framework for the authorisation of railway equipment based on conformity with harmonised standards, supplemented by national rules. This framework currently only applies to the Trans European Network (TENs - a strategic European rail network).
- 2.6 As interoperability is a technical area, a glossary of the relevant terms used throughout this Impact Assessment is at Annex A.
- 2.7 The key changes that the 2008 Directive introduces are as follows:
 - Widening of the scope of the interoperability authorisation process beyond the TENs;

- Enable a more streamlined “type” authorisation process for vehicles to reduce burdens on industry and safety authorities;
- Exclude from the scope of authorisation certain lines and vehicles such as metros, trams and light rail;
- Member States can seek additional authorisation (“reauthorisation”) of vehicles already authorised in another Member State to facilitate the “cross-acceptance” of vehicles;
- Ensure the requirements set out in a specification for infrastructure and vehicle registers are met (increases asset knowledge).

2.8 The regulations will directly impact upon the following groups:

- Safety authorities
- Railway undertakings, train operators or rolling stock leasing companies;
- Railway infrastructure owners/managers and those responsible for maintenance
- Wagon owners
- Manufacturers or suppliers to the railway industry

3. Background to interoperability

- 3.1 The National Audit Office¹ has identified a number of problems that increase the cost of new trains, including: lack of standardisation of the network; lack of knowledge about the network; and an absence of clear pass/fail criteria. The cost of new trains is directly or indirectly met by Government. The Railways (Interoperability) Regulations 2006 already go some way in addressing these issues and the recast of the Directive builds upon the existing regulations.
- 3.2 The rail system is made up of different subsystems, for example: vehicles; stations; track and signalling. In order to use a subsystem in the UK the rail applicant (often referred to as the contracting entity) needs to have an interoperability “placing into service” authorisation from the safety authority. In the UK the safety authority role is carried out by the Office of Rail Regulation (ORR). In Northern Ireland it is the Department for Regional Development Northern Ireland (DRDNI) and for the Channel Tunnel it is the Intergovernmental Commission (IGC).
- 3.3 The applicant in most cases will be a supplier of rolling stock, or infrastructure, who only needs to seek one authorisation for placing into service to enable the first use in the UK on the rail system; there is no requirement for subsequent authorisations. The safety authority needs to be satisfied that the subsystem meets a number of essential requirements, these are: safety; reliability; availability; health; technical compatibility and environmental protection. A project will employ a third party who checks that the subsystem meets the requirements by checking against transparent standards that have an EU wide basis, known as Technical Specifications for Interoperability (TSIs). Currently an authorisation is needed if the subsystem is used on the Trans European Network (TEN). 60% of the UK network is on TENs.
- 3.4 The TSIs may cover one or a number of subsystems, and these documents are subject to revision from time to time after they are first issued. A file is compiled by the third party to

¹ Report by the Comptroller and Auditor General (HC 263 session 2003-2004: 4 February 2004)

prove the standards are met. Not all of the standards they check against will be EU wide ones and some will be particular to each Member State; these are national technical rules that must be notified by each Member State to the Commission.

4. Options

- 4.1 These proposals have been developed following three rounds of consultation with the rail industry and other interested stakeholders. Where it is practical to do so the proposals follow a minimum “copy out” approach and avoid going beyond the Directive’s requirements. However, in light of earlier consultations and experience of the current regime there are a number of proposals which go beyond a minimum approach. These proposals have been included with better regulation principles in mind to ensure regulatory clarity and to maintain consistency with the existing regime. A number of proposals also provide for additional flexibility in the regime where there are perceived benefits. The intent is to align the requirements of the Directive with a policy objective of ensuring UK business is not put at a competitive disadvantage, such as unnecessarily increasing the costs of projects, and to avoid any unintended consequences.
- 4.2 This Impact Assessment considers the new requirements which RIR 2011 introduces. The purpose of the Regulations is to effectively transpose the requirements of the Directive and revoke the 2006 regulations. For some of the key provisions in the proposals there is not an alternative option about how we transpose. These “no alternative” requirements can be summarised as follows:
- ensuring a streamlined “type” authorisation process for vehicles;
 - widening the scope of the draft regulations so that an authorisation to place into service is required if the subsystem (vehicles and infrastructure) is used on or off the TENs network (strategic European network) - unless the line or vehicle is an excluded category (eg trams and metros);
 - ensure owners publish data on their infrastructure and meet the requirements of an EU infrastructure register specification.
 - ensure owners of vehicles supply data for a vehicle register in line with a European specification
- 4.3 However, there are other provisions not required by the Directive. These can be summarised as follows:
- extending a streamlined type authorisation process to non-vehicles (infrastructure such as signalling systems);
 - use of a pre-screening list to be published by the Department to assist projects when deciding if they are a major upgrade or renewal and if they need to be authorised
 - enabling conditions and restrictions to apply to authorisations for vehicles and non-vehicles; this enables rail projects to take account of technical characteristics if an authorisation for all of the UK network is not practical and avoids increased project costs due to over engineering;
 - make available a voluntary process of vehicle authorisation in the UK if the vehicle is first authorised in another Member State. This can be used if the applicant sees a benefit in the assurance given by a UK authorisation;

- decriminalising minor offences for process related issues while maintaining key criminal offences for the use of unauthorised vehicles or infrastructure.
- changes to the appeal mechanism so that an applicant can appeal to the Secretary of State against a decision by the national safety authority.

- 4.4 Reference numbers (A1-A10) have been used for each of the provisions explained in the text and tables of the Impact Assessment to help with identification of the relevant evidence base.
- 4.5 Table 1 below summarises, as far as possible, in quantitative terms the costs and benefits of the preferred option (Option 2) and Option 3 against the Do Nothing option.
- 4.6 It is not always possible to quantify the additional benefits across the rail industry expected from the preferred approach, but where possible the type of benefits that may arise can be described in an example scenario..
- 4.7 Where possible this assessment draws upon industry estimates of the costs and benefits of the proposals (DfT conducted a survey in July and August 2011 with 8 stakeholders) It is possible to estimate monetised benefits in some cases, for example, type authorisation for vehicles would deliver benefits under both a minimum copy-out approach as well as under the recommended optimal approach (see below). The Department invited consultees to provide more data as part of the third consultation exercise in October 2011 on the possible monetised costs and benefits. In some cases there will be the same benefits under both the preferred approach and the less optimal one.

In the third and final consultation the Department asked the following question:

Do Stakeholders agree with the analysis of the benefits in the Impact Assessment of adopting the optimal approach compared against a less optimal one, do you have any other relevant data?

Summary of responses received

Twenty responses were received. The costs and benefits in the initial IA were based on an informal consultation with the rail industry. Following an analysis of the consultation responses, ten of these agreed with the assumptions of costs and benefits. Six responses had no comment or were unable to provide comments in the available time. Two responses were unclear in relation to whether the assumptions were valid or not.

Two of the responses disagreed with some of the assumptions (Alstom and Network Rail). Alstom did not challenge the assumptions about costs but suggested the assumptions about type authorisation benefits for both vehicles and non vehicles may be unrealistic, but they did not provide alternative figures. Network Rail queried if the costs of setting up the Infrastructure Register would actually be as high as estimated due to asset work that is already being undertaken. They also queried if the benefits would be as high as estimated. However, for both issues they did not provide alternative estimates.

One further response (Office of Rail Regulation) queried how practical it would be for a type authorisation process to be applied to upgrade and renewal projects and suggested there may be lower benefits than expected, but similarly alternative estimates were not provided.

There were no objections from the Office of Rail Regulation or industry to the proposal to revise the enforcement regime.

Summary of amendments in response to consultation comments

Some changes have been made to the regulations to deal with points of clarification that stakeholders raised during the consultation. These do not affect the Impact Assessment as they do not change the substance and therefore impact of the regulations.

In response to the comment that the costs and benefits for the infrastructure register provisions will be lower than previously estimated, these costs and benefits have been examined. Consultees did not provide alternative figures or specific evidence, so to assess the impact of the costs and benefits being lower a Sensitivity Test has been run in which all costs and benefits have been reduced by 20%. The impact of this is shown as the “Low” estimates in the Summary pages for both Options 2 and 3. Because the benefits were originally so much larger than the costs (and no consultation response has suggested otherwise), the NPV of both options remains large and positive, even if somewhat less than in the “Best Estimate” cases. Option 2 continues to show a much higher NPV.

Some respondents’ comments suggested the benefits to be gained from extending the type authorisation process to non vehicles is lower than indicated in the IA, but no evidence or figures were provided to inform a reassessment of these benefits. Therefore, as above, the impact of a 20% reduction in benefits from this item has been included in the “Low” case shown for Option 2 (this does not affect any figures in Option 3, as this measure does not apply there). Because this facility is optional for businesses to use, it would only be used when the business perceives there to be net benefits.

Option 1: “Do nothing”

- 4.8 A “do nothing” option would mean we fail to transpose the Directive and the current 2006 regime stays in place. There would be a very substantial risk of infraction fines with this option.

Option 2: Implement the Directive with provisions which will give as much flexibility and clarity for industry, this may mean going beyond a minimum or copy out approach in some cases but it will offer the best value for money overall.

Provisions required by the directive

Provision A1: Type authorisation for vehicles

- 4.9 The Directive requires that when a Member State authorises a vehicle to be placed into service they must also authorise a type for the vehicle. The type can then be used as a basis to enable further, more streamlined authorisations. Under the current regime (RIR 2006) it is possible to avoid repeating the entire authorisation process for identical vehicles but only when constructing vehicles under the same contract.
- 4.10 If identical vehicles are being authorised to type, the process is quicker and easier – and less expensive. Type authorisation should encourage more standardisation and savings through less bespoke designs of vehicles which can add design and construction costs. This should also lead to savings in the testing costs of vehicles. Overall a simpler and quicker authorisation process leads to less delay for the operator in being able to use vehicles on the network
- 4.11 The amounts of savings will vary greatly depending on the vehicle but we estimate significant savings will be achieved in third party conformity assessment costs. These are the fees that will be charged by an external body that assesses if the vehicle meets

current standards and gives a certificate of verification to the applicant seeking the authorisation. The safety authority should be satisfied the necessary assessment has taken place before an authorisation is given. There may be other indirect savings achieved in terms of time spent by the applicant in compiling data.

Costs

- 4.12 The costs are estimated to be negligible (administration of a register of type authorisation by national safety authorities, which involves creating the type and entering it on a database). This assumption was tested through consultation and no responses disagreed with the assessment.

Benefits

- 4.13 A potential benefit of a 75% reduction (based on industry estimates through the recent survey described in paragraph 4.7) in third party conformity assessment costs for batches of identical vehicles is estimated for this option. The assessment is carried out by notified bodies and the applicant pays them for their services. For passenger vehicles there is an estimated £150k reduction in charges per subsequent batch of vehicles based on an average third party conformity assessment cost of £200k (industry estimates from the same survey) for the first batch of vehicles. For freight vehicles there is potential for a £52k reduction based on an average third party conformity assessment cost of £70k (industry estimates from the same survey) for the first batch of vehicles.

Calculations of potential per annum savings for passenger vehicles:

- 4.14 Based on recent Government's announcements for future rolling stock – see link below, it has been assumed that 2,000 new passenger vehicles are introduced on the network over a ten year period. This implies 200 new passenger vehicles are introduced on GB rail network per annum (2,000 spread evenly over ten years).
- 4.15 Network Rail's draft Route Utilisation Strategy, June 2011, estimates there are currently 12,000 vehicles on the GB rail network divided into 64 different classes ≈ an average of 200 per class. Based on this estimate, if each new class is to have on average of 200 vehicles and it is estimated that 2,000 new vehicles are to be introduced in the next 10 years, this means that on average there will be 10 new classes of vehicles in the next 10 years.
- 4.16 For each class assume a batch of 20 vehicles are produced per annum (if the supply of 200 is evenly spread out over ten years as explained in 4.14). If the first batch for each class is authorised in the UK and a type authorisation is established, the estimated savings are £1.5 Million per annum after the first year in conformity assessment costs (10 batches (one for each new class) of 20 vehicles per annum gives savings of 10X£150k per annum).
- 4.17 Assume 400 new freight wagons are introduced per annum (based on the National Vehicle Register's estimate). We estimate 4,000 new vehicles over ten years. Applying the same average number of vehicles per class for freight vehicles as passenger, i.e. an average of 200 vehicles per class = 20 different new class of vehicles to be introduced in the next 10 years gives a potential savings of £1.04 Million per annum (20 batches (of 20 vehicles per annum) give savings of 20 batches X £52k per annum)
- 4.18 Estimated total savings for passenger and freight = £2.54 Million per annum (figure has been adjusted in table 1 over ten years) (note: first year we estimate there are no savings, only after the first year)
- 4.19 Under this option the first batches of vehicles require the full costs of third party conformity assessment but subsequent batches are authorised by using the type facility which means a 75% reduction in conformity assessment costs.

Provision A2: Extend authorisation process to off TENs

- 4.20 The Directive requires that an interoperability authorisation is needed for all the rail system unless excluded from scope (eg trams or metros). Under the current interoperability regime an authorisation is only required for those areas that a Technical Specification for Interoperability (TSI) applies. The TSIs are currently restricted to the TENs (40% of the network is off TENs). For those areas not covered by the TSIs an authorisation is not necessary under the current regulations. The change to the authorisation regime means that if the vehicle/infrastructure is only intended to be used off TENs it will still need to be authorised.
- 4.21 Under the new regulations an authorisation would be needed for all of the rail system i.e. all of the UK's networks made up of vehicles, lines, stations, signals etc (except for the proposed excluded areas).

Cost and benefits

Vehicles authorisation

- 4.22 The rail industry (train operators) have confirmed that currently they would seek an authorisation for all vehicles anyway as they would not expect a vehicle to be limited to the TENs network during its working lifetime. Therefore this new requirement imposes no additional costs and benefits.

Infrastructure authorisation

- 4.23 Operators must show that they have procedures in place to introduce new or altered vehicles or infrastructure safely. Where a new or significantly increased risk is involved, they must appoint an independent competent person (either an internal person from the organisation, or someone externally) to help them make sure they go through the right process. Industry is currently required to meet a safety verification process for any infrastructure used off TENs, e.g. signalling. Under the do nothing option, this process would continue.
- 4.24 Under the proposal a new requirement for an interoperability authorisation for off TENs would be put in place. The interoperability authorisation can be used as a means of demonstrating that the safety verification process has been complied with. The interoperability authorisation would be used to show that the operator has procedures in place to introduce safely new or altered infrastructure. The cost to industry of the new process is estimated by industry (survey of stakeholders described in paragraph 4.7) as equivalent to the cost they currently face. The processes involved are so similar that they are expected to cost the same to administer. Therefore the proposal is expected to have no incremental costs. The authorisation process satisfies the safety verification requirements process but there are no additional benefits. These assumptions were tested through consultation and no responses disagreed with the assessment.

Provision A3: Registers for infrastructure

- 4.25 The Directive requires Member States to ensure that a register of infrastructure is kept that meets the requirements of a specification which has recently been published as a Decision by the Commission. It is up to the Member State to decide how best to meet this requirement so a copy out approach is not identifiable in the

Directive. There is already a requirement under RIR 2006 for infrastructure owners to keep a record of the technical characteristics of their infrastructure. There is discretion under the 2008 Directive for the Member State to decide who is required to maintain and publish the register in accordance with the specification but we consider the most effective way to implement is to continue to place the requirement on individual owners. The specification will extend to existing as well as new infrastructure. The proposal in the draft regulations is to ensure the infrastructure owner is required to maintain and publish a register in accordance with the ERA specification. The European Rail Agency's own impact assessment for the draft specification estimates EU wide costs/benefits:

Costs and benefits

- 4.26 The European Rail Agency's impact assessment (see link below) for the draft specification estimates EU wide costs/benefits as follows: one time cost impact of 120 M €, operating costs per annum 20 M €, benefits 70 M € per annum. We have pro rated these totals for the UK by taking 14% of the totals (as UK accounts for 14% of EU GDP) and converted into £ sterling based on exchange rate of £1 = €1.14. The total costs and benefits for the UK are therefore £36M costs and £65M benefits (PV in 2011 prices).
- 4.27 Investments in populating the register are estimated to be paid back in 2 years. The main UK infrastructure manager is Network Rail.

The ERA Impact Assessment is available at:

<http://www.era.europa.eu/Document-Register/Documents/IU-Recommendation%20on%20specification%20of%20RINF-Impact%20Assessment.pdf>

- 4.28 As described at 4.7, consultation responses suggested that the costs and benefits may both be lower than originally estimated, but did not provide any detail on how much lower. In response, a sensitivity test has been carried out on figures 20% lower than the original estimates. Because the benefits continue to outweigh the costs (which no consultation response questioned), this does not change the assessment that this element has a large net benefit.

Provision A4: Vehicle Register:

- 4.29 There is already a requirement under the 2006 regulations for owners of vehicles to supply vehicle details to the registration entity (Network Rail). The new regulations will cross refer to a Commission Decision adopting a common specification of the national vehicle register. The UK already has a comprehensive rolling stock database so compliance with the EU specification is not expected to create an additional burden and the costs and benefits are estimated to be negligible.

Provisions not required by the Directive (Option 2 only)

Provision A5: Extend type authorisation to non-vehicles

- 4.30 The potential benefits of type authorisation for vehicles are considered above (under provision A1). It is likely that similar benefits would result from extending this provision to infrastructure authorisations. For example, if a signalling system is authorised it could be "typed" and this enables a more streamlined authorisation process in the future. In addition to signalling work there will be other projects that might also benefit. The overall savings achieved will largely depend upon a number of factors, including: how many of these projects are within scope of the

regulations and subject to the authorisation process; the number of such projects and whether the type process is suitable for the project.

- 4.31 The provision for type authorisations for infrastructure is anticipated to reduce the costs associated with authorisations in the future. Most of the direct costs of an authorisation will relate to notified body work (third party conformity assessments).

Costs

- 4.32 As a cost it is estimated to be negligible in impact. The only cost would be minor costs to the safety authority in publicising information about the type which would require an employee of the authority to upload data onto their website and add a limited amount of set information to a database.

Benefits

- 4.33 The benefit estimated for extending the type authorisation to infrastructure is that it saves approximately two thirds of the cost of authorisation for infrastructure projects based on Network Rail estimates. Considering signalling projects only, on average they cost £60k per project (Network Rail's estimates), taking the estimated savings; type authorisation could save £40k per project.
- 4.34 It is difficult to predict how many projects there would be per annum but we have made a cautious assumption that there could be five type authorisations per annum across the UK based on an assumption that ten infrastructure authorisations occur per annum and 50% are suitable for a type process. Therefore, the potential total estimated savings to industry from this provision would be £200k per annum (£1.7M (PV 2011 prices) over 10 years).
- 4.35 These estimated benefits are based on the assumptions above. As described at 4.7, consultation responses suggested that the benefits may be lower than originally estimated, but did not provide any detail on how much lower. In response, a sensitivity test has been carried out on figures 20% lower than the original estimates. Because the cost is negligible, the benefits continue to outweigh costs in this sensitivity test. Furthermore, this facility is optional for businesses to use, so it would only be used when the business perceives there to be net benefits.

Provision A6: Enable voluntary reauthorisation

- 4.36 The proposed provision gives industry (i.e. train operators) a choice to apply for voluntary reauthorisation. Because there is no compulsory requirement, no unavoidable costs are imposed on industry from this option. It is reasonable to assume they will only exercise the ability to seek a voluntary reauthorisation when they calculate a benefit is to be achieved. The cost to the industry of a voluntary reauthorisation would be incurred largely through employing notified bodies to carry out third party conformity assessments. The safety authority (ORR) does not charge industry on a per authorisation basis but these costs are funded through a rail industry levy which is designed to cover authorisation work undertaken. The national safety authorities would face a cost in processing any reauthorisations applied for voluntarily. We will consult on the expected impact of this on their operational costs and on the levy.

Provision A7: Conditions and restrictions can be attached to vehicles.

- 4.37 Under the 2008 Directive the Member State has discretion whether to enable the safety authority to include conditions for vehicle subsystem authorisations. These might include, for example, restrictions or limitations on the use of a subsystem

and/or requirements that must be met by a time specified in the authorisation. It would be possible to transpose the Directive without the facility for conditions and restrictions but the Department considers this would be too inflexible.

- 4.38 The Directive does not require the facility for conditions and restrictions to be extended beyond vehicles to all subsystems - but the preferred option is to extend it in such a way. This would mean the benefits of this approach can be applied to the whole railway. For example where full functionality of a signalling system is prohibitively expensive or impractical the authorisation could have restrictions attached enabling less than full functionality. The majority of responses (22 out of 34) to the 2010 consultation supported this provision as a means to enable a more flexible authorisation regime.
- 4.39 The assumption under option 2 is that this might save costs resulting from the over-engineering of vehicles. It is difficult to forecast exactly how great the savings might be but we have been very cautious as follows: we assume this might apply to only five vehicles per annum of the 200 expected on average over the next 10 years (as explained in 4.14 to 4.16). Network Rail estimates that over engineering (for example to allow vehicles that are not capable of running on both electrified and non electrified rail sections of the railways to run in both) could cost on average £1.1 million average per vehicle. We assume only half of this amount is saved per vehicle, i.e. £0.55m and this is on only 5 vehicles per annum. This benefit adds up to £23M (PV) over a period of 10 years, but could of course be very much larger, if more vehicles are affected. This assumption was tested through consultation and no responses disagreed with the assessment.

Provision A8: DfT to publish lists (excluded lines and upgrades/renewals).

- 4.40 The proposal is to disapply the regulations to as much of the rail sector as possible under the Directive. This is consistent with a better regulation approach to avoid imposing an unnecessary regulatory burden. By excluding metros, trams, light rail, local lines separate from the rest of the rail system, private freight lines, local, historic and touristic lines the regulatory burden is minimised as far as possible. The provision for voluntary authorisation (provision A6 above) would enable authorisation when lines perceive a benefit. In effect each project could then carry out its own cost benefit analysis.
- 4.41 In order to minimise uncertainty over whether certain lines are within scope the use of an exclusion list is proposed. The list provides clarity and transparency on which lines are, and are not, excluded from scope. The list will not be contained within the regulations but will be published by the Secretary of State (in Northern Ireland by the Department for Regional Development Northern Ireland 'DRDNI').
- 4.42 Whenever any existing subsystem is to be renewed or upgraded (i.e., involving 'major' work), the parts of the subsystem being changed should be considered for compliance with TSIs, as part of a gradual transition to a standardised railway. The Directive does not define 'major'. Under RIR 2006 it is left to the project to judge whether it falls within the "major" category. In recognition of the uncertainty this creates the proposal is to create a pre-screening list. Any project named or described in the list may ask the Department if an authorisation is required. These lists would support the rail industry's planning process for the development of the railway and allow for a more transparent and strategic overview of the implementation of interoperability within the UK.

Costs

- 4.43 This option would entail costs in terms of the administrative requirements involved in developing and drafting the lists. These costs are offset by the considerable benefits of transparency, certainty and clarity which the list will give to the industry.

It is difficult to monetise the benefits for all of the rail industry but the majority of consultees supported the proposal.

- 4.44 DfT will incur an administrative cost in maintaining a list of an estimated 20 man days per annum. Based on a salary of £35K, this would cost £25K over ten years.

Benefits

- 4.45 Under the “do nothing” option stakeholders use consultants to determine whether they are excluded, or fall within the definition of major upgrades/renewals, which it is estimated might incur per annum industry-wide costs of £100K. Assume 20 lines/projects per annum use consultants to interpret regulations, based on the number of queries the Department might expect about the scope of the current regulations, potential cost of up to £100k if work is carried out by third party conformity assessment bodies @ £5k for 4 days work for each line/project (based on estimates supplied through stakeholder survey). By implementing option 2 these costs would be avoided. In Option 3 they would be incurred. They are thus shown as a “benefit” under Option 2.

Provision A9: Enforcement

- 4.46 The proposal keeps the existing health and safety enforcement regimes for the UK and the Channel Tunnel. RIR 2006 adopts provisions in the Health and Safety at Work Act 1974 – (HSWA) and for Northern Ireland (which adopts provisions in the Health & Safety at Work (Northern Ireland) Order 1978 (HSWO), which is very similar to the HWSA. For Great Britain and the Channel Tunnel, the Office of Rail Regulation (“ORR”) is the enforcing authority.
- 4.47 The Directive does not require any changes to the enforcement regime but we propose to use this opportunity to decriminalise a number of provisions relating to the process for obtaining an authorisation or a decision by the Competent Authority. The effect of the proposed change is that a failure to comply with certain stages of the process does not itself amount to a criminal offence.

Costs and benefits

- 4.48 Under option 2 the impact of decriminalising some minor process related offences is expected to be negligible in terms of costs because the safety authority has not taken criminal proceedings under the current regime (possible costs could be familiarisation with changes to the possible enforcement action that may be undertaken by safety authority and industry). The benefits are also estimated as negligible (eg savings in safety authority time taking enforcement action). Decriminalising these offences is not expected to increase non-compliance because the key offence of using unauthorised subsystems remains. In order to gain an authorisation the correct processes must be undertaken but it is not necessary to criminalise a failure to carry out all the stages leading up to the authorisation.
- 4.49 The proposed decriminalisation of offences relates to the processes involved as part of an authorisation to place into service. So for example, under the 2006 regulations a third party (notified body) undertakes checks that a subsystem conforms with the applicable standards. The notified body must carry out procedures and checks if they are engaged to do so by a contracting entity. This means that under the current regime a refusal by a notified body to undertake work could in theory be an offence. It is more proportionate to leave it to the person who engages the notified body to require the notified body to do the work it has undertaken to do under the terms of its engagement. Under RIR 2011 it will remain a criminal offence for a person to first use an unauthorised subsystem and no authorisation will be granted unless a notified body has done the necessary

work. It will also remain a criminal offence under RIR 2011 for a notified body to produce a “certificate of verification” if the certificate has not been drawn up in accordance with the relevant procedures set out in the Directive

- 4.50 The safety authority’s enforcement regime is analogous to the regime under the Health and Safety at Work Act 1974 for health and safety regulators. The possible sanctions include, on summary conviction, a fine of up to £5000 (level 5) or up to three months imprisonment. However, before proceeding to conviction stage the enforcement authority could take other enforcement steps such as issuing improvement notices.

Provision A10: Appeals

- 4.51 Under the 2008 Directive there needs to be an appeals process for applicants against decisions made by the safety authority. The Directive does not stipulate how the process should work so it is a matter for the Member State to determine. Under RIR 2006 a project can apply to the Administrative Court to request a Judicial Review of the merits of their case and to challenge an authorisation decision made by the safety authority. It would be possible to continue this process under RIR 2011. However, if the current arrangements remain there is potential that applicants incur costs through Judicial Review and the process would be lengthy. A new process for the Secretary of State to hear appeals under RIR 2011 is expected to be more proportionate and efficient. It is estimated that the number of appeals sought by projects over decisions made by the safety authority will be small in number. If implemented the effectiveness of this option would be kept under review.

Costs and benefits

- 4.52 It is not possible to monetise the costs and benefits of appeals being heard by the Secretary of State compared against the current regime (“do nothing” option) which means the applicant would have to seek Judicial Review of a safety authority’s decision. There have not been any such appeals so there is no available data. Even so stakeholders supported a change to appeal provisions when previously consulted and in the third consultation. The Judicial Review process means the applicant has to apply to the Administrative Court to request a Judicial Review of the merits of their case and to challenge the decision made by the safety authority. The applicant is required to send a letter to the defendant to identify the issues in dispute and to establish whether litigation can be avoided. If no resolution occurs the applicant must make the application using the correct form and then lodge the application with HM Courts Service. They need to attach a detailed statement of grounds and a statement of facts. This can be a lengthy process causing delays to the rail project if they are in dispute over their authorisation. The fees with Judicial Review are relatively minor but there could be costs incurred due to delays to projects. The proposed appeal process allows for a party aggrieved by a decision of the safety authority to appeal to the Secretary of State, who may direct that the appeal is determined on their behalf by another person. It is expected this would be a less onerous process.

Option 3: Implement the Directive with a less optimal approach but the reduced flexibility or lack of clarity for industry does not offer the best value for money.

- 4.53 Cost and benefits will be the same as in option 2 for provisions A1 to A4 as this option only implements the minimum requirements of the Directive.

5. Summary Table

5.1 The table below summarises the costs and benefits for each option against the 'do nothing' (in each case, these figures correspond to the "Best Estimates" as reproduced in the Summary Analysis and Evidence pages at the start of this document). These are presented as two main options. Option 2 includes the full set of provisions, going beyond a minimum or copy out approach where we expect this to have benefits to the industry. Option 3 describes the minimum or copy out option. At consultation stage, the idea of a variant option, adding some but not all of the elements from Option 2 to the minimum approach in Option 3, was included. However, no consultation responses suggested that any elements of Option 2 should not be taken up.

Provision	Option 2 (optimal)		Option 3 (minimum or copy out)	
	costs	benefits	costs	benefits
A1. Type authorisation (vehicles)	negligible	19,324	negligible	19,324
A2. Extend Authorisation process to off-TENs	negligible	negligible	negligible	Negligible
A3. Infrastructure register	35,842 (Of which 14,700 are transition) (Low estimate: 28,673 11,760 transition)	65,426 (Low estimate: 52,341)	35,842 (Of which 14,700 are transition) (Low estimate: 28,673 11,760 transition)	65,426 (Low estimate: 52,341)
A4. Vehicle register	negligible	negligible	negligible	Negligible
A5. Extend type authorisation to non-vehicles (infrastructure)	negligible	1,722 (Low estimate: 1,377)	NA	NA
A6. Enable voluntary re-authorisation	Cannot be monetised as it is voluntary	Cannot be monetised as it is voluntary	NA	NA
A7. Conditions and restrictions (vehicles)	negligible	23,671	NA	NA
A8. Provision for DfT to publish lists	25	861	NA	NA
A9. Enforcement	0	0	NA	NA
A10. Appeals	Cannot be monetised	Cannot be monetised	NA	NA
Total in PV terms	35,867	111,004	35,842	84,750
Total transition	14,700	0	14,700	0
Average annual (constant prices)	2,459	13,076	2,456	10,026

6. One In One Out (Direct Impact on business)

Option 2

6.1 The table below summarises the OIOO position for each of the provisions in this transposition under Option 2:

Table 2

Specific provision	Option 2 (optimal)	
	OIOO approach	ENACB (2009 prices, 2010 PV)
A1. Type authorisation (vehicles)	Out – this aspect of the directive recasts previous directives	£2.08m
A2. Extend Authorisation process to off-TENS	Out of Scope - Requirement emerging directly from the EU directive	NA
A3. Infrastructure register	Out of Scope - Requirement emerging directly from the EU directive	NA
A4. Vehicle register	Out of Scope - Requirement emerging directly from the EU directive	NA
A5. Extend type authorisation to non-vehicles (infrastructure)	In with Zero Net cost to Business	0 – as explained in 4.31 to 4.34 it is expected that this measure will have overall benefits to businesses
A6. Enable voluntary re-authorisation	Out of scope	NA
A7. Conditions and restrictions can be attached to vehicles	In with Zero Net cost to Business	0 – as explained in 4.37 to 4.39 it is expected that this measure will have overall benefits to businesses
A8. Provision for DfT to publish lists	In with Zero Net cost to Business	0 – as explained in 4.43 to 4.45 it is expected that this measure will have overall benefits to businesses
A9. Enforcement	Out of scope	
A10. Appeals	Out	Nil impact, so will score as 0

6.2 Since Option 2 is constituted by two Outs, one of them with a value for £19.3m (NPV, at 2011 prices) and three Ins with zero Net costs to business, the overall effect of the proposal is a net reduction in burdens on business and therefore this measure should score as an Out of £2.08m (EANCB in 2010 present value and 2009 prices).

Option 3

6.3 The copy out of the EU directive (which is a recast of the previous Directives) means that as in Option 2, the total effect of the recast is a net reduction in burdens on business and therefore this proposal should score as an Out as well.

7. Summary of preferred option

- 7.1 Option 2 is preferred because it is consistent both with the requirements of the Directive and with better regulation principles to ensure regulatory clarity, flexibility and maintain consistency with the existing regime. It takes account of the needs of the industry by providing as much certainty as possible about when the regulation applies to them. It also recognises the need for a degree of flexibility in the interoperability authorisation process to help reduce costs, or to extend the benefits of an interoperability authorisation to others in the rail sector when they wish to do so. We consider option 2 offers the better value for money approach to implementing the Directive because it is generally less burdensome than the alternative approach identified (or in a few instances offers greater benefits, eg of flexibility or certainty). It would be possible to make regulations which contain fewer of the optimal additions identified in option 2, but the preferred approach is to maximise these provisions to achieve the greatest benefits.
- 7.2 The Department considers the proposals are consistent with the Guiding Principles for transposition of European Directives. Where appropriate a copy- out approach of the requirements of the Directive has been adopted except where doing so would adversely affect UK interests. This copy-out approach is not always practical as we aim to meet the requirements of the Directive by changing an existing regulatory regime that is well established.
- 7.3 Where possible we have also considered alternatives to regulation. It is proposed that an existing requirement for UK bodies that carry out third party conformity assessment of projects (notified bodies) to consult other European notified bodies should be removed as this is not a process that it is necessary to regulate. The Directive envisages the creation by the Commission of a notified bodies coordination group but it is not necessary to require through regulations that these UK bodies consult with each as a means to facilitate any UK participation.
- 7.4 This option includes a further deregulatory measure to remove regulations which place a requirement on notified bodies to carry out functions in relation to the verification assessment procedure and procedures for the constituents of interoperability (the components that make up rail subsystems such as vehicles and infrastructure). The Department considers that project managers will make necessary arrangements with these bodies to enable it to obtain an authorisation. It is sufficient that the applicant will need to comply with other provisions in the regulations. There is already a prohibition on the project manager drawing up a verification declaration unless the notified body has carried out the prescribed verification assessment procedure.

8. Statutory review of RIR

- 8.1 The Government's policy is that there should be a statutory obligation on the Secretary of State to review no later than every five years regulations implementing EU obligations. Draft regulation 49 includes a provision requiring that within five years of the Regulations coming into force, the Secretary of State must review the regulations and publish the review's conclusions. In carrying out the review the Secretary of State must, so far as is reasonable, have regard to how the Directive is implemented in other Member States. It is intended that this can be achieved through a survey of stakeholders to gather evidence via workshops and questionnaires.
- 8.2 DfT expects that it will take 0.33 person-years to review RIR 2011. The estimated completion cost, including publication as a Command Paper, will be around £24,000².
- 8.3 The benefits of a Ministerial duty to review RIR 2011 are:

² This assumes: salary is £42,491; on costs multiplied by 1.58; full time equivalent required is 0.33; an additional £2,000 for publication of the Command Paper.

- prevents over-regulation;
- helps to ensure that the Regulations are working as intended; and
- helps to assess whether any burdens on business and others can be reduced

9. Specific impact tests

DfT has considered the potential impact of this policy on the following areas, in line with relevant guidance. No specific impacts have been identified given the nature of the proposed measure.

Equality

DfT envisages no impact on the protected characteristics under the Equality Act 2010 because the regulations will have neither a positive or negative impact on these groups.

Competition

The Regulations are unlikely to have a material impact on competition on the UK rail industry. They perpetuate the existing conditions of free market access to those wishing to undertake third party conformity assessment and maximise the ability of suppliers of vehicles and infrastructure to those who they employ to undertake that work.

Impact on Small Firms

The Regulations should not adversely impact upon small firms. DfT does not believe the regulatory burden will increase for any size of firm. The use of the exclusion list will minimise the burden on smaller lines (such as those used for strictly local, historical or touristic use).

Greenhouse Gas

The Regulations do not change the existing requirement for subsystems to meet the essential requirements, which already include environmental factors. Therefore they are not expected to have a material impact on greenhouse gas emissions.

Wider Environmental Impact

Same impact as detailed above under greenhouse gas.

Health & Well Being

No impact as there is already a requirement to meet the essential requirements for interoperability including safety and health.

Human Rights

The proposal has no human rights implications.

Justice Impact

There is some potential impact from the proposal for decriminalising certain offences. These are expected to be negligible as no proceedings have been taken in the past for these potential offences.

Rural Proofing

The Regulations do not have any material impact on rural communities. The list of excluded lines means that a proportionate approach has been taken to the application of the authorisation process to local lines in rural communities. Although the authorisation process will not have a mandatory

application they are free to make use of the voluntary authorisation process if they perceive there are benefits.

Sustainable Development Impact

No impact as the essential requirements for interoperability already include environmental protection. The benefits accrued from increased standardisation should drive down costs in rail and make it more competitive with other transport modes. This will help the EU to fulfil its basic commitments with regard to sustainable development and climate change. The proposed approach to voluntary reauthorisation of vehicles should allow for easier cross-border rail traffic, which may encourage the movement of traffic from the roads onto the rail network resulting in environmental benefits from lower carbon emissions.

ANNEX A

GLOSSARY OF INTEROPERABILITY TERMS

2008 Directive – Directive for the Interoperability of the rail system within the Community

DRDNI - Department for Regional Development Northern Ireland (NI safety authority).

The Railways (Interoperability) Regulations 2011 (“the RIR Regulations” new proposed regulatory regime)

RIR 2006 – The Railways Interoperability Regulations 2006 (existing regulatory regime)

TSI – Technical Specifications for Interoperability (Common specifications used across EU)

ERA – European Rail agency (EU body responsible for developing TSIs and specifications under the Directive)

National Safety Authority – body responsible for authorising subsystems (the Office of Rail Regulation (ORR) for GB mainland and Department for Regional Development Northern Ireland (DRDNI) for NI)

ORR - Office of Rail Regulation (the national safety authority for GB mainland)

TENs - the Trans European Network – (a strategic European rail network).

Subsystems – the parts that make up the railway (eg vehicles, track and signalling)

Authorisation – the process whereby the safety authority grants that the subsystem can be placed into service

Type authorisation – a streamlined process for authorising subsystems that are the same as ones already authorised

Essential requirements - defined in the Directive as safety; reliability; availability; health; technical compatibility and environmental protection.

Reauthorisation - a process for recognising that an authorisation given in one Member State for a vehicle should enable the same vehicle to be used in another Member State with a minimum number of additional checks

Scope – a term to capture what is caught by the regulations,

Infrastructure – subsystems that are not vehicles such as track and signalling

Infrastructure register – a record of the technical characteristics of the infrastructure

Conditions and restrictions – a way of limiting what the authorisation to place into service enables, such as a vehicle is only to be used on a line with certain technical characteristics

Pre-screening lists - a list of projects that are potentially major upgrades or renewals. If named or described in the list the project may ask the Department if an authorisation is required.

Third party conformity assessment - notified bodies appointed by the Secretary of State to carry out a third party conformity assessment for a project to establish if standards and rules are complied with

Safety verification – a means for managing significant projects that could increase risk resulting in a written report for independent assessment

Registration Entity (Network Rail)