

Executive Summary

Introduction and Overview

The purpose of the Strategic Rail Review (the “Review”) is to evaluate the long term rail requirements from a national perspective in the light of emerging spatial planning and regional development trends and policies.

The terms of reference for the Review stated that the primary purpose is to provide the Government with a basis for establishing a strategic policy framework for the future development of the rail passenger and rail freight sectors in Ireland. The Review encompasses a 20-year strategic framework based on a Vision for the railway developed in light of Government public transport and spatial planning policy.

The approach to the Strategic Rail Review has, *inter alia*, involved answering four basic questions:

- 1. What is the current state and status of the Irish rail network and how might it respond to developing needs and expectations?*
- 2. What role will rail play in national strategic planning of the State over the next 20 years?*
- 3. By 2022, where can the railway sector in Ireland reasonably expect to be as part of a modern European economy?*
- 4. How is the railway going to get to where it is required to be?*

Development of a Vision for the railway is central to establishing the strategic policy framework.

The Vision for the railway in Ireland provides a guiding statement and contextual direction for the Review. It reflects both the guiding ideals of Government for public transport as well as providing a ‘match’ with the aspirations of the wider community and those working within the railway sector.

The railways in Ireland will provide safe, reliable and customer-focused transport services in support of the State’s wider social, economic, environmental and land use policies. Services will be competitive, integrated with other modes, and support the economic development of the State as a whole.

The Vision should be viewed as a starting point. It is an attempt to ascertain the level of service that is both possible and realistically achievable.

Consistent with the Vision, the Recommended Investment Strategy focuses on a significant uplift in the quality and value to the community of services provided by the railway.

Central to the Strategy is:

- Enhanced train performance and service reliability
- Increased service quality and frequency for customers
- Improved asset utilisation and productivity gains
- Reductions in the cost to the State per passenger journey
- Transfer of journeys from road to rail
- Better on-going stewardship of assets that make up the rail network and systems.

In framing the scope of the Vision, the initial focus was on the existing network and services in order to determine the base from which to move forward and the potential that exists to enable movement to a railway appropriate for a modern European economy. Thereafter, the focus was on development of a railway that is sustainable, effective in increasing public transport's market share and capable of making a significant contribution to the socio-economic development of the State. Furthermore, the Vision is underpinned by three key requirements:

- i. That it is consistent with local and regional, national and European policies for the development of railways
- ii. That it is realistic and achievable
- iii. That there will be sufficient demand for a modernised railway with significantly enhanced service quality and performance (e.g. high reliability, good levels of customer comfort, frequent services, attractive journey times etc).

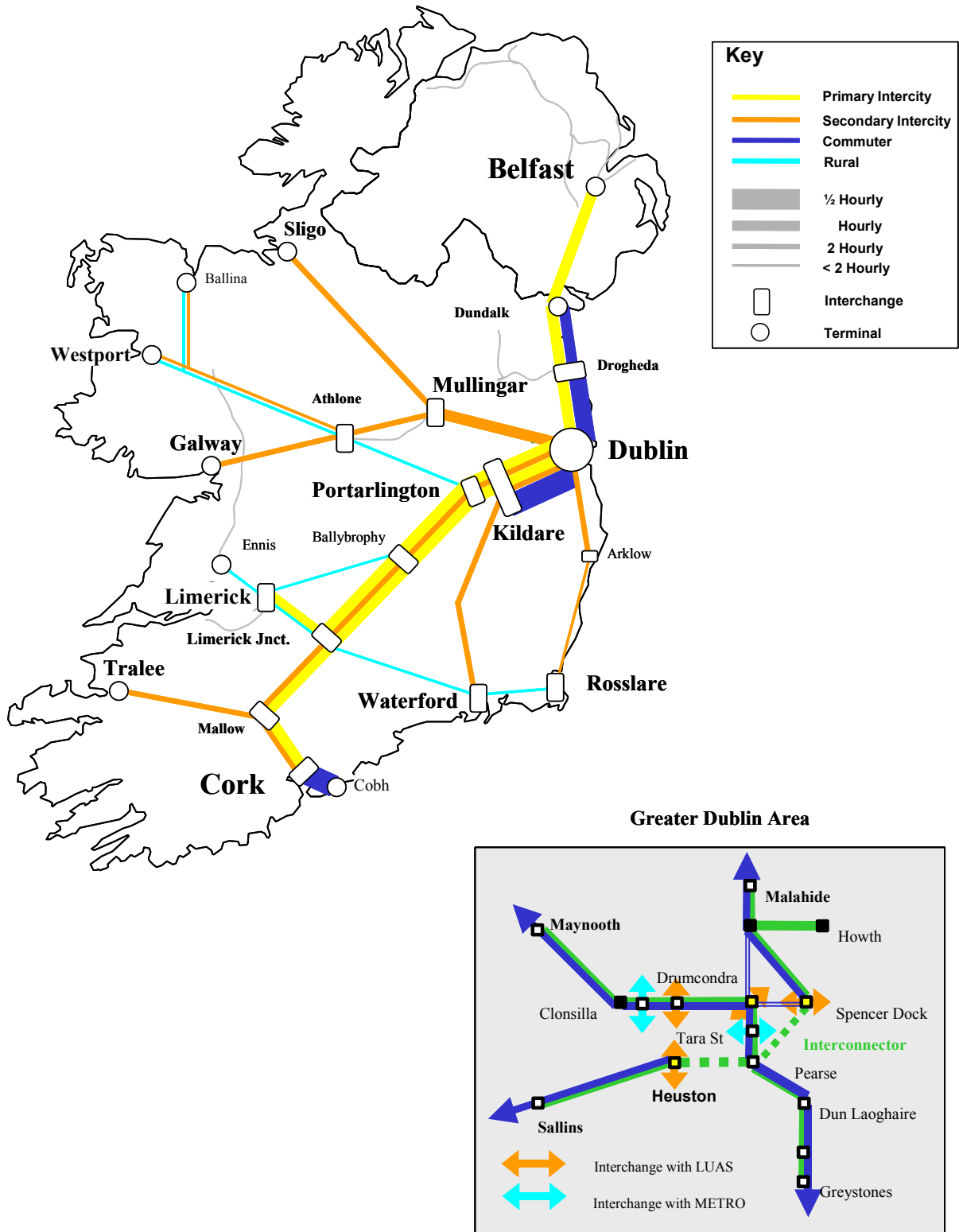
The Recommended Investment Strategy associated with this Review will need to be reviewed over the course of the next twenty years having regard to the changing national financial position, progress achieved with implementation, the changing competitive environment for transport, changing national and EU policies and developments in land use and demographics, both in aggregate and in specific locations over time. As circumstances change, it will be necessary to revisit the Vision for the railway from time-to-time.

The Vision has lead to consideration of three broad strategic options for the railway as a whole:

- (1) **“Do Nothing”**
 - decline of the railway over time
- (2) ***Staying in the Game***
 - investing in asset renewal and replacements and accommodating underlying demand growth
- (3) ***Going for Growth***
 - investing in expanded capacity and services to increase rail's market share over time.

Specific analyses have been undertaken on the freight business.

The maps that follow provide an illustration of the significant potential changes in the existing railway (and network) evaluated during the Review.



Key Findings

The recommendations of this Review have regard, *inter alia*, to the following key findings and considerations:

- The legacy railway, which is mostly single-track apart from the Dublin – Cork and Dublin – Belfast routes, results in significant operational limitations and constraints. These are a function of both the investment backlog and design limitations inherited from the Victorian era and impact on how the railway can operate today.
- The significant investment of the recent past (primarily, focused on major capital items associated with safety and increases in capacity, i.e. track repairs, level-crossing elimination, new rolling stock etc) has delivered many benefits. However, it will not be sufficient to stabilise the railway in a ‘steady state’ whereby the historical ‘back-log’ in investment is overcome and annual renewals can subsequently be undertaken in a planned and even (as opposed to ‘lumpy’) manner.
- The recent experience of extremely rapid and high economic growth has disguised many short-comings (and exposed many more) of the railway. Historical under-investment has meant that the railway’s inability to respond effectively to need changes, to deliver high quality services in a timely fashion and to maximise its contribution to economic growth, in many instances, has been severely limited.
- Operating a ‘mixed’ railway; i.e. commuter services, intercity long distance services, urban transit and freight, severely compromises the performance of the railway.
- Some parts of the network are served at extremely low levels in terms of passenger trains, particularly non-radial routes. This results in levels of service that are both unattractive to potential users and inefficient to operate.
- Annual subvention of the railway has been increasing significantly in recent years and is clear evidence of continuing significant Government commitment.
- If the present levels of capital expenditure on the railway are sustained, the requirement under *Staying in the Game* could be met.
- There is currently no well-defined and effective relationship between the State and the railway. Much of the decision-making at the strategic level has been *ad hoc* hence the need for this Review. There is a great opportunity to establish a new relationship, based on an agreed mandate from Government setting out the basis of what is required from the railway and what resources will be committed to achieve this.
- There is significant public interest in the railway but not necessarily a high level of ‘satisfaction’ with the delivery of railway services. Furthermore, the railway company’s capacity as currently organised will require significant development to enable it to take on the challenges associated with an expanded rail network over the next twenty years.

- There is a real opportunity to deliver, in the short term and particularly over the longer term, a railway of high quality for people travelling in Ireland. This is a railway that will be able to increasingly attract patronage from existing private car users for a wide range of trips purposes and thereby deliver significant socio-economic and environmental benefits to the State. There is potential to deliver a ‘Cinderella story’ from decades of under-investment and low asset utilisation. However, this requires, *inter alia*, significant funding, institutional reform and effective implementation.
- The opportunity exists now to begin the transformation of the railways of Ireland to an extent that ensures that the legacy infrastructural deficits of the past are dramatically reduced. Furthermore, ongoing sustainable rail services can be provided, particularly in terms of the timely implementation of asset renewals and additional capacity to support the broader goals of Government and the reasonable expectations and desires of the wider community. As many countries have experienced, maintenance of a good quality railway and / or provision of additional capacity after the need has materialised is both difficult and financially sub-optimal.
- There is a clear and obvious need to meet demand (in particular, underlying demand growth and the significant ‘contestable’ demand which can significantly add to rail’s market share in the public transport market). Underlying growth on the railway is expected to remain strong: expected to rise from 35 million in 2002 (DART and Suburban, 24 million) to 54 million in 2022 (DART and Suburban, 36 million) under the base line scenario. Under a more optimistic economic growth scenario, patronage levels are forecast to rise to 76 million in 2022 (DART and Suburban, 50 million). Additional annual patronage, ‘over and above’ underlying growth of an additional 16 million to 21 million is anticipated under the *Going for Growth* scenario.
- Rail in Ireland (in particular, passenger rail services) should have a sound and sustainable future. Very real opportunities exist to significantly grow the market and increase rail’s market share, even in an increasingly competitive environment. This positioning of the railway would deliver significant inter-generational benefits from a sustainable railway in Ireland.
- Continuing poor asset utilisation offers opportunities for significant gains at modest (in many cases) marginal recurrent costs. Much more needs to be done to exploit the capacity of the railway available outside of the peak periods, for example.
- There are various innovative and proven financial management and project funding techniques that could have merit in application in terms of better managing the fluctuations in financial requirements associated with the traditionally ‘lumpy’ nature of infrastructure investment.
- Decisions on alternative uses of railway assets (in particular, land) need to be taken with long time horizons considered. There are numerous cases worldwide of cities reinstating railways on former rail alignments. The Dublin Luas Line B – on the former Harcourt railway line - is but one of many examples worldwide.

- The economic prosperity of the Greater Dublin Area and, in turn as a whole, the nation, is dependent on good transportation infrastructure. The railway has a vital role to play, but will need considerable investment within the Greater Dublin Area to keep pace with the demands placed upon it. Investment in the suburban railways in and around Dublin also unlocks opportunities to make significant improvements to the network for longer distance services to and from the regions.
- Developing the economic potential of the regions is also dependent on good transportation infrastructure, both to access external markets and also to enhance accessibility within the regions. The railway has a vital role to play in this regard. However, it will need to be renewed, and ongoing support from complementary policies in the physical planning and transport policy areas is also required for it to do so, particularly at local and regional levels.
- Capital investment alone will not deliver the Vision for the railway. A real focus on service delivery, quality and commitment are all required to achieve the Vision. Investments are required to ‘unlock the door’ to a public transport future based on quality services and customer-focus. Incremental changes to the railway will not deliver radical and significant benefits / gains to the broader community and the State. There is a continuing need to underpin the performance, integrity and development of the rail network to complement balanced regional development.
- Underpinning the Recommended Investment Strategy is a significant uplift in the quality and value of services provided by the railway in Ireland:
 - Enhanced train performance (reduced journey times, more frequent services, better timetabling and public transport integration and accessibility) and better service reliability
 - More emphasis on the needs of the customer and product marketing
 - Productivity gains from better asset utilisation and labour practices reform
 - Lower cost to the State per passenger journey / passenger kilometre
 - Better asset stewardship.

Rail freight in Ireland is now at a critical decision point because *inter alia*:

- Traffic volumes and revenues are in decline
- The contribution of the freight business to total railway income is declining
- Rail's market share of national freight activity is declining
- Increasing competing demands for freight and passenger services
- The customer base of rail traffics is very concentrated
- A significant proportion of IÉ's freight business involves both direct and complementary road haulage operations
- Staff morale is poor
- Most of the rolling stock is near life-expired and will require significant investment (up to €61 million over the next 5 to 10 years, depending on traffic volumes) in the short term if services are to continue
- Most traffics are yielding low or negative returns
- Operations are, generally, of a low frequency and traffic densities are low
- Investment will be required on freight only lines to maintain serviceability.

However, there is a volume of existing rail traffic from which future growth could be based. The challenge will be determination of the basis for future participation in rail freight in Ireland.

The focus of the railway into the future should be as a predominantly passenger railway with an effective mass urban transit operation in Dublin; regular quality commuter services to / from Dublin on the Kildare, Maynooth, Dundalk and Arklow corridors; and a good mix of quality intercity radial and 'fit for purpose' non-radial services.

Freight services will be those that are commercially viable (full cost recovery of 'above rail' costs) and those conveyed under the auspices of direct and transparent Government-sponsored contractual agreement (e.g. train service agreement or other instrument with performance regimes and efficient cost calculations) where the net societal gains have been determined in a transparent manner using an appropriate methodology or where an incentive or State grant scheme, appropriately structured and administered, is in place.

Recommendations of the Review

Recommended Investment Strategy

The Review sets out the **Recommended Investment Strategy** for the next twenty years.

The Recommended Investment Strategy sets out the recommended priority capital expenditure investment for the railways in Ireland to 2022. The Recommended Investment Strategy identifies the priorities for a total capital expenditure of **€8.5 billion** over a twenty-year period between 2003 and 2022 (inclusive). This plan includes €4.25 billion of asset renewals and replacement of life-expired assets (including €730 million for rolling stock) and €4.24 billion for new schemes designed to develop a significant increase in the capacity and service capability of the railway (including €350 million for rolling stock).

The Recommended Investment Strategy will deliver significant net societal benefits over twenty-years, with a Net Present Value of approximately €3 billion incremental to the “Do Nothing” option. The Recommended Investment Strategy includes an element of “Do Minimum” investment associated with renewals and replacements, as well as new schemes and projects designed specifically to increase rail’s market share via a combination of factors including reduced journey times and increased service frequencies.

The “Do Nothing” option has been rejected, as it would lead to cessation of many services and line closures at significant net cost to the community over the twenty-year period of this Review.

This Review recognises however, that there is a need for a flexible approach, particularly regarding the selection and approval of investment proposals as regards the objectives of balanced regional development and sustainable development, which is especially relevant in the case of the National Spatial Strategy (NSS) and the Greater Dublin Area. The NSS emphasises that in terms of achieving balanced regional development, Ireland’s best prospects for establishing critical mass of the type and scale capable of competing with the Greater Dublin Area, lies in developing Cork, Galway, Limerick / Shannon and Waterford as an interconnected network of cities. The NSS clearly indicates that better interconnection between Galway and Cork, via Limerick, would facilitate ease of interaction and enhancement of critical mass.

This Review has examined and evaluated a number of additional new schemes whose development would support the policy approach taken by the NSS and described above in terms of building up critical mass in the regions of a scale that can compete with Dublin. However, these schemes perform poorly when projected patronage is factored in due to current levels of development and population density along the lines in question. The “New Schemes” that fit particularly well with the NSS are:

- Cork suburban
- Galway – Cork (via Limerick)
- Limerick- Shannon – Ennis.

Given the manner in which the latter two schemes would support the overall approach being taken at national policy level in the NSS, the main challenges in advancing them exist at the regional and local levels. This would mean putting in place, along these lines, the development plans and establishing the density of population that support effective rail services.

Enhanced connections between Waterford and Limerick would also enhance critical mass in the regions. However, the light DMU scheme assessed performs poorly taking into account the scale of investment required (particularly given the current quality of the infrastructure) and likely patronage levels.

The Cork suburban scheme has been included in the overall Recommended Investment Strategy.

Recognising the ways in which infrastructure development can support regional development as outlined in the NSS, a scenario can be envisaged where new schemes could be implemented within the time-scale of this Review. However, this would be contingent on:

- Preparation and adoption of regional planning guidelines, development plans, and land-use and transport strategies at regional, county, city and local levels that support effective and efficient rail services by building up compact and sustainable settlements forms along the rail corridor, and
- Progress ‘on the ground’ in terms of building up the population levels and population densities along the rail corridors in question in a manner that is consistent with proper planning and sustainable development and that reinforces the existing urban structure.

In the case of linking Waterford and Limerick, the above requirements also apply with the additional need to consider the potential contribution of new technologies in providing rail services in an effective and cost efficient manner. Early progress in relation to the matters described above would support the case for further feasibility and technical assessments to be carried out to advance these two schemes. Such assessments should, ideally, be carried out within five years to allow sufficient time to enable the local and regional planning development policies to be put in place that would support the schemes in question.

The Dublin suburban network offers significant opportunities for beneficial investment and this is reflected in the investment programme that is outlined for *Staying in the Game* and *Going for Growth*. The DTO’s Strategy in “*A Platform for Change*” outlines a major rail development programme for the Greater Dublin Area (GDA) that suggests that there are major opportunities for mode transfer to rail. This Review has focused primarily on demand from the perspective of historical performance, current patronage and service levels, future economic growth/activity at aggregate levels as well as significant increases in transport supply and quality by way of increased service frequency and reduced journey times. In the light of Preliminary 2002 Census data and the demographic forecasts which underpin the DTO’s “*A Platform for Change*”, it is recognised that there is a need to undertake a more detailed analysis of the major GDA rail corridors, in particular the Maynooth and Kildare corridors, to take account of localised development that could result in demand greater than that assumed in this report. This could affect the timing of elements of the Recommended Investment Strategy.

The National Spatial Strategy envisages that there will be a review of the Strategic Planning Guidelines (SPGs) for the Greater Dublin Area. In the metropolitan area (i.e. Dublin county), it suggests, *inter alia*, a comprehensive and systematic audit of all vacant, derelict and under-used land to establish its capacity to accommodate housing and other suitable uses. It is noted that the audit should be focused in particular, on areas in or close to public transport corridors. With respect to the hinterland area, the review of the SPGs will, *inter alia*, attempt to concentrate development in towns with capacity for growth on well served public transport corridors such as Arklow, Balbriggan, Drogheda, Kilcullen, Naas, Navan and Newbridge.

Future project appraisal of proposals associated with the GDA rail corridors will need to build upon the forthcoming review of the Strategic Planning Guidelines and localised development committed or planned within the GDA. This Review recommends a detailed feasibility study of suburban rail development in those corridors in order to ensure that the benefits of suburban rail investment and its timing are exploited to the maximum.

Priority	Recommended Investment Strategy	Short Term 2003-2008	Medium Term 2009-2014	Long Term 2015-2022	Total Capital € million
1)	Staying in the Game elements				
	<i>Assets Renewals and Replacements (including rolling stock)</i>				
	1.1 DART and Dublin Suburban				€ 1 225
	1.2 Dublin – Galway				€ 247
	1.3 Dublin – Cork (Cobh), Limerick (Ennis) and Tralee				€ 1 502
	1.4 Dublin - Waterford				€ 321
	1.5 Dublin - Rosslare				€ 245
	1.6 Dublin – Westport and Ballina				€ 287
	1.7 Dublin – Sligo				€ 425
	sub-totals	€ 1 552	€ 1 509	€ 1 191	€ 4 252
	Going for Growth Service Enhancements and New Schemes				
	<i>Includes Spencer Dock Stn; Dublin Interconnector Tunnel; 4-tracking to Howth Jnct & Kildare, additional rolling stock, new passing loops on Galway line, extension of Mtn CTC etc</i>				
2)	DART and Dublin Suburban				€ 3 646
3)	Dublin – Cork (Cobh), Limerick (Ennis) and Tralee				€ 180
4)	Dublin - Galway				€ 160
5)	Dublin - Waterford				€ 40
6)	Cork Suburban Scheme and Cork - Cobh				€ 134
7)	Dublin - Sligo				€ 15
8)	Dublin - Westport and Ballina				€ 15
9)	Dublin - Belfast				€ 50
	sub-totals	€ 310	€ 625	€ 3 305	€ 4 240
	Sub-Totals	€ 1 862	€ 2 134	€ 4 496	€ 8 492
				TOTAL	€ 8 492

Note: Those projects and schemes that were evaluated but are not in this priority list are: Limerick Junction to Rosslare and Limerick to Ballybrophy under *Staying in the Game*, and under *Going for Growth*, Dublin to Rosslare service enhancements, light DMU services on Limerick Junction to Rosslare and on Limerick to Ballybrophy, a direct route from Connolly to Navan, a link from Drogheda to Navan, the full Western Corridor scheme (Sligo to Cork), the Galway to Cork scheme, the Ennis – Shannon – Limerick scheme, Athlone to Mullingar ‘stand alone’ scheme and the Derry to Letterkenny scheme. These would be viewed as schemes requiring further detailed evaluation using the approach in this Review in the context of securing progress in advancing and adopting complementary land use and transport policy at the regional and local levels in the areas concerned.

Successful implementation of the Recommended Investment Strategy will deliver a range of significant benefits to the community and the State, including mode shift from the private car and sustainable public transport. For example, in the short-term:

- *Staying in the Game* will deliver significant customer benefits via the introduction of new rolling stock on the Dublin – Cork intercity route, for Dublin suburban services, for Cork – Cobh services and for the other regional intercity services.
- *Staying in the Game* will deliver more reliable rail services across the network in the short term and increased capacity in the GDA.
- *Staying in the Game* will deliver a better performance standard for the railway infrastructure leading to a reduction in risk and lower unit maintenance costs.

Other benefits of the Strategy will include:

- Reduced journey times across the network
- Modernised infrastructure and systems
- More frequent and customer-oriented services, for example, clock-face timetabling on intercity services and a ‘walk up and ride’ / ‘turn up and go’ peak service on much of the Dublin suburban network
- An improved travel experience, for example, significant reductions in over-crowding, increased departure time choices, better facilities on rolling stock, and enhanced accessibility to rolling stock and the network in general
- Enhanced modal integration, particularly in the GDA
- Increased market share to rail
- Reductions in environmental impacts associated with economic growth
- Reductions in the average subvention per passenger carried.

Strategic Policy Issues

- The current relationship between Iarnród Éireann and Government should be strengthened to ensure that the railway meets the objectives of the State.
- Mechanisms for assessing strategies for exit rail markets, other than from the narrow operator perspective, should be developed between the State and Iarnród Éireann. Broader economic and social perspectives need to be considered in this regard.
- A formal process of Public Project Appraisal for dealing with proposals coming from various sources needs to be put in place. The emphasis should be on transparency, consistency, and value for money and investment prioritisation. To support this over-arching process (particularly at the Feasibility Study phase), there is a clear need for the development of an economic evaluation manual (based on cost benefit analysis) for the appraisal of transport projects in Ireland.
- In order to improve the business position of the railway and to assist in adding an additional degree of certainty in business planning, it is necessary to put in place a transparent regime for fares policy. The regime should incorporate annual reviews of fares with consideration of inflation with an agreed escalation formula that recognises the key cost categories involved in the delivery of services.

Freight

In summary, it is recommended that the following short-term initiatives be implemented:

- Iarnród Éireann should continue to provide freight services to those bulk and non-bulk traffics / markets that are commercially viable with a focus on improved commercial performance via cost efficiencies underpinned by labour and capital productivity gains.
- There should be selective pruning and re-shaping of non-profitable traffics with a particular focus on those traffics with a combination of very low levels of operating cost-recovery and limited opportunities for increased volumes and productivity gains.
- Iarnród Éireann should develop a pilot scheme for transparent Government support for current loss-making traffics that may well provide a basis for future investment. The pilot must include efforts for re-shaping for enhanced cost-recovery and be underpinned by evaluation criteria and performance measurement.
- No new investment in rail freight wagons, locomotives, terminals (including handling equipment) should be made without the support of a ‘business case’ underpinned by economic evaluation.

The following short-to-medium term initiatives are recommended:

- Iarnród Éireann should actively seek to enter into a formal joint venture(s) with one or more significant third party logistics (3PL) firms in order to strengthen its market penetration and to introduce value-added benefits in existing intermodal and related businesses, namely Fastrack, Navigator, Roadliner and keg distribution.
- Iarnród Éireann’s freight business should be constituted as a separate functional commercially focused entity under the broader Iarnród Éireann structure. Service Level Agreements should be established for ‘internal’ (within Iarnród Éireann) services procurement (e.g. fleet maintenance, train resourcing, train paths etc).

Lightly Served Lines

Subject to the comments made with respect to the National Spatial Strategy earlier, it is recommended that additional investment in the lightly served lines (listed below) should not be undertaken at the expense of the priority investment recommendations set out in the Recommended Investment Strategy. The economic evaluation undertaken as part of this Review does not support new investments into the following lines:

- Limerick – Ballybrophy (via Nenagh)
- Limerick Junction – Rosslare Harbour.

Delivery Issues and the Implementation Challenge

The successful implementation of the Recommended Investment Strategy poses a very significant challenge to railway management in Ireland. The Recommended Investment Strategy is of a significant scale over a sustained period of time. Reaping the obvious benefits of implementation of the Recommended Investment Strategy presents a major challenge to the railway industry in this country. Only during the last five years has the sector received the funds to start remedying the huge backlog of deferred investment that had built up over previous decades. The process of developing processes suitable for large projects has begun within the current railway organisation, but the challenge presented by the programme of investment and the service delivery changes outlined in this Review is of a different order of magnitude and complexity, not least in terms of the change in organisational structure and focus required to deliver both quality infrastructure and high quality services to the customer.

The most effective way forward could involve increased private sector participation (potentially, including international ‘players’) where the clear benefits of doing so are well demonstrated. For example, this might involve new green-field construction such as depots and new lines, and services such as fleet / vehicle maintenance. Joint Ventures between State agencies and the private sector should also be considered in this context. The examination of opportunities for out-sourcing by way of effective and cost efficient competitive tendering and contracting should be undertaken.

There is a need for a specifically appointed organisation/team or teams to be established to instigate the processes required to deliver the Recommended Investment Strategy and to oversee the integrated planning and development process through to implementation, commissioning and activation of the new assets and the expanded and reorganised services.

Amongst the key targets that could be set for such teams include:

- Planning an integrated short, medium and long term programme, based on project appraisal techniques
- Ensuring that each project and programme has a sound business case
- Applying procurement techniques as appropriate to achieve value for money, but undertaking work in-house where that represents best value
- Control of the delivery process to achieve:
 - Delivery of the benefits of the schemes as planned in the business case
 - Delivery to time
 - Delivery on budget
- Minimising disruption to existing passengers and freight customers as projects progress.

In addition to technical development and recruitment/redeployment, the need for culture change to match the Vision presents a further challenge to the railway. It is undoubtedly the case that the railway will need support and assistance from outside if that is to be achieved.

The proposed focus on service enhancement can only be delivered if capital projects are appraised and monitored on the basis of delivering targeted benefits and if operations are remunerated on the basis of service performance.

The Recommended Investment Strategy and associated services will need to be implemented in accordance with a series of integrated plans that cover the short, medium and longer terms, periods of approximately 6, 12 and 20 years respectively. Otherwise the risk of significant disruption, delays in delivery, wasted efforts, and financial inefficiency, typically associated with piecemeal planning and delivery will materialise.

This does not mean that all plans have to be “cast in stone”; over a 20-year horizon it is inevitable that circumstances will change, for example, technology will develop, economic and demographic trends will impact on views as to affordability and priorities, and the emphases of public policy will change.

In addition to the works to be implemented, a very major transition will be required in the way the railway operates, including a complete reorganisation of the timetables, over a 20-year period. This process will require a major increase in the level of activity in the operational planning sphere.

The delivery of the future railway will involve a range of technical, project management and planning tasks that are not necessarily well represented in the railway at present. A programme of identification of the skills and resources within the railway, and determining the skills and resource levels that will be required over the 20-year term to facilitate implementation of the Recommended Investment Strategy is required. This should form the basis for a staff development and recruitment /redeployment programme to match future needs.

Given the significant sums involved and significant risk profile of most rail developments it is unlikely that they could be financed without ongoing State support / backing.

Long term planning that is supported by consistent and committed funding levels will be fundamental to implementation of the Recommended Investment Strategy.

Iarnród Éireann – Strategic Management, Planning and Operational Issues

Implementation of the following recommendations will strengthen the ability of Iarnród Éireann to deliver services as well as enhance the ability of the Recommended Investment Strategy to be successfully implemented.

- Development and application of a Railway Costing Methodology (and supporting analytical ‘tools’) is required. This would enable transparent, consistent and reliable cost allocation in order to determine on a route-by-route basis, and at an individual service level, the ‘above rail’ and ‘below rail’ costs of providing services - both passenger and freight.
- There needs to be a systematic method for collecting, storing, analysing and distributing a wide range of basic operation, financial and market data to support decision-making.
- A review should be undertaken of the functions of the railway to determine whether opportunities for more efficient and effective service delivery exist. This review should incorporate determination of the most appropriate manner for service delivery after consideration of ‘core’ and ‘non-core’ activities currently being undertaken on the railway.
- There is a need to adopt a ‘Russian Doll’ approach to strategic planning within the railway company. This should include developing strategies and action plans associated with implementation of the Recommended Investment Strategy. For example, it is recommended that with such significant change happening in the fleet size and mix, a cohesive ‘Fleet Transition Strategy’ is developed to ensure that the implications of change are understood and that an effective transition is implemented on the railway.

- The railway company (in association with other key stakeholders) should continue to examine and invest in a variety of other initiatives (subject to proper evaluation) drawing upon examples of ‘best practice’ internationally, such as:
 - Real time passenger information systems
 - Integrated ticketing
 - Internet reservations.
- With implementation of the Recommended Investment Strategy, a very major transition will be required in the way the railway operates, including a complete reorganisation of the timetables, over a 20-year period. This process will require a major increase in the level of activity in the operational planning sphere. It is recommended that this transition can be achieved with a programme of stage-by-stage operational modelling of the railway as a system.
- A fully adequate system of recording and reporting operational performance, disaggregated into reasons for failure, by discipline, route, service etc needs to be established. This is a prerequisite for any performance improvement programme.
- The Asset Information Management System currently being developed by Iarnród Éireann must be progressed.
- The Investment Monitoring Unit within the Department of Transport should be utilised for monitoring progress of the Recommended Investment Strategy on behalf of the Department of Transport, but will need to take account of any relevant changes that result from the establishment of a public transport regulator in the Greater Dublin Area.

Concluding Remarks

Implementation of the Recommended Investment Strategy will provide Ireland with a railway with a level of services of a high standard: efficient, reliable, effective and providing a good socio-economic return to the community.

The Dublin suburban network will be characterised by high frequency services operating across an expanded railway network with new stations in the inner city as well as on the radial routes. Travellers will be able to cross the city via the Interconnector tunnel and link into complementary transport services provided by Luas, buses, taxis and the Metro.

Those travelling to many regional and rural areas of the State will also be able to do so on modern accessible rolling stock operating to a 'clock face' timetable at journey times competitive with the private car. Travellers will be able to choose departure times that are convenient and reflect the needs of customers across a wide range of trip purposes.

Those freight services that operate will do so efficiently and at effective socio-economic returns to the State, making a contribution to the economic development of the country in an environmentally sustainable manner.

In short, the railways of Ireland will in the future be viewed as one of the world's leading railways for a country of Ireland's geography and population (i.e. 'among best in class').