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## Western Rail Corridor Review : Public Transport Advisory Services Assignment 17

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# Western Rail Corridor Review

## Public Transport Advisory Services Assignment 17

Final Report for National Transport Authority

LeighFisher in Association With MVA Consultancy

December 2012

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# 1 Introduction

## 1.1 National Transport Authority Requirements

- 1.1.1 LeighFisher Ltd. and MVA Consultancy were commissioned by the National Transport Authority (NTA) to conduct a review of the Western Rail Corridor (WRC). NTA has recently engaged with stakeholders of the Western Rail Corridor, and has committed to reviewing the entire rail service on the line, with the objective of identifying measures to increase rail patronage and examine the incremental costs and benefits of these. In this capacity, NTA is seeking to make the WRC more attractive to the existing latent market for business and commuting rail travel and also to generate transport 'wants' rather than 'needs' through the design and promotion of activities packaged with rail travel, aimed at the market for leisure travel.
- 1.1.2 Iarnrod Eireann's Western Rail Corridor Infrastructure Project is defined as the single-track section of railway between Ennis and Athenry, consisting of 36kms of track with one passing loop at Gort and sections of twin-track at Athenry and Ennis stations. The Authority has defined the train services between Limerick - Ennis (and return), and Limerick - Galway (and return) that use this section of infrastructure as the Western Corridor rail services. The rail services between Athenry - Galway (and return) were reviewed in an earlier review of the Galway - Dublin rail intercity services, and this report will cross-reference the findings from the earlier review relating to the Athenry-Galway services.
- 1.1.3 The study will expand upon the earlier Limerick - Galway Rail Service Review to provide additional advice on the potential for improved patronage on the line, with a focus on commuter travel into Galway.

## 1.2 Reporting Structure of the Review

- 1.2.1 This is our Final Report for the WRC Review and it draws together our findings and recommendations from a series of Technical Notes covering the technical workstreams:
- Note 1: International Comparison (Appendix A);
  - Note 2A: Baseline PT Characteristics (Appendix B);
  - Note 2B: Consultation (Appendix C);
  - Note 3: Competition Analysis (Appendix D);
  - Note 4: Catchment Analysis (Appendix E);
  - Note 5: Market Analysis (Appendix F); and
  - Note 6: Operations and Timetable Analysis (Appendix G).

## 2 Summary of Findings

### 2.1 International Comparison (Note 1)

2.1.1 In Note 1 we identified a short list of international railways to compare with the Western Rail Corridor (Limerick to Galway), with similar baseline situational and operating characteristics, but in general with very different models of management, where the rail services have grown patronage in recent years. We concluded the following possible promotions and interventions that have been applied on these railways could be applicable to services on the Western Rail Corridor:

- Real ale trail, music and ale trains;
- Summer ticket and information office;
- Regular timetable;
- Scenic line guides highlighting leisure opportunities including hill walking, bird watching, visiting country pubs, etc.;
- Interactive website;
- Bike on board free of charge;
- Events promotion; and
- Full integration between rail and other modes including cycling and taxis.

2.1.2 All the UK railways considered in this comparison have a very different management model to that of the Irish example. The listed UK railways are managed by either a form of Community Rail Partnership or Railway Development Company in all cases. The purpose of these structures are to provide communities with a 'way in' to the decision making process during the design and operation of rail services. It is unclear whether this characteristic is a significant factor influencing growth in patronage or not, but the theory appears to be that local communities are more aware of the transport-generative potential of local leisure / tourist opportunities than a statutory usually centrally located railway authority. No recent patronage trends - either positive or negative - were identified on the Friesland railway which is managed directly by Dutch Railways.

### 2.2 Baseline PT Characteristics (Note 2A)

2.2.1 In Note 2A we examined the existing public transport services within the study area and the facilities provided at each station.

2.2.2 The key findings were:

- There are frequent rail services between Ennis and Limerick, and Athenry and Galway, with fewer services between Ennis and Athenry, in line with demand;
- Early morning and late evening trains facilitate commuter travel into Limerick and Galway, but not earlier than 08:05 into Galway or later than 18:30 leaving Galway for Limerick even though consultation implies that early morning and later evening services are required between Athenry-Galway;

## 2 Summary of Findings

- Limerick, Galway and Ennis stations are reasonably well integrated with other modes, including bus, bicycle, car, etc. however all three could increase bicycle parking provided;
- Gort, Ardrahan and Craughwell have car and cycle parking available. Numerous buses link the towns to nearby centres however these bus services are a 5 minute walk away from the railway stations; and
- Sixmilebridge and Athenry have car parking and Sixmilebridge has cycle parking available. Bus connections to both towns are poor, which is issue in Athenry where the population catchment within 10km is significant and there is potential to increase the rail share between Athenry and Galway.

2.2.3 It is noted that IÉ plans to alter their timetables for the Western Rail Corridor. Amended timetables to be implemented by IÉ on 20-21 January 2013 will offer connections through Limerick to Limerick Junction, which allows passengers the option of travelling from Galway - Cork (changing at Limerick Junction) (and return) twice Mon-Sat and Ennis - Cork once Mon-Sat, with one round trip offered in each direction on Sunday.

2.2.4 The timetable changes due to be implemented by IÉ include the removal of the following services:

- 09:30 Galway – Limerick;
- 12:10 Galway – Limerick;
- 11:55 Limerick – Galway; and
- 20:20 Limerick – Ennis.

2.2.5 These services are described by IÉ as lightly loaded off-peak services and therefore IÉ do not consider them economically viable to sustain. The last train from Limerick to Ennis will now leave Limerick at 19:30.

### 2.3 Consultation (Note 2B)

2.3.1 In Note 2B we reviewed consultation relevant to this study undertaken as part of previous studies as well as submissions from West on Track (WOT) and found that the public perception of rail services on this railway is that:

- Rail is not competitive with other modes as it is perceived to be expensive and longer journey times make the use of the car more attractive
- Rail timetables do not meet commuter needs,, especially because the timing of rail services are not aligned with shift patterns;
- There is a lack of coordination between service providers , including RTP;
- A local bus service to improve the catchment of rail services in Ennis and environs would be sustainable; and
- IE should target tourism and student business, introduce pilot commuter belts, reduce travel times and review timetables to better suit commuters.

## 2 Summary of Findings

2.3.2 WOT prepared a long list of recommendations which we reviewed and categorised as:

- Agree
- Not assessed but considered worth pursuing
- Outside scope of this review

2.3.3 We have taken forward a number of the WOT recommendations into our assessment and Table 2.1 shows how they compare with our recommendations.

**Table 2.1 West on Track proposals**

WOT Proposals	LF – MVA Proposals	IE Comment
Target tourism and student business	Target tourism market off-peak	
Introduce pilot commuter belts	Focus on commuter market during peaks	On-going promotions in Galway and Limerick
Promote rail travel for high volume events	Improve marketing	
Introduction of ICRs	Introduce dedicated rolling stock	Key services are operated by Intercity Rolling Stock
Reduce running time between Limerick and Galway	Introduce limited stopping service during peak. Eliminate PSRs where possible	Acknowledge that while this is desirable, it is probably not generally and universally achievable. The line has many farmer-activated level crossings, due to the fact that the historical alignment was retained in developing the line. The IE IM should be asked to assess the feasibility of mitigating each PSR ranked in order of potential yield in journey time savings, and then cost of intervention
Provide attractive fares for 2 <sup>nd</sup> and 3 <sup>rd</sup> level students and promote tax saver option	Continue student commuter ticket and tax saver promotion	Weekly student ticket has been introduced (may have already existed but not promoted in any way)
Work with BÉ and other operators to integrate timetables at key stations	Improve integration between service providers at key stations, in particular Limerick, Galway, Ennis and Athenry	No specific initiatives to report

## 2 Summary of Findings

Free car parking at Craughwell, Ardrahan, Gort and Sixmilebridge	Continue free car parking at Craughwell, Ardrahan, Gort and Sixmilebridge	Trial free car parking at Craughwell, Ardrahan and Gort has since been introduced as permanent arrangement. Co. Co. owns car parking lands at Sixmilebridge and this parking is also free
Trial local rail partnership in Gort	Trial local station partnership in Gort and consider extending to other stations	A FAS scheme was considered as a possible methodology for manning Gort but this has since fallen through
Consider removing smaller rural stations	Assess the benefit of providing limited stop service during peaks	Infrastructure Manager has stated that the journey time delay of stopping per stop is c. 2 minutes, both peak and off-peak. The issue of whether different stopping patterns may apply during peak and off-peak was not discussed. There may be implications because of single-line working between Ennis and Athenry
Improve waiting and shop facilities at Ennis and Athenry	Improve facilities at stations where possible	No initiatives yet
Additional morning commuter services	Introduce early morning and late evening additional services between Galway - Athenry	
Availability of online booking	Introduce online booking	

### 2.4 Competition Analysis (Note 3)

2.4.1 In Note 3 we compared fares/ costs (2012), journey time and frequency for rail, bus, and car along the rail corridor between Limerick and Galway, with the key findings being:

- In general, rail and bus costs are quite similar, with car being the cheapest form of transport for single journeys. Weekly and monthly tickets offer very good value for rail travel compared to car, especially when parking charges in city centres are factored in;
- Rail is faster than bus for shorter journeys, however for longer journeys rail is relatively slower due to its route being longer than the road; and
- Where bus and rail frequencies between the same points are quite similar, timetables should be better co-ordinated so as to improve the range of options to travel.

2.4.2 Subsequent to this analysis being undertaken, we note that fares are planned to be increased by approximately 2% in early 2013, for example:

- Limerick – Ennis:
  - 2012: €9.80 single, €17.80 open return; and
  - 2013: €10.00 single, €18.00 open return.
- Limerick – Galway:
  - 2012: €21.00 single, €32.50 open return; and
  - 2013: €21.50 single, €33.50 open return.

### 2.5 Catchment Analysis (Note 4)

2.5.1 Catchment analysis was undertaken at three levels:

- Local population analysis within 10km of stations using GIS – There are significant populations living within 10km of Limerick, Galway, Ennis and Athenry stations. A substantial proportion of these live within walking/ cycling distance and for those living further afield, travel to each station is facilitated by a fairly comprehensive local bus network for each, except for Athenry. All other stations have relatively low population catchments.
- Identification of key destinations / attractions in the region that could be accessed via the WRC or in combination with other modes – Desire line analysis indicated an opportunity to facilitate some of the existing car trips between Athenry - Galway and Ennis - Limerick by public transport, encouraging a shift from the private car to rail for trips to work. There may also be a limited opportunity to increase the rail share for trips to education between Athenry – Craughwell and Ardrahan – Craughwell. Strong desire lines between Ennis – Shannon - Limerick for the most part can't be directly served by rail.
- Strategic assessment of potential demand from further afield – Rail could be promoted as the mode of choice for regional tourism but due to the location of the stations, away from the coastline and many of the attractions, transport links from the stations to the

## 2 Summary of Findings

attractions are required which would have to be made sufficiently attractive in terms of time and cost. There is some potential to encourage more interchange between rail and bus services at Ennis, where there are good bus links to many tourist destinations and some bus – rail timetables allow for easy transfer between services. There may also be an opportunity to promote the railway itself as an attraction, for hop on – hop off tours of the area for walking, cycling, music and pub crawls, bird watching, etc.

### 2.6 Market Analysis (Note 5)

- 2.6.1 In Note 5 we detailed the potential market for rail travel within the entire corridor (Limerick to Galway) by market segment, i.e. commuters, tourists, business travellers, etc., and suggested areas of focus for each segment. It concluded that the market focus should be two fold: Commuting/ Education and Leisure/Tourism. It is suggested that a dual service is provided, which offers slightly faster (reliable) services during morning and evening peaks for commuters but also offers more flexible service off peak – especially during holiday periods – for tourists.
- 2.6.2 The commuter focus should be restricted to the Athenry-Galway and Ennis-Limerick sections. Commuting/ education services should be improved whereby services arriving into Galway and Limerick are in line with shift patterns/ hours of education.
- 2.6.3 The recommended market focus is to grow patronage through targeted marketing along the full line, between Limerick and Galway. Although many of the attractions/festivals in the Clare – Galway – Limerick area are not directly served by rail, with proper integration of rail and bus services it would be possible to reach many of them by public transport (but not rail only) and this should be promoted. Access by rail (and bus) to high volume events, such as festivals, should be promoted, where feasible. In addition, there is an opportunity to promote rail access to hiking/ hillwalking in the area.

### 2.7 Operations and Timetable Analysis (Note 6)

- 2.7.1 In Note 6 we examined the operation and timetable of the rail service on the Western Rail Corridor and identified measures that could be introduced to improve the service offering and generate additional patronage.
- 2.7.2 In order to properly optimise the services on the WRC, there are a number of studies that should be undertaken including setting out the strategic requirements of the rail services, draw up a concept timetable, an infrastructure capacity study, a fleet utilisation study and a re-diagramming exercise. These studies would identify cost savings and efficiencies to improve the service along the WRC, which could then be driven forward with a fully supporting marketing plan and communications strategy to sell the benefits to potential users.
- 2.7.3 We identified some low cost solutions that could be funded by the net savings they would generate including:
- Remove (or at least mitigate) as many permanent speed restrictions on the railway as possible by low cost measures such as:

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- reviewing and re-sighting each of the level crossings, and possibly removing vegetation;
- employing crossing keepers, possibly redeployed station staff (probably only warranted at increased service frequencies);
- Attempt to optimise fleet utilisation by undertaking a full fleet utilisation study of the region with a view to dedicating some rolling stock to the WRC (followed by a re-diagramming and re-timetabling). This should not only improve utilisation on the WRC but should also improve utilisation on the other lines and also flush out any issues about maintenance actions (such as possibly doing all maintenance on Sundays);
- Introduce a limited stop service in the peak, if the benefits of not stopping outweigh any loss of revenue caused by not stopping; and
- Review the need for station manning, use trolley staff to sell tickets, review the need for trolley staff if the shuttle service is introduced.

## 3 Recommendations

### 3.1 Summary

- 3.1.1 In summary, there are clearly two distinct markets to be served by the WRC – commuters and tourists. To serve these two markets, we recommend setting up a dual service offering slightly faster (reliable) commuter services during peaks and specialised tourist services during the day and on weekends.
- 3.1.2 There is a strong desire for work travel between Athenry and Galway and between Ennis and Limerick and rail provides for this, except for sufficiently early travel into Galway and late travel from Galway to Limerick. Significant populations in Galway, Limerick, Ennis and Athenry provide the potential to get more people onto the train, and bus connections to these stations are good except at Athenry.
- 3.1.3 Patronage figures for the line for 2011 and 2012 show a growth in patronage on the commuting elements of the rail services offset by lost patronage on the intercity trip, the latter possibly caused by the inability to reduce journey time intercity by comparison with car.
- 3.1.4 Commuting services should be improved by aligning services arriving into Galway from Athenry and into Limerick from Ennis with shift patterns. From consultation it is known that many of the large employers in Galway start work at 08:00 or 09:00. Therefore an additional early morning service from Athenry into Galway is recommended and also an additional early evening service from Galway to Athenry should be considered. It is worth noting that this was proposed as part of the Dublin – Galway Rail Review (2011) and it is therefore recommended that these additional trains are part of the Dublin – Galway line as opposed to the Limerick – Galway line. A limited stop service should be provided in the peaks, saving up to 5 minutes by cutting out halts at Craughwell and Ardrahan. This should be attractive enough to commuters to lead to marginal revenue gains.
- 3.1.5 Outside of the commuter peaks, there is less need for speed and the focus should be on providing a tourist style service. If dedicated rolling stock can be acquired, the feasibility of being able to modify it to suit tourists should be investigated e.g. special ways to store bikes, wet gear for walkers, luggage, special dining cars for finer dining, etc. etc.
- 3.1.6 Ennis station provides a good opportunity to increase rail – bus transfer as it is well connected to many bus services to tourist attractions in the area. There is potential to promote bus tours from here to nearby tourist destinations from Ennis station.
- 3.1.7 The following section provides further details of the recommendations.

### 3.2 Integration

- 3.2.1 In general, non-integrated public transport systems tend to neglect the needs of the customer which impacts significantly on the public transport offering, can often act as a barrier and leads to stagnated or reduced use of the system. The absence of an integrated system can lead to the following problems for the customer:

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- Convenience - often more than one ticket is needed for a single journey;
  - Information – the customer faces a non-transparent public transport offering that is difficult to decipher;
  - Travel Time – timetables and connections between operations are not harmonised; and
  - Costs – In some instances, parallel and competitive services exist. Increased costs often apply where interchange between services is required to complete a journey;
- 3.2.2 In general, and especially in more remote areas, a substantial share of people will need to drive, get a lift, take a bus or taxi, or cycle to access rail services. Quality of access to stations by these modes is therefore key to attracting passengers.
- 3.2.3 Existing car parking, taxi rank, bus, cycling and current interchange facilities for each station was considered in Note 2. The facilities required to improve integration of public transport services along the Limerick - Galway rail line are shown in Table 3.1.
- 3.2.4 To improve the integration of public transport services at railway stations along the Limerick - Galway rail line in the short term, it is recommended that IE seek opportunities to provide better interchange facilities at stations (i.e. for taxi, bus and cycles). The following measures are therefore recommended:
- Improve bicycle parking at the larger stations, i.e. Galway, Athenry, Ennis and Limerick;
  - Consider free parking where the return rail fare is considerably more expensive than the bus fare for the same journey, i.e. from Athenry, Craughwell, Ardrahan, Gort and Sixmilebridge. It is noted that free car parking is currently being provided at Craughwell, Ardrahan and Gort stations from September until the end of the year (2012) as part of a promotion for Limerick-Galway rail line customers. Free car parking at these stations is one of a range of measures being taken to promote the service to capitalise on the additional summer demand through the rest of the year.
  - Provide consistent and readable signage and information, including walk time to town centre, bus stops, etc. to co-ordinate customers between public transport services and the town centre at all stations. For example, signage linking Galway Ceannt Station to / from Galway Bus Station. Also signage on Eyre Square clearly orientating the customer to stops and so on. This is very important for tourists and the casual user;
  - Provide coordinated bus and train timetables at main interchange points at Limerick, Galway and Ennis (e.g. at Limerick Colbert station, Limerick bus station and Limerick City Centre) to ensure connections between public transport services.
  - Ensure the customer sees the public transport system as an integrated unit and series of competing units. Iarnród Éireann, Bus Éireann and other bus providers should adopt a common marketing approach to promote the idea to the customer that he/she is not simply on a trip with one operator but that he / she is using an integrated system with a unified service and quality. NTA Journey Planner website should be promoted to facilitate this;
  - Consider extending BÉ 343 bus services so that interchange with rail services is possible providing access to Shannon Airport;

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- Consider town bus service in Ennis to link rail-bus station with town centre and other nearby residential and employment areas. Existing longer distance buses and/or RTP services could be re-routed to provide better local links between the town centre and the station; and
- Clearly advertise taxi contact details at each station, especially where a taxi rank is not provided.

**Table 3.1 Facilities Required to Improve Integration**

Station	Cycling	Parking	Bus	Taxi
Galway Ceannt	Improve bicycle parking	No improvements required	Way finding between Ceannt bus/rail station and Fairgreen coach station could be improved  Co-ordinate departure and arrival times of buses and trains to provide seamless bus/rail journeys	No improvements required as rank is provided
Athenry	Provide bicycle parking	No improvements required	Provide way finding between Athenry rail station and bus stops/ town centre facilities	No improvements required as rank is provided
Craughwell	No improvement required	No improvement required	Provide way finding between Craughwell rail station and bus stops/ town centre facilities	Have taxi contact details clearly advertised
Ardrahan	No improvement required	No improvement required	Provide way finding between Ardrahan rail station and bus stops/ town centre facilities	Have taxi contact details clearly advertised
Gort	No improvement required	No improvement required	Way finding between Gort rail station and bus stops at The Square should be enhanced	Have taxi contact details clearly advertised

Station	Cycling	Parking	Bus	Taxi
Ennis	Improve bicycle parking	No improvement required	<p>Co-ordinate departure and arrival times of buses and trains to provide seamless bus/rail journeys, in particular to Shannon Airport and Shannon Industrial Estate</p> <p>Consider introducing regular town bus service to provide access between rail/bus station, town centre, and nearby residential/employment areas. Existing longer distance buses and/or RTP services could be re-routed to provide better local links between the town centre and the station.</p> <p>Promote connections to bus routes serving tourist destinations and ensure bus timetables are in line with rail timetable.</p>	No improvement required
Sixmilebridge	No improvement required	No improvement required	BÉ 343 should stop at Sixmilebridge rail station in line with rail timetable to permit access from the west of Ireland to Shannon Airport	Have taxi contact details clearly advertised
Limerick	Improve bicycle parking	No improvement required	<p>Way finding between Colbert rail station and Limerick bus station and the City Centre could be improved</p> <p>Co-ordinate departure and arrival times of buses and trains to provide seamless bus/rail journeys</p>	No improvement required

#### 3.3 Timetable Revision

3.3.1 As the market analysis (Note 5) and many of the WOT recommendations, indicated there should be a dual focus (on commuters in the peak and tourists during the day), our operational analysis in Note 6 included examination of the following:

- Improve commuter services between Athenry – Galway by introducing an earlier service into Galway (from Athenry) to facilitate getting to work by 08:00;
- Introduce a later evening service from Galway to Athenry, to allow for evening leisure trips
- Dedicate two units to the WRC to improve operational flexibility and allow a more regular timetable on the line
- Eliminate Permanent Speed Restrictions as far as possible to provide for shorter journey times

3.3.2 Where possible, sample timetables for these options have been developed and are provided in Appendix A to Technical Note 6. In particular, we have shown that it should be possible to operate a 7tpd service if a 20 minute saving can be made through accumulated PSR removal, obviously subject to establishing the demand for such additional services. Therefore, it is clearly possible to build up to that situation by incrementally taking on board whatever time savings are achieved each year. However the very uncertainty of the value and location of the time savings achievable through PSR reduction makes it somewhat pointless to speculate around the precise timetables that might be achieved.

3.3.3 The order in which these measures can be taken up would be all subject to demand:

- Initiate the PSR examination
- Introduce the early morning train into Galway using the Dublin-Galway stock (timetable shown)
- Make the first and last trains limited stop Gort-Athenry (enumerated in text of section 6 of Note 6)
- Obtain dedicated rolling stock for WRC and modify the timetable to our 6 tpd service (shown in section 3 of Appendix A to Note 6) with first and second last trains being limited stop)
- Incorporate early gains from PSR programme, and incrementally thereafter
- Add seventh train in each direction when aggregate time saving reaches 15 minutes
- Culminate in 7 tpd service as shown in section 4 of Note 6 Appendix A when PSR time saving reach 20 minutes

3.3.4 The success or otherwise of the strategy for the line should be monitored throughout this development period with a view to increasing the frequency of service as the demand warrants it. In particular, it is likely that demand for the tourist-oriented daytime service will be higher in summer such that a differential might be introduced between the summer and winter timetables with the summer timetable warranting an earlier increase in service frequency. In addition, summer needs to be carefully defined as there may well be healthy tourist demand for access to facilities outside the traditional school holiday period. Similarly,

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the case to operate different timetables on Saturdays year-round should be made reflecting the likely difference in patterns of travel on Monday-Friday relative to Saturday.

#### 3.4 Offering More Competitive Fares

- 3.4.1 Lower fares would clearly stimulate more demand, but if made generally available these would probably result in lower revenue. The main reasons people choose bus rather than rail may relate to service frequency, rather than fare; and this implies that the elasticity to fare is likely to be less than unity. Given the financial circumstances of IÉ, a policy that reduces revenue would not be appropriate.
- 3.4.2 Furthermore, there are separate studies undertaken for the NTA considering long distance fares on IÉ with an objective of simplifying the structure and removing or minimising anomalies between routes. It would not be appropriate to introduce special fares for the Limerick – Galway route, which would be liable to increase anomalies, at the same time as other policies are intended to remove such anomalies.
- 3.4.3 Also, although consultation cited that people feel that fares are expensive, weekly and monthly fares are very competitive. However, special fares for off-peak services which would be targeted at tourists could be offered, perhaps packaged with other tourist-oriented offers such as accommodation, entrance fees to attractions, etc.
- 3.4.4 It is recommended that online fares are available along with seat reservation, as is the case for other lines within the Intercity network. It is also recommended that hop on – hop off fares are promoted to encourage the use of the railway as a tourist service between walking trails, cycling trails, pubs and music venues, etc.
- 3.4.5 It is noted that as of the beginning of September (2012) student commuter tickets are on special offer for the Limerick – Galway rail line. Students can also avail of monthly commuter tickets along the line. This enables students from locations along the route to commute daily to the major third level institutions in Galway and Limerick. It is recommended that this continues.

#### 3.5 Marketing and Information Provision

- 3.5.1 The Western Rail Corridor could potentially be promoted as an 'attraction' in its own right. This could include tours by rail, e.g. walking/ cycling tours, bird watching, pub crawls, music tours, etc. This would involve promoting the Limerick – Galway rail journey as the 'attraction', whereby passengers would board the train in Limerick for example and hop on – hop off between there and Galway, partaking in some activity along the way (e.g. walking, bird watching, ale trails, etc.).
- 3.5.2 Such services have been implemented as part of initiatives championed by Community Rail Partnerships in the UK, detailed in Note 1. Many of these lines have seen significant growth following the implementation of these types of measures.
- 3.5.3 For such promotions to work would require buy-in from a number of sources, e.g. walking groups, existing pubs and restaurants, music festivals, bird watching groups etc. Scenic line guides highlighting leisure opportunities including hill walking, bird watching, visiting country

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pubs, etc. should be prepared. It would also require significant marketing and the provision of a ticket permitting hopping on – hopping off the train. An interactive website would be useful to promote all of these and should also include events promotions.

- 3.5.4 The provision for carrying sports equipment on board would also be useful. Shops/ cafes/ summer ticket and information office at stations would encourage this behaviour, especially if a welcoming area is provided where people can sit while waiting for trains.
- 3.5.5 The advantage of existing 'rail rewards' should be further promoted, in which Iarnród Éireann have teamed up with a number of participating partners offering discounts to those who show their train ticket when purchasing/ordering. Examples of discounts include 10-20% off bookings for hotels, restaurants, tourist attractions, tours, etc. Anecdotal evidence suggests that the many rail users (existing and potential) are unaware of this scheme.

## 4 Costs and Benefits

### 4.1 Costing Principles

4.1.1 Areas of potential cost impact for any of the service changes under discussion include:

- One-off initial costs
  - Infrastructure construction costs
  - Infrastructure maintenance (track access charges)
  - Rolling stock capital or leasing cost
  - Rolling stock refurbishment cost
- Ongoing costs
  - Train crew cost
  - Station staffing cost
  - Rolling stock maintenance cost
  - Fuel costs

### 4.2 One-Off Initial Costs

#### Infrastructure Construction Costs

4.2.1 It is safe to say that, for the WRC the scale of the operation is such that, any infrastructure enhancements such as new passing loops, re-alignment of station platforms, or provision of additional / enhanced track-crossing opportunities are generally so expensive that potential benefits in terms of mitigation of delays or savings in sectional run time are unlikely ever to make adequate return on investment to justify that investment.

4.2.2 The same might be said for PSRs that require infrastructure work to be able to be removed. If a PSR is to do with an infrastructure issue such as unsound substructure or poor sightlines caused by track curvature and geological features, it is unlikely that we will be able to afford to have it removed. There may be some PSRs that can be dealt with by minimal infrastructure work such as tree trimming/removal. As mentioned a careful study of the reasons for the PSRs and potential solutions will have to be undertaken before these costs can be evaluated.

#### Infrastructure Maintenance (track access charges)

4.2.3 The degree of expenditure on maintenance of the infrastructure (both daily maintenance and capital renewal) on lines such as this is a policy decision for IE. Generally for a small rural operation such as the WRC, it is necessary to go to a 'minimum maintenance' policy to have any chance of keeping the line open. Such a decision is generally one of the viability key factors for Community rail schemes, particularly in the UK. For the purpose of this exercise, we have assumed that IE will already have made the decision to go to minimum maintenance when they re-opened this section of the WRC, and hence there can be no further infrastructure maintenance cost savings to be had.

## 4 Costs and Benefits

- 4.2.4 After the separation of the IE Railway Undertaking function from the IE Infrastructure Manager there will be a track access charge imposed on the operator in lieu of any cost of infrastructure maintenance. This will have the perhaps unfortunate result of making the cost of infrastructure of the WRC transparent where at the moment it is probably buried in the overall cost of infrastructure maintenance for the region. Also, it is likely to be related to the number of kilometres operated so that increasing the level of service is likely to incur an increased operating cost of the service.

### Rolling stock capital or leasing cost

- 4.2.5 The WRC is currently being operated at minimal rolling stock cost by using rolling stock that is being under-utilised on neighbouring routes. We recognise that our recommendation to attempt to acquire two DMU sets to be dedicated to the WRC will involve a cost, and that the viability of the plan to use dedicated rolling stock depends wholly on the possibility of obtaining that stock at minimal cost. As suggested, a full re-diagramming exercise covering all affected routes in the region will have to be undertaken to determine whether it is possible to dedicate two units to the WRC with the existing fleet or whether further units would have to be obtained. If a re-diagramming solution is possible, this would be achieved at minimal incremental rolling stock cost, but IE might need to internally allocate some of the fleet cost to the WRC operation. The key to minimising such costs is to obtain rolling stock that is essentially 'life-expired' – i.e. still usable but no longer having to be paid for or leased. We expect that IE may well have some such stock available in the region, and that there may well be further such stock made available in future years as mainline stock is replaced and the older units can be cascaded down. However, we do recognise that this is nominally a short term solution which might well keep the line open for several years but its sustainability over the longer term will need to be monitored.

### Rolling stock refurbishment cost

- 4.2.6 There has been some discussion of the feasibility of having acquired some dedicated rolling stock and modifying that stock to suit the tourist market. Suggestions have included returning to a historic décor, and/or putting in facilities for walkers to store their muddy boots and cyclists to store their cycles. It is likely that the (fairly inexpensive) removal of some seats to make space for walkers and cyclists will be not only viable but also critical to the success of the plan to attract tourists. The historic décor idea though is likely to be much more expensive and, whilst it would no doubt be seen as a tourist attraction, it is unlikely to be able to generate enough extra revenue to pay for itself.

## 4.3 Ongoing costs

- 4.3.1 Each of the recommended actions with respect to the train service will need to be evaluated in terms of its effect on the ongoing operating costs.

### Train crew cost

- 4.3.2 With the WRC service being operated with the current three (and potentially to become two) rolling stock diagrams, it ostensibly requires all or part of two or three crew shifts per day. In addition to the numbers of train services operated, the primary determinants of the numbers of crew required are the round trip times, the crew working conditions, the degree to which the service pattern fits the working conditions, and the degree to which crews can be

interworked with neighbouring routes.

### 4.3.3 Key factors are:

- the length of the operating day
  - how many round trips need to be made
  - the length of the round trip time in relation to the allowable shift length
  - how many round trips can be made within one shift, allowing for sign on and sign off time
  - the extent to which interworking between routes be used in order to improve the efficiency of duty scheduling
- whether layover times are sufficient to enable meal breaks to be taken during layovers

4.3.4 Several of our recommendations will impact some of these key factors, particularly the number of round trips per day, and the regularising of the timetable and the layover times. Where appropriate we have commented on the potential cost effects of such changes but, without doing a full crewing exercise, it is not possible to assess whether these factors will cause extra crew costs and, if so, how much.

4.3.5 The service is currently operated by five drivers 7 days per week (with 1.7 relief drivers) and IE have confirmed that the annual cost of a driver is they use is €63k per year. For each of our recommendations the impact on the number of drivers required will be quite complicated to work out or even to estimate because incremental changes involve a combination of extra overtime hours and re-diagramming to make best use of the crews available. However it can probably be said that it is unlikely that any of our recommendations would generate a need for any more than one extra driver, so the most it would cost €63k per year.

### **Station staffing cost**

4.3.6 The staffing of stations is a policy decision for IE, not directly related to the level of operations. Only two stations on the line are staffed, and none of our recommendations has any impact on that.

### **Rolling stock maintenance cost**

4.3.7 Rolling stock maintenance essentially comprises two components – routine daily maintenance (including fuelling, servicing, and cleaning), and periodic major maintenance (overhauls and refurbishments).

4.3.8 We have assumed that periodic major maintenance is not an issue for the WRC rolling stock, and in any event the recommendations under discussion are unlikely to have any significant impact on the amount of such maintenance to be undertaken.

4.3.9 Fuelling, servicing and cleaning are depot based functions that are routinely performed on a daily basis. Although there is a component of servicing that is traditionally related to the number of kilometres operated, in practice the labour comprises the routine daily inspections and it is only the parts and materials that are replaced as they wear out. The incremental maintenance costs associated with the few extra kilometres of running in our recommended timetables is likely to be small.

### Fuel costs

- 4.3.10 Fuel costs are the only costs that genuinely vary directly with the number of kilometres operated.
- 4.3.11 In our experience a 3-car DMU set uses approximately 2 litres per kilometre and if the price of diesel is assumed to be €0.4 per litre then the incremental operating cost associated with fuel would be approx. €0.8 per train kilometre. So each additional 236 km round trip would cost approximately €200. On this basis one extra round trip per day would cost in the region of €70,000 per year.

## 4.4 Costing of Recommendations

### Summary of costs to be considered

4.4.1 So, in summary:

- None of our recommendations will involve infrastructure construction
- For infrastructure maintenance costs: under the current regime there will be no measurable difference in the cost between options. However, once the track access regime comes in it is possible that the difference in cost between options will have to be recognised
- The recommendation to acquire dedicated rolling stock will need to be assessed in terms of the capital cost of the rolling stock
- The cost of refurbishing the dedicated rolling stock will have to be assessed
- Each of our recommendations will need to be assessed in terms of the impact it will have on the overall crewing, and the amount of fuel used

### Earlier Arrival into Galway

4.4.2 Introducing an earlier commuter service into Galway from Athenry to facilitate getting to work by 08:00 has been estimated to involve (but these estimates need corroboration / correction by Iarnrod Eireann):

- 2\*22 km extra running – fuel cost approx. €0.8 per km \* 44 km per day \* 260 days per year = €9,000 per year, and
- impact on crew requirements will be an earlier start, which might be accommodated by extra overtime but the increase in the overall length of the crew's working day might well require a re-diagramming and, depending on the capacity of the interworking with other routes to absorb such a change, might well lead to the need for an extra crew to be rostered on for the day. Hence the crew cost of this recommendation could be anything up to €70k per year.

### Later Evening Service from Galway

4.4.3 Introducing a later evening service from Galway to Athenry, to allow for evening leisure trips will involve:

- one extra round trip per day would cost approx. €7,000 per year.

### **Dedicated Rolling Stock**

- 4.4.4 Dedicating two units to the WRC to improve operational flexibility and allow a more regular timetable on the line will involve:
- potentially some capital cost for the rolling stock, although we expect the rolling stock in the region to be relatively cheap older stock cascaded down from the mainline services. It will depend on how IE manages their internal accounting as to whether any capital cost would need to be charged against the WRC for the provision of rolling stock.

### **Eliminate Permanent Speed Restrictions**

- 4.4.5 Eliminate Permanent Speed Restrictions (PSR) as far as possible to provide for shorter journey times. There will be an initial cost of doing a review of the PSRs and establishing what can be done to remove them (in-house or consultants, say €30,000). Removal of PSRs is likely to involve either some capital cost for infrastructure works and/or some ongoing costs for staff re-deployment, but neither of these can be estimated until the review has been done.

### **Differential day of the week and summer /winter timetables**

- 4.4.6 If the growing success of the line warrants an increase in service frequency in the summer, it is most likely that one extra driver will be required at a cost of some fraction of the estimated annual cost €63,000 (proportion unknown because the driver will only be required in the summer but will be on the books for the whole year).

### 4.5 Benefits

- 4.5.1 Improving the level of service on the WRC will provide **economic** benefits the community by improving accessibility, raising the profile of the area, and generating additional business through tourism. These are benefits that can be claimed simply by introducing the service changes but cannot necessarily be evaluated. There are also economic benefits associated with travel time savings, reduced congestion on roads, reduced numbers of accidents, and improved environmental efficiency. We have not attempted to quantify such benefits, but have simply commented upon them in the relevant sections.
- 4.5.2 The NTA needs to measure benefits in **financial** terms i.e. increases in revenue. In our assessment of the operational changes we have identified where it might be expected that increased patronage will generate additional revenue. On a small system such as the WRC marginal revenue gains will always be small and will reflect the extent to which people actually use the improved service. Also, it is likely that such benefits will not occur immediately but rather will build up over time as the service becomes accepted by the local population and additional patronage begins to propagate further service improvements.
- 4.5.3 It is unlikely that any of the service improvements under discussion here will immediately justify themselves by generating additional revenues far greater than their costs of implementation, but some of the low cost options might be expected to pay for themselves.
- 4.5.4 In this high level review, we have provided qualitative assessment of benefits and identified those options that might warrant further examination leading to more detailed costing and analysis of potential benefits.
- 4.5.5 In the meantime some indication of the overall enthusiasm of the travelling public for an improved WRC by might be gained by implementing some of the apparently low cost options and being prepared to accept minimal financial and/or economic benefits in the short term.

# Appendix A – International Comparison

# Information Note

Project Title:	Assignment 17 - Western Rail Corridor
MVA Project Number:	300063
Subject:	International Comparison
Note Number:	1      Version: 2.0
Author(s):	Jessica Hanney
Reviewer(s):	John Segal
Date:	21 December 2012

## 1 Introduction

1.1 This note identifies a short list of international railway lines to compare with the Western Rail Corridor (Limerick to Galway), with similar baseline situational and operating characteristics where the rail corridor has grown patronage in recent years. These rail corridors were identified from our own knowledge / experience and via web based research, without exhaustive searching. The rail corridors considered are listed in Section 2.

1.2 Each line was considered under the following headings:

- Increase in patronage in recent years;
- Patronage levels;
- Length of line;
- Number of stations served;
- Single or double track;
- Number of daily services;
- Operating speed;
- Population of towns served;
- Station and trackside infrastructure;
- Promotions/ interventions used; and
- Authority/ responsibility for the railway/ stations.

## 2 Lines Considered

2.1 In total, thirteen railway lines/ sections of lines were considered as follows:

- Looe Valley Line, Devon & Cornwall, UK;
- Maritime Line; Devon & Cornwall, UK;

- Derwent Valley Line, Peak District, UK;
- Severn Beach Line, Bristol, UK;
- North Downs Line, South East England, UK;
- West Highland Line, Scotland, UK;
- Esk Valley Railway, Middlesbrough, UK;
- East Lancashire Line, Greater Manchester, UK;
- Bure Valley Railway, Norfolk, UK;
- All Points West, Wales, UK;
- Freisland Rail; Netherlands;
- Arun Valley Line, South East England, UK; and
- Atlantic Coast Line, Cornwall, UK.

### 3 Patronage Growth

3.1 Recent statistics for the UK show significant growth in recent years on the following lines:

- Maritime Line: Truro - Falmouth: 90.6%
- Severn Beach Line: Bristol Temple Meads - Severn Beach: 90.3%
- Derwent Valley Line: Derby - Matlock: 86.2%
- Arun Valley line: 53.1%
- Atlantic Coast Line: Par - Newquay: 52.6%

*(Figures for 2007/8 - 2010/11)*

3.2 Some stations in the UK are particularly noted for significant growth, such as:

- Maritime Line: Falmouth Docks 266%, Penryn 247% (2002-2010);
- Severn Beach Line: Severn Beach 215%, Clifton Down 131% (2002-2010); and
- East Lancashire Line: Burnley Barracks 159% (2009-2010).

3.3 There was no evidence found of recent patronage growth on some lines and therefore these will not be considered further. These lines include:

- North Downs Line;
- West Highland Line;
- Bure Valley Line; and
- All Points West.

#### 4 Patronage Levels

4.1 The passenger numbers on the Western Rail Corridor (WRC) are approximately 50,000 along the middle section, between Ennis and Athenry, increasing to approximately 70,000 between Ennis and Limerick and about 125,000 between Athenry and Galway.

4.2 Of the lines considered, the following are comparable to the WRC:

- Looe Valley Line: Looe station ~ 90k, other stations 3.5k or less;
- Esk Valley Railway: ~20k at Whitby, 5k at Grosmount;
- Atlantic Coast Line: Newquay ~ 75k, other stations 6.7k or less.

#### 5 Service and Operating Characteristics

5.1 In summary, the WRC has the following characteristics:

- Approximately 125km in length, mostly single track;
- Serves 8 stations: Limerick, Ennis, Sixmilebridge, Gort, Ardahan, Craughwell, Athenry and Galway; and
- The service is approximately hourly, with fewer services to the inner section of the line (between Ennis and Athenry).

5.2 Of the lines considered some have similar characteristics to the WRC. These include:

- Looe Valley Line: this short section of line (14km) has similar characteristics to the middle section of the WRC, i.e. between Ennis and Athenry. It is single track with 6 stops;
- Maritime Line: this short section of line (19km) has similar characteristics to the middle section of the WRC expect for its higher level of frequency;
- Derwent Valley Line: similar characteristics but shorter line (33km);
- Severn Beach Line: similar characteristics of Limerick-Ennis or Galway-Gort sections, 26km in length;
- Esk Valley Railway: similar characteristics but shorter line (55km);
- East Lancashire Line: similar service, and similar length (80km);
- Friesland Rail: similar characteristics including length (127km);
- Arun Valley Line: similar, however more frequent and shorter (~50km); and
- Atlantic Coast Line: similar characteristics of line but shorter (33km).

#### 6 Towns Served and demography

6.1 The WRC serves the following cities, villages and towns: Limerick (60k), Sixmilebridge, Ennis (10k), Gort (1.5k), Ardahan, Craughwell, Athenry (3k) and Galway (72k). The following lines serve similar population catchments to the WRC.

- Looe Valley Line: similar to middle section of WRC, serves small towns and villages;

- Maritime Line: similar population characteristics; but contains a university campus that generates significant demand;
- Derwent Valley Line: similar characteristics of line except for Derby is a much larger city (230,000) than Limerick/ Galway; the route also includes other significant towns with populations of around 20,000;
- Severn Beach Line: similar characteristics of Limerick-Ennis or Galway-Gort sections, except for Bristol is a much larger city than Limerick/ Galway; there is significant commuting into Bristol along the line;
- Esk Valley Railway: similar characteristics of line except for Middlesbrough is a much larger city than Limerick/ Galway;
- Friesland Rail: similar characteristics of line;
- Arun Valley Line: similar population but it is one of the main routes between London and Portsmouth and serves an affluent area which includes substantial long distance commuting to London; and
- Atlantic Coast Line: similar characteristics of line.

## 7 Promotions/ Interventions Used

7.1 The following promotions interventions have been used by the Community Rail Partnerships in the UK:

- Looe Valley Line and Maritime Line: Summer ticket and information office;
- Looe Valley Line and Maritime Line: Regular timetable;
- Looe Valley Line, Maritime Line, Esk Valley Line, East Lancashire Line, Arun Valley Line and Atlantic Coast Line: Scenic line guides highlighting leisure opportunities such as walking, cycling, bird watching and visiting country pubs including the 'real ale trail';
- Esk Valley Line: Interactive websites;
- Esk Valley Line: Bicycles on board free of charge;
- Esk Valley Line: Events promotions either on the train e.g. 'music and ale trains' or promoting travel to events in towns served by railway line;
- Arun Valley Line: Specific fares initiatives;
- Looe Valley Line: Single train set, specifically marketed;
- Looe Valley Line: some stops are request stops only, with different calling patterns throughout the day; and
- Maritime Line: Improvements including passing loop and platform extensions.

7.1.1 Dutch Railways view the journey as door to door, and not just station to station. Promotions that have been used along Friesland Rail include:

- Superior cycle parking at stations, even the most rural, this reflects the very different Dutch attitude to cycling;

- Fully integrated rural transport network including community buses, commercial buses, etc;
- Traintaxi system - shared taxi service. Fixed charge of €3.80 which is a supplement to the rail fare; and
- Combined booking facility and convenience stores at stations.

## **8 Community Involvement**

8.1 Most of the lines considered are run by local / community groups and involve some form of volunteering. For example:

- Looe Valley Line and Maritime Line are run by Devon & Cornwall Rail Partnership;
- Esk Valley Railway is supported by the not-for-profit Esk Valley Railway Development Company (EVRDC). EVRDC has two paid members of staff, the Development Manager and a part-time Development Assistant;
- Derwent Valley Line: The County Council concluded in 2004 that this line was not economically feasible, and it was thus designated a community rail line by DfT in 2006. It is now run by Derwent Valley RTP, Friends of Derwent Valley etc. and
- Atlantic Coast Line is run by Devon and Cornwall Rail Partnership. Focal, a local "friends of the line" group helped to achieve a 75% increase in Par to Newquay passenger services through negotiation and cooperation with the Devon & Cornwall Rail Partnership and First Great Western.

8.2 In relation to Friesland Rail, Dutch Railways owns and maintains the stations.

## **9 Applicability to the Western Rail Corridor**

9.1 Considering the above comparison, it is suggested the Atlantic Coast Line is the most similar line to the Western Rail Corridor. Looe Valley Line, Esk Valley Line and Friesland Rail are also relevant but to a lesser extent. These four lines should be considered when determining possible promotions and interventions for the Western Rail Corridor.

Name	Country	Increase	Patronage Levels	Length	Stations	Tracks	Services	Op. Speed	Towns served	Promotion	Rolling stock modified	Station / trackside infrastructure	Authority / responsibility	Likely transferability of such interventions to WRC
Western Rail Corridor	Ireland		Ennis-Atherry ~ 53k, Ennis - Limerick ~ 70k, Atherry - Galway ~ 125k	~ 125km	8	Single	Hourly to bihourly		Limerick (60k), Similebridge, Ennis (10k), Gort (1.5k), Ardahan, Craughwell, Atherry (3k), Galway (72k)					
Loce Valley Line	Devon & Cornwall, UK	Causeland by 92%, Looe by 14% (2008 v 2002)	Annual: ~90k @ Looe stn, ~1-3.5k @ St Keyne, Causeland, Sandplace, < 50 @ Coombe Jnt	14km	6	Single track	9 trains each way (2/3 stopping at Coombe, other intermediate stations are request stops)	40kmph	Coombe Junction Halt (village), St Keyne Well Halt (village), Causeland (hamlet), Sandplace (hamlet), Looe (~6k)	Summer ticket and information office, regular timetable & scenic line guides highlighting leisure opportunities such as walking, bird watching & visiting country pubs.	Single train set, specifically marketed		Devon & Cornwall Rail Partnership	Similar characteristics of middle section of WRC. Promotional activities very applicable, and stopping pattern could be used.
Maritime Line	Devon & Cornwall, UK	Perryn by 247%, Perrmere by 126% and Falmouth Docks by 266% (2010 v 2002)	Annual: ~150-180k @ Perryn, Perrmere, Falmouth Town, ~90k @ Falmouth Docks, ~20k @ Perranwell	19km	6	Single track	29 services each way	80kmph	Turo (~17k), Perranarworthal (village), Perryn (~7k), Perrmere, Falmouth Town (~22k), Falmouth Docks (goods)	Summer ticket and information office, regular timetable & scenic line guides highlighting leisure opportunities such as walking, bird watching & visiting country pubs.		Improvements include passing loop, platform extension	Devon & Cornwall Rail Partnership	Similar characteristics of middle section of WRC except for much higher level of service. Promotional activities very applicable.
Derwent Valley Line	Peak District, UK	94% more pax in 2010/11 than 2007/08	Annual: ~ 150k @ Matlock, Belper, ~ 50k @ Matlock Bath	33km	5	Single and double	Approx. hourly Mon - Sat, reduced on Sunday, other services (e.g. fast services & freight run additionally)	80kmph	Derby (~230k), Duffield (village), Belper (town), Ambergate (village), Whatstandwell (village), Cromford (village), Matlock Bath (village), Matlock (~11k)				County Council concluded in 2004 not economically feasible, designated community rail line by DT in 2006. Interest from Derwent Valley RTP, Friends of Derwent Valley etc.	Similar characteristics of line except for Derby is much larger city than Limerick/ Galway.
Severn Beach Line	Bristol, UK	Severn Beach 215%, Avonmouth 109%, Clifton Down 131% (2010 v 2002)	Annual: ~ 400k @ Clifton Downs, ~ 100k @ Lawrence, Stapleton, Montpelier, Redland, Severn Beach, Avonmouth, ~ 50k @ Sea Mills, Shirehampton, ~ 5k @ St Andrews	26km	11 (plus 6 disused)	4, 2 or 1	6 each way, 4 on Sundays		Stations within City of Bristol (~420k), northwestwards through suburbs of Avonmouth & St Andrews Road to Severn Beach (village)				Sevenside Community Rail Partnership, want to increase patronage with increased frequencies, better information, station conditions, etc.	Similar characteristics of Limerick-Ennis or Galway Gort sections, except for Bristol is much larger city than Limerick/ Galway.
North Downs Line	Reading to Gatwick Airport via the Suffolk Hills, UK	No evidence of significant growth												
West Highland Line	Fort William to Mallag Scotland, UK	No evidence of significant growth												
Esk Valley Railway	Middlesbrough to Whitby, UK	Passenger footfall at Middlesbrough rose by 16% in 2007/08.	Annual tickets: ~ 20k @ Whitby, ~5k @ Grosmount	56km	16	Single and double	4 a day each direction		Middlesbrough (142k), Marlon (10k), Nunthorpe, Great Ayton, Batterby, Kildale, Comondale, Castleton, Danby, Lealholm, Glaisdale, Egton, Grosmont, Sleights, Ruswarp, Whitby (14k)	Interactive website, walking, cycling - bike free of charge, real ale trail. Events promoted. Music and ale trains.			Esk Valley Railway is supported by the not-for-profit Esk Valley Railway Development Company (EVRDC). EVRDC has two paid members of staff, the Development Manager and a part-time Development Assistant.	Similar characteristics of line except for Middlesbrough is much larger city than Limerick/ Galway. Promotional activities very applicable.
East Lancashire Line	Greater Manchester, UK	Overall Lancashire community rail patronage grew by 4% with some stations doing exceptionally well. Burnley Barracks up 159%	Annual: 100k @ Preston, Blackburn, Accrington and Burnley Central, four med use stns (40-60k), six low use stns (20-40k), four stns very low: Hapton, Huncoat, Pleasington and Burnley Barracks	80km	5	Single and double	Hourly		Preston (115k), Blackburn (109k), Accrington (35k), Burnley (74k), Colne (20k)	Walking and cycling trails			Community Rail Lancashire	Similar service but overall popular much larger.
Bure Valley Railway	UK	Steam train, encourages walking and cycling, events, no evidence of significant growth												
All Points West	Pembrokeshire Wales, UK	No evidence of significant growth												
Freistand Rail	Netherlands			127km: Harlingen-Nieu weschans railway, 166km: Arnhem-Leeuw arden railway	17	Single and double	Hourly to half hourly		Leeuwarden (91k), Harlingen, Stavoren, Grou, Heerenveen (41k), Wolvega, Buitenpost	Exceptionally high levels of cycle use and fully integrated rural transport network. Traintax system - shared taxi service. Dutch Railways view journey as door to door. Fixed charge €3.80 supplement to rail fare. Combined booking facility and convenience stores at stations.		Superior bicycle parking at all stations, even most rural.	Dutch Railways owns and maintains local stations	Similar characteristics of line. Integration, especially with cycling and taxi services transferable.
Arun Valley Line	South East England, UK	51.3% between 2007 - 2011	~ 3 million pax on the line (annual)	~ 50km	11	Double	2 trains per hour		Three bridges, Crawley (107k), Horsham (59k), Billingshurst, Pulborough, Anundel (3k)	Greater promotion of the line through website, tourism and guided walks leaflets production, specific fares initiatives			Community involvement in station adoptions and more detailed consideration of local community aspirations for improved access around stations.	Similar, however more frequent. Promotions relevant.
Atlantic Coast Line	Par Newquay Cornwall, UK	52.6% between 2007 - 2011.	Annual: Par ~ 180k, Newquay ~ 100k, 5 stns ~ 1-3k	33km	7	Single	8 trains a day per direction (summer)	80kmph	Par (1.5k), St Blazey (6.7k), Luxulyan (1.3k), Bugle, Roche, St Columb Rd, Quintrel Downs, Newquay (76k)	Real ale trail.			Devon and Cornwall Rail Partnership. Focal, a local "friends of the line" group helped to achieve a 75% increase in Par to Newquay passenger services through negotiation and cooperation with the Devon & Cornwall Rail Partnership and First Great Western.	Similar characteristics of line. Promotions relevant.

## Appendix B – Baseline PT Characteristics

# Information Note

Project Title:	NTA PT 17 - Western Rail Corridor
MVA Project Number:	300063
Subject:	Baseline PT Characteristics
Note Number:	2A      Version: 3.1
Author(s):	Jessica Duggan
Reviewer(s):	Tom Hill
Date:	21 December 2012

## 1 Introduction

- 1.1 The focus of this study is on the rail service between Limerick and Galway, as part of the Western Rail Corridor. This note identifies the existing public transport services within the study area, including rail and bus and defines their frequencies and journey times. This information was determined via desktop research.
- 1.2 This note also defines the station facilities provided at each stop along the line, including car parking, cycle parking, taxi ranks, interchanging bus services, etc. This information was determined via desktop research, in particular using [www.irishrail.ie](http://www.irishrail.ie).
- 1.3 The distances between railway stations and the nearest population centre and also the distance to nearby bus services were calculated using Google maps.

## 2 Background

- 2.1 A previous report by LeighFisher / MVA Consultancy was carried out during the course of the review of public transport in Galway City for the Authority, in which the potential of the rail service on the Western Rail Corridor to attract additional rail commuter patronage into Galway City, specifically from the three towns of Adrahan, Craughwell and Gort, was assessed. The report found that rail services on this line are very poorly patronised. The report also stated that the potential to increase the rail market share of commuting travel to Galway city from surrounding towns within its sphere of influence is inherently constrained by the size of the total market for commuting into Galway which in turn is influenced by the low population in each town.
- 2.2 Notwithstanding these conclusions, the report recommended that at a minimum the timetable could be made more attractive to the existing latent market for business and commuting rail travel by getting the first trains to Galway earlier and by offering later departures in the evening from Galway. Other 'softer' measures to do with information, way-finding and improved access to rail were also recommended. It is presumed that similar changes would also improve the probability of people who commute to Limerick and to Ennis from towns within the commuter belt of those centres and on the line choosing to go by train, although this was not part of this previous study.
- 2.3 Of more general interest, the report recommended identifying other markets for rail travel on the corridor and designing services to meet these demands. Indeed, the report suggested that through strategic alliances with other sectors, such as tourism for example, it may be possible to generate

transport 'wants' rather than 'needs' through the design and promotion of activities packaged with rail travel, aimed at the market for leisure travel. Similarly, it is suggested that the offer of a limited-stop style service, timed suitably, overlaid on or substituting for some proportion of the current level of service could get a response from the business-traveller market. Limited-stop style services that do not stop at intermediate stations (where incremental demand is minimal anyway) may improve journey times centre-to-centre by rail relative to those today, which would thereby enable train to compete effectively with car for business-travellers.

- 2.4 The Authority has recently engaged with stakeholders of the Western Rail Corridor, and has committed to reviewing the entire rail service on the line. The Authority's objective is to examine the incremental costs and benefits of measures intended to increase rail patronage. A series of notes, including this note, have been prepared to assist the Authority in this process.

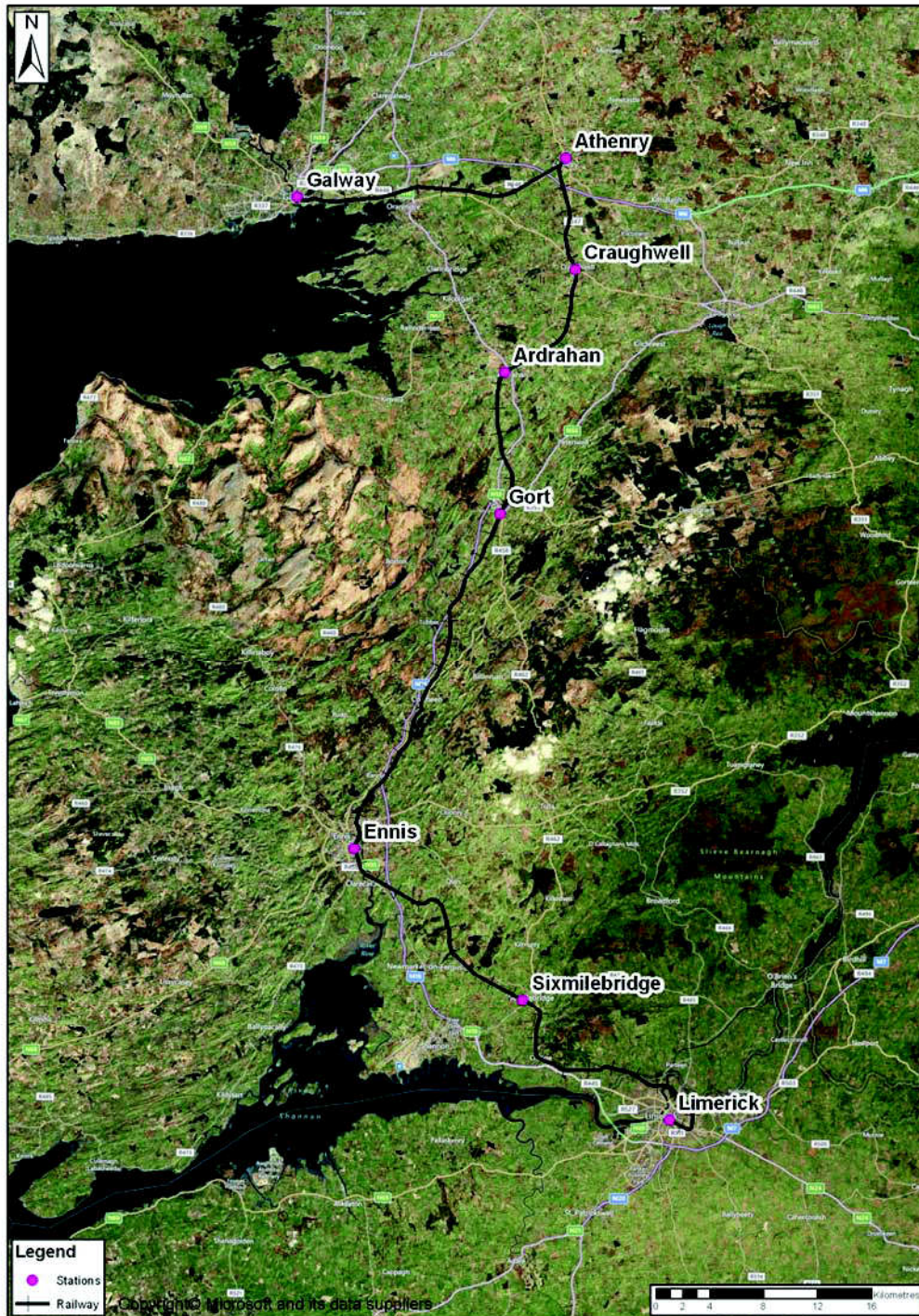
### **3 Study Area**

- 3.1 The study area is defined by the Limerick – Galway section of the Western Rail Corridor (WRC), and is shown in Figure 3.1. It includes the following stops, alongside an approximate population of those living nearby:

- Limerick: Population ~ 91k
- Sixmilebridge: Population ~ 2.5k
- Ennis: Population ~ 25k
- Gort: Population ~ 2.6k
- Ardrahan: Population ~ 500
- Craughwell: Population ~ 700
- Athenry: Population ~ 4k
- Galway: Population ~ 77k

- 3.2 Two proposed future stops, in Crusheen and Oranmore, have not been included in this analysis.

**Figure 3.1 Study Area – Western Rail Corridor between Limerick and Galway**



#### **4 Existing Rail Services**

4.1 The existing Limerick to Galway rail service departs from Limerick Colbert Station, and terminates at Galway Ceannt Station, which are located in the centre of Limerick and Galway respectively. The towns serviced include Sixmilebridge, Ennis, Gort, Ardrahan, Craughwell, and Athenry and all trains that travel from Limerick to Galway stop at all stations between. Some additional trains only travel between Limerick and Ennis and others only travel between Galway and Athenry (these are part of the Galway – Dublin Heuston/ Athlone service).

## Stopping Frequency

- 4.2 The current service stopping frequency, in the northbound direction (towards Galway Ceannt) and the southbound direction (towards Limerick Colbert), is shown below in Table 4.1. Limerick, Sixmilebridge and Ennis are served by 20 trains per day (two-way). Eight of these services are between Limerick and Ennis only, with the other 12 trains travelling the full distance to Galway. The next three stops (Gort, Ardrahan and Craughwell) are served by 12 services a day (two-way). The final two stops, Athenry and Galway, are also served by the Dublin Heuston/ Athlone to Galway line. 41 and 35 trains stop at Athenry and Galway respectively (two-way).
- 4.3 The first train arrives in Limerick at 07:25, leaving Ennis at 06:45 and calling at Sixmilebridge at 07:02. Following this, the next train arrives in Limerick at 08:35, and this train travels from Galway, departing there at 06:20. An evening train leaves Limerick 18:05 and travels all the way to Galway, arriving there at 20:10. The last train from Limerick leaves at 20:20, arriving in Sixmilebridge at 20:41 and terminating in Ennis at 21:00.
- 4.4 The first trains into Galway in the AM peak period arrive at 08:05 (i.e. the 06:00 Limerick service), 08:35 (i.e. the 07:30 Athlone service) and 09:15 (i.e. the 09:00 Athenry service). Trains that depart Galway in the PM peak are 16:30 to Athenry only, 17:30 to Limerick, 18:05 to Dublin calling at Athenry and 18:30 to Limerick. The 18:30 service is also the last train in the evening to Limerick. The next train to leave Galway is the 22:15 service to Athlone which stops at Athenry.

**Table 4.1 Stopping Frequency on Limerick-Galway Line**

Stations	Total Daily Northbound	Total Daily Southbound	Two-way Total
Limerick	10	10	20
Sixmilebridge	10	10	20
Ennis	10	10	20
Gort	6	6	12
Ardrahan	6	6	12
Craughwell	6	6	12
Athenry	19*	22*	41*
Galway	17*	18*	35*

\* including services from other lines

### Implication for the Limerick - Galway Rail Service - 1

- There are frequent rail services between Ennis and Limerick and Athenry and Galway
- Rail services between Ennis and Athenry are less frequent, only six in each direction a day
- Early morning and late evening trains facilitate commuter travel into Limerick and Galway (but not earlier than 08:05 into Galway or later than 18:30 leaving Galway for Limerick)

## **Service Provided**

- 4.5 All services on the Limerick – Galway railway line operate as standard class only. The standard service has an at-seat trolley service serving normal hot and cold drinks and snacks.
- 4.6 Stations in the larger towns of Limerick, Ennis, Athenry and Galway are staffed with booking offices and platform staff (may be dual role). The staff provide assistance as required and train service information.
- 4.7 Recent marketing highlights that key services on the route including the 06:20 Galway-Limerick, 18:05 Limerick-Galway, 18:30 Galway-Ennis and 20.15 Ennis-Galway are now operated by IÉ's newest Intercity railcar fleet. In addition, it states that trains are equipped with free wi-fi, enabling customers to use laptops or mobile devices for work or entertainment while travelling. The regional fleet operating the remainder of WRC services will also be equipped with free wi-fi during September (2012), meaning all WRC services will have wi-fi.

## **5 Existing Bus Services**

- 5.1 Bus Éireann, Private Bus Companies and RTP providers run a number of services which cater for the towns (not necessarily the railway stations) paralleling the Limerick – Galway line and these are listed below in Table 5.1. Limerick and Galway cities are well served by a variety of City, Expressway and Regional services. The next most frequent services are to Ennis. Gort, Ardrahan and Craughwell towns are served reasonably well by buses in terms of frequency. Sixmilebridge and Athenry have the fewest number of buses serving them.
- 5.2 Of these bus routes, bus-rail interchange is possible at Limerick, Ennis, Athenry and Galway. At Galway Ceannt and Limerick Colbert it is possible to interchange with the city bus network, a number of regional and express buses. Regional buses and those provided by RTP connect with Ennis station, linking it to many areas around the county including Shannon Industrial Estate and Shannon Airport. It must be noted that although Ennis rail and bus stations are located close to each other, these stations are not located in the town centre and there is about a 10 minute walk between the stations and the town centre. The BE #418 service from Galway serves Athenry station, but only once a day.

**Table 5.1 Existing Bus Services**

<b>Location</b>	<b>Services (excluding non-daily)</b>
<b>Limerick</b>	<p>Numerous BÉ City services to Raheen, University of Limerick, Caherdavin etc</p> <p>Eurobus services to University of Limerick and Annacotty</p> <p>Numerous BÉ Expressway services to Dublin (BÉ 12), Cork (BÉ 51), Galway (BÉ 51x), Tralee (BÉ 13), etc</p> <p>Numerous BÉ Regional services to Shannon Airport, Ennis, Ardnacrusha, Charleville, etc</p> <p>Private operators including services to Dublin Airport</p>
<b>Sixmilebridge</b>	BÉ 343 Limerick – Shannon Airport: ~ 3 times a day
<b>(Total one-way: 3 services)</b>	
<b>Ennis</b>	BÉ 51 Cork – Limerick – Galway: ~ 14 times a day (each direction) (Bus Stn)
<b>(Total one-way: ~ 50 services – not including once a week services)</b>	<p>BÉ 333 Ennis – Doonbeg: ~ once a day (each direction) (Bus Stn)</p> <p>BÉ 336 Limerick – Kilkee: ~ 4 times a day (each direction) (Bus Stn)</p> <p>BÉ 337 Limerick – Doolin: ~ 3 times a day (each direction) (Bus Stn)</p> <p>BÉ 344 Ennis – Shannon Ind. Estate &amp; Airport: (connecting to town) ~ 12 times a day (each direction) (Bus Stn/Town)</p> <p>CAT EC1b/c Ennis-Scariff: 3 times a day M-F (each direction) (Town/Bus/Rail/Hospital)</p> <p>CAT EC1b/c Ennis-Scariff-Feakle: once a day Sat (each direction) (Town)</p> <p>CAT EC1a Ennis-Tulla-Feakle: once a day M-F (Town/Bus/Rail)</p> <p>CAT EC1f/g Ennis-Scariff-Whitegate: once a day Sat (each direction) (Town/Bus/Rail)</p> <p>CAT EC1h/i Ennis-Flagmount: once a day Sat (each direction) (Town)</p> <p>CAT EC1e Quin-Ennis: once a day Thurs only (Town/Bus/Rail)</p> <p>CAT EC4a/b Feakle-Scariff: 3 (Sca-Fea), 4 (Fea-Sca) times a day M-F (Town)</p> <p>CAT EC8a/b Killaloe-Scariff: 2 times a day M-F (each direction) (Town)</p> <p>CAT EC3a/b Ballinruna-Ennis: once a day M-F (each direction) (Town)</p> <p>CAT MWC3a/b Ennis-Milltown: 3 times a day Sat (each direction) (Town)</p> <p>CAT NA1a/b Ennis-Inagh- Corofin: once a day Sat (each direction) (Town)</p> <p>CAT NC2a/b Ennis-Ruan-Corofin: 2 times a day Sat (each direction) (Town)</p> <p>CAT NA8a/b Lisdoonvarna Shopper: once a day Tue (each direction) (Town)</p> <p>CAT SC1a/b Ennis-Newmarket: 5 times a day M-F (each direction) (Town)</p> <p>CAT SC2a/b Ennis-Sixmilebridge: 2 times a day Mon only (each direction) (Town)</p>
<b>Gort</b>	BÉ 51 Cork – Limerick – Galway: ~ 14 times a day (each direction)
<b>(Total one-way: ~ 15 services – not including once a week services)</b>	<p>BÉ 434 Galway – Gort: ~ once a day (each direction)</p> <p>CAT GA2a/b Gort-Aughinish: 2 (Gort-Augh), 1 (Augh-Gort) Fri only (each direction)</p> <p>CAT GA3/4 Gort Shopper: once a day Fri only (each direction)</p>

	CAT GA1a/b Gort Shopper: once a day Fri only (each direction)
<b>Ardrahan</b>	BÉ 51 Cork – Limerick – Galway: ~ 14 times a day (each direction)
<b>(Total one-way: 15 services)</b>	BÉ 434 Galway – Gort: ~ once a day (each direction)
<b>Craughwell</b>	BÉ 20 Dublin – Galway: ~12 times a day (each direction)
<b>(Total one-way: 17 services)</b>	BÉ 430 Galway – Athlone: ~ 2 times a day (each direction)
	Healy Bus Loughrea – Galway: ~ 3 times a day (each direction)
<b>Athenry</b>	BÉ 418 Galway – Athenry: 3 times a day, once serving the station (each direction)
<b>(Total one-way: 3 services)</b>	Buslink Galway – Athenry via Ballybrit: 7 times a day(each direction)
<b>Galway</b>	Numerous BÉ City services to Parkmore, Salthill, Ragoon, Ballybrit, etc
	City Direct services to Knocknacarra, Cappagh Rd and Barna
	Numerous BÉ Expressway services to Dublin, Limerick, Ballina, Sligo, etc
	Numerous BÉ Regional services to Oranmore, Clifden, Carraroe, etc
	BÉ services operating to tourist beauty spots such as to the Cliffs of Moher (BÉ 50) and to Lisdoonvarna and Doolin (BÉ 423)
	Private operators including services to Tuam, Athenry, Dublin Airport, etc

5.3 It has been brought to our attention that there are potential changes to BE services being planned which would rationalise some of the above BE services above, linking Galway and Limerick with Country Clare destinations including Cliffs of Moher and interchanging with other bus and rail services in Ennis.

## 6 Integration between Rail and Other Modes

- 6.1 Appendix A lists the bicycle parking, car parking, buses, taxi ranks etc. at each station along the WRC, between Limerick and Galway. This information was taken from the Iarnród Éireann website and it was also supplemented with information from Google maps.
- 6.2 A summary of this is:
- Limerick station has ample car parking and cycle parking. It is a short walk (5 minutes in an urban environment) to the City Centre where many bus services are located;
  - Sixmilebridge has car and cycle parking available. It is a ten minute walk from the station to the town centre where an infrequent bus service (3 times a day) travels to Shannon Airport;
  - Ennis has car and cycle parking available. The rail and bus stations are co-located. It is a ten minute walk from the station (bus-rail) to the town centre. Many bus services which serve the station travel to Shannon Industrial Estate, Doolin, Kilkee, Scariff and further afield to Limerick, Galway and Cork. It has a taxi rank providing taxi services from the station. Some CAT RTP services also service the rail and bus stations;
  - Gort and Ardrahan have car and cycle parking available. For both, it is a five minute walk to the town/village centres where bus services travel to Limerick, Galway and Cork;
  - Craughwell has car and cycle parking available. It is a five minute walk to the village centre where bus services travel to Galway and Loughrea;
  - Athenry has car parking available. There is no bike parking facilities available at present. It is a short walk to the town centre where an infrequent bus service travels to Galway. It has a taxi rank providing taxi services from the station; and
  - Galway station has ample car parking and cycle parking. It is located off Eyre Square, and is a short walk (less than 5 minutes in an urban environment) to numerous bus services. It has a taxi rank providing taxi services from the station.

### Implication for the Limerick - Galway Rail Service - 2

- *Limerick, Galway and Ennis stations are reasonably well integrated with other modes, including bus, bicycle, car, etc. however all three could increase bicycle parking provided*
- *Gort, Ardrahan and Craughwell have car and cycle parking available. Numerous buses link the towns to nearby centres however these bus services are a 5 minute walk away from the railway stations*
- *Sixmilebridge and Athenry have car parking and Sixmilebridge has cycle parking available. Bus connections are poor, which is issue in Athenry where the population catchment within 10km is significant and there is potential to increase the rail share between Athenry and Galway.*

## Appendix A – Station Facilities

	Limerick	Sixmilebridge	Ennis	Gort	Adrahan	Craughwell	Athenry	Galway
<b>Routes Served</b>	Limerick to Ennis/ Galway Limerick to Dublin Limerick to Waterford Limerick to Cork/Tralee Limerick to Nenagh/Ballybrophy	Limerick to Ennis/Galway	Limerick to Galway Dublin to Limerick Ennis to Limerick/Cork/Tralee	Galway to Limerick	Galway to Limerick	Galway to Limerick	Dublin to Galway Galway to Limerick	Galway to Dublin/ Athlone Galway to Limerick (connections to Cork, Tralee and Waterford available)
<b>Location</b>	5 minutes walk from City Centre. Thomond Park and the Gaelic grounds are 20-25 minutes. Bus Éireann provide a shuttle service from the City Centre to Thomond Park for all major fixtures.	Approx 10 minutes walk to town centre	10 minutes walk to town centre	Approx 5 minutes walk from town centre	Approx 5 minutes walk to village centre	Approx 5 minutes walk to village centre	One minute walk from Athenry town centre	Located in city centre just off Eyre Square
<b>Staffed</b>	Yes Mon-Fri 09.00-17.30 Sat 09.30-17.00		Yes Mon-Sat: 06.15-22.00, Sun: 07.20-22.00				Yes 05:00hrs-14:45hrs Mon-Fri, 05:00hrs-22:00hrs Sat 05:00hrs-14:45hrs Sun	Yes 06:15hrs-22:30hrs Mon-Sat, 07:15hrs-23:30hrs Sun
<b>Booking Office</b>	Yes Mon 05.00-19.00 Tues-Sat 06.00-19.00 Sun 08.00-19.55	There is no ticket office	06:15hrs-11:15hrs & 12:15hrs-17:30hrs Mon-Sat, 07:20hrs-12:00hrs & 13:00hrs-18:00hrs Sun				07:30hrs-16:00hrs Mon-Sat, Closed on Sunday	Yes 06:15hrs-18:30hrs Mon-Sat 10:30hrs-18:30hrs Sun
<b>Ticket Vending Machine</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Public Car Park</b>	300 spaces, €4 a day	83 spaces, €2 a day	178 spaces, €2 a day	120 spaces, €2 a day	120 spaces, €2 a day	120 spaces, €2 a day	70 spaces, €2 a day	60 spaces, €6 a day
<b>Bike Park</b>	Sheltered bike parking available.	Sheltered bike parking available. Approximately 6 spaces available.	Sheltered bike parking available. Approximately 12 spaces available	Unsheltered Bike Parking Available	Bike parking available	Bike parking available	No bike parking facilities available currently	Bike parking available
<b>Taxi</b>			Yes. Taxi rank available				Yes. Taxi rank available	Yes. Taxi rank available
<b>Buses serving town/village centre</b>	Numerous BÉ City services to Raheen, University of Limerick, Caherdavin etc Eurobus services to University of Limerick and Annacotty Numerous BÉ Expressway services to Dublin, Cork, Galway, Tralee, etc Numerous BÉ Regional services to Shannon Airport, Ennis, Ardnacrusha, Charleville, etc Private operators including services to Dublin Airport	BÉ 343 Limerick – Shannon Airport: ~ 3 times a day BÉ 346 Limerick - Tulla: ~ once a day (each direction) operating on Wednesday only.	Numerous BÉ frequent services to Cork, Limerick, Galway, Shannon Ind. Estate & Airport, Kilkee, Doolin and less frequent services to Doonbeg, Crosses of Annagh, Labasheeda and Scariff Numerous CAT services (some only once a week) to nearby areas such as Newmarket, Scariff, Feakle, Killaloe, Milltown, Ruan – many serving town, bus and rail station and hospital	BÉ 51 Cork – Limerick – Galway: ~ 14 times a day (each direction) BÉ 349 Scariff – Gort: ~ once a day (each direction) operating on Friday only BÉ 434 Galway – Gort: ~ once a day (each direction)	BÉ 51 Cork – Limerick – Galway: ~ 14 times a day (each direction) BÉ 434 Galway – Gort: ~ once a day (each direction)	BÉ 20 Dublin – Galway: ~12 times a day (each way) BÉ 430 Galway – Athlone: ~ 2 times a day (each way) Healy Bus Loughrea – Galway: ~ 3 times a day (each way)	BÉ 418 Galway – Athenry: 3 times a day, once serving the station (each direction)	BÉ City services to Parkmore, Salthill, Ragoon, Ballybrit City Direct services to Knocknacarra, Cappagh Rd and Barna BÉ Expressway to Dublin, Limerick, Ballina, Sligo, etc BÉ Regional to Oranmore, Clifden, Carraroe, etc BÉ services operating to tourist beauty spots such as Cliffs of Moher (BÉ 50 ), Lisdoonvarna and Doolin (BÉ 423) Private operators including services to Tuam, Athenry, Dublin Airport, etc

# Appendix C – Consultation

# Information Note

Project Title:	NTA PT 17 - Western Rail Corridor
MVA Project Number:	300063
Subject:	Consultation
Note Number:	2B      Version: 3.1
Author(s):	Jessica Duggan
Reviewer(s):	Tom Hill
Date:	21 December 2012

## 1 Introduction

1.1 The focus of this study is on the rail service between Limerick and Galway, as part of the Western Rail Corridor. This note details consultation with business and tourism facilities which was undertaken as part of the following previous studies is also included in this note:

- Galway PT Review (2011);
- Limerick PT Review (2011);
- SMW PT Review (2012); and
- BMW PT Review (2012).

1.2 'West on Track' were also consulted as part of this study and a summary of their submission is included.

## 2 Consultation

2.1 Consultation of Local and Regional Authorities and local organisations was undertaken as part of previous studies. The relevant responses are considered in this note. Also considered is a submission made by 'West on Track' in response to this study.

### Galway & Limerick PT Reviews

2.2 As part of the Galway and Limerick PT Reviews, written questionnaires were distributed to Galway City Council, Galway County Council and Limerick City Council. The local authorities were consulted on the appropriateness of existing bus and rail services. Separate questionnaires were also issued to organisations that generate significant demand for transport and represented by major employers, educational facilities and health facilities.

2.3 The consultation responses from the Galway and Limerick studies which are relevant to this study, i.e. related to travel along the Western Rail Corridor (Limerick – Galway), are detailed in this note.

2.4 According to consultation respondents from Galway, there are a number of current barriers to the use of rail. Ticket pricing was noted as a key issue for review, particularly as a number of public and private bus routes serve the same corridor as rail. Other barriers/ issues raised included scheduling and journey times which make the private car relatively more attractive than rail travel. Oranmore and Gort, Parkmore and certain parts of the city are considered well served by public transport.

2.5 A summary of the key issues raised by Galway City Council are:

- Suburban rail stations and service for Oranmore is desirable;
- Lack of a coordinated approach between service providers;
- There is no directional signage from Eyre Square to the station or to the private coach station to facilitate passenger interchange between rail and bus services in Galway City;
- There is a lack of integrated ticketing; and
- While ticket prices are reasonable for single users, they do not represent good value for money for group travel. If a number of people are travelling it can be cheaper to use a car.

2.6 A summary of the key issues raised by Galway County Council are:

- The opening of the Athenry/ Ennis section of the Western Rail Corridor has provided an alternative for commuters to opt for the train. Rescheduling of evening services to facilitate workers commuting by train is welcome, more initiatives of this nature are needed;
- The proposed Oranmore Railway Station should be the mainline station for Galway, with a feeder shuttle/Gluas every 5 minutes into Ceannt Station via Roscam/GMIT/Galvia Hospital;
- The new Garrane station provides a significant opportunity to promote rail as a viable alternative to the car for journeys between Oranmore and Galway City;
- The new Garrane Railway Station should be the transportation Hub for park & ride, rail and rural/City bus services;
- Lack of integrated ticketing for bus and rail also presents a missed opportunity;
- There is potential for the Rural Transport Programme service to integrate and link to services serving the wider metropolitan area; and
- No obvious attempt to integrate the public bus service with rail services, taxi services and especially the rural transport programme. Where BÉ and train stations are co-located presents an opportunity for greater integration.

2.7 A key issue from local organisations in Galway is that shift patterns do not coincide with public transport timetables and while someone may be able to take public transport to work, they may not be able to make their return journey by the same mode, or vice versa. It is known that many shifts begin at 08:00 or 09:00. Poor connectivity with rail was also highlighted as an issue, even for those located in Galway City, with most respondents stating that they are over 1km away from the nearest station.

2.8 Limerick City Council stated that current public transport in the Limerick City Area is short of expectation. A summary of the main issues raised by Limerick City Council are:

- Many city bus services do not pass the rail station;
- Promotion and selling public transport as a reliable mode will have to be addressed as the service improves; and
- Lack of timetable information.

2.9 A key issue from local organisations in Limerick is the nearest railway station is more than one kilometre away. Generally they feel that Shannon Airport and Limerick City are well served by public transport.

### **BMW and SMW PT Review**

2.10 As part of the Border Midlands West (BMW) and South-West and Mid-West (SMW) PT Reviews, written questionnaires were distributed to number Local and Regional Authorities, including Limerick County

Council, Clare County Council, Galway County Council and Mid-West Regional Authority. The authorities were consulted on the appropriateness of existing bus and rail services. Separate questionnaires were also issued to organisations that generate significant demand for transport and represented by major employers, educational facilities and health facilities.

2.11 As above, the consultation responses from the BMW and SMW studies which are relevant to this study, i.e. related to travel along the Western Rail Corridor (Limerick – Galway), are detailed in this note.

2.12 A summary of the key issues from Clare County Council include:

- The potential benefits of the Western Rail Corridor are negated because of prolonged journey times between Ennis and Galway - too many stops along the way and political agendas are pursuing the development of an additional station at Crusheen which will make the service even more unattractive if it proceeds.
- Clare County is generally poorly served by PT but admittedly because of the rural nature of much of the LA area any public transport system would probably need some form of subsidisation to be able to provide the desired level of service and survive.
- Clare County feel that with appropriate consideration and research, it would be possible to provide a sustainable local bus service for the town of Ennis and Environs.

2.13 Key issues raised by local organisations include:

- Rail and bus links could be co-ordinated better and cheaper rail fares would encourage more people to use the service. Links from the train station to Coole Park and other sites would help.
- Bunratty Castle and Folk Park feel that no rail link to Shannon Airport is an issue.

### **West on Track**

2.14 A series of documents were received from West on Track in relation to the WRC. A summary of these documents is listed below.

#### **Proposals for Marketing & Development Strategy for Phase 1 of the WRC, July 2012**

2.15 A number of proposals were prepared by West on Track for consideration by Iarnród Éireann and explore ways of highlighting the benefits of using rail travel such as comfort, reliability, safety and value for money and maximising the superior product of rail travel. The mission is to increase customer numbers and develop positive awareness of the WRC.

2.16 The two areas of focus involved: 'Customer Awareness' and 'Pricing, Competitiveness and Product Development'. There are a number of targets for both areas such as increasing the customer base by targeting tourism and student business for 'Customer Awareness'. With regards to 'Pricing, Competitiveness and Product Development' there are a significant number of measures that would be used to promote greater usage. Some of these included introducing pilot commuter belts, shaving travel times and to review timetable to better suit commuters.

2.17 The Upcoming High Volume Events in the area were also mentioned which would increase the customer base for Summer 2012, such as the Galway Races and the Volvo Ocean Race. Increasing awareness of the product through the media and launching specially made timetables for events and specific times of the year were described in trying to increase the customer base.

2.18 Table 2.1 provides a list of WOT's recommendations for the WRC and our assessment of each.

**Table 2.1 Assessment of West on Track Proposals**

*WOT Proposals Taken from "Proposals for Marketing & Development Strategy for Phase 1 of the Western Rail Corridor July 2012"*

WOT Proposals	Agree with	Worth pursuing	Outside scope
<b>Customer Awareness</b>			
<p>Make the Western Rail Corridor the public transport option of choice for the communities along its line</p>	<p>Agree but will only be PT option of choice if people want to go to Limerick or Galway or stops in between. Bus may be PT option of choice for other journeys, e.g. between Ennis and Lahinch (i.e. towns not served by the railway line)</p>		
<p>Increase customer base by targeting tourism and other interests</p>	<p>Agree, there is the potential to grow this market share. Not all tourism centres are directly served by the railway line and therefore these journeys will need transfer between rail and other modes.</p>		
<p>Make student business a major priority and competitive with alternatives</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<p>Introduce a number of other simple measures to attract business</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<b>Pricing, Competitiveness &amp; Product Development</b>			
<p>Target 3rd Level Students and 2nd Level students. Offer attractive options for daily and weekly student commuters e.g student from Ennis who wishes to commute either daily or weekly to Limerick or Galway. This measure should be introduced and marketed now aimed at student cohorts of Autumn of 2012.</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<p>Use the route as a template to reduce fares by introducing "pilot commuter belts" (for the cities of Galway and Limerick) aimed at increasing passenger numbers and revenue</p>		<p>Not assessed in our study but considered to be worth</p>	

WOT Proposals	Agree with	Worth pursuing	Outside scope
<p>(yearly fare increases have failed in this regard). The NTA would countenance such a pro-active business-led experiment. (The most common single complaint from customers is that the fares from e.g. Ennis or Gort to Galway are too high compared to buses.)</p>		pursuing.	
<p>Introduce intercity rolling stock on some key services (particularly morning and evening) to “upgrade” the image of the line to that of a genuine Intercity route.</p>	Agree.		
<p>Run these services through to Limerick Junction to offer genuine Cork connection dispensing wiht long delay in Limerick. Ultimately aim for Galway-Cork Intercity services as per Rail Vision 2030 report (2012).</p>			Not considered as part of this review.
<p>Urgently shave 10-15 mins off overall running time from Limerick to Galway. This could be easily achieved with a bit of imagination and could then be widely used as a marketing ploy.</p>	Agree with reducing journey times where possible and easily achievable.		
<p>Encourage family, student, commuter and group usage (School tours, Special interest etc) as outlined below.</p>		Not assessed in our study but considered to be worth pursuing.	
<p>Working with Bus Éireann (and other operators) systematically synchronise Bus and Train Timetables at key stations such as Ennis to ensure greater connectivity.</p>	Agree. Greater integration between bus and rail services should be pursued. In particular, improve integration between service providers at Limerick, Galway, Ennis and Athenry stations.		
<p>Review morning commuter services to ensure greater uptake.</p>	Agree. Early morning service between Athenry and Galway is required. However, it is proposed that this service is provided by the Dublin-Galway service.		
<p>Promote Tax Saver option aggressively. Begin by targeting a number of specific companies or businesses.</p>		Not assessed in our study but considered to be worth pursuing.	

WOT Proposals	Agree with	Worth pursuing	Outside scope
<p>Promote permanent free parking at Craughwell, Ardrahan, Gort and Sixmilebridge. Slogan: "Park Free and Travel in Comfort!"</p>	<p>Agree. Free parking should be provided for stations where the bus journey to Limerick/Galway is significantly cheaper than the equivalent rail journey. Consider free car parking at Craughwell, Ardrahan, Gort and possibly Sixmilebridge</p>		
<p>Consider removing stops at smaller rural stations for certain services. If implemented make sure the services actually available are shown clearly on large signs at relevant stations.</p>	<p>Agree. Peak services should not stop at smaller stations. Off-peak services should stop at all stations.</p>		
<p>Promote Dublin connections via Athenry.</p>			<p>Not considered as part of this review.</p>
<p>Advertise widely in towns along the route and at stations.</p>			<p>Not considered as part of this review.</p>
<p>Advertise on the trains using signs and announcements.</p>			<p>Not considered as part of this review.</p>
<p>Make customer-friendly announcements on all trains a la low-cost airlines. Thank customers for using the train.</p>			<p>Not considered as part of this review.</p>
<p>Have local businesses operating mini-shops/booths at Athenry and Ennis stations where tea, coffee, chocolate, fruit, newspapers, magazines etc. are available. If possible extend to having small "café" area in each station where people can sit while waiting for trains. Look at doing this in Gort also.</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<b>Upcoming High Volume Events</b>			
<p>During Summer 2012 a number of large-scale events will drive footfall into Galway City and increase the potential customer base: Volvo Ocean Race, Galway Races, Galway Arts Festival.</p>	<p>Agree. Rail travel to high volume events should be promoted.</p>		

WOT Proposals	Agree with	Worth pursuing	Outside scope
<b>Actions</b>			
<p>Launch a special timetable targeting customers for these events e.g late night return journeys to suit end of race meetings, concerts etc.</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<p>Targeted market campaign for those events working in partnership with event organisers</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<p>Use local radio as a primary PR weapon. Clare FM and Galway Bay FM are widely listened to. Offer 2 free tickets as a regular item, say each Friday, on certain shows e.g. Keith Finnegan (GB FM).</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<p>Develop long term plan for annual special events including: St Patrick's Day, GAA fixtures, Rugby Fixtures, Concerts, Christmas Markets, Festivals. Christmas Shopping Schedules etc.</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<b>Delivery</b>			
<p>Targeted regional Marketing plan using local press, radio, social media highlighting (a) special offers (b) special schedules.</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<p>Local marketing plan that targets local users/ commuters encouraging them to try the service with a view to switching. Primary target to turn 'Car users into train users' - availing of a service that reduces reliability on cars, reducing petrol &amp; parking costs and providing a comfortable, enjoyable, stress-free and environmentally-friendly experience.</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	
<p>PR plan to complement marketing campaign e.g Launching Special Arts Festival Schedule, Launch Christmas shopping special day-return fare, Santa, Christmas Carols on the Train etc. i.e. rail journey as an 'experience' rather than simply a question of getting from A to B.</p>		<p>Not assessed in our study but considered to be worth pursuing.</p>	

WOT Proposals	Agree with	Worth pursuing	Outside scope
Most attractive station/stop competition etc.		Not assessed in our study but considered to be worth pursuing.	
Competitions to attract interest (School Children, Students etc)		Not assessed in our study but considered to be worth pursuing.	

### **West On Track and IE Progress Meeting (Phase 1 of WRC), 28th Aug 2012**

- 2.19 A meeting was held in Ceannt Station, Galway between West on Track (WOT) and Paul Kelly and Cathal Lyons (both IE).
- 2.20 A number of ideas are under active consideration (Sep 2012) including the introduction of InterCity Railcars (ICR) and reducing running time between Limerick and Galway. Restrictions on Galway-Limerick by IE engineers are to be reviewed as well as the possible development of pilot commuter belts for both cities.
- 2.21 A number of ideas were agreed to be implemented without delay such as:
- attractive options for 2<sup>nd</sup> and 3<sup>rd</sup> level students and to promote the tax saver option;
  - working and collaborating with BÉ and other operators to synchronise timetables at key stations will be undertaken;
  - free parking at Craughwell, Ardrahan, Gort and possibly Sixmilebridge;
  - formation of local rail partnerships will be trialled in Gort to assist and advise passengers at that station;
  - some smaller rural stations will be considered for removal as well as promoting and advertising the various services; and
  - both waiting and shop facilities will be improved at Ennis and shop facilities at Athenry.

### **Submission by WOT to NTA Regarding Phase 1 of the WRC, Sep 2012**

- 2.22 The AECOM/ Goodbody Strategic Rail Investments Needs Review - Rail Vision 2030 was a major report into the future strategy for the national rail network. It recommended that improvements in speeds and capacity on Intercity lines, including the Limerick-Galway route, be prioritised. The report also confirmed strong growth on the Athenry-Galway section and further growth is anticipated once Oranmore opens. It added that Ennis-Limerick remains strong. A number of recommendations were made including an upgrade of services in terms of seat reservation, advance purchases and catering. It also recommended that frequency be increased to eight trains per day and five direct services per day from Cork-Limerick-Galway. It suggested that consideration should also be given to reopening the railway from Tuam to Athenry/Galway as a commuter route.

#### Working Group & Current Engagement with IE:

- 2.23 A number of ideas are under active consideration (Sep 2012) as described above in 'WOT and IE progress meeting (Phase 1 of WRC), 28<sup>th</sup> Aug 2012'.

#### Essential Requirements:

- 2.24 In order for these and other initiatives to have a real impact, there are a number of key measures proposed, such as the introduction of ICRs on all intercity services, reduced running times, additional morning commuter services, availability of online booking, etc.

#### Development of the WRC as a Strategic Freight Route:

- 2.25 Recently West on Track in conjunction with the Irish Exporters Association (IEA) commissioned a paper on developing the Claremorris-Athenry-Limerick line as a strategic freight railway i.e. part of the Western Rail Corridor linking western exporting industries to southern ports and potentially Foynes.

#### Appendix:

- 2.26 Appended to the WOT submission are details of the passenger numbers on the WRC in 2012 compared to 2011. This information was supplied by IE and shows an overall increase of 7.2% in passenger numbers to date in 2012 along the WRC.
- 2.27 A total of 224,166 journeys were made across the full route in 2011, including:
- 66,390 for Limerick-Ennis;
  - 34,461 between Limerick-Galway; and
  - 123,315 for Athenry-Galway.
- 2.28 The equivalent total for 2010 is 185,254, though this only covers the year from the end of March to the end of December, as the new line opened on March 30 2010.
- 2.29 This shows the growth in patronage on the commuting elements of the rail services offset by lost patronage on the intercity trip, the latter possibly caused by the inability to reduce journey time intercity by comparison with car.

#### **Implication for the Limerick - Galway Rail Service - 3**

##### ***Key points raised through consultation include:***

- *Rail is considered expensive, especially considering other options available*
- *Longer journey times make the use of the car more attractive*
- *Rail timetables do not meet commuter needs, especially because timetables are not always aligned with shift patterns*
- *Lack of coordination between service providers, including RTP*
- *Local bus service to improve the local catchment of rail services in Ennis and Environs would be sustainable*
- *Target tourism and student business, introduce pilot commuter belts, reduce travel times and review timetables to better suit commuters*

# Appendix D – Competition Analysis

# Information Note

Project Title:	NTA PT 17 - Western Rail Corridor	
MVA Project Number:	300063	
Subject:	Competition Analysis	
Note Number:	3	Version: 3.2
Author(s):	Michelle Steel	
Reviewer(s):	Tom Hill	
Date:	21 December 2012	

## 1 Introduction

- 1.1 The focus of this note is a comparison between fares/ costs (2012), journey time and frequency for rail, bus, and car along the rail corridor between Limerick and Galway, as part of the Western Rail Corridor. This information was determined via desktop research.

## 2 Fares Comparison

- 2.1 A full list of fares (2012) for each O-D is provided in Appendix A. A fares comparison for a sample of journeys along the WRC is referred to in this note. These sample journeys include Limerick – Ennis, Gort – Galway, Athenry – Galway and Limerick – Galway.

### Rail Fares

- 2.2 There are 18 fare types for Iarnrod Éireann (IE) tickets (A – U). These are broken down by distances ranging from 0-16km to 283–500km. The distance between Limerick Colbert and Galway Ceannt is approximately 118km.
- 2.3 The rail fares for the sample journeys along the Western Rail Corridor are shown in Table 2.1. These fares are taken from the IE fares book 2012.

### Bus Fares

- 2.4 The Bus Éireann fares for the same journeys sampled above are shown in Table 2.1. The Limerick to Galway bus route deviates from the rail route at Ardahan. The bus follows the N18 to Oranmore and then on to Galway City.
- 2.1 Citylink also operate a private bus service for Galway – Limerick – Cork City. This is predominantly an express route, which does not stop in the towns and villages served by the Western Rail Corridor route.

**Car Costs**

- 2.2 Car journey costs were taken from Google Maps, and based on a standard petrol car with fuel costing €1.62 per litre. Table 2.1 shows the estimated fuel costs for a trip in one direction for the sample journeys. Making the return trip is assumed to be double the cost of a single journey.
- 2.3 Similarly, to make the return journey every day of the working week would yield a cost 10 times greater (assuming a return journey Monday – Friday). These costs can be compared to the weekly ticket offered by public transport providers and are included in Table 2.1.
- 2.4 Parking costs also need to be considered for those car journeys where free car parking is not available or where a rail passenger drives and parks at the station. Based on a desktop study, the average cost of parking in Galway City is €2.20/hr or €6/day at Galway Ceannt station. Parking charges are about €1.80/hr in Limerick; however there are numerous free car parks. Parking at Limerick Colbert station is €4/day. Parking in Ennis is cheaper at €3/day, or free, and €2/day at Ennis station. Parking charges significantly increase the door-to-door cost associated with using the car for the full journey or driving and parking at the station. Parking costs are not included in Table 2.1.

**Table 2.1 Adult Rail and Bus Fares and Estimated Fuel Costs**

Mode	From	To	Distance (km)	Adult Fares or Estimated Fuel Cost (€)				
				Single	Day Return	Open Return	Weekly	Monthly
Rail	Limerick	Ennis	40	€ 9.80	€ 11.90	€ 17.80	€ 39.60	€ 146.00
Bus	Limerick	Ennis	37.4	€ 9.00	€ 14.00	€ 14.51	€ 44.00	NA
Car	Limerick	Ennis	37.4	€ 5.92	€ 11.84	€ 11.84	€ 59.20	€ 236.80
Rail	Gort	Galway	48	€ 12.50	€ 13.10	€ 21.00	€ 54.00	€ 195.00
Bus	Gort	Galway	58.9	€ 5.50	€ 10.00	€ 10.00	€ 50.00	NA
Car	Gort	Galway	38.2	€ 6.17	€ 12.34	€ 12.34	€ 61.70	€ 246.80
Rail	Galway	Athenry	22	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Bus	Galway	Athenry	23.7	€ 6.70	€ 8.80	€ 11.00	€ 34.00	NA
Car	Galway	Athenry	26.8	€ 4.15	€ 8.30	€ 8.30	€ 41.50	€ 166
Rail	Limerick	Galway	118	€ 21.00	€ 22.00	€ 32.50	€ 93.00	€ 335.00
Bus	Limerick	Galway	102	€ 15.00	€ 20.00	€ 22.00	€ 70.51	NA
Car	Limerick	Galway	102	€ 15.22	€30.44	€30.44	€106.54	€304.40

2.5 Table 2.1 includes a summary of the costs of travelling by various modes for the selected routes. With respect to weekly and monthly costs, the train is the cheapest mode for each trip, except for Limerick-Galway monthly where the cost of a trip is cheapest when using a car. The train is more costly than the bus when it comes to single, return or open return trips. The train is also more expensive than the cost of a single car trip although this does not take into account the parking fares that may apply.

- Limerick-Ennis: The car is the cheapest mode of transport for a single journey but is only marginally cheaper for the return journey when compared to a day return by rail. It is important to note that the costs in Table 2.1 do not include parking charges, for either end, e.g. parking at the destination for those driving or parking at the origin for those driving to the railway station. It is likely that those travelling to/from Limerick or Ennis would be able to avail of free parking. In terms of weekly and monthly fares, the train is the cheapest mode available.
- Gort-Galway: The bus is the cheapest mode of transport for all fares up to weekly return. There is no monthly ticket. The most expensive mode is the train for single, day and open returns. The car is the most expensive mode of transport for weekly and monthly travel. For those having to pay for parking in Galway, it is likely that car would be the most expensive mode for day return journeys.
- Galway-Athenry: Similar to the Limerick-Ennis route, the car is the cheapest mode of transport for single and return journeys. The train is the most expensive mode. Again, for those having to pay for parking in Galway, it is possible that car would be the most expensive mode for day return journeys. In terms of weekly and monthly fares, the train is the cheapest mode available.
- Limerick-Galway: Similar to the Gort-Galway line, the bus is the cheapest mode of transport for all fares up to weekly return. There is no monthly ticket. The most expensive mode is the train for single and open returns. For day returns car is the most expensive mode and would be relatively more expensive. The car is the most expensive mode of transport for weekly and monthly travel.

2.6 Appendix A includes a full list of rail and bus fares and car costs (2012) for every origin – destination trip along the Western Rail Corridor.

**Implication for the Limerick - Galway Rail Service - 1**

- *The cost of all single tickets is significantly higher on the rail service than the equivalent costs on bus or car.*
- *Day return tickets on the rail service are equivalent to those offered by bus operators and in many cases are in line with car costs.*
- *However, the rail open return ticket is significantly more expensive than the equivalent bus ticket for most journeys.*
- *Weekly and monthly tickets are very competitive and cheaper than car for most journeys.*

### 3 Journey Time Comparison

- 3.1 Train journey times are taken from the Iarnród Éireann timetable.
- 3.2 Bus Éireann has two main routes between Limerick and Galway. The 51 is an intercity route, which stops at the major towns en route. This service is hourly and the end to end journey is approximately 20 minutes slower than rail. The bus and rail service do not leave/arrive at the same time but both services stop at many of the same locations between Limerick and Galway.
- 3.3 The 51X is an express service, non-stop between Limerick and Galway. This service is hourly and the end to end journey is approximately 30 minutes faster than rail. The bus and rail service do not directly compete, i.e. they do not leave/arrive at the same time and the rail service stops at many locations between whereas the bus only serves Limerick, Galway and GMT. A regional service, the 418, travels between Athenry and Galway. Citylink also provide an express type service between Limerick and Galway.
- 3.4 Car journey times are taken from Google Maps. The journey times along the fastest routes possible are presented.
- 3.5 As for the journey costs, journey times for sample journeys are included in the table below. A more complete list of journey times is included in Appendix A.

**Table 3.1 Journey Time Comparison of Selected Routes**

Mode	From	To	Distance (km)	Av. Journey Time (mins)
Rail	Limerick	Ennis	40	39
Bus	Limerick	Ennis	48.5	60
Car	Limerick	Ennis	37.4	39
Rail	Gort	Galway	50	46
Bus	Gort	Galway	39.6	50
Car	Gort	Galway	38.2	40
Rail	Galway	Athenry	22	15
Bus	Galway	Athenry	26.8	35
Car	Galway	Athenry	25.2	26
Rail	Limerick	Galway	118	109
Bus	Limerick	Galway	98	80
Car	Limerick	Galway	98	80

3.6 In summary:

- Limerick-Ennis: The quickest journey time is 39 minutes by either the train or the car. The bus is the longest trip at 60 minutes, however it should be noted that the bus diverts via Shannon Airport which rail does not.
- Gort-Galway: The quickest journey time is the car at 40 minutes. This is only 6 and 10 minutes quicker than rail and bus respectively.
- Galway-Athenry: The quickest journey time is by train at 15 minutes, as it is the most direct route. There are no train stops between Athenry and Galway. The bus is the slowest mode at 35 minutes.
- Limerick-Galway: The quickest journey times are by the express (X51) bus or car, which are both only 80 minutes. The train is the longest journey at 109 minutes.

**Implication for the Limerick - Galway Rail Service - 2**

- *Between Limerick and Ennis, rail journey times are as fast as car, and faster than bus. Similarly, between Athenry and Galway, rail is the fastest mode of travel.*
- *Between Gort and Galway car is fastest mode of travel but only marginally faster than rail.*
- *However, between Limerick and Galway cities, rail is the slowest mode of transport. The rail line is approximately 20 kms longer than the road journey. There are also a high number of stations and level crossings which affect the speeds at which the train can travel. This will be considered further in Note 6.*

#### 4 Frequency Comparison

4.1 Frequency is considered in Note 2: PT Characteristics Note. In summary:

##### Implication for the Limerick - Galway Rail Service - 3

- *Early morning and late evening trains facilitate commuter travel into Limerick and Galway (but not earlier than 08:05 into Galway or later than 18:30 leaving Galway for Limerick).*
- *There are frequent rail services between Limerick and Ennis and Galway and Athenry.*
- *Rail services between Ennis and Athenry are less frequent, only six in each direction a day.*
- *There are regular bus services serving Limerick and Galway stations providing services to nearby areas.*
- *There are frequent bus services between Cork and Galway via Limerick and between Galway and Dublin.*
- *Ennis is well serviced by frequent buses (BÉ and RTP) to Limerick, Galway, Shannon Industrial Estate, Shannon Airport and other localities nearby.*
- *Gort, Ardrahan and Craughwell and reasonably well served by bus.*
- *Bus services to Athenry and Sixmilebridge are infrequent; 3 times a day.*

#### 5 Comparison of Modes

- 5.1 In general, rail and bus costs are quite similar, with car being the cheapest form of transport for single journeys. For example, a day return journey from Limerick to Ennis costs €11.90 for rail, €14 for bus and €11.84 for car. And a return journey from Limerick to Galway is €22 for rail, €20 for BÉ, €22 for Citylink and €15.22 for car. Weekly and monthly tickets offer very good value for rail travel compared to car, especially when parking charges are required.
- 5.2 Rail is faster than bus for shorter journeys, for example the journey time between Limerick and Ennis is 39 minutes by rail, 60 minutes by bus. However for longer journeys rail is relatively slower due to its route being longer than the road. For example the journey time between Limerick and Galway is 109 minutes for rail compared to 80 minutes for bus.
- 5.3 Bus and rail frequencies are quite similar. Both are reasonably frequent for journeys between Limerick and Galway cities and also from Athenry into Galway and Ennis into Limerick. For other journeys, i.e. between Ennis and Athenry, rail and bus are less frequent.

**Table A.1 Rail Fares between stops on the Western Rail Corridor**

From	To	Distance (km)	Fare Code	Adult Fares (€)				
				Single	Day Return	Open Return	Weekly	Monthly
Limerick	Sixmilebridge	21	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Limerick	Ennis	40	C	€ 9.80	€ 11.90	€ 17.80	€ 39.60	€ 146.00
Limerick	Gort	68	F	€ 15.50	€ 18.00	€ 25.00	€ 73.70	€ 269.00
Limerick	Ardrahan	79	G	€ 18.50	€ 19.50	€ 30.00	€ 77.00	€ 281.00
Limerick	Craughwell	88	G	€ 18.50	€ 19.50	€ 30.00	€ 77.00	€ 281.00
Limerick	Athenry	96	H	€ 20.00	€ 21.00	€ 31.50	€ 81.50	€ 297.00
Limerick	Galway	118	J	€ 21.00	€ 22.00	€ 32.50	€ 93.00	€ 335.00
Sixmilebridge	Ennis	19	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Sixmilebridge	Gort	47	D	€ 12.50	€ 13.10	€ 21.00	€ 54.00	€ 195.00
Sixmilebridge	Ardrahan	58	F	€ 15.50	€ 18.00	€ 25.00	€ 73.70	€ 269.00
Sixmilebridge	Craughwell	67	F	€ 15.50	€ 18.00	€ 25.00	€ 73.70	€ 269.00
Sixmilebridge	Athenry	75	G	€ 18.50	€ 19.50	€ 30.00	€ 77.00	€ 281.00
Sixmilebridge	Galway	97	H	€ 20.00	€ 21.00	€ 31.50	€ 81.50	€ 297.00
Ennis	Gort	29	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Ennis	Ardrahan	39	C	€ 9.80	€ 11.90	€ 17.80	€ 39.60	€ 146.00
Ennis	Craughwell	49	E	€ 13.00	€ 13.20	€ 23.70	€ 57.00	€ 211.00
Ennis	Athenry	57	F	€ 15.50	€ 18.00	€ 25.00	€ 73.70	€ 269.00
Ennis	Galway	78	G	€ 18.50	€ 19.50	€ 30.00	€ 77.00	€ 281.00
Gort	Ardrahan	11	A	€ 5.60	€ 8.50	€ 11.20	€ 27.00	€ 101.00
Gort	Craughwell	20	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Gort	Athenry	28	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Gort	Galway	48	D	€ 12.50	€ 13.10	€ 21.00	€ 54.00	€ 195.00

From	To	Distance (km)	Fare Code	Adult Fares (€)				
				Single	Day Return	Open Return	Weekly	Monthly
Ardrahan	Craughwell	10	A	€ 5.60	€ 8.50	€ 11.20	€ 27.00	€ 101.00
Ardrahan	Athenry	18	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Ardrahan	Galway	39	C	€ 9.80	€ 11.90	€ 17.80	€ 39.60	€ 146.00
Craughwell	Athenry	8	A	€ 5.60	€ 8.50	€ 11.20	€ 27.00	€ 101.00
Craughwell	Galway	30	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00
Athenry	Galway	22	B	€ 7.50	€ 11.50	€ 14.60	€ 37.00	€ 137.00

**Table A.2 Equivalent Bus Eireann Fares along WRC**

From	To	Adult Fares (€)			
		Single	Day Return	Open Return	Weekly
Limerick	Sixmilebridge	€ 5.20	€ 7.20	€ 8.71	€ 33.00
Limerick	Ennis	€ 9.00	€ 14.00	€ 14.51	€ 44.00
Limerick	Gort	€ 9.00	€ 14.00	€ 14.51	€ 60.00
Limerick	Ardrahan	€ 15.00	€ 20.00	€ 22.00	€ 65.50
Limerick	Galway	€ 15.00	€ 20.00	€ 22.00	€ 70.51
Sixmilebridge	Ennis	€ 6.70	€ 8.80	€ 11.00	€ 41.51
Sixmilebridge	Gort	€ 17.50	€ 24.00	€ 29.00	€ 68.00
Sixmilebridge	Galway	€ 15.00	€ 20.00	€ 22.00	€ 69.00
Ennis	Gort	€ 9.20	€ 13.00	€ 15.31	€ 51.50
Ennis	Ardrahan	€ 10.00	€ 16.00	€ 18.51	€ 53.50
Ennis	Galway	€ 10.00	€ 19.00	€ 20.00	€ 58.51
Gort	Ardrahan	€ 3.60	€ 6.51	€ 6.51	€ 29.50
Gort	Galway	€ 5.50	€ 10.00	€ 10.00	€ 50.00
Ardrahan	Galway	€ 5.50	€ 10.00	€ 10.00	€ 43.51
Athenry	Galway	€ 6.70	€ 8.80	€ 11.00	€ 34.00

**Table A.3 Equivalent Citylink Fares along WRC**

From	To	Adult Fares (€)			
		Single	Day Return	Open Return	Weekly
Limerick	Galway	€ 13.50	€ 22.00	€ 22.00	-
Craughwell	Galway	€ 6.50	€ 10.50	€ 10.50	-

**Table A.4 Car Costs for travel between towns on the Western Rail Corridor**

From	To	Distance (km)	Estimated Fuel Cost Single Journey
Limerick	Sixmilebridge	16.0	€ 3.38
Limerick	Ennis	37.4	€ 5.92
Limerick	Gort	62.8	€ 9.31
Limerick	Ardrahan	71.9	€ 10.60
Limerick	Craughwell	83.0	€ 13.05
Limerick	Athenry	92.4	€ 15.02
Limerick	Galway	99.1	€ 15.22
Sixmilebridge	Ennis	23.0	€ 4.36
Sixmilebridge	Gort	48.4	€ 7.75
Sixmilebridge	Ardrahan	57.5	€ 9.04
Sixmilebridge	Craughwell	68.6	€ 11.49
Sixmilebridge	Athenry	78.0	€ 13.46
Sixmilebridge	Galway	84.7	€ 13.66
Ennis	Gort	30.4	€ 4.71
Ennis	Ardrahan	39.6	€ 6.00
Ennis	Craughwell	50.7	€ 8.45
Ennis	Athenry	60.1	€ 10.42
Ennis	Galway	66.8	€ 10.61
Gort	Ardrahan	11.0	€ 1.56
Gort	Craughwell	22.1	€ 4.00

From	To	Distance (km)	Estimated Fuel Cost Single Journey
Gort	Athenry	31.5	€ 5.98
Gort	Galway	38.2	€ 6.17
Ardrahan	Craughwell	11.5	€ 2.43
Ardrahan	Athenry	20.9	€ 4.40
Ardrahan	Galway	27.2	€ 4.62
Craughwell	Athenry	9.4	€ 1.97
Craughwell	Galway	26.2	€ 5.35
Athenry	Galway	26.8	€ 4.15

**Table A.5 Rail Journey Times between stations on the WRC**

From	To	Distance (km)	Journey Time (mins)
Limerick	Sixmilebridge	21	21
Sixmilebridge	Ennis	19	18
Ennis	Gort	28	24
Gort	Ardrahan	11	11
Ardrahan	Craughwell	9	9
Craughwell	Athenry	8	11
Athenry	Galway	22	15
	<b>Total</b>	<b>118</b>	<b>109</b>

**Table A.6 Bus Eireann Journey Times along WRC**

Route	From	To	Journey Time (mins)
51	Limerick	Ennis (Bus Station)	60
51	Limerick	Gort (The Square)	90
51	Limerick	Ardrahan (Burke's)	100
51	Limerick	Galway (Bus Station)	140

51X	Limerick	Galway	80
418	Athenry	Galway	47

**Table A.7 Car Journey Times along WRC**

<b>From</b>	<b>To</b>	<b>Distance (km)</b>	<b>Journey Time (mins)</b>
Limerick	Sixmilebridge	16.0	20
Limerick	Ennis	37.4	39
Limerick	Gort	62.8	48
Limerick	Ardrahan	71.9	56
Limerick	Craughwell	83.0	69
Limerick	Athenry	92.4	82
Limerick	Galway	99.1	86
Sixmilebridge	Ennis	23.0	26
Sixmilebridge	Gort	48.4	35
Sixmilebridge	Ardrahan	57.5	43
Sixmilebridge	Craughwell	68.6	57
Sixmilebridge	Athenry	78.0	69
Sixmilebridge	Galway	84.7	73
Ennis	Gort	30.4	23
Ennis	Ardrahan	39.6	31
Ennis	Craughwell	50.7	45
Ennis	Athenry	60.1	57
Ennis	Galway	66.8	61
Gort	Ardrahan	11.0	11
Gort	Craughwell	22.1	24
Gort	Athenry	31.5	36
Gort	Galway	38.2	40
Ardrahan	Craughwell	11.5	14
Ardrahan	Athenry	20.9	27

Ardrahan	Galway	27.2	30
Craughwell	Athenry	9.4	13
Craughwell	Galway	26.2	31
Athenry	Galway	26.8	27

# Appendix E – Catchment Analysis

# Information Note

Project Title:	NTA PT 17 - Western Rail Corridor	
MVA Project Number:	300063	
Subject:	Catchment Analysis	
Note Number:	4	Version: 3.1
Author(s):	Jessica Duggan	
Reviewer(s):	Tom Hill	
Date:	21 December 2012	

## 1 Introduction

1.1 The catchment area of the Western Rail Corridor, between Limerick and Galway, is defined within this note. Desire lines were determined using POWSCAR data (2011). The key destinations/ attractions were identified via desktop research. Catchment analysis is undertaken at three levels:

- Population analysis within 1km, 5km and 10km of Limerick Colbert station, Galway Ceannt station and all stops in between using GIS;
- Identification of key destinations / attractions within Counties Clare and Galway and north County Limerick that could be accessed via the rail line or in combination with other modes; and
- Strategic assessment of potential demand from further afield.

## 2 Demographic and Travel Characteristics

2.1 This note provides a summary of the demographic context to the study. It includes, for example, a profile of the resident population within the study area, the age profile and the existing (2011) desire lines of travel within the study area. A review of this information will provide a better understanding of whether existing public transport service provision within the study area supports wider economic and social outcomes.

2.2 This review of the characteristics of the study area has been facilitated by analysis of census data notably through 2011 Places of Work and Schools Census and Anonymised Records (POWSCAR) and 2011 Small Area Population Statistics (SAPS), which allow key statistics to be broken down into local electoral division level.

## 3 Local Population Analysis

3.1 Local population analysis is defined as those within the direct catchment (i.e. within 1km walking distance) of the stops along the line (between Limerick and Galway), and those living

within 5km and 10km of each stop, where bus, car and other modes can provide access to stops along the line.

**Population**

3.2 Table 3.1 present the population totals of each village/town/city living at each station and the percentage of that population which resides within 1km and 10km of each of the stations.

**Table 3.1 Population within 1km, 5km & 10km of Stations**

Station/ Population	Within 1km	Within 5km	Within 10km
Limerick	4134	56034	89818
Sixmilebridge	622	2382	2382
Ennis	1906	22349	24665
Gort	845	2463	2463
Ardrahan	265	480	480
Craughwell	665	665	665
Athenry	1953	3568	3568
Galway	4032	46450	75745

3.3 Table 3.1 indicates that Limerick, Galway, Ennis and Athenry rail stations have the most significant populations living within 1km (over 1,900 people). The population within 1km of the remaining stations is less than 1,000 and therefore there is little opportunity to increase walking to these stations.

3.4 There are significant populations living within 10km of Limerick (~78k), Galway (~90k) and Ennis (~25k). At these stations there is an opportunity to increase bus, cycling, taxi and car travel to these stations. Athenry has approximately 3,600 people living with 10km respectively and therefore there is also an opportunity to increase bus, cycling, taxi and car travel to these stations, although to a lesser extent.

3.5 The remaining stations, Gort, Sixmilebridge and particularly Ardrahan and Craughwell do not have significant population catchments and therefore there is a limited opportunity to increase bus, cycling and car travel to these stations.

3.6 Station catchment figures showing those living within 1km, 5km and 10km of stations are included in Appendix A.

**Age Profiles**

3.7 Analysis of age profiles was undertaken and is also presented in Appendix A. The 20 - 64 age group predominates across much of the study area and constitutes 60 - 70% of the populations of most EDs within 10km of all stations except Ardrahan and Craughwell where it is 50 - 60%. This age category is of particular interest, as it corresponds to those that are most likely to be economically active and contributing to overall peak period travel demands.

- 3.8 There are less than 30% of 0 – 19 years of age cohort living within 10km of stations, except for Craughwell, Sixmilebridge and Ardrahan where there is between 30% and 40%. Findings indicate that there is a notable minority of 64+ years of age in some areas along the Limerick - Galway Rail Line.

### Car Ownership

- 3.9 Car ownership within the study area is high with in most areas only 0-20% of households having no car (areas highlighted in red) shown in figures in Appendix A. This indicates that most people in the catchment will be able to drive or get a lift to a station. The lowest levels of car ownership are seen in the cities of Limerick and Galway and to a lesser extent in Ennis and Gort.

#### Implication for the Limerick - Galway Rail Service - 1

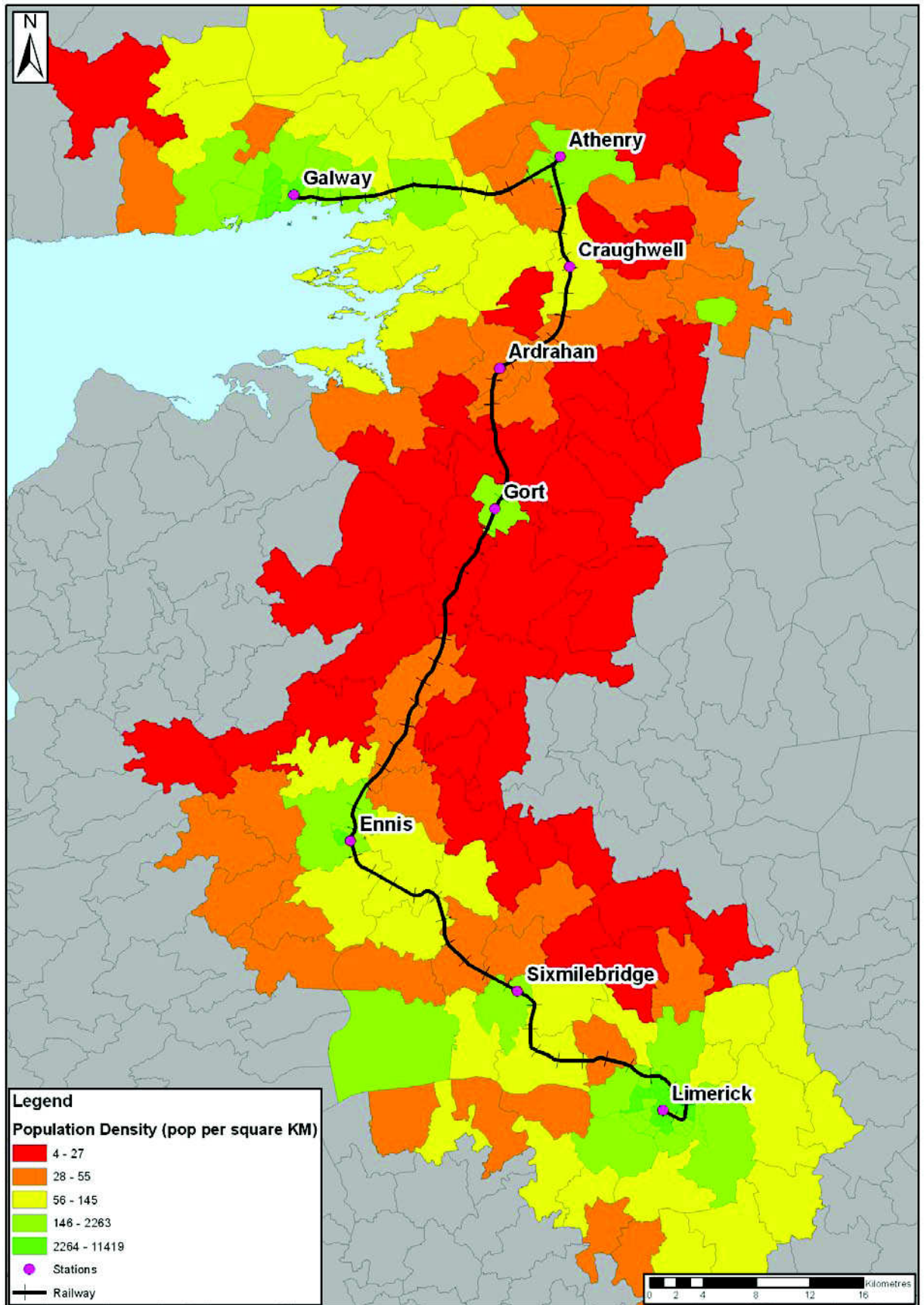
*There is significant population living within 1km of Limerick, Galway, Ennis and Athenry, suggesting that is feasible for many to walk or cycle to the station. At other stations the population living within 1km is much less, and this means that there is limited scope to increase patronage by rail.*

*The high levels of people 20 – 65 years of age provide a market for public transport, in particular linking people to their places of work and leisure/ social/ retail activities. Timetabling, routing and integration of services should take cognisance of this active population travel characteristics.*

*Most intending passengers will be able to drive or get a lift but there will still be a role for buses and taxis at Limerick, Galway, Ennis and Gort. This also implies strong competition from car with rail, in particular on the short-medium journeys.*

*When considering those living within 10km of stations a substantial share of people will need to drive, get a lift, take a bus or taxi, or cycle to access rail services. Quality of access to stations by these modes is therefore key to attracting passengers. For those living within 10km of Limerick, Galway and Ennis travel to the station is facilitated by a fairly comprehensive local bus network. Direct bus access to Ardrahan, Craughwell and Gort is limited because of the distance between the railway station and the bus stops located in the town/village centres (approximately 5 minutes walk away). Bus access to the railway stations in Athenry and Sixmilebridge is very limited.*

Figure 3.1 Population Density within 10km of Railway Stations (2011 CSO Census)



#### 4    Desire Lines

- 4.1    Desire lines, examples of which are illustrated in Figures 4.1 – Figure 4.3 were drawn for trips made by rail, car and bus along the Limerick – Galway railway line. These desire lines are based on POWSCAR data (2011) in which travel to work and to education are reported separately.
- 4.2    Figure 4.1 shows the desire lines of those travelling by rail to work and education (separately). The most significant rail travel is for work trips between Athenry and Galway (greater than 10 trips) and Ennis, Sixmilebridge and Limerick (6-10 trips). No significant trips are made by rail for education. Also it is of note that no rail trips, for work or education, are recorded for the section of line between Ennis and Craughwell.
- 4.3    Bus desire lines are shown in Figure 4.2; again work and education are shown separately. For work trips, the desire lines are not directly served by rail and are not significant outside of Galway, Limerick and Ennis. The bus trips by education are more notable and dispersed around many of the cities and main towns. Many of these desire lines are directly served by rail; including Athenry – Craughwell (> 50 trips), Ardrahan – Craughwell (21-50 trips) and Ennis – Sixmilebridge – Limerick (11-20 trips).
- 4.4    Figure 4.3 shows those travelling to work and education by car. Clearly, within the study area, many more commuters travel by car to work compared to rail or bus. The strongest car desire lines (> 200 trips) are between Ennis – Shannon - Limerick and between Athenry – Galway. It is worth noting that Shannon is not on the rail line and therefore rail cannot compete with the car/bus between Ennis - Shannon and Limerick - Shannon. No significant car trips are made for education.

#### **Implication for the Limerick - Galway Rail Service - 2**

*This indicates an opportunity to facilitate some of the existing car trips by public transport, encouraging a shift from the private car for trips to work. However, the only strong car desire line that can be facilitated by the rail line is between Athenry and Galway. There may also be an opportunity to increase the rail share for trips to Education between Athenry – Craughwell and Ardrahan - Craughwell. Strong desire lines between Ennis – Shannon - Limerick to the most part can't be directly served by rail.*

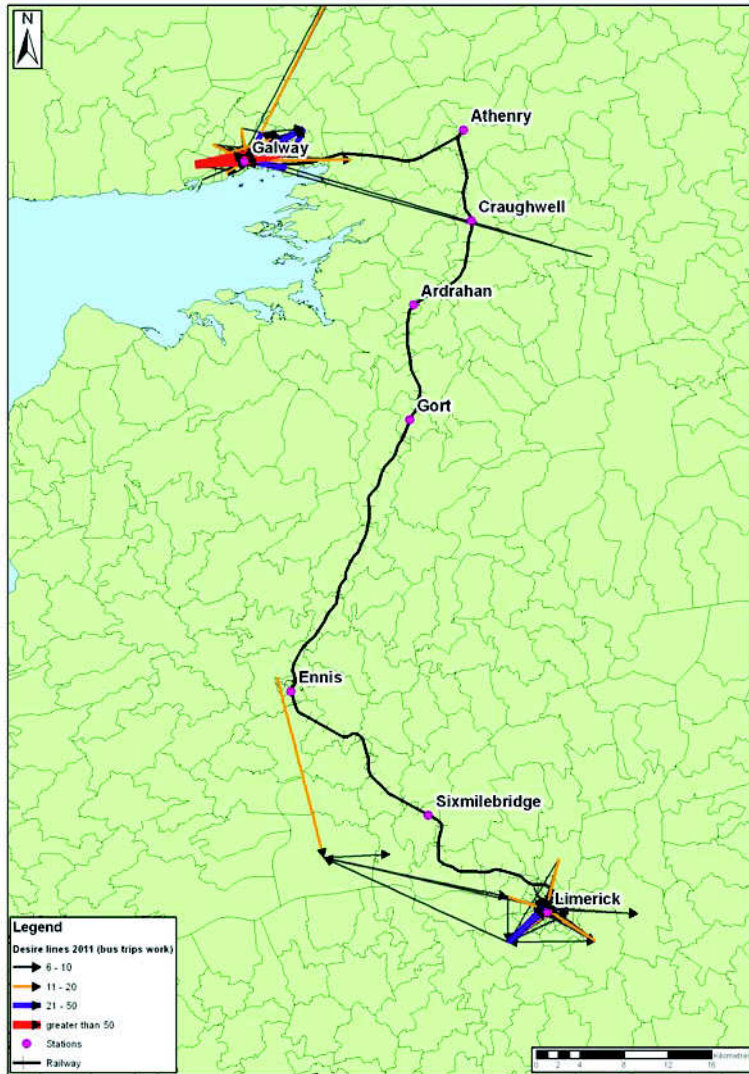
**Figure 4.1 Rail Desire Lines: Travel to Work**



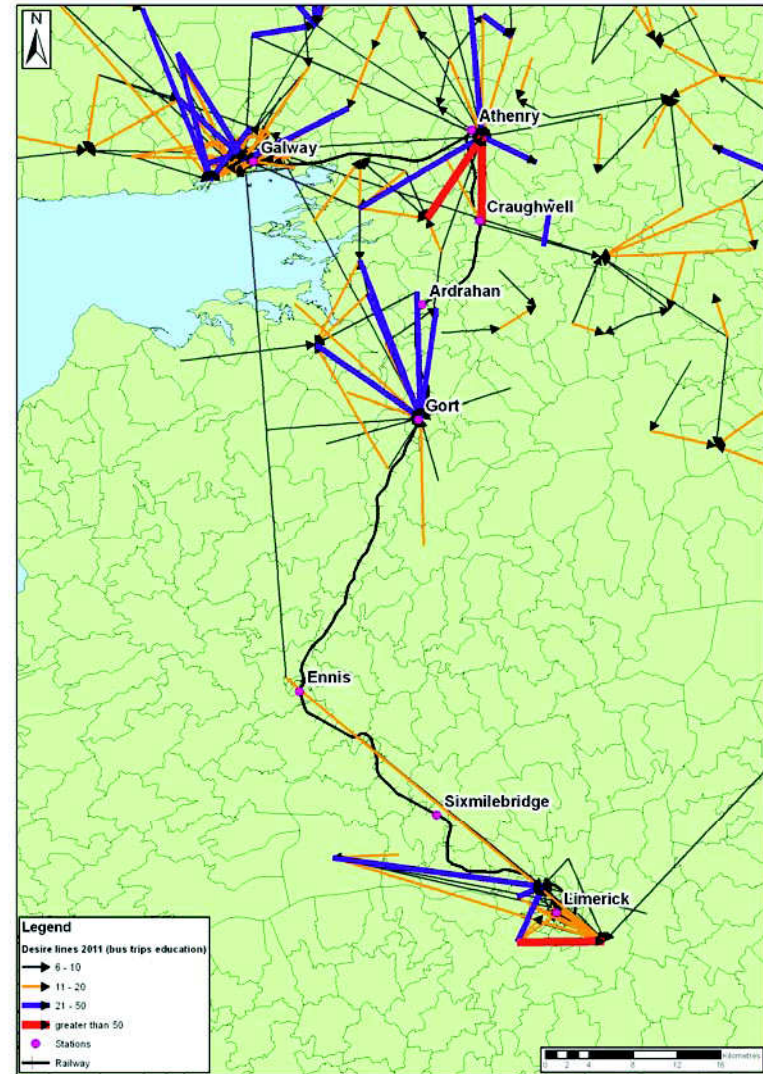
**– Travel to Education**



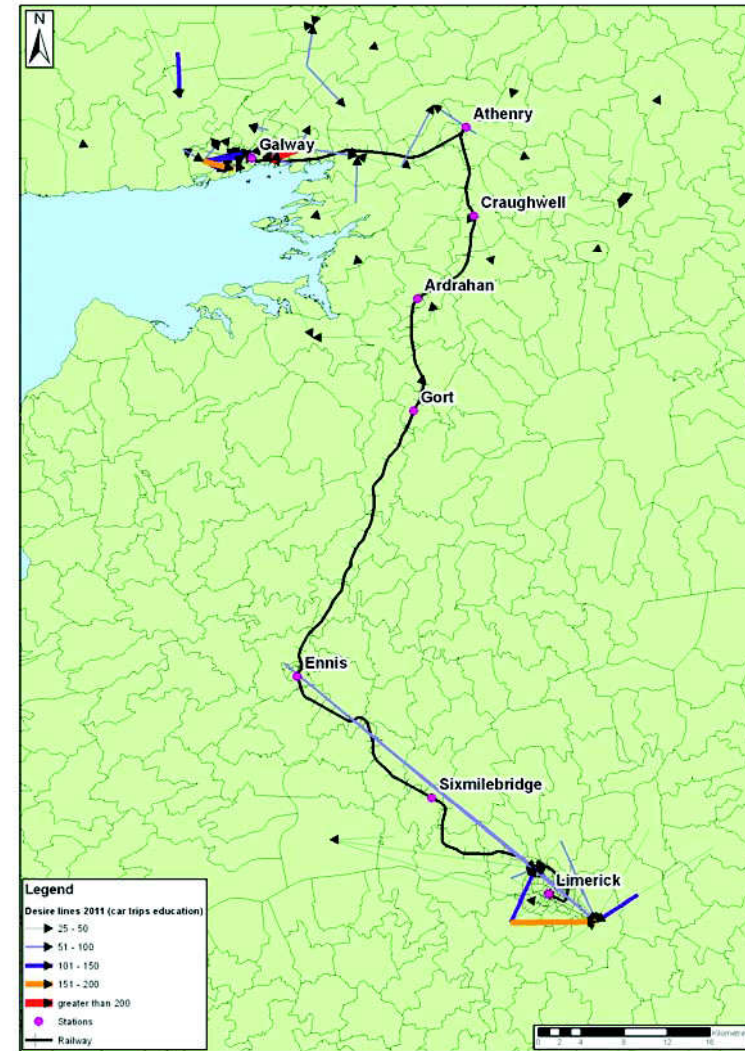
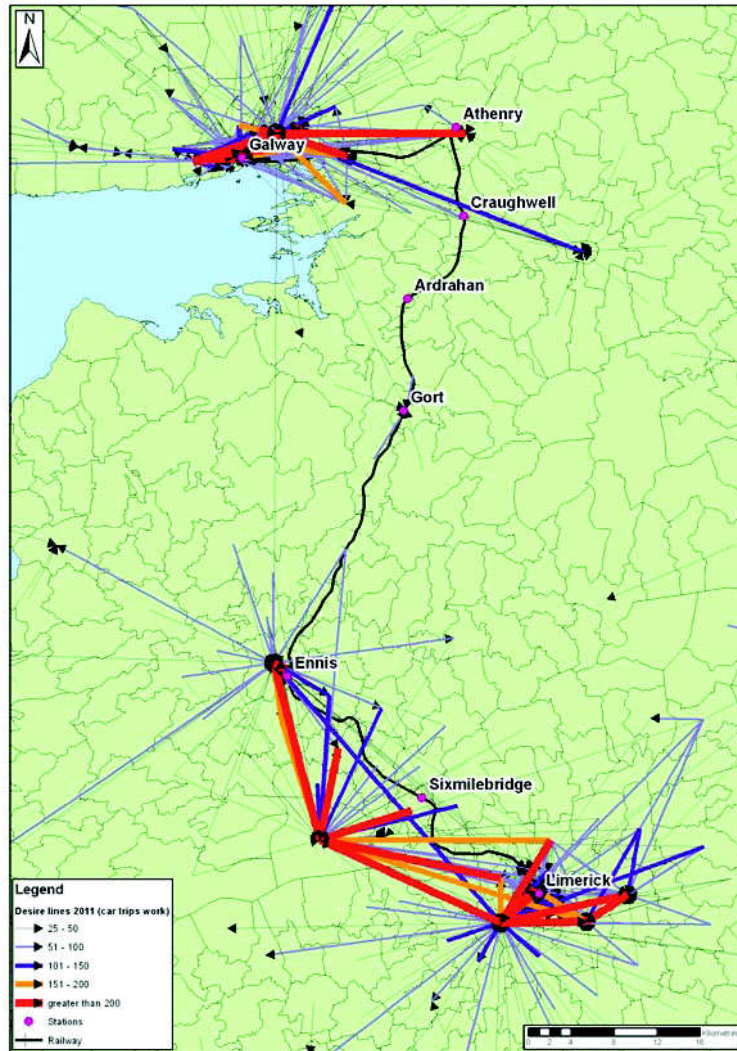
**Figure 4.2    Bus Desire Lines: Travel to Work**



**-    Travel to Education**



**Figure 4.3    Car Desire Lines: Travel to Work – Travel to Education**



## 5 Regional Catchment Analysis

- 5.1 Regional catchment analysis is concerned with the potential for rail to provide access to key destinations/ attractions within the region. It considers key destinations/ attractions within Counties Clare and Galway and north County Limerick which could be accessed via the line either directly or in combination with other modes.
- 5.2 According to Fáilte Ireland, the regions linked by and surrounding the WRC provide a wealth of attractions in tourism, sports & recreation, culture etc. For example:
- Tourism: The Burren, Cliffs of Moher, Loop Head Peninsula, Sliabh Aughty, East Clare Lakes, Killaloe and Lough Derg, Bunratty, Craganowen, Ailwee Cave, Galway (City & Co), Salthill, Connemara, Limerick(City & Co), etc.
  - Sport and Recreation: Golf, Fishing, Horse Riding, Pony Trekking, Caving, Potholing, Walking, Cycling, Surf boarding, Swimming, Boating, Sub-Aqua, etc.
  - Special Interests: Monastic Sites, Castles, Heritage Towns, Yeats/Raftery Region, Brian Boru, Hunt Museum, Nature Trails-Parks, etc.
  - Special Events: Volvo Boat Race, Galway Races, Galway Arts Festival, Cooley/Collins Festival (Gort), Willie Clancy Festival (Miltown Malbay), Lisdoonvarna Match Making Festival, Oyster Festival (Clarinbridge), Féile na gCuach and Cruinniú na mBád (Kinvara), South of Ireland Golf (Lahinch), Brehon Law Gathering (Ballyvaughan), Merriman Festival (Lisdoonvarna), Doolin Music Festival, School Tours, The Gathering (2013), Fleadh Ceoil na hÉireann (Ennis 2014), etc.
- 5.3 From information supplied on Fáilte Ireland’s website [www.failteireland.ie](http://www.failteireland.ie) showing visitor numbers per annum for each attraction, the most visited destinations within the study area are as shown in Table 5.1.

**Table 5.1 Visitors to Top Tourist Attractions in Study Area**

Name of Attraction	County	Region	2007	2008	2009	2010	2011
Cliffs of Moher Visitor Experience	Clare	Shannon	940,455	808,310	763,758	720,574	809,474
Bunratty Castle & Folk Park	Clare	Shannon	344,000	305,557	273,140	263,336	275,986
Aillwee Cave & Burren Birds of Prey Centre	Clare	Shannon	195,000	150,000	135,000	92,123	100,000
O’Briens Tower	Clare	Shannon	closed	closed	59,833	82,884	77,220

- 5.4 From the above information and our knowledge of the area, the key destinations/ attractions to be considered further are:
- Cities: Limerick – Galway;
  - Airport - Shannon (particularly now that Galway Airport is closed to commercial operations);

- Coastal Route: Kilkee - Doonbeg - Lahinch – Lisdoonvarna – Ballyvaughan – Kinvarra;
- Activities: Burren hiking - Lahinch surfing;
- Culture: Music in pubs in towns along 'Coastal Route';
- Festivals: Lisdoonvarna; and
- Ferries: Doolin for Aran Islands, Tarbert – Killimer.

- 5.5 The nearest railway station to each of the above destinations/ attractions is shown in Table 5.2. Table 5.2 also indicates the station which is easiest to get to by bus, which is not necessarily the nearest railway station.
- 5.6 Based on the information in Table 5.2 it is clear that Limerick, Ennis and Galway stations are best linked to bus services which serve the above destinations/ attractions. Ennis provides the best access via bus to Cliffs of Moher, O'Briens Tower, Kilkee, Doonbeg, Lahinch and Lisdoonvarna. For other attractions, Limerick or Galway cities provide the best access and therefore it is unlikely that these would be accessed via rail.
- 5.7 Other potential 'attractions' could include tours by rail, e.g. walking/ cycling tours, bird watching, pub crawls, music tours, etc. This would involve promoting the Limerick – Galway rail journey as the 'attraction', whereby passengers would board the train in Limerick for example and hop on – hop off between there and Galway, partaking in some activity along the way (e.g. walking, bird watching, ale trails, etc.).
- 5.8 For such promotions to work would require buy-in from a number of sources, e.g. walking groups, existing pubs and restaurants, music festivals, bird watching groups etc. It would also require significant marketing and the provision of hopping on – hopping off the train using one ticket. A request stopping service would be beneficial and provision for carrying sports equipment on board would also be useful.
- 5.9 A similar proposal could be to promote the journey itself as a tour, e.g. dinner on board, meetings on board, etc.

**Implication for the Limerick - Galway Rail Service - 3**

*Due to the location of the stations away from the coastline and many of the attractions make it difficult to promote rail as the mode of choice for regional tourism. However, there is some potential to encourage interchange between bus and rail services at Ennis for those journeys to Cliffs of Moher, O'Briens Tower, Kilkee, Doonbeg, Lahinch, Lisdoonvarna. There may also be an opportunity to promote the railway itself as an attraction, for hop on – hop off tours of the area for walking, cycling, music and pub crawls, bird watching, etc.*

**Table 5.2 Rail Access to Attractions/ Destinations**

<b>Attraction/ Destination</b>	<b>Visitors per year</b>	<b>Nearest Station</b>	<b>Distance to Nearest Station</b>	<b>Best linked Station by bus</b>	<b>Existing Access</b>
Cliffs of Moher Visitor Experience	809k	Ennis	34km	Ennis	Car, BE 337/50/51, Coach Tours
Bunratty Castle & Folk Park	276k	Sixmilebridge	6.5km	Limerick	Car, BE 343/51
Aillwee Cave & Burren Birds of Prey Centre	100k	Ardrahan	35km	Galway	Car, BE 423/50 (need to travel into Ballyvaughan)
O'Briens Tower – The Burren	77k	Ennis	40km	Ennis	Car, BE 337/50/51, Coach Tours
Limerick City		Limerick	0km	Limerick	Car, Rail, Bus
Galway City		Galway	0km	Galway	Car, Rail, Bus
Shannon Airport	1.3m <sup>1</sup>	Sixmilebridge	15km	Limerick	Car, BE 343/51, JJ Kavanagh Bus
Kilkee		Ennis	55km	Ennis	Car, BE 333
Doonbeg		Ennis	42km	Ennis	Car, BE 333
Lahinch		Ennis	30km	Ennis	Car, BE 333/337
Lisdoonvarna		Ennis	38km	Ennis	Car, BE 337/50/51/423/50

<sup>1</sup> <http://www.shannonairport.com/gns/about-us/media-centre/traffic-figures.aspx>

Ballyvaughan		Ardrahan	30km	Galway	Car, BE 423/50
Kinvarra		Ardrahan	10km	Galway	Car, BE 50/423/434
Doolin Ferry Companies - Aran Islands, Cliffs of Moher Cruises		Ennis	40km	Galway	Car, BE 50/423/434
Killimer Ferry - to Tarbert		Ennis	40km	Ennis	Car, BE 336 (need to travel into Kilrush)

## 6 Strategic Catchment Analysis

- 6.1 Demand that could be developed from further afield is considered at a strategic level. This would involve attracting those from outside the region, or indeed the country, to the key destinations detailed in the previous section.
- 6.2 According to 'New Horizons for Irish Tourism – Mid Term Review 2009' (Tourism Renewal Group) tourism was responsible for over 8 million out of state tourist visits and 8.3 million domestic trips in 2008. It is hoped that these numbers will again be reached in 2013. It is suggested that in order to get customers to choose Ireland offers for travel that are both attractive in quality and value and accessible are important. Access to a choice of trip/destinations – both for domestic and overseas visitors through good quality infrastructure and attractive public transport is vital.
- 6.3 According to Tourism Ireland's Corporate Plan 2011-2013 (2011) there were approximately 7.6 million overseas and 10.9 million domestic visitors in 2009. Of these, approximately half were categorised as holidaymakers.
- 6.4 Failte Ireland's 'Tourism Product Development Strategy 2007 – 2013' provides more details of tourism in Ireland. Specifically it finds that new trains are not bicycle-friendly, potentially limiting cycling tourism. One of its key conclusions is that from a tourism point of view, priority needs to be given to certain aspects of transport development, and investment needs to be accelerated.
- 6.5 It highlights infrastructure as a priority, including public transport and leisure route development (walking and cycling in particular). It suggests to make sure that physical infrastructure developments like roads, railways and public transport fit in with the priorities for tourism development and to seek a speedy resolution to the issue of access to the countryside to allow tourism to capitalise on the huge opportunity to develop outdoor activities in Ireland. It also adds that music and culture may be another opportunity for a large attraction, with the West being best suited for this. Specific actions include providing funding to a number of walking and cycling routes and developing a plan for a coastal walk around the entire coastline of Ireland.
- 6.6 As stated above in the Regional Catchment Analysis, the potential to increase rail travel by tourists along the Limerick – Galway line is limited due to strong competition from car and bus, which are both more direct, and provide access to most key attractions. However, as with the Regional Catchment Analysis, there may be potential to attract people to the railway itself as a destination which would be in line with Failte Ireland's viewpoint above.
- 6.7 Failte Ireland's view suggests that there is potential of promote the Western Rail Corridor to millions of tourists as access to walking and cycling routes, music and culture destinations, to the countryside, etc.

### ***Implication for the Limerick - Galway Rail Service - 4***

*As with the Regional Population Analysis, the opportunity here is limited because of the locations of the stations away from the coastline and many of the attractions except for at Ennis station. However, there is some potential to promote the railway as a hop on – hop off service, providing access to walks, cycle routes, pub crawls, etc.*

# Appendix A – Population Figures

Figure A.1 % Population living within 1km of Stations

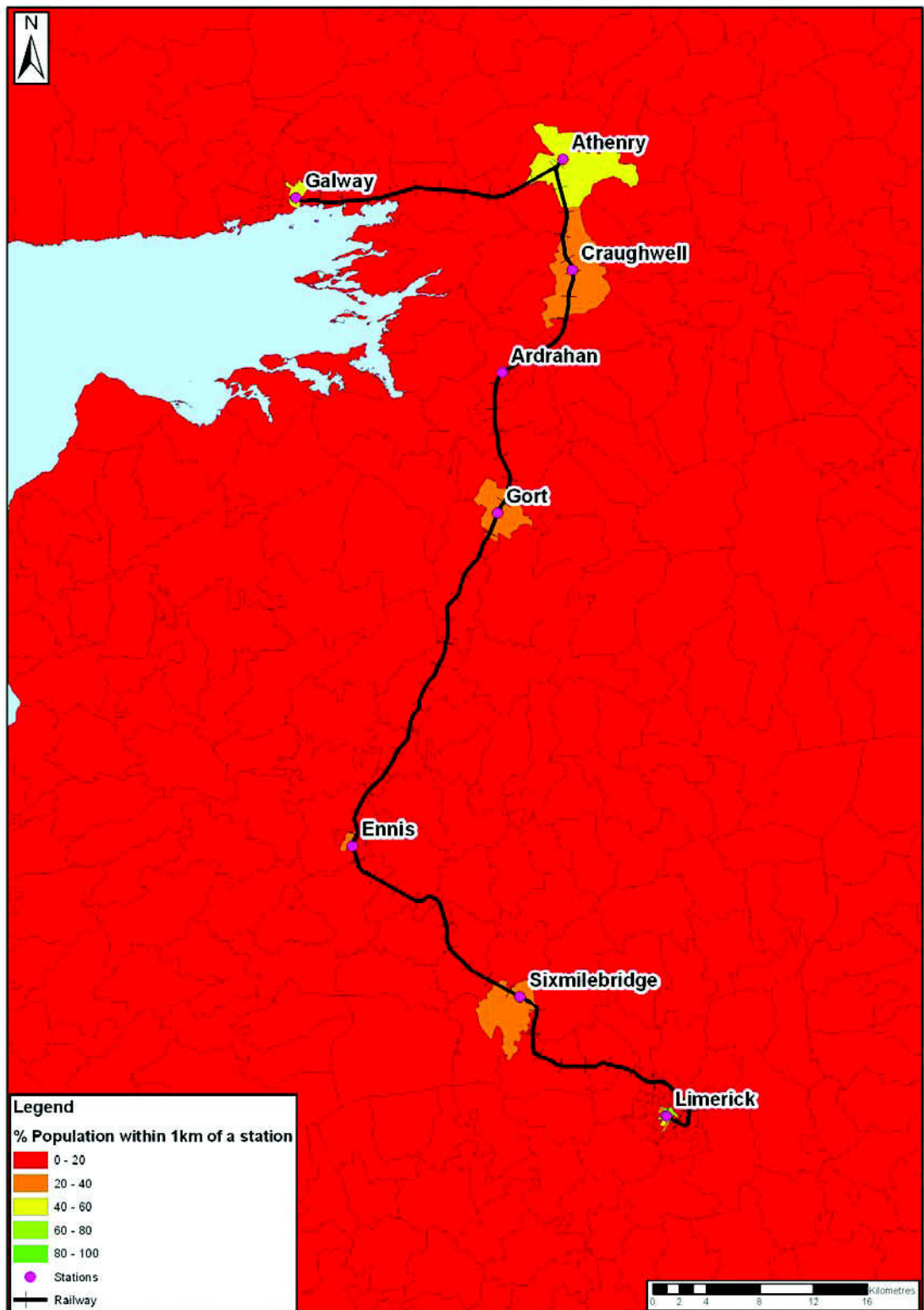


Figure A.2 % Population living within 5km of Stations

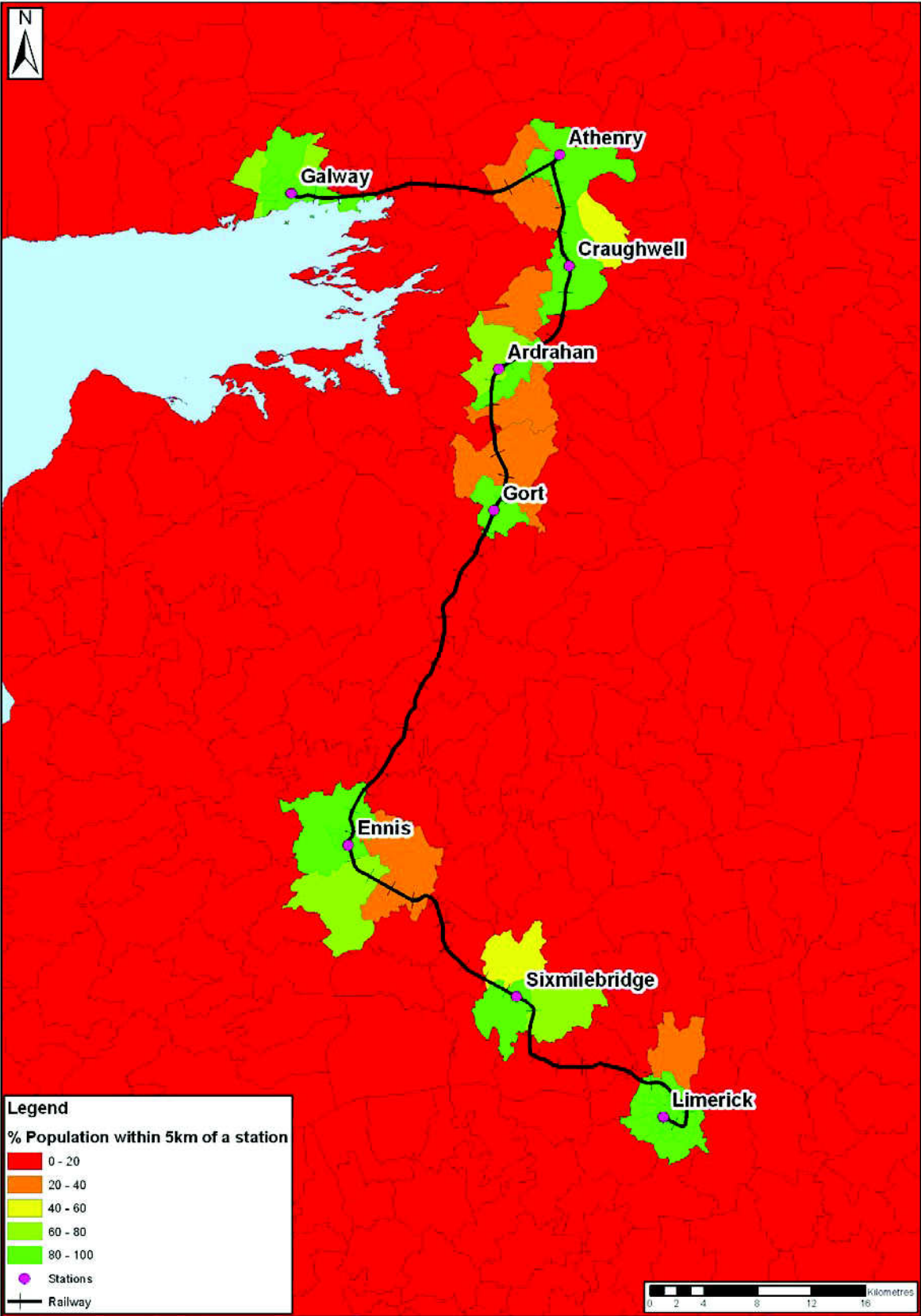


Figure A.3 % Population living within 10km of Stations

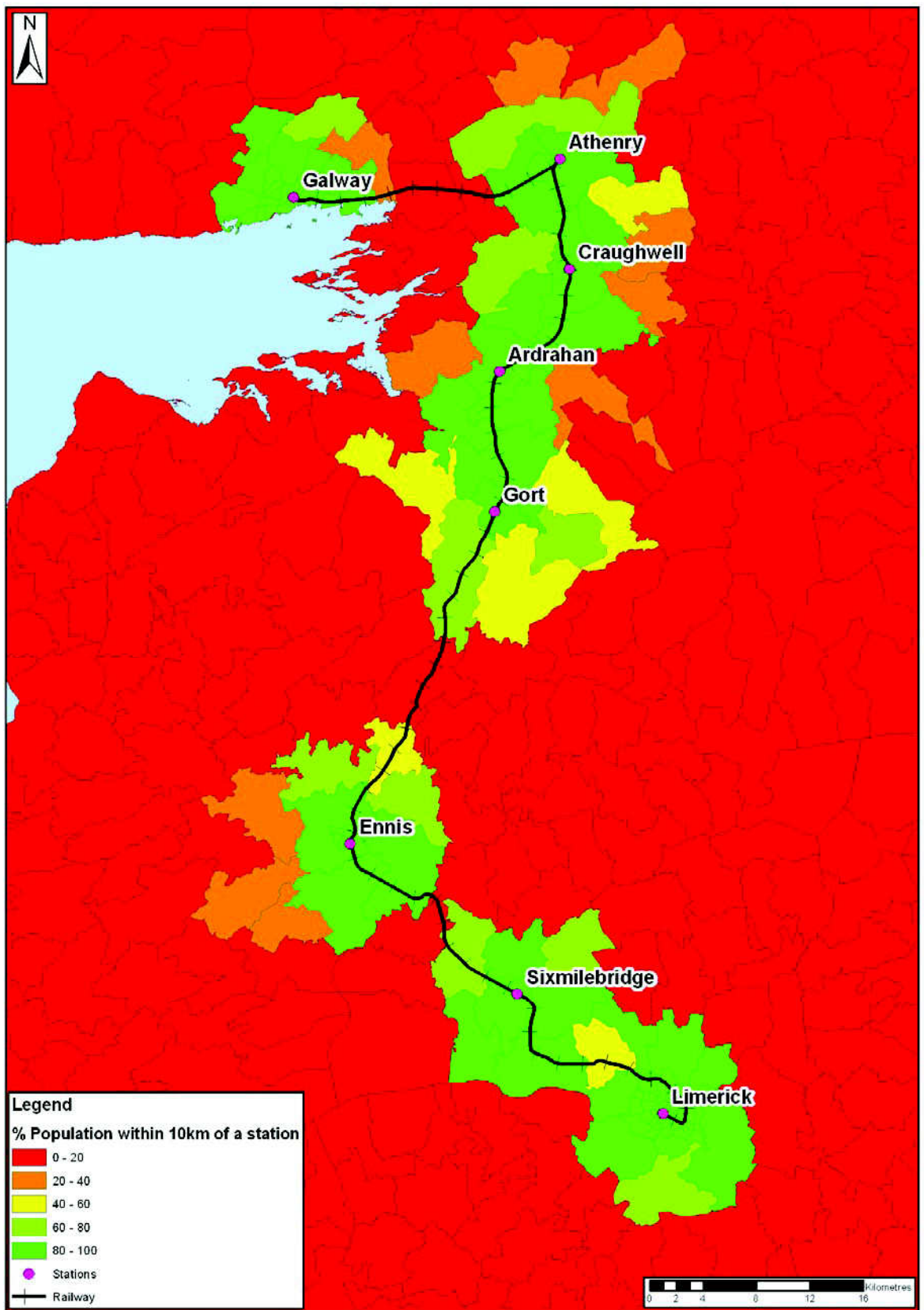


Figure A.4 Population in Age Group 0-19 years

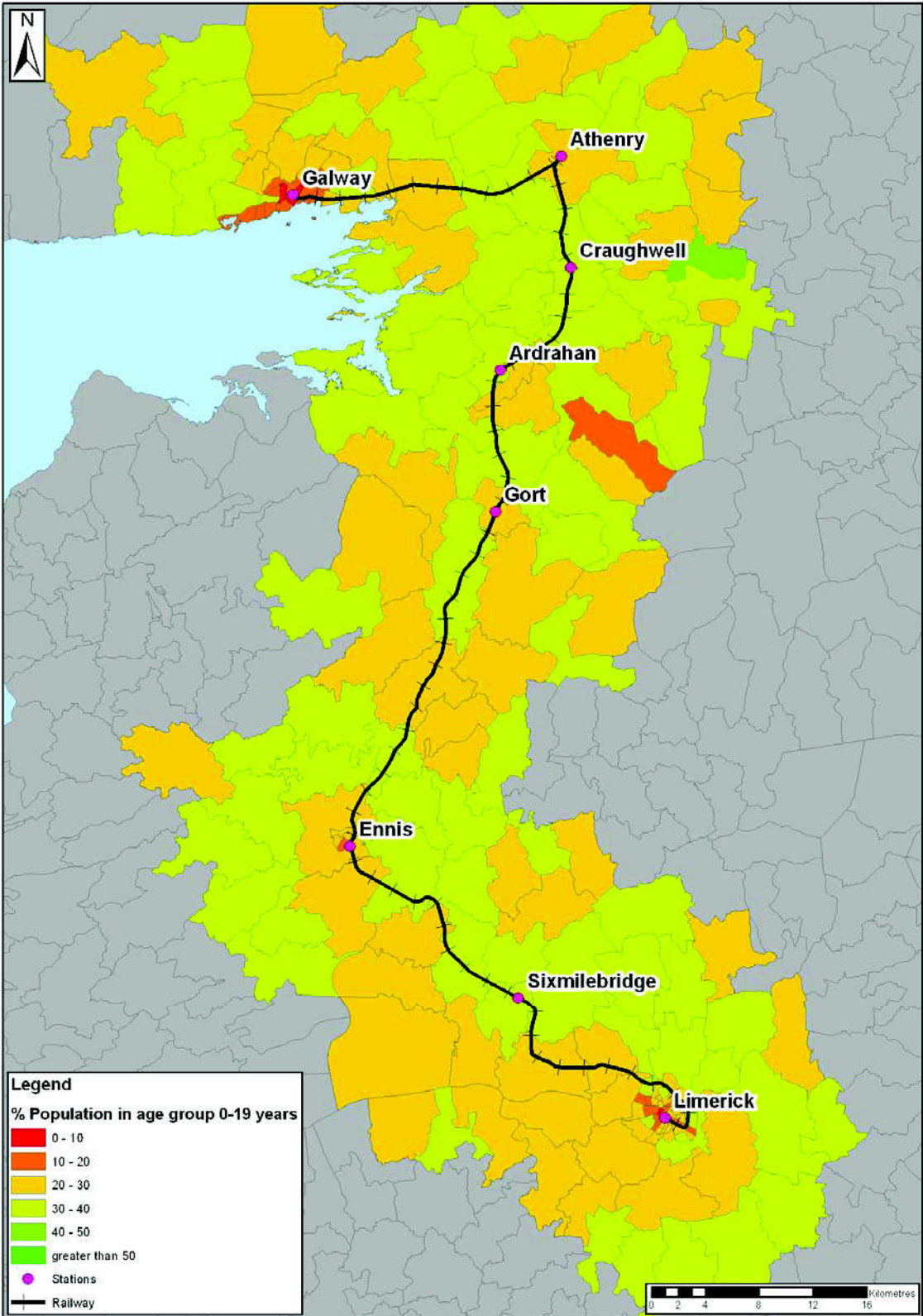


Figure B.5 Population in Age Group 20-64 years

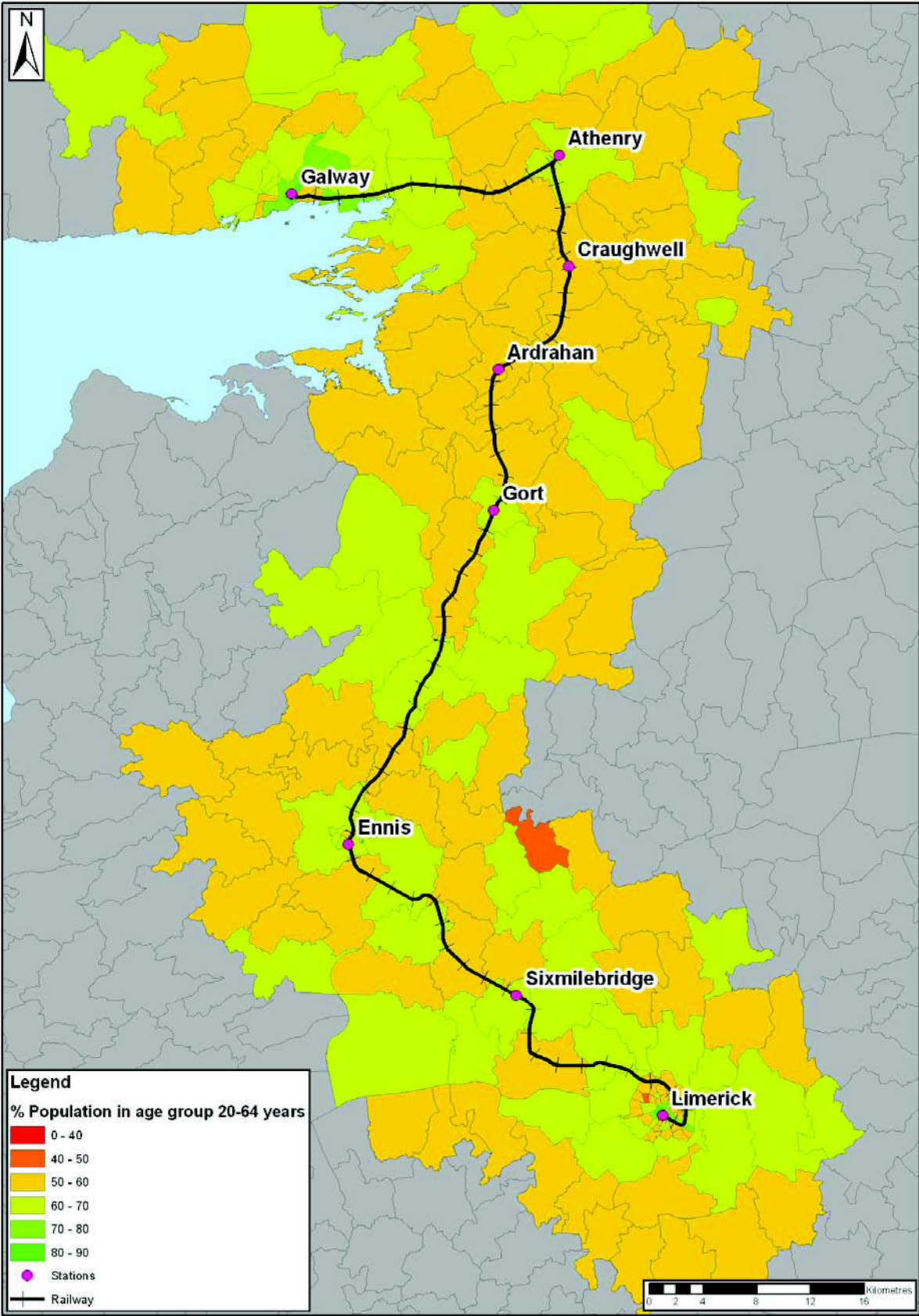


Figure B.6 Population in Age Group 64+

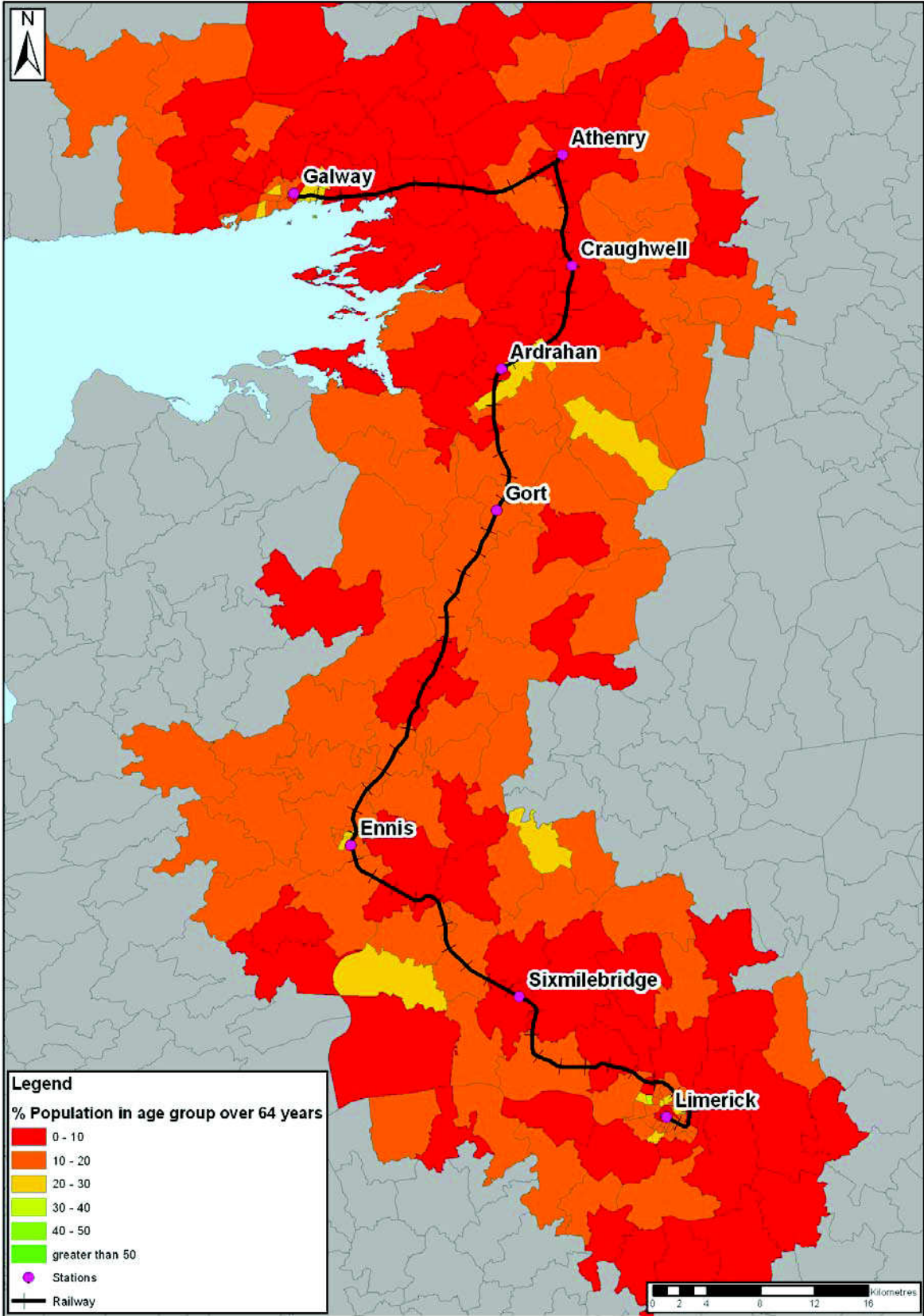
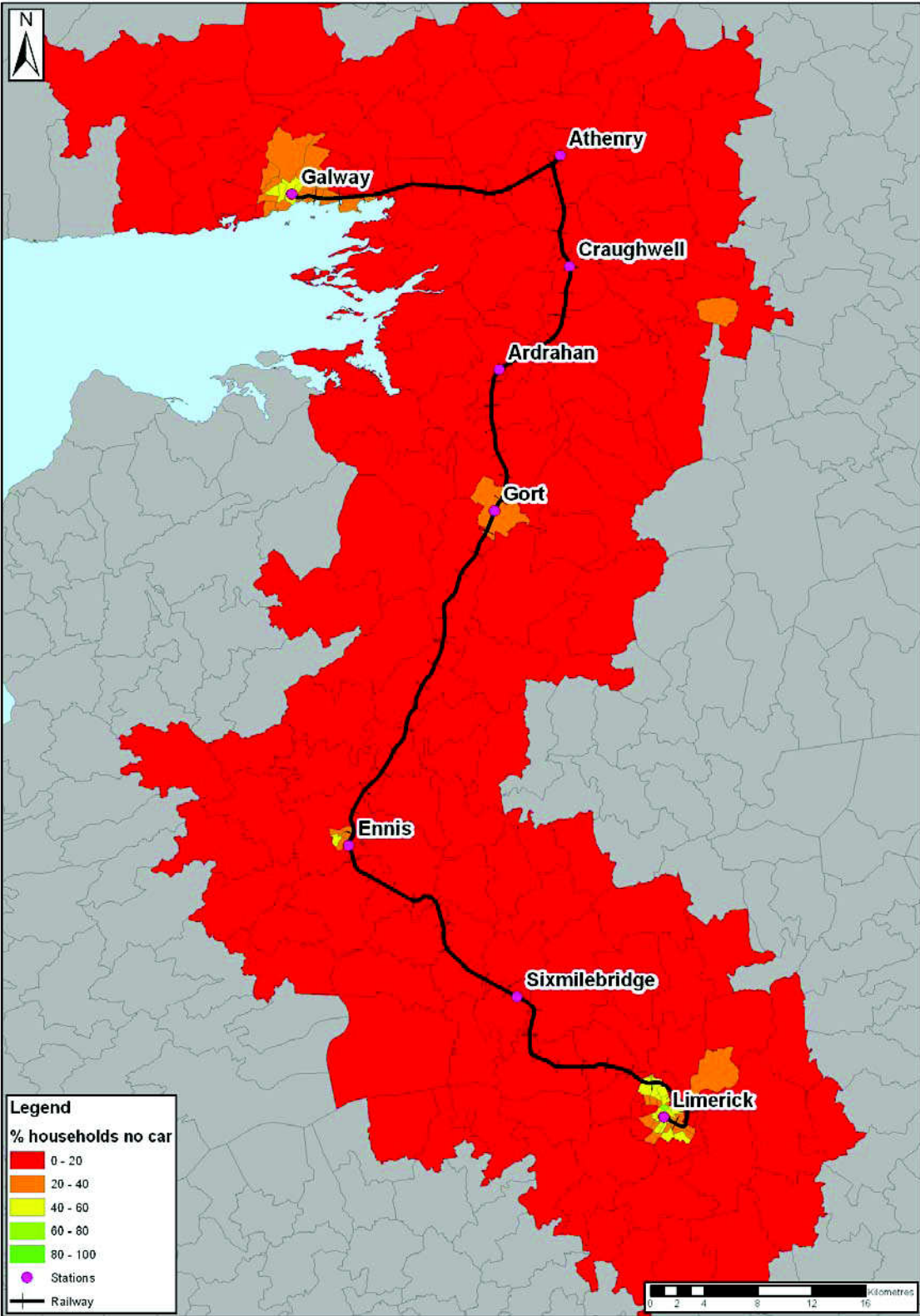


Figure B.7 Percentage of Households with no Car



# Appendix F – Market Analysis

# Information Note

Project Title:	NTA PT 17 - Western Rail Corridor
MVA Project Number:	300063
Subject:	Potential Market Analysis
Note Number:	5      Version: 3.1
Author(s):	Jessica Duggan
Reviewer(s):	Tom Hill
Date:	21 December 2012

## 1 Introduction

- 1.1 This note details the potential market for rail travel within the entire corridor (Limerick to Galway) by market segment, i.e. commuters, tourists, business travellers, etc., and suggests areas of focus for each segment.

## 2 Market Segmentation

- 2.1 Further to the background detailed in the previous notes, market segmentation was considered. To assist in determining what interventions might help increase patronage, we examined the different market segments and their characteristics, as summarised in Table 2.1 below.

**Table 2.1 Market Segmentation**

	Commuting	Leisure	Business	Education
Scale	70%*	25%*	5%*	N/A%*
Trend	Increasing**			
Characteristics	Sensitive to: Schedule Price Journey time Reliability Likely to have a car available May not have a bus option available	Sensitive to: Price Ease of use Quality Less sensitive to: Schedule Journey time Reliability Infrequent users Much concessionary travel Less likely to have car access Not just Limerick - Galway	Sensitive to: Schedule Reliability Quality Journey time Less sensitive to: Price	Daily and weekly education commuting are different markets Broadly sensitive to: Schedule Price Regular users
*proportion of market from Iarnród Éireann’s Draft 2030 Rail Network Strategy Review (Athenry to Limerick) ** based on ‘West On Track’ (IE) data in Note 2: Baseline PT Analysis				

- 2.1 Commuting trips account for the vast majority of usage, 70%, along this line (between Athenry and Limerick). The focus should be on early morning and early evening services, i.e. for travel to and from work. Commuters want fast and reliable services that are good value for money.
- 2.2 It is known from consultation that many people work early morning shifts in Galway and that rail does not facilitate this. Consultation also informs us that rail is considered expensive and that respondents feel that journey times are too long compared to car or even bus.

**Implication for the Limerick - Galway Rail Service - 1**  
*The commuters group are regular users, which is sensitive to schedule, price, journey time and availability. They are also likely to have a car available.*

- 2.3 Leisure trips account for the next highest usage, 25%, with a range of purposes including tourism, shopping, and visiting friends and family. Many of these trips may be in the free travel scheme.
- 2.4 IE recently announced that the traditional seasonal boost to passenger numbers on the line from the summer tourist months has once again been demonstrated, with numbers up by 50% during the summer months over the rest of the year (2012). This implies that leisure trips have the potential to grow and should be a key focus along this corridor.

- 2.5 The leisure focus should be outside of the morning and evening peaks, especially during holiday periods – in particular during the summer months.

**Implication for the Limerick - Galway Rail Service - 2**

*Within the leisure/tourism group, those paying for tickets will be price sensitive but perhaps less sensitive to time of travel and journey time, and therefore receptive to targeted marketing and discount packages. For one reason or another, many of this group will not have a car available to reach the station. Also, they may be infrequent or once-off users, so ease of use, clear information and good marketing is crucial.*

- 2.6 Business travellers form a much smaller proportion of the market and therefore should not be the focus of interventions in the shorter term.

**Implication for the Limerick - Galway Rail Service - 3**

*Unlike leisure trips, the business group is sensitive to time of travel and journey time, but less sensitive to price.*

- 2.7 Education trips make up remaining trips, which is relatively very small and therefore should not be the focus of interventions in the shorter term. However, by focussing on commuting, many education trips will also benefit.

**Implication for the Limerick - Galway Rail Service - 4**

*The education group are regular users, which is broadly sensitive to schedule and price.*

**3 Recommended Market Focus**

- 3.1 The business objectives (by segment) shown in Table 3.1 are suggested.

**Table 3.1 Recommended Market Focus**

	<b>Commuting/ Education</b>	<b>Leisure/ Tourism</b>
<b>Objectives by segment</b>	Recognise as a loyal and regular market Improve commuting services Consider specific station access needs	Grow through targeted marketing Manage the market to ensure capacity for other market segments Develop the intermediate station leisure market where rail competes against bus Consider specific station access needs

- 3.2 Arising from the above, it is suggested that a dual service is provided, which offers slightly faster (reliable) services during morning and evening peaks for commuters but also offers more flexible service off peak – especially during holiday periods – for tourists.

- 3.3 Commuting/ education services should be improved whereby services arriving into Galway and Limerick are in line with shift patterns/ hours of education. Our overall analysis indicates that the rail

commuter market outside of the sections between Ennis and Limerick and between Athenry and Galway is limited. The population living within 10km of any of the other stations is very low. Therefore commuter travel along these sections of line should be a key focus, as shown in Figure 3.1. The 'Commuter' sections of the network are shaded and include:

- Ennis – Limerick; and
- Athenry – Galway.

- 3.4 Within the leisure sector, the recommended market focus is to grow through targeted marketing. This would apply to all services, but particularly middle of the day/ weekend services, especially during holiday periods, such as school summer holidays. The tourism market should be a key market focus, especially considering the increase in passenger numbers during summer months (2012) and because of the number of key tourist destinations situated off the Limerick – Galway rail line such as The Burren, Bunratty Castle, hiking trails, summer festivals etc. The potential for 'Tourism' is illustrated in Figure 3.2.
- 3.5 According to a Failte Ireland survey of 830,000 visitors and 576,000 holidaymakers who participated in hiking/hillwalking in Ireland in 2009:
- 44% visitors and 32% of holidaymakers did not use a car;
  - 24% visitors and 29% of holidaymakers visited the Shannon region;
- 3.6 Estimates are based on information from the CSO's Country of Residence Survey (CRS) and Failte Ireland's Survey of Overseas Travellers (SOT) and the Visitor Attitudes Survey. This data shows the potential to attract hikers/ hillwalkers onto the WRC.
- 3.7 Festivals which attract large numbers of visitors to the area should be noted and access via rail (and bus) to such events should be provided for and promoted where possible. Examples of high volume events include Galway Races, Galway Arts Festival, Cooley/Collins Festival (Gort), Willie Clancy Festival (Miltown Malbay), Lisdoonvarna Match Making Festival, Oyster Festival (Clarinbridge), Féile na gCuach and Cruinniú na mBád (Kinvara), Merriman Festival (Lisdoonvarna), etc. In addition to such festivals, 'The Gathering' will attract even more visitors to the Clare – Galway – Limerick area in 2013, with numerous events are already planned.
- 3.8 Figure 3.2 indicates the key attractions including hiking and major festivals. In addition to this, public transport services are shown, including rail services along the Limerick – Galway rail line and bus services in the area. Only bus services which have multiple daily departures are included. This figure shows that although many of the attractions/festivals in the Clare – Galway – Limerick area are not directly served by rail, with proper integration of rail and bus services it would be possible to reach many of them by public transport (but not rail only).

**Figure 3.1** Commuter Market Focus

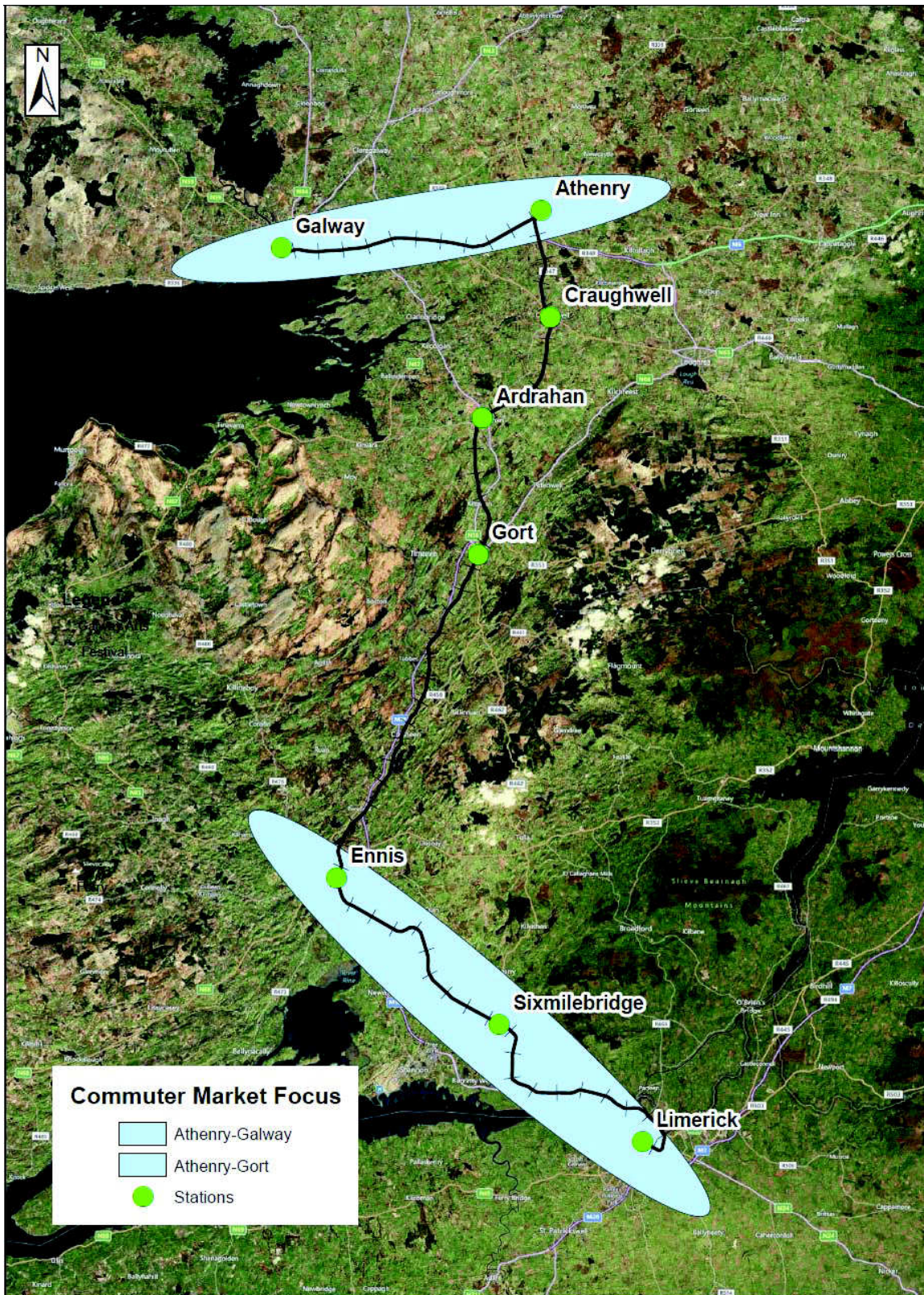
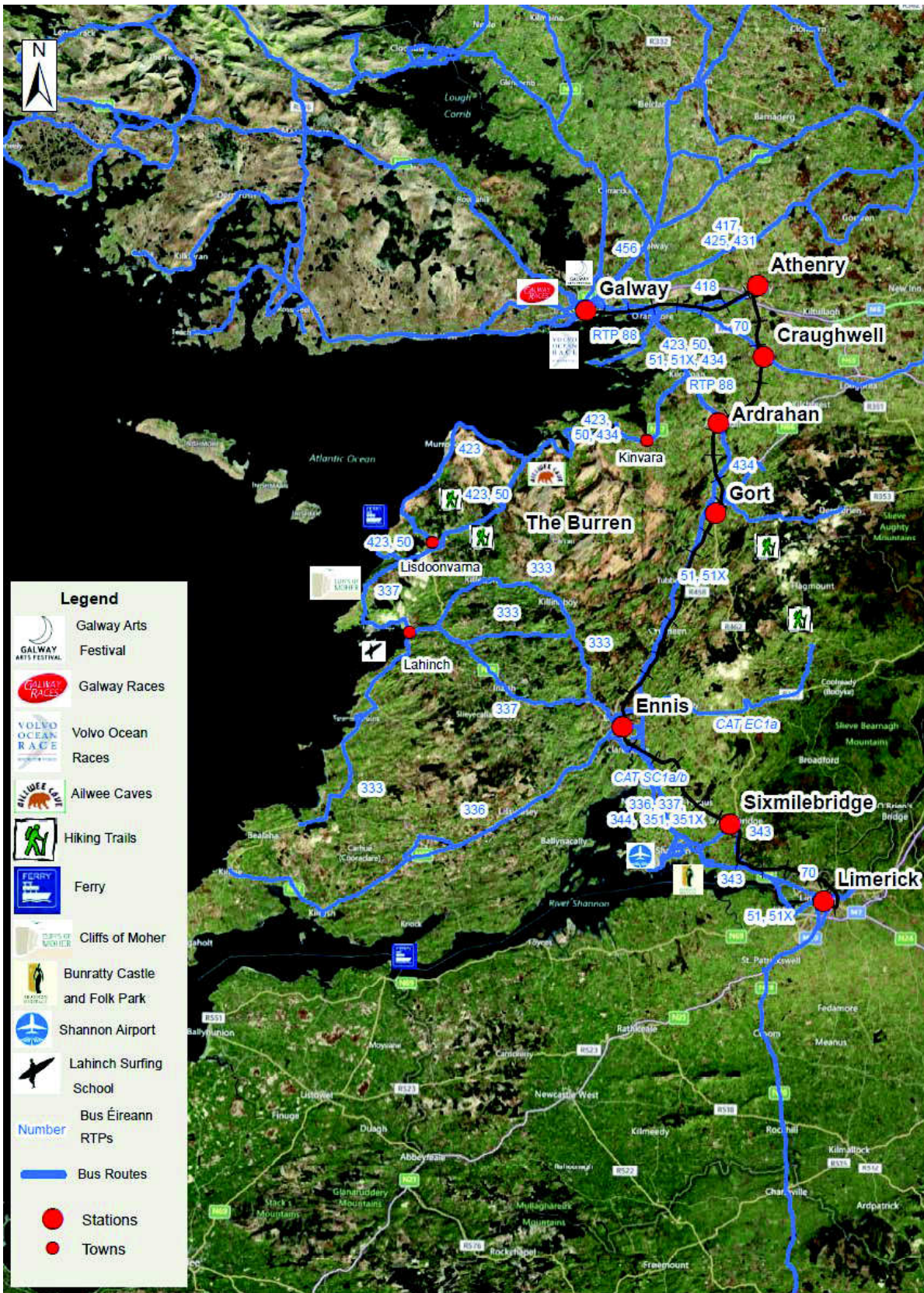


Figure 3.2 Tourism/ Leisure Focus



# Appendix G – Operations and Timetable Analysis

# Information Note

Project Title:	NTA PT 17 - Western Rail Corridor	
MVA Project Number:	300063	
Subject:	Operations and Timetable Analysis	
Note Number:	6	Version: 13
Author(s):	Peter Cushing	
Reviewer(s):	Tom Hill	
Date:	21 December 2012	

## 1. Introduction

This note sets out to examine the operation and timetable of the rail service on the Western Rail Corridor and to identify measures that could be introduced to improve the service offering and generate additional patronage.

Analysis of competing modes (discussed in Note 3) showed that

- **Journey time:** Car is generally the fastest mode of transport, with rail and bus journey times being similar and about 10 minutes longer than car.
- **Service Frequency:** Car is the most flexible form of transport. Bus is generally more frequent than rail and operates over a longer period of the day.
- **Price:** Car is the cheapest mode of transport, followed by bus and then rail.

Thus it is apparent that, in order to compete with the bus service, the rail service will have to:

- Reduce its journey times
- Increase its service frequency and length of operating day
- Reduce the cost to the passenger

This note concentrates on the operational issues of journey time and service frequency. The cost to the passenger is discussed elsewhere, in terms of possible changes to the fare structure and reduction/removal of station car parking charges.

Based on the operational/infrastructure data provided by IÉ and our experience of operating and working to improve other poorly supported routes, we have identified a number of longer term actions that would need to be implemented to improve the viability of the rail service. Recognising that there is unlikely to be funding available for any high cost changes, we have attempted to identify some lower cost options that should be funded by the revenue they would generate.

In the remainder of this note we:

- Describe the current operations
- Identify impediments to increased patronage

- Discuss potential solutions
- Make recommendations as to what should be done in the short term to improve the viability of the line

## 2. Current Operations

The Western Rail Corridor is a 118 km route between Galway Ceannt station and Limerick Colbert station. The map in Figure 1 shows the rail line between Galway and Limerick and the six stations in between.

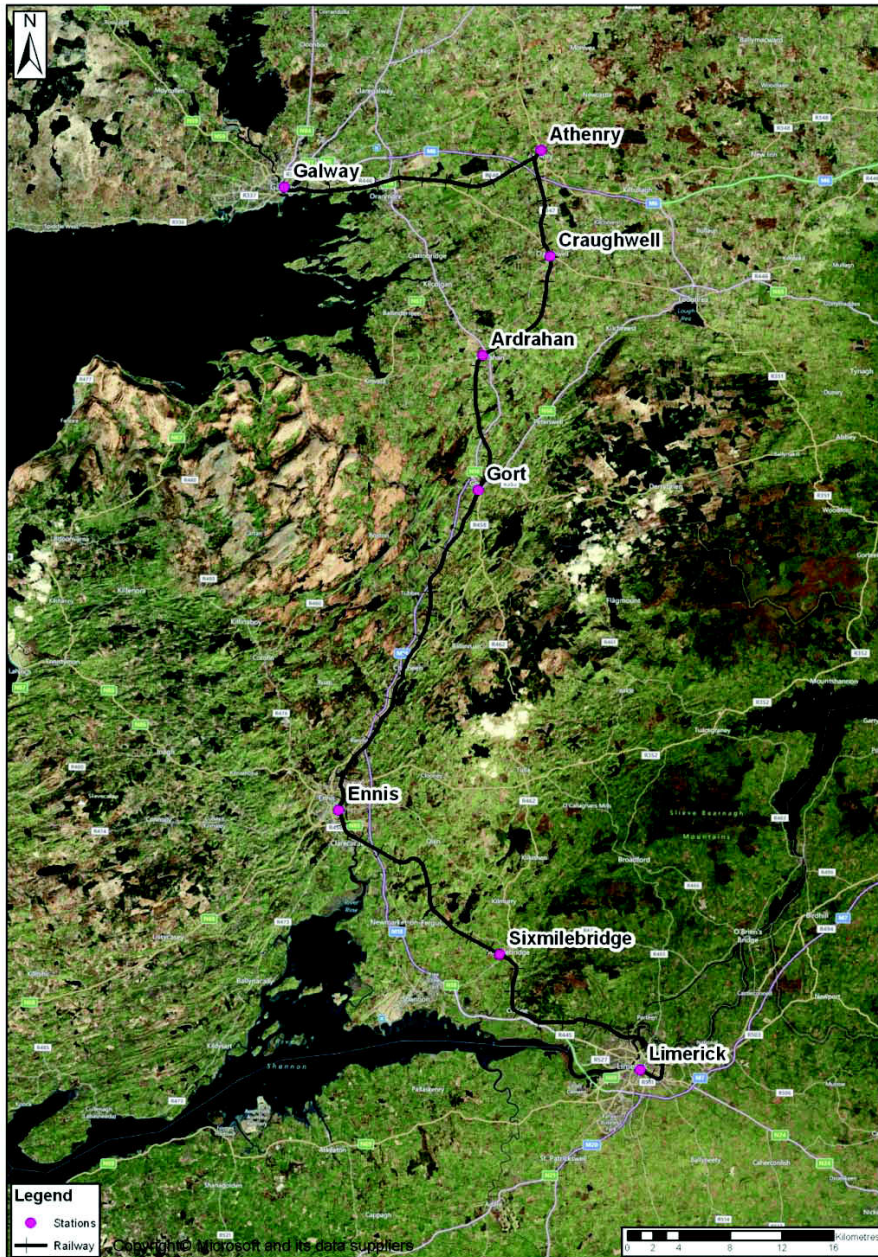


Figure 1 The Western Rail Corridor, Galway to Limerick

Table 1 shows the population of these towns and the distance and approximate train running times between them.

**Table 1 Train service to/from stations on the Limerick-Galway Line\***

Station	Distance	Runtime (approx.)	Population
Limerick			60,646
	21 km	21 min	
Sixmilebridge			834
	19 km	18 min	
Ennis			9,877
	28 km	25 min	
Gort			1,495
	11 km	11 min	
Ardrahan			480
	9 km	10 min	
Craughwell			211
	8 km	11 min	
Athenry		(3-8 min)*	3,205
	22 km	15 min	
Galway			72,414
<b>Total</b>	<b>118 km</b>	<b>1h50m to 2h15m</b>	

\* Dwell time varies due to crossing trains having to wait for each other

### Train service

The core service comprises 5 trains per day in each direction between Galway and Limerick at 2-3 hour intervals between 6am and 8pm; plus 1 pm peak train from Galway to Ennis and back in the evening. All such trains stop at all stations between Galway and Limerick.

This service is supplemented by:

- five trains per day in each direction between Limerick and Ennis at 3-5 hour intervals between 7am and 10pm, all of which also stop at Sixmilebridge – the only intermediate station
- the regular Galway – Dublin service provides another 9 trains per day in each direction between Galway and Athenry

The daily service to/from the north and to/from the south that is available to passengers at each of the stations is shown in Table 2.

**Table 2 Train service to/from stations on the Limerick-Galway Line\***

Station	Trains per day to/from the North	Trains per day to/from the South
Limerick	5 +5 to Ennis	n/a
Sixmilebridge	5 +5 to Ennis	10
Ennis	6	10
Gort	6	6
Ardrahan	6	6
Craughwell	6	6
Athenry	15	6
Galway	n/a	6 +9 to Athenry

\* Figures exclude trains on other lines (i.e. Dublin-Galway)

From the passenger’s point of view, the operating day is limited with:

- The first train into Galway arriving at 08:05 (06:00 from Limerick)
- The first train from Galway into Limerick arriving at 08:35 (06:20 from Galway), although there is a train that leaves Ennis at 06:45 and arrives in Limerick at 07:25
- The last trains departing Galway are the 17:30 to Limerick, and the 18:30 to Ennis
- The last trains departing Limerick are the 19:30 to Galway and the 20:20 to Ennis

*Note: We understand that Iarnrod Eireann has a plan to remove from the WRC Mon-Sat timetable the following return trip: 1155 Limerick - Galway and the return 1430 Galway to Limerick, which is on hold pending the results of this review.*

### Infrastructure

Although we refer to the Limerick to Galway services as the WRC, IÉ’s WRC project referred to the newly opened Ennis to Athenry section, which:

- is a 36 mile route of single track railway with one passing loop at Gort and double track sections at Athenry and Ennis station
- has a journey time between Ennis and Athenry of approximately 45-55 minutes
- has 24 Permanent Speed Restrictions (PSRs), primarily due to poor sighting distances at many of the 35 level crossings on the line – the narrow width of the railway corridor makes the provision of adequate sighting distances for level crossing users very difficult
- has approximately half of its length limited to speeds lower than the line speed of 60 mph

The WRC is operated by 2-car DMUs which, for reasons of operational efficiency, also operate other services from Limerick e.g. Limerick Junction. This helps to maximise their utilisation but makes it difficult to modify the WRC services.

The stations between Ennis and Athenry are unmanned.

### **3. Impediments to improved patronage**

The major impediments to improved patronage are the poor performance of the railway in comparison with bus and car with respect to: runtime, frequency/service provision, timetable, and cost to the passenger. With the exception of the cost to the passenger (which is discussed in Note 3), each of these issues is addressed below.

#### Runtime

The runtimes on the line are longer than might be expected due to the large number of PSRs on the line, many of which are due to level crossings. These PSRs not only make the runtimes longer but they also make the journey relatively uncomfortable due to its stop start nature.

#### Frequency/service provision

The service provision is poor in both frequency and suitability, with:

- the 2 to 3 hours between services limiting choice with respect to time of travel
- the relatively early evening termination precluding the use of rail for evening leisure purposes in Galway or Limerick
- the inadequate service frequency precluding the use of rail by short stay (up to one hour) users

The problems with runtime and service frequency are interlinked and should be examined together. The way to increase service frequency at minimal extra fleet or train crew costs is to dramatically improve runtimes – reduced round trip times should enable both the crew and the units to make extra numbers of round trips in a day or a crew shift.

#### Timetable

The current timetable is:

- confusing due to having no regular pattern or consistent run times
- restricted due to the rolling stock being interlinked with other services
- less than satisfactory with respect to arrival times in major population centres

There are several options in terms of improvement to the timetable which need to be assessed for their effectiveness in terms of attracting greater patronage and revenue, but these options are limited by the current operating restrictions and cannot be implemented in isolation due to the interworking of units and train crew on other services.

If infrastructure improvements can be introduced and run times shortened, the opportunities to flex timetables for better service provision would be greatly increased. IÉ's objectives should be to:

- offer services which arrive at major employment centres before shift start time (from consultation we found this to be 8am in most places)
- improve frequency on the route

- offer greater flexibility for return journeys
- operate later evening services for increased leisure opportunities

We note here the timetable recommendations from our earlier high level evaluation of the Limerick-Galway service (recognising that this report was only concerned with the section between Craughwell, Ardrahan and Gort into Galway):

*The first trains arrive into Galway at 08:05 (from Limerick), 08:35 (from Athlone) and 09:15 (from Athenry only). It is known that many employees start work at either 08:00 or 09:00. Therefore, a train arriving into Galway before 08:00 is recommended from Limerick, calling at Ennis, Gort and Athenry.*

*The second train from Limerick arrives into Galway at 11:34 and does not suit many of the people travelling to work in Galway. If possible, a train from Gort to Galway, also serving Athenry, should be introduced which arrives into Galway for 08:45 approx.*

*The strongest travel to work demand to Galway is from Athenry, and Gort to a lesser extent so improving the service from Athenry should take priority over improving the service from Gort. Therefore, timetable improvements to the Dublin – Galway line should take precedence over timetable improvements to the Limerick – Galway line in the AM peak.*

#### 4. Solutions

Solutions to all of the problems with the route would require in depth study, possibly significant expenditure, and development of business cases, but it should be possible to improve service provision and increase patronage in the short term by making certain improvements to the:

- Infrastructure
- Timetable, and
- Operational efficiency

##### Infrastructure

##### *PSRs*

The long term solution to allow improving runtimes and increasing frequencies on the line would be to eradicate the plethora of level crossing related PSRs or at least improve their line speed. To alleviate the PSR problem entirely, significant infrastructure works (underpasses, footbridges, etc.) would need to be completed. IÉ would have to undertake a detailed infrastructure study to produce proposals which would be ranked in order of value (by comparing positive impact on run time, and cost to implement) leading to an appropriately phased implementation schedule.

However, low cost solutions (such as employing crossing keepers) should be possible at some crossings. Where possible the cost of such quick and easy solutions should be funded by savings elsewhere and the expectation would be that the resulting benefit of improving run time would generate an increase in patronage and revenue. A detailed study of the cause of the PSRs and their impact would be required to determine exactly how much runtime could be saved, but a saving of up to 20 minutes should be possible.

### *Passing loops*

Increasing frequency on the WRC may need the provision of further passing loops. With the current constraints of only being able to cross trains at Athenry, Gort, and Ennis, a high level diagramming exercise indicated that a frequency of 1 train per hour (tph) from Galway to Limerick might just about be achieved. This would of course depend upon being able to accommodate the necessary inter-workings with the Dublin-Galway service between Athenry and Galway. It would also necessitate the incorporation of the Limerick-Ennis shuttle into the Limerick-Galway workings.

Should a frequency higher than 1 tph be required, or even to accommodate the 1 tph service without risk, an additional passing loop between Ennis and Sixmilebridge might be required to breakdown this 25 mile constraint at the southern end of the route.

If extra passing points are to be provided, they should wherever possible be located at intermediate stations, rather than at loops in areas where there is no interchange capability for passengers. Any station with the capability to provide a passing loop within its boundaries (creating an island platform for example) should be examined.

### Timetable

In order to attract commuters to and from Galway to the rail service, early morning and evening services need to be speeded up. One way to do this would be to make them limited stop (stopping at Ennis and Gort only for example) and/or request stop services. This would reduce runtimes and could be used to achieve better arrival times at Galway in the morning peak. With the stops at Sixmilebridge, Adrahan and Craughwell being taken out, and some improvement in runtime by addressing the PSRs, the early morning starter leaving Limerick at 06:00 could achieve a pre-08:00 arrival in Galway.

We understand that there is a proposal to remove one return trip in the middle of the day from the timetable. Clearly the need for such a service will be driven by demand and if there is insufficient demand the options are to either reduce the service to match the demand or attempt to increase the demand by improving the service. We believe that the latter approach might be preferable, particularly as the removal of one train in the middle of the day is unlikely to save crew costs and would therefore only save a limited amount of kilometre-related operating costs, and would drive down demand by significantly reducing the perceived viability of the WRC service.

### Operational efficiency

Opportunities exist for improvements in operational efficiency which could improve the attractiveness of the service provision as long as they are implemented in conjunction with appropriate timetable, fleet and infrastructure improvements.

### *Rolling stock*

Three sets of 2-car DMUs are used on the route but these also provide services on other routes at various times of the day. This practice is efficient from the point of view of providing the current service but does limit IÉ's ability to improve service frequency or lengthen the service hours (later evening services for example).

We believe that a major area of potential cost saving on a route like the WRC is in fleet utilisation. A fleet utilisation study should be undertaken to determine whether it is possible to dedicate some vehicles to the line. This would enable a more frequent service to be operated on the route and it might be possible to achieve a frequency of 1 train every 1.5 hours or even 1 tph, depending of course on the infrastructure.

The cost of increasing service frequency on the WRC would be minimal in terms of train crew cost, but the impact on the other services where the units are used would have to be assessed. This would need a fleet utilisation study to ascertain if the entire fleet is being used optimally. Dedication of rolling stock to the WRC would only be possible if other fleets are underutilised and there is scope for improvement.

The fleet utilisation study should not only look at the operations of all units in the operating region but should also look at maintenance practices and scheduling, to identify possible improvements in daily utilisation and/or opportunities for cost savings.

In conjunction with the fleet utilisation study, a full re-timetabling exercise would need to be undertaken to ascertain the optimum utilisation possible whilst providing the enhanced service on the route.

If dedicated rolling stock can be acquired, the feasibility of being able to modify it to suit tourists should be investigated e.g. special ways to store bikes, wet gear for walkers, luggage, special dining cars for fancy lunches, etc. etc.

#### *Staff*

Restructuring of station and on board staff would help realise cost savings which could be utilised to enhance the timetabled service provision. For example, the station staff at Ennis station could be redeployed as crossing keepers to remove the PSR and deliver better run times at no additional cost; or they could be deployed as conductors on shuttle services, offering on board service and revenue protection and ticket sales. As run times are reduced, and on board catering provision becomes less important, on board trolley sales staff could also act as revenue protection inspectors and ticket sellers in addition to their trolley duties thus saving on staff costs and improving on ticketless travel.

## **5. Conclusions**

The current service offering on the route is unattractive to many people as it is slow, infrequent and costly in particular when compared to other modes of travel, especially car and bus.

To properly optimise the WRC, first the strategic requirements of the rail services should be set out, a concept timetable should be drawn up, then there are a number of studies that should be undertaken (as noted throughout this report) including:

- An infrastructure capacity study into potential improvements to PSRs, passing loop locations, runtime reductions, etc. and their impacts
- A fleet utilisation study
- A re-diagramming exercise

These internal studies should be relatively inexpensive to carry out and would enable low cost options to be identified. In addition it is likely they will generate other cost savings and efficiencies elsewhere on the system whilst improving the service along the WRC. The results of such studies would determine the future shape and look of the route, which could then be driven forward with a fully supporting marketing plan and communications strategy to sell the benefits to potential users.

However, we have attempted to identify some low cost solutions that might possibly be funded by the net savings they would generate.

Therefore the planning process should recognise:

1. To do this properly, you would spend money on removing PSRs and putting in passing loops and try to get up to an hourly service
2. A cheaper alternative might be to dedicate some DMUs to the line, and eventually increase service frequency to maybe 1 train every 1.5 hours
3. In the short term though, some effort should be made to implement measures such as making the first trains run earlier to attract commuters (recognising that this might not work while the end-to-end journey time is still two hours), and run later into the evening (although this would no doubt incur extra crew costs)

Unfortunately this is a tiny railway with very few options for improving service without spending lots of money on infrastructure improvements. The options of limited stopping services, and operating a shuttle with a re-diagramming of rolling stock for greater efficiency whilst re-structuring some staff are about all that is available. This option meeting a better Dublin- Galway service frequency is the best available.

Therefore, our recommendations are to take action in the following areas:

- Remove (or at least reduce) as many PSRs as possible by low cost measures such as:
  - reviewing and re-sighting each of the level crossings, and possibly removing vegetation
  - employing crossing keepers, possibly redeployed station staff (probably only warranted at increased service frequencies)
- Attempt to optimise fleet utilisation by undertaking a full fleet utilisation study of the region with a view to dedicating some rolling stock to the WRC (followed by a re-diagramming and re-timetabling). This should not only improve utilisation on the WRC but should also improve utilisation on the other lines and also flush out any issues about maintenance actions (such as possibly doing all maintenance on Sundays)
- Introduce a limited stop service in the peak
- Review the need for station manning, use trolley staff to sell tickets, review the need for trolley staff if the shuttle service is introduced

## 5. Operational and Timetabling Issues

In Appendix A we have examined the major operational issues and, where possible, produced indicative sample timetables. The issues discussed there are:

1. Three options for delivering an earlier arrival from Limerick into Galway (and the impact on other services)
2. Assessment of the current rolling stock diagramming for the Galway/Limerick service

3. Proposal to dedicate rolling stock to Galway/Limerick service and potential benefits
4. Impact of reducing current Permanent Speed Restrictions and the potential to operate additional services
5. A summary level comparison is made between the service levels (numbers of trains per day) that are achieved currently and might be achieved by obtaining a dedicated fleet, and by saving 20 minutes by eliminating some PSRs

### **Earlier arrival at Galway**

It is recommended that the best option for achieving an earlier arrival into Galway in the morning would be to utilise the stock which forms the 07:35 Galway to Dublin to generate a service from Athenry to arrive in Galway at 07:15 by running out from Galway at 0640. Note: There may be minor traincrew issues at it would require the crew to book on some 30 minutes earlier and this would need to be investigated with Irish Rail.

### **Dedicated rolling stock**

By dedicating two unit diagrams to work the service and standardising the turnaround times an improved service could be introduced to give a better spread, and by extending the day slightly an additional service could be operated thus increasing the number of trains per day from 5 to 6 tpd. A sample timetable using current running times is presented in section 3 of Appendix A to demonstrate that this is possible.

If dedicated rolling stock can be acquired, the feasibility of being able to modify it to suit tourists should be investigated e.g. special ways to store bikes, wet gear for walkers, luggage, special dining cars for finer dining, etc. etc.

### **Time savings by eliminating PSRs**

Until the proposed detailed examination of the existing PSRs and the reasons for them has been undertaken, any timetable work is necessarily speculative. For the purposes of presenting the case for examining the PSRs, we have produced a timing diagram based on a potential saving of 20 minutes from the run time in each direction, also with dedicated rolling stock. The benefit of such a timing reduction is shown to be a better spread of departures through the day and one extra train per day in each direction (7 tpd).

It would be somewhat meaningless to attempt to produce a sample timetable as there are simply too many variables such as: where time would be saved, the implication for sectional running times, and the passing points at Ennis and Gort.

### **Staged introduction of time savings**

The first step in the PSR eradication project is to undertake the detailed examination of all PSRs and the reasons for them. This will enable a possible programme and likely time scale to be determined. With most of the PSRs likely to require some infrastructure work to be removed we expect it to be a long term project unlikely to be fully complete in less than say 4 years.

With timetables being reviewed annually, and potentially changed twice a year, it is likely that the incremental time saving attained each year will be large enough to warrant being built into the timetable each year.

However, until the aggregate saving reaches say 15 minutes, it is unlikely that the 7<sup>th</sup> train will be made possible, so the only benefit of the time savings will be the attractiveness of the faster trains to the passengers.

Until the precise amount and location of the time savings is established, there is little point in speculating about how the timetable would look. It is clear that the existing trains would need to be shifted back or forth by a few minutes to take advantage of the time savings within the

constraints of the existing passing points, but there is little more that can be said. In fact, if the early PSR gains are too spread out along the line, it may not be possible to fully take advantage of them all due to passing constraints.

The growing success of the line should be monitored throughout this development period with a view to increasing the frequency of service as the demand warrants it. In particular, it is likely that demand for the tourist style daytime service will be higher in summer such that a differential might be introduced between the summer and winter timetables with the summer timetable warranting an earlier increase in service frequency.

## **6. Limited stop service**

In order to improve the service for the commuters into Galway, a limited stop service involving cutting out the halts at Craughwell and Ardrahan was examined. It is possible that up to 5 minutes might be saved from the running time by such a service.

There was discussion of trying to run such a limited stop service 'in the shadow' of the current service (as an additional train), but this is not practical because a) it would require extra rolling stock, and b) there is not the demand for two trains in the peak. Hence we have focussed on the more practical option of converting the existing morning peak train to limited stop. As both halts to be removed are in the Gort-Athenry section, under the current timetable, this would involve having the first train from Galway in the morning depart 5 minutes later (06:25) and the first train into Galway arriving 5 minutes earlier (08:10), thus maintaining the existing pass at Gort. In the evening, the 17:30 departure from Galway would be delayed to 17:35, and the 20:10 arrival into Galway would be brought forward to 20:05.

These timings would, of course, depend on the availability of Athenry station and the impact on the Dublin-Galway service.

In section 3 of Appendix A we have produced an indicative timetable for adding the limited stop component to the 6tpd dedicated rolling stock timetable.

## Appendix A: Operational Issues

Operational issues considered and timetabled are:

1. three options for delivering an earlier arrival from Limerick into Galway (and the impact on other services)
2. Assessment of the current rolling stock diagramming for the Galway/Limerick service
3. Proposal to dedicate rolling stock to Galway/Limerick service and potential benefits
4. Impact of reducing current Permanent Speed restrictions on the Limerick route and the potential to operate additional services

### 1. Earlier arrival into Galway

#### Option 1 Depart Limerick earlier

Currently the first service from Limerick to Galway arrives at 08:05 which is the 06:00 departure from Limerick. This service currently stands at Ennis for 10 minutes from 06:40 to 06:50 – where the service splits with the rear portion forming the 06:45 Ennis to Galway - and passes the 06:20 Galway to Limerick in Gort station at 07:14. The service then arrives at Athenry at 07:44 where the driver changes ends and the service departs at 07:50 giving a 08:05 arrival.

The limiting factor restricting an earlier arrival is that the service has to wait for the 07:35 Galway to Dublin service to pass at Athenry before the line is clear for the service to enter Galway.

To improve the arrival time the 06:00 Limerick service would need to be retimed to allow an arrival in Galway loop which would allow the 07:35 Dublin service to pass in the loop at approximately 07:40. This would necessitate the Limerick service to be berthed in the loop by 07:32 to allow the signalman to depart the 07:35 Dublin service. An 0732 arrival at the loop would require the Limerick service to depart Athenry at 07:20 which would require a passing time at Gort of 06:50 and a departure from Limerick at 05:35.

In order to maintain the crossing movement at Gort with the 06:20 Galway to Limerick service this train would need to be retimed to 05:50. The advantage of this is that the service would arrive into Limerick at 08:05

The earlier departures in Option 1 would be likely to increase traincrew costs as the diagram for the crew is increased by 30 minutes, and this may necessitate additional resources.

There will be no increase in any of the mileage based maintenance costs but the earlier departure from the depots in Option 1 will reduce the maintenance window available. It is not considered that this would lead to any cost increase.

#### Option 2 Delay the early Galway to Dublin train

Option 2 would require the 07:35 Galway to Dublin service to depart earlier to allow an earlier pass time at Athenry. If an arrival time for the Limerick service of 07:55 was required then the services would have to pass at 07:41 which would require the Dublin service to depart at 07:25. As this service would need to keep to the passing times on the journey to Dublin this would require the

service to lose this additional 10 minutes by waiting at stations en route, which may not be acceptable on the premium Dublin service.

To arrive at Athenry at 07:37 to allow for the change of ends the 06:20 Galway to Limerick and the 06:00 Limerick to Galway would also require retiming. To reduce the running time on the 06:00 Limerick service the current 10 minute stop at Ennis would need to be reduced to 3 minutes.

The 06:20 would need to be retimed to 06:10 and would arrive in Limerick at 08:25.

We do not believe extra crew would be required but there might be a small increase in traincrew costs resulting from the earlier departure. There will be no increase in any of the mileage based maintenance costs.

Timetables for the current and options above:

	Current	Option 1	Option 2
Limerick	06:00	05:35	06:00
Sixmilebridge	06:21	05:56	06:21
	06:21:30	05:56	06:21:30
Ennis	06:40	06:15	06:40
	06:50	06:25	06:43
Gort	07:14	06:49	07:07
	07:15	06:50	07:08
Ardrahan	07:24	06:59	07:17
	07:25	07:00	07:18
Craughwell	07:33:30	07:08	07:26:30
	07:34:30	07:09	07:27:30
Athenry	07:44	07:19	07:37
	07:50	07:22	07:41
Galway	08:05	07:45	07:55

	Current	Option 1	Option 2
Galway	06:20	05:50	06:10
Athenry	06:34	06:04	06:24
	06:37	06:07	06:27
Craughwell	06:45:30	06:15:30	06:35:30
	06:46:30	06:16:30	06:36:30
Ardrahan	06:55:30	06:25:30	06:45:30
	06:56:30	06:26:30	06:46:30
Gort	07:10	06:40	07:00
	07:25	06:55	07:15
Ennis	07:51:30	07:21:30	07:41:30
	07:55	07:25	07:45
Sixmilebridge	08:12	07:42	08:02
	08:13	07:43	08:03
Limerick	08:35	08:05	08:25

### Option 3 Early Athenry to Galway train

From the consultation undertaken as part of the Potential Market Analysis the earlier service requirement is driven by demand from Gort and Athenry. The majority of this demand is focussed on Athenry and hence it is proposed that an early service is introduced from Athenry arriving at 07:15 and formed off the stock which forms the 07:35 Galway to Dublin.

Option 3	
Galway	06:40
Athenry	06:55
Athenry	07:00
Galway	07:15

Departing the depot the stock would go direct to Athenry to form the 07:00 departure arriving Galway at 07:15 this would be some 55 minutes earlier than the current first arrival. The stock on arrival would have 20 minutes turnaround time to form the 07:35.

There may be minor traincrew issues as it would require the crew to book on some 30 minutes earlier and this would need to be investigated with Irish Rail.

## RECOMMENDATION

It is recommended that option 3 be taken forward with Irish Rail in order to facilitate an earlier arrival into Galway from Athenry.

## 2. Assessment of Current Rolling Stock Diagramming

In the current train plan the stock used to operate the Limerick to Galway service is interworked with stock operating to other destinations such as Limerick Junction and Thurles. This means that improvements to the service are difficult to deliver because of the impact on the other service groups.

Galway to Limerick

2rs 15 mins

Limerick to Galway

2hrs 5mins

Limerick		06:00
Galway	08:05	09:40
Limerick	11:43	11:55
Galway	13:48	14:30
Limerick	16:24	18:05
Galway	20:10	

Galway		06:20
Limerick	08:35	09:35
Galway	11:34	12:10
Limerick	14:07	14:15
Galway	16:05	17:30
Limerick	19:27	

The current services are listed above and it can be seen that the service could easily be operated with two units dedicated to the route.

However currently the services are operated by the following diagrams:

Diagram 1: 11:55 Limerick and 14:30 return

Diagram 3: 06:00 Limerick and 09:40 return

Diagram 4: 18:05 Limerick and 06:20 Galway

Diagram 5: 14:15 Limerick and 17:25 return

Diagram 7: 09:35 Limerick and 12:10 return

### 3. Dedicated Diagrams on Limerick Galway

The first action would be to reduce the interworking of the units and to dedicate two units to the service and then evaluate what improvements could be derived. By dedicating two unit diagrams to work the service and standardising the turnaround times an improved service could be introduced to give a better spread, and by extending the day slightly an additional service could be operated.

Galway to Limerick                      2rs 15 mins                      Limerick to Galway                      2hrs 5mins  
20 min turnaround

Limerick		06:00	Galway		06:20
Galway	08:05	08:25	Limerick	08:35	08:55
Limerick	10:40	11:00	Galway	10:58	11:20
Galway	13:05	13:25	Limerick	13:35	13:55
Limerick	15:40	16:00	Galway	16:00	16:20
Galway	18:05	18:25	Limerick	18:35	18:55
Limerick	20:40		Galway	21:00	

These improvements could be delivered for little or no additional cost but the impact on other services would need to be assessed. This alteration although improving the Galway to Limerick service interval would affect the Galway to Athenry service and lead to larger gaps. The issue would be as to which service delivers higher revenue to the economy and which business is more strategically important to public transport.

#### Sample timetable with dedicated rolling stock

We present here a sample timetable based on current infrastructure and crossing points at Gort or Ennis (although it will need verification and discussion with Irish Rail).

Limerick	06:00	09:00	11:10	13:50	16:35	18:45
Sixmilebridge	06:21	09:21	11:31	14:11	16:56	19:08
	06:21:30	09:22	11:32	14:12	16:57	19:09
Ennis	06:40	09:41	11:51	14:31	17:16	19:28
	06:50	09:50	11:52	14:32	17:17	19:29
Gort	07:14	10:14	12:16	14:56	17:41	19:53
	07:15	10:15	12:22	15:02	17:46	19:56
Ardrahan	07:24	10:24	12:31	15:11	17:45	20:05
	07:25	10:25	12:32	15:12	17:46	20:06
Craughwell	07:33:30	10:33	12:40	15:20	17:55	20:15
	07:34:30	10:34	12:41	15:21	17:56	20:16
Athenry	07:44	10:44	12:51	15:31	18:06	20:26
	07:50	10:50	12:56	15:36	18:11	20:31
Galway	08:05	11:05	13:11	15:51	18:26	20:46

Galway	06:20	08:25	11:25	14:05	16:50	19:00
Athenry	06:34	08:40	11:40	14:20	17:05	19:15
	06:37	08:45	11:45	14:25	17:10	19:20
Craughwell	06:45:30	08:54	11:54	14:34	17:19	19:29
	06:46:30	08:55	11:55	14:35	17:20	19:30
Ardrahan	06:55:30	09:04	12:04	14:44	17:29	19:39
	06:56:30	09:05	12:05	14:45	17:30	19:40
Gort	07:10	09:19	12:19	14:59	17:44	19:54
	07:25	09:20	12:20	15:05	17:48	19:58
Ennis	07:51:30	09:46	12:46	15:31	17:54	20:14
	07:55	09:48	12:47	15:32	17:55	20:15
Sixmilebridge	08:12	10:05	13:04	15:49	18:12	20:32
	08:13	10:06	13:05	15:50	18:13	20:33
Limerick	08:35	10:28	13:28	16:13	18:35	20:55

### Sample timetable with dedicated rolling stock and limited stop peak trains

The sample timetable presented here is speculative in that it assumes that 5 minutes can be saved by not stopping at Craughwell or Ardrahan and that the timings on the Galway-Athenry section can be accommodated by the Dublin-Galway service. Clearly all such factors will need verification and discussion with Irish Rail.

Limerick	06:00	09:00	11:10	13:50	16:35	18:45
Sixmilebridge	06:21	09:21	11:31	14:11	16:56	19:08
	06:21:30	09:22	11:32	14:12	16:57	19:09
Ennis	06:40	09:41	11:51	14:31	17:16	19:28
	06:50	09:50	11:52	14:32	17:17	19:29
Gort	07:14	10:14	12:16	14:56	17:41	19:53
	07:15	10:15	12:22	15:02	17:46	19:56
Ardrahan		10:24	12:31	15:11		20:05
		10:25	12:32	15:12		20:06
Craughwell		10:33	12:40	15:20		20:15
		10:34	12:41	15:21		20:16
Athenry	07:39	10:44	12:51	15:31	18:01	20:26
	07:45	10:50	12:56	15:36	18:06	20:31
Galway	08:00	11:05	13:11	15:51	18:21	20:46

Galway	06:25	08:25	11:25	14:05	16:55	19:00
Athenry	06:39	08:40	11:40	14:20	17:10	19:15
	06:42	08:45	11:45	14:25	17:15	19:20
Craughwell		08:54	11:54	14:34		19:29
		08:55	11:55	14:35		19:30
Ardrahan		09:04	12:04	14:44		19:39
		09:05	12:05	14:45		19:40
Gort	07:10	09:19	12:19	14:59	17:44	19:54
	07:25	09:20	12:20	15:05	17:48	19:58
Ennis	07:51:30	09:46	12:46	15:31	17:54	20:14
	07:55	09:48	12:47	15:32	17:55	20:15
Sixmilebridge	08:12	10:05	13:04	15:49	18:12	20:32
	08:13	10:06	13:05	15:50	18:13	20:33
Limerick	08:35	10:28	13:28	16:13	18:35	20:55

#### 4. Reduce journey time by 20 minutes by eliminating PSRs

Along the Limerick to Athenry route there are numerous PSRs primarily due to poor sighting distances at many of the 35 level crossings on the line. The narrow width of the rail corridor makes the provision of adequate sighting distances for level crossings very difficult. The long term solution to allow for an improvement is running times and a subsequent increase in frequencies would be the eradication of some of these PSR by use of bridges, underpasses, signalling or crossing keepers. A detailed study of the cause and impact of each PSR would need to be undertaken but it is considered that a saving of 20 minutes should be possible. To understand the benefits of the time saving with a reduction of 20 minutes and the dedicated units the following service frequency could be achievable.

Galway to Limerick  
20 min turnaround

1hrs 55 mins

Limerick to Galway

1hrs 45mins

Limerick		06:00
Galway	07:45	08:05
Limerick	10:00	10:20
Galway	12:05	12:25
Limerick	14:20	14:40
Galway	16:25	16:45
Limerick	18:40	19:00
Galway	20:45	

Galway		06:20
Limerick	08:15	08:35
Galway	10:20	10:40
Limerick	12:35	12:55
Galway	14:40	15:00
Limerick	16:55	17:15
Galway	19:00	19:20
Limerick	21:15	

No sample timetable provided as this will depend on where time is saved and the implication for running times and the passing points at Ennis and Gort.

## 5. Service comparison

The following table summarises the service levels that could be achieved with the changes discussed above.

<b>Limerick departures</b>							
Current	06:00	09:35	11:55	14:15	18:05		
Dedicated diagrams	06:00	08:55	11:00	13:55	16:00	18:55	
PSR removal	06:00	08:35	10:20	12:55	14:40	17:15	19:00

<b>Galway Departures</b>							
Current	06:20	09:40	12:10	14:30	17:30		
Dedicated diagrams	06:20	08:25	11:20	13:25	16:20	18:25	
PSR removal	06:20	08:05	10:45	12:25	15:05	16:45	19:25