



# N62 Thurles Bypass

TN-07-290

## Constraints Study Report



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# 1 Outline

## 1.1 Purpose & Method

The purpose of this report is to list all major factors that may act as a constraint or impediment to the construction of a new road to bypass Thurles, and to assist in the generation and assessment of potential route options for the proposed N62 Thurles Bypass. Route options are not shown in this report and are not yet considered – the selection of possible route options is the next stage of the design process.

An area is selected – the Constraints Study Area – within which it is expected that the preferred route will lie, and the constraints within this area are identified. Each constraint is listed, mapped and assessed so that the information is readily available to the route identification, appraisal and selection process that follows.

Constraints affecting a proposed road improvement scheme can be physical (both natural and man-made), procedural, legal or of an environmental nature. Data collection concentrates on determining what constraints could significantly affect the design of the scheme, impede progress, or influence the costs. The methodology for compiling the information contained in this report comprised consultation with statutory and non-statutory consultees (as listed in Appendix A of this report) in relation to their interests within the study area, and a detailed desktop study, followed by location surveys as necessary to verify findings, such as inspection of buildings, structures and woodland. No visits onto private lands were made at this stage in the process.

Reference was made to national and local publications, maps and aerial photographs. A summary of these findings is included in Section 2 of this report. The findings are discussed in greater detail in Sections 3, 4 and 5, with supporting documentation in the Appendices. Drawings are referred to throughout the text, and are contained in Appendix F. Drawings are intended to be plotted at A1-size (594 x 841mm), although they may be viewed at half-size (twice the stated scale) at A3-size (420 x 297mm).

Drawings 09/024/0200/0018 & 09/024/0200/0019 in Appendix-F show in combination many of the constraints found in the study area.

## 1.2 Project Information

The location of Thurles at a national and regional level is shown by Constraints Drawing 09/024/0200/0001, and the N62 Thurles Bypass Constraints Study Area is shown on Drawing 09/024/0200/0002, in Appendix F.

Thurles is the largest town in North County Tipperary. It is a market town, cathedral town to the Catholic archdiocese of Cashel & Emly, and developed like many provincial towns throughout the 19<sup>th</sup> and 20<sup>th</sup> century around the activities of the church, education and agriculture. The historic development of the town owes much to the Normans and particularly to the Anglo-Norman family of the Butlers, Dukes of Ormond, who founded a Carmelite Priory here in the year 1300. The core of the town developed principally in the 19<sup>th</sup> century, with the building of the Cathedral and St Patrick's College, construction of many of the buildings lining the main streets and Liberty Square, and the establishment of the Ursuline and Presentation Convents. The core retailing area of the town has concentrated around Liberty Square, Friar Street, and Slievenamon Road. The Gaelic Athletic Association (GAA) was founded in Hayes's Hotel on Liberty Square in 1884, and Semple Stadium Thurles with a seating capacity of 53,500 is the second-largest in Ireland and a nationally important fixture for GAA players and spectators alike. In recent years, the Tipperary Institute of Education has established Thurles as a third-level centre of Education.

Thurles is set in the valley of the River Suir, between the Silvermine Mountains to the northwest and the Slieveardagh Hills to the southeast. It is located in the southeast of the county of North Tipperary, on the N75/N62 and about 8km northwest of the N8 Dublin-Cork National Primary route. It also lies on the mainline rail link between Dublin and the south/southwest. The town has an east-west axis and is shaped by the following factors:

- by the response to the shallow river valley in which it has developed;
- by the insertion of continuous institutional uses along the east bank of the river, dividing the town in two and closing off development to the north; and
- by the railway line and rail station to the west.

As a commercial and social centre, Thurles has a wide hinterland, and is the principal town for people living within a radius of some 10 to 20km, with a catchment area from Johnstown, Urlingford, Gortnahoo, Littleton, Ballinunty and Ballinure to Cashel; Boherlahan, Holycross, Clonoulty, Drumbane, Ballycahill and Upperchurch to Borrisoleigh; Templemore, Templetouhy and Moyne.

The N62 National Secondary Route commences at Fardrum on the N6 just east of Athlone, and runs southwards through Ferbane and Cloughan to Birr where it joins the N52 for a short distance through the town, then continues south to Roscrea where it crosses the N7 Dublin/Limerick National Primary Route, continuing south through Templemore and Thurles, connecting to the N8 Dublin/Cork National Primary Route at the village of Horse and Jockey. The N62 is a major interconnector, interconnecting several National Primary Routes, National Secondary Routes, Regional Roads and local roads throughout much of the midland region, interconnecting the southern region, the midlands and the west.

The N75 National Secondary Route connects Liberty Square Thurles east to the N8 National Primary Route towards Dublin via Twomileborris. Thurles is connected south to Cashel and Cork by the N62 via Horse and Jockey and the N8 National Primary Route; and to the west (Nenagh and Limerick) via the R498 Regional Road.

In addition to a well-developed network of local roads, three National Secondary Routes and four Regional Roads converge at Thurles, and the town can be considered to be an important interconnection node in the national and regional road system. The following table gives the traffic count (number of vehicles, per day, in each direction) on these major roads on a typical day, Thursday 7<sup>th</sup> September 2006.

Road	Towards Thurles	From Thurles	Total	%HCV *
<b>N62 North</b> to/from Templemore	2581	2296	<b>4877</b>	<b>16.1 %</b>
<b>N75</b> to/from Twomileborris	3023	3129	<b>6152</b>	<b>10.6 %</b>
<b>N62 South</b> to/from Horse & Jockey	5141	4645	<b>9786</b>	<b>13.6 %</b>
<b>R498</b> (including the <b>R503</b> ) to/from Nenagh / (& Newport)	4205	4113	<b>8318</b>	<b>12.0 %</b>
<b>R660</b> to/from Holycross	1942	2219	<b>4161</b>	<b>12.3 %</b>
<b>R659</b> to/from Cabragh (Holycross)	2412	2382	<b>4794</b>	<b>8.2 %</b>

\* HCV = Heavy Commercial Vehicles

**Table 1.1** *Typical Vehicle Count on Major Roads into Thurles*  
[Thursday 7<sup>th</sup> September 2006]

### 1.3 Bypass Feasibility Report

In March 2007, the MWNRDO carried out a Feasibility Study to establish the feasibility of an N62 Bypass of Thurles. It involved a study of previous relevant publications, a Journey Time Assessment, an analysis of traffic volumes, an Origin-Destination Survey and an analysis of traffic collision data for the existing roads in the town and its environs. Population figures and key policy documents were also examined.

The conclusions of the Feasibility Report were as follows:

- (a) The provision of an N62 Bypass of Thurles town is in keeping with the objectives of local and national policy documents, including the *National Spatial Strategy for Ireland 2002-2020*, the *Mid West Region – Regional Strategy and Regional Planning Guidelines 2004*, and the *National Roads Needs Study 1998*;
- (b) Preliminary census figures (CSO April 2006) showed that the population of both the town and its immediate environs is increasing;
- (c) A Journey Time Assessment along the N62 from the Templemore Road north of Thurles to the Horse and Jockey Road south of Thurles, which includes 100km/hr sections, has shown that the average speed is 30.5km/hr, far less than the 80km/hr targeted by the *National Roads Needs Study* for inter-urban speeds between route terminals. Speeds were even slower between the N62 and N75, which averaged under 27km/hr.
- (d) An Origin-Destination Survey has shown that 48% of Thurles traffic could directly benefit from a bypass, and up to 85% during the peak periods, with other regional routes benefiting also;
- (e) An examination of existing traffic collision data has highlighted problems and deficiencies in the existing N62 infrastructure through the town, and recommends new alignments and the need for widespread and effective traffic calming measures to ameliorate the situation. The provision of a bypass would greatly reduce these safety issues.

The Feasibility Study Report recognises that there are a number of local factors that contribute to traffic congestion within the town:

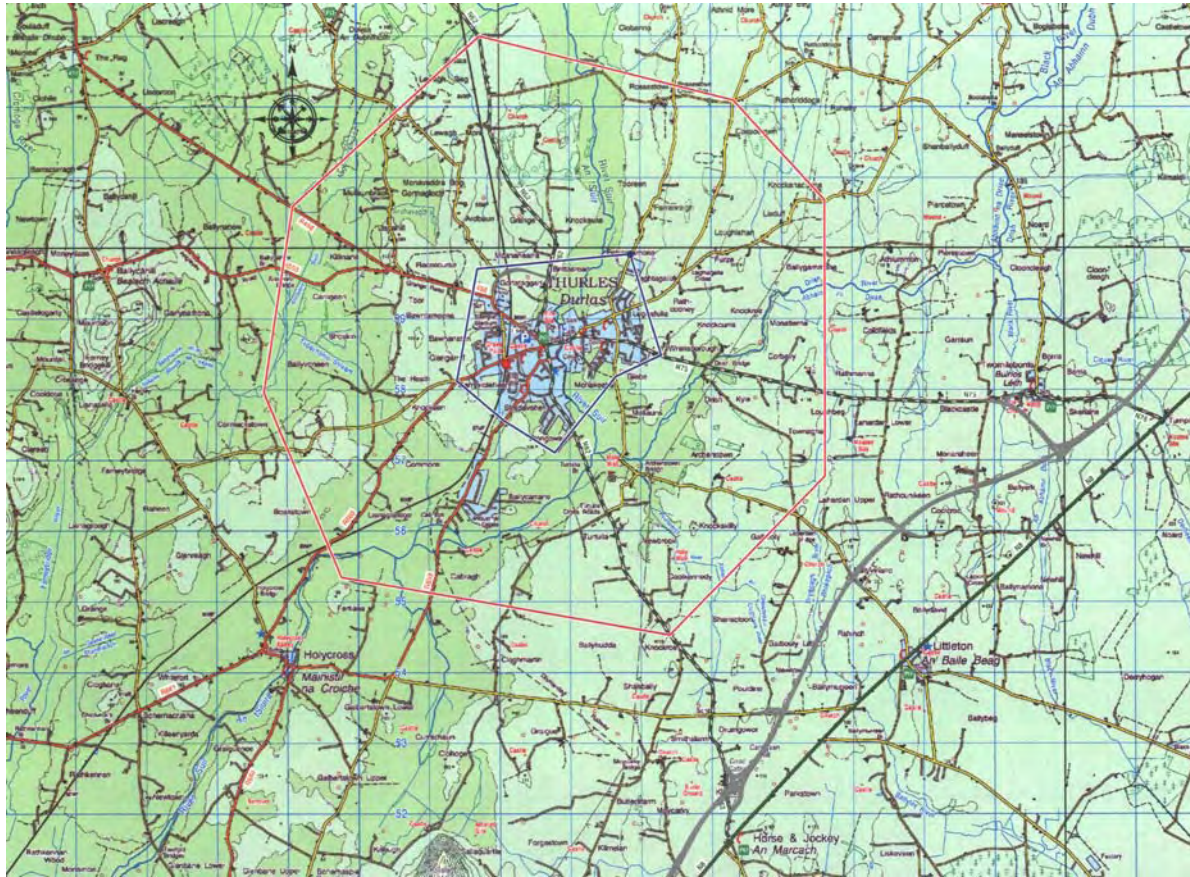
- the radial nature of the roads system, with three National Secondary Routes and three Regional Roads radiating directly from Liberty Square
- the narrow street widths constrained by buildings on entering /exiting Liberty Square
- the constriction caused by the single river crossing in the town, at the east end of the square
- congestion of the circulatory traffic system within Liberty Square
- the concentration of schools, giving a pronounced traffic peak at school times
- traffic counts have shown that the Average Annualised Daily Traffic (AADT) on the N62 has increased by more than 53% between year 2000 and 2004
- there is a significant incidence of pedestrian /traffic collisions, particularly in the central region near Liberty Square.

The provision of a bypass would address all of these points.

After presenting the Bypass Feasibility Study Report to the NRA for approval in March 2007, the MWNRDO proceeded to Constraints Study - Phase 2 of the scheme as described by the NRA's *National Roads Project Management Guidelines (March 2000)*.

## 1.4 Study Area

The Constraints Study of a road scheme begins with the selection of an appropriate Study Area. The Constraints Study Area for this scheme is shown in *Fig. 1.1* below, and the constraints drawings in Appendix F.



**Fig. 1.1** The N62 Thurles Bypass Constraints Study Area.

*The Constraints Study Area is the annular region inside the red boundary but not including the built-up area within the blue boundary.*

*See also the detail drawings in Appendix F.*

A constraints study area should encompass the location where it could be expected that the roadway and its junctions with the existing road network will eventually lie, and must be selected with some care. Too large a study area may be wasteful of time and resources spent researching regions that are of no particular relevance to the scheme, but if the area selected is too small the possibilities explored as part of the scheme may exclude the optimal solution. The bypass is intended to connect the N62 north of Thurles to the N62 south of Thurles while bypassing the town. Since it is probably not practical to sufficiently upgrade and widen existing streets within the town, it is unlikely that the bypass will pass through the town, and hence the study area excludes the built-up area of the town itself in order to avoid unnecessary collection of irrelevant data. As a result, the study area comprises a

roughly annular or 'ring'-shaped region, about 8km in diameter, centred on the town, from the townlands of Brittas in the north to Ballyhudda in the south, and from Rathmanna in the east to Cormackstown in the west. The area of the constraints study zone is some 46½ km<sup>2</sup>.

Principal features within the Study Area are the rivers Suir and Drish, the Dublin to Limerick/Cork/Kerry railway line running north-south through the study area, and several important roads including:

- the N62 Templemore to Horse and Jockey road running north-south through the town,
- the N75 from Thurles east to Twomileborris connecting to the N8 at Turnpike,
- the R659 south to Cabragh and Holycross,
- the R660 southwest to Holycross,
- the R503 west to Ballycahill, Upperchurch, Rearcross, Newport and Limerick, and
- the R498 northwest to Bouladuff, Borrisoleigh and Nenagh.

These features may also be seen on Constraints Drawings 09/024/0200/0001 and 09/024/0200/0002 in Appendix F.



## 2 Executive Summary

### 2.1 Natural Constraints

- **Topography** – The Study Area consists of mainly flat to undulating river valley lowland (90-120mOD<sup>1</sup>), gradually sloping from the northeast towards the southwest.
- **Watercourses** – The principal watercourse in the Study Area is the River Suir, passing through Thurles and meandering north to southwest, with the Drish River which enters the study area from the east and joins the River Suir just south of the town. There are also other smaller rivers and streams flowing into these rivers throughout the Study Area. There are no lakes in the Study Area, but there are various small ponds, marshy areas and areas subject to seasonal flooding.
- **Geology and Topsoil** – The entire Study Area lies on Dinantian Limestone, which is generally a stable substrate but may be subject to dissolution giving rise to karst features. The two predominant soil types in the Study Area are similar brown-grey Podzols, with alluvial gley along the major river valleys, and occasional small areas of Fen Peat and Rock Outcrop scattered throughout the Study Area.
- **Woodland** – There are no major areas of commercial woodland in the Study Area; however there are significant groups of trees in private ownership, chiefly associated with Brittas Castle in the north of the study area, the golf club in the south, and other groups of trees mainly in the southeastern and western portions.
- **Aquifers and Wells** – There are a number of locations where important wells supply public water schemes or group water schemes in the region, most notably near Turtulla in the southeast, and Ballyvoneen to the west.
- **Ecology** – The region supports a typical wide range of wildlife species, including some that are protected under EU and Irish legislation. However, no flora or fauna species were noted that would not be found in many similar roads schemes. A further detailed review of ecology will be carried out as part of the Route Selection process.

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<sup>1</sup> 90 to 120 metres above Ordnance survey Datum, [above a nominal sea level].

The following areas have a statutory designation under EU and Irish legislation, which must be considered when designing route options:

- **Special Areas of Conservation** – There is a *Candidate Special Area of Conservation* (cSAC) along the valley of the River Suir from Cabragh Bridge at the southwest edge of the Study Area as far as the sea. The small portion of this cSAC that lies within the Study Area is in the townlands of Fertiana, Lisnagonoge and Cabragh.
- **Natural Heritage Areas** – There is a *Proposed Natural Heritage Area* (pNHA) within the study area, which comprises two distinct parts: the Ardbaun Tanklands 3km north of Thurles to the west of the railway line and the N62 Templemore Road; and the Cabragh Marshes at the southwest edge of the Study Area.
- **Other Protection Areas** – There are no areas designated as a *Special Protection Area*, as an *Area of Scientific Interest*, as a *National Park* or as a *Nature Reserve* either within the Study Area or within 10km of the Study Area.

## 2.2 Man-Made Constraints

- **Existing Roads** – The existing N62 varies in width as it passes through the study area, from a 7.2m two-way carriageway with 0.5m hard shoulders at the north, which reduces to a 5.9m carriageway at the outskirts of the town and further reduces to a one-way 4m carriageway at O'Donovan Rossa Street at its entry onto Liberty Square. South of Liberty Square the N62 increases to 9.3m on Slievenamon Road, while beyond the 60km/hr speed limit south of the town the road width is typically 7m with hard shoulders varying from 0.2m to 2m. The N75 is of similar width within the study area.  
A number of major roads emanate radially from Liberty Square in the centre of Thurles, and are constricted in width by existing buildings within the built-up area of the town.
- **Archaeology** – There are a total of 65 Recorded Archaeological Sites present within the Study Area, mainly consisting of ringforts and enclosures. There are likely to be further sites of archaeological potential identified during the route corridor selection stage.
- **Listed Buildings and Architectural Heritage** – There are five listed buildings in the Study Area, with several other structures or buildings that deserve special consideration due to their potential for Architectural Heritage value.

- **Buildings and Structures** – There is a high density of dwellings along the existing roads network. The remainder of the study area is lightly populated with a low density of dwellings and farms. Approved planning applications will also be considered when preparing route options.
- **Land Ownership** – As reflected in the density of dwellings, there are many small land holdings on all the approach roads to the town. The land parcels are larger in the open countryside.
- **Railway Lines** – The busy Dublin-Cork twin-track railway line runs north - southwest through the Study Area. There is a section of dismantled railway corridor to Clonmel in the south of the study area.
- **Services** – Water supply, sewerage and electrical services are all present in the Study Area. Although there are telecommunications masts within Thurles town, there are none located within the study area. Eircom have extensive above-ground, underground and fibre-optic cabling networks within the study area. Major trunk water-mains that will cross the constraints study area are proposed for the new Thurles Regional Water Scheme for the area. There is no piped gas infrastructure within the study area.
- **Land Use** – The majority of the land in the study area is in use for agriculture, with residential housing in ribbon development along the roads. The horse-racing course, Tipperary Institute of Education, the Golf Club, the site of the former sugar factory at Ballycarrane, and a proposed Industrial Park at Archerstown are all significant blocks of land within the study area with specific usage.

A portion of the study area is located within the Thurles Town Council's administrative area. This area has been zoned by the *Thurles & Environs Development Plan 2002-2008*, which was subsequently amended by *Variation No.1 (October 2006)*.
- **Amenity Zones** – There are no Areas of Special Amenity identified by the *County Development Plan 2004-2010* in the constraints study area.
- **Structurally Weak Area** – There is a *Structurally Weak Area* identified with respect to Planning in the County Development Plan to the west of the constraints study area. A small part of this Structurally Weak Area falls within the western portion of the constraints study area.

- **Local Amenities** – Most of the local amenities are within the town of Thurles, and are hence not part of the study area. Local amenities that are within the Study Area include Thurles Racecourse, Thurles Golf Club, a number of GAA /Soccer /Rugby and other sporting facilities on the outskirts of Thurles, an Equestrian Centre on the Mill Road, and Leugh National School.
- **Quarries** – There is one licensed operating quarry, six small disused quarries and a number of minor quarries within the study area.
- **Landfill Sites** – There is a disused Local Authority landfill site within the study area at Monanearla, east of the Racecourse, which closed in 1999. Thurles refuse collection is now transported to Ballaghaveny near Nenagh, well outside the constraints study area. Dried sludge from the Thurles Sewage Treatment Plant is disposed of by spreading on lands to the east of the sugar factory site.
- **Burial Grounds** – There are two known small burial grounds within the study area, adjacent to Killinane Castle west of the racecourse, and between Brittas Castle and the N62 to the north of Thurles.
- **Local Interest Groups** – Of the several local interest groups contacted, many expressed support, and none had any objection in principle to the proposed scheme.
- **Development Plans** – The *Thurles & Environs Development Plan 2002-2008*, the *North Tipperary County Development Plan 2004-2010*, the *National Roads Needs Study 1998*, and the *National Development Plan 2000-2006* have all identified the need to improve the National Secondary road network including the N62, and promote strategic bypasses of towns such as is proposed for the N62 Thurles Bypass. The most-recent *National Development Plan 2007-2013* states that "this progress must now be built on and accelerated". Furthermore, *Transport-21* has specifically referred to the "targeted improvement" of National Secondary Routes such as the N62. The N62 Thurles Bypass is consistent with these objectives.

The *Thurles & Environs Development Plan 2002-2008* indicates a proposed corridor for a bypass to the east of the town, which is more correctly a relief-road. It should not be assumed that this corridor will become the N62 Thurles Bypass. Arising from this, the draft *Ballycarrane and The Commons Local Area Plan* states (inaccurately) that the

route for the bypass has been selected, and that the bypass will extend west to Ballycarrane.

### 2.3 External Design Parameters

- **Funding** – The most-recent *National Development Plan 2007-2013* and *Transport-21* specifically itemise only the very large-scale projects, and allocate funding *en-bloc* for smaller projects with local or regional effect, as a group. A stated aim of the new *National Development Plan 2007-2013* and *Transport-21* is ‘targeted improvements to National Secondary Routes’. The Thurles Bypass will provide a key improvement to the N62 National Secondary Route, which is also a stated objective of the *National Roads Needs Study*. It is likely that the N62 Thurles Bypass will compete for funding against other similar regional projects on a needs basis and on cost/benefit analysis.
- **Level of Service** – The overall target of the *National Roads Needs Study* is to ensure that no section of the national road network falls below “Level of Service D” (LOS D), equivalent to an inter-urban travel speed of 80km/hr from the terminal destinations.
- **Traffic Volumes** – According to traffic analyses carried out for the Feasibility Report, the Annual Average Daily Traffic (AADT) on the N62 south of Thurles will be 14,433 vehicles per day (in both directions), for a design year of 2027.  
Traffic patterns around Thurles are complex, and will need further analysis as part of route corridor selection.
- **Technical Standards** – Technical design standards and design speed will impose significant geometric constraints on the scheme such as minimum curve radii and maximum gradients, which will strongly influence the line of the route options. The applicable design standard is the NRA *Design Manual for Roads and Bridges*.
- **Access Control** – It is proposed to limit direct access onto the N62 Thurles Bypass. Any junctions necessary will have due regard to road safety, technical design standards and capacity, in compliance with the NRA *Policy Statement on Development Management and Access to National Roads*.

