

**Figure 15: Other Short Term Recommendations, Celbridge**

### **Junction Improvements**

6.26 As outlined previously, road safety and capacity issues exist at a number of junctions throughout Celbridge and identified in Figure 15. It is **recommended** that in the short term, alterations are made to improve the safe and efficient flow of traffic at the following junctions, namely:

#### *J1 - Maynooth Road / Aghards Road*

It is **recommended** that the operation of this junction be monitored following the cutting back of vegetation identified as Minor Improvement and Maintenance Recommendation 42. If problems persist, then it is **recommended** that the right turn lane from Maynooth Road onto Aghards Road should be extended through land-take on the south western side of the junction. Consideration should also be given to the introduction of traffic signals, although it will be difficult to retain access to the Maxol petrol station outside of the controlled zone.

#### *J2 - Oldtown Road / Shackleton Road*

Despite delays at this junction, particularly at each end of the school day, the proximity of neighbouring development on the northern arm of the junction all but precludes the preferred enhancement of providing a right-turn facility into Church Road. It is **recommended** that delays at the junction be monitored following the introduction of Safer Routes to Schools measures and that if problems persist, options are drawn up for introducing a right turn facility, including limited land acquisition, through CPO if necessary.

#### *J3 - Clane Road / Shackleton Road (Plate 8)*

It is **recommended** that the existing splitter island on the Shackleton Road approach to the junction be moved approximately 6 metres to the north, and that the pedestrian signal poles and aspects, guardrailing, dished kerbs and tactile paving are adjusted accordingly.

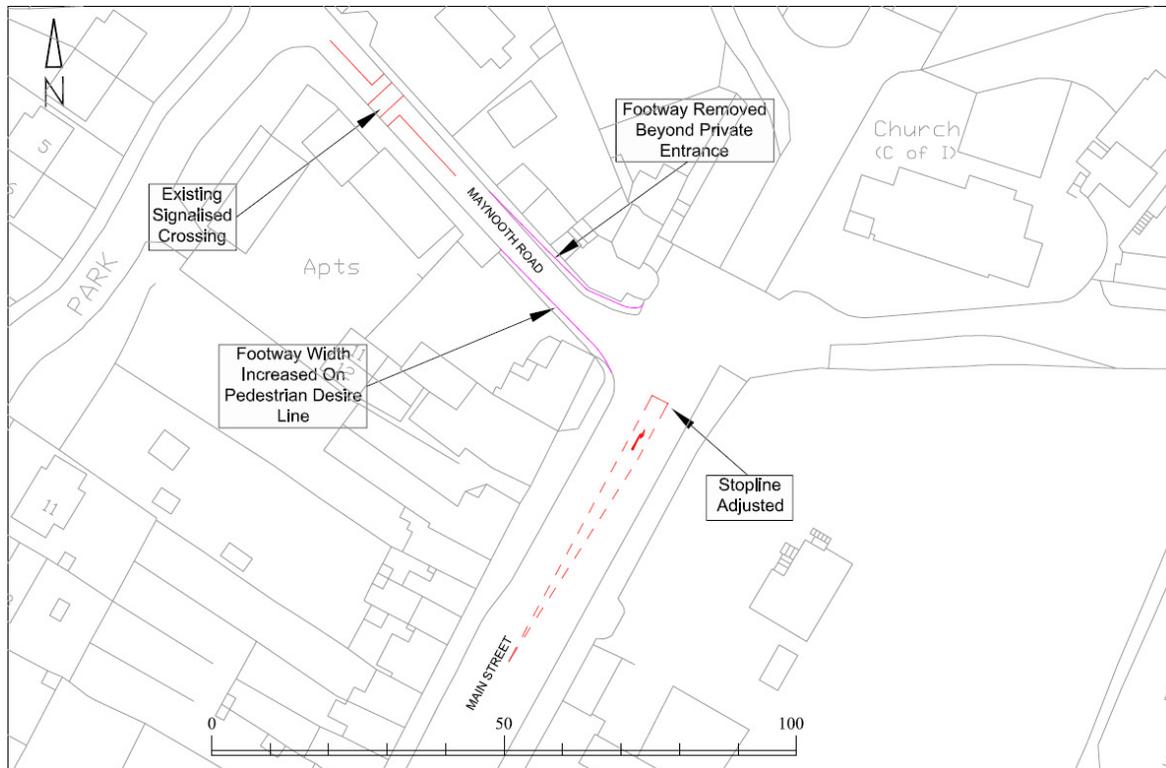


**Plate 8: Over-running at the Clane Road/Shackleton Road junction, Celbridge**

#### *J4 - Castletown Gates (Figure 16)*

The recent provision of a footway on the southern side of Maynooth Road at Castletown Gates is welcomed, although evidence suggests that a wider footway on this side of the road is desired. This could only be achieved by removing the footway on the northern side of Maynooth Road. Whilst this would generate an additional benefit of allowing the stopline to be moved forward, potentially reducing delays and queueing caused by vehicles turning left from Main Street through Castletown Gates, it is **recommended** that the recent

improvements be monitored before making any additional changes to the footways. In the interim, it is **recommended** that the antiskid surfacing be renewed and that the stopline be repositioned as far northwards as possible whilst retaining safe movements from Maynooth Road onto Main Street. Consideration should be given to reducing the number of parking bays on the east side of Main Street in the vicinity of the junction if necessary to achieve this.



**Figure 16: Proposed junction improvement: Castletown Gates, Celbridge**

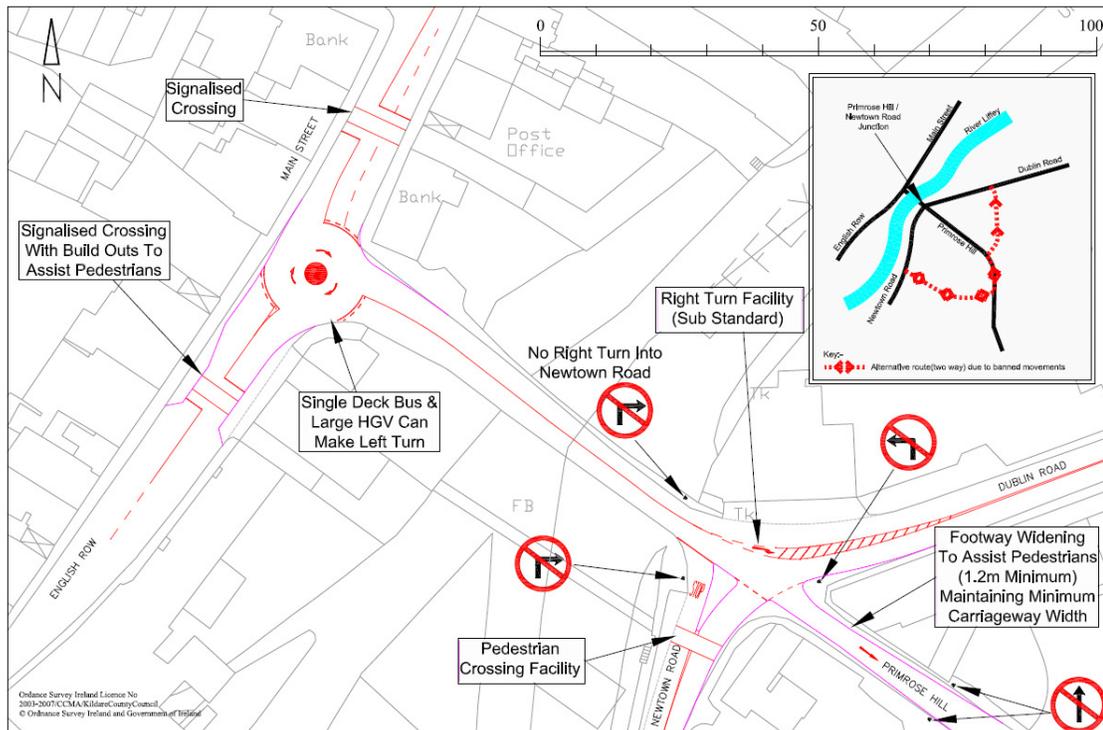
*J5 – Main Street/English Row/Bridge; and*

*J6 – Dublin Road/Primrose Hill/Newtown Road/Bridge (Figure 17)*

These two junctions have been the subject of controversy for many years and in traffic terms are seen as critical to the flow of traffic in Celbridge. The junctions lie at either end of the only Bridge crossing of the River Liffey and consequently their interaction with each other is crucial to the efficient operation of traffic in Celbridge. Consequently the two junctions are considered together and termed for the purpose of this report the ‘Bridge Junctions’. Following an assessment of a number of options for the ‘Bridge Junctions’ it is **recommended** that a mini-roundabout is provided at the English Row/Main Street/Bridge end, and an altered priority working arrangement at the Dublin Road/Primrose Hill/Newtown Road/Bridge end is introduced. As part of the proposals it is **recommended** Primrose Hill be made one-way from the junction between Newtown Road and a point 50 metres south west of the junction, which will still allow two way access to all frontagers on Primrose Hill. Figure 17 shows the proposed layout improvements for the ‘Bridge Junctions’. These changes will provide additional interim capacity until the major improvements are implemented. A further detailed assessment using ARCADY, LINSIG2 and PICADY, the industry standard computer programs, has shown that the proposed layout has the capacity to make an improvement on the existing situation. It should be noted however that whilst this will represent an improvement over existing conditions, there is little spare capacity to accommodate either background traffic growth or development related traffic, at least until an additional bridge crossing is provided. Due to the presence of the banned turns at the Newtown Road end of the ‘Bridge Junctions’, and the presence of a mini roundabout at the

Main Street end, there is the possibility that a number of motorists will make a 'U' turn at the mini roundabout. As a result the following are **recommended**:

- initiate the 'banned turns' at the Primrose Hill end of the junction, together with the associated pedestrian facilities;
- review and monitor the effect of the 'banned turns' and see how junction operates;
- should problems still exist at the Main Street end of the junction then the implementation of a mini roundabout is **recommended**;
- review and monitor the effect of 'U' turning traffic;
- should 'U' turning traffic create an operational problem then it is recommended the 'U' turn is banned and enforced, together with appropriate signage of the alternative routes as shown in Figure 17.
- Signalled pedestrian crossing should be installed in Main Street and English Row approximately 20m from the Give Way lines to the mini roundabout accompanied by kerb buildouts as shown in Figure 17.



**Figure 17: Proposed junction improvements, adjacent to River Liffey Bridge, Celbridge**

It is further **recommended** that the operation of the completed 'Bridge Junctions' scheme is monitored and should problems still exist then the compulsory purchase of the building on the Corner of Dublin Road and English Row should be considered. Before any decisions are made it is **recommended** that the progression of additional bridge crossings and the 'Donaghcumper' Development are closely monitored as they will have an impact on the traffic flows at the 'Bridge Junctions'. The consultants are aware of the proposed 'Donaghcumper Development' and its associated highway infrastructure, and whilst only at proposal stage it will, if granted planning permission, have a material effect on the operation of the 'Bridge Junctions'. As a result it is **recommended** that the effects of proposed development and its planning conditions are considered as the 'Bridge Junction' scheme cannot be considered in isolation. Finally during the consultation process mention was made of the over use made of the laneway linking Primrose Hill and Dublin Road some 70 metres south east of the Primrose Hill/Dublin Road junction. The laneway is very narrow and unsuitable for through traffic which could be exacerbated by making, Primrose Hill one-way. As a result it is **recommended** that the lane way is closed to through traffic by way of bollards at a point 40 metres north of Primrose Hill where the laneway narrows. Access to the units will remain from Dublin Road.

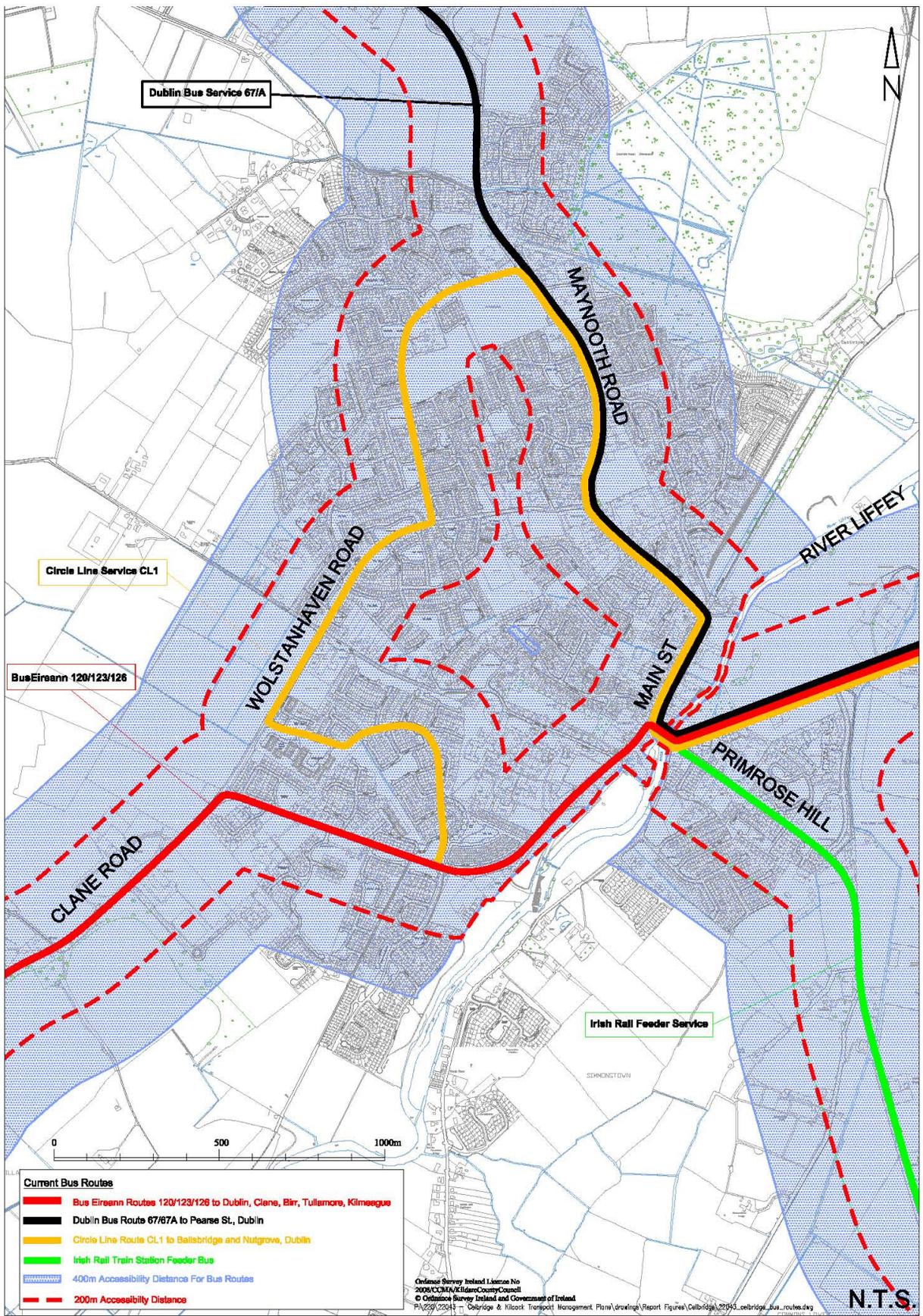


Figure 18: Catchment Area for existing Bus Routes (Jan 2008)

### *Maynooth Road / The Drive*

Consultation has suggested that traffic finds it difficult to make right-turning manoeuvres out of the estates located along Maynooth Road. This is problematic given that most of the estates have a single point of access and that providing traffic signals at each access would result in unnecessary delays. It is therefore **recommended** that the situation be monitored, and that if signalisation of the Maynooth Road / Aghards Road is deemed necessary, then traffic signals should also be considered at The Drive entrance to the Castletown Estate, with box junction markings at the entrances to both Beatty Grove and Beatty Park.

### *Stoplines*

As part of the improvement to junctions, it is **recommended** that the location of all stoplines are reviewed. In many instances stoplines at 'Give Way' junctions are set too far back or are in a poor state of repair.

### **Public Transport**

- 6.27 Bus Services from the surrounding rural areas and Dublin to Celbridge town centre are considered reasonable with at least a half hourly service on the main routes. The existing bus routes are shown on Figure 18 together with areas of Celbridge within acceptable walking distances of bus routes. The majority of residential developments are within a crowfly distance of 400m from a bus route which is regarded as the maximum acceptable walking distance, but 200m is the acceptable distance for people who are mobility impaired. It can be seen from Figure 18 that significant areas of the town, particularly new developments lie between the 200m and 400m bands. Potential passengers from large parts of the town who wish to go to Dublin by bus or to Hazelhatch Station will have to change buses in the vicinity of the bridge, which is a disincentive to using public transport. The rail feeder service is designed to match up with train arrival and departure times, but only provides an adequate service during peak periods from the town centre.
- 6.28 The overall result is that public transport accessibility within Celbridge is not ideal. From the consultation exercise the problem is compounded by the uncertainty of buses arriving and a lack of readily available timetable information. This latter problem can be remedied by creating composite information which is displayed at each stop and at prominent locations in the town centre, including car parks, together with information technology. It is therefore **recommended** that information for bus passengers is improved throughout Celbridge and in particular at bus stops.
- 6.29 At present timetable information is available via a series of websites established by the various bus operators currently operating in Celbridge. In order to bring together all the various service and route information it is **recommended** that Kildare County Council develop a central website to explain the services and routes available. This service, co-ordinated by Kildare County Council, should also be displayed at bus stops and car parks throughout Celbridge.
- 6.30 Of particular note of concern, given the high non-car usage in Celbridge, is the quality of service on some routes and in particular the feeder bus service to the Hazlelatch station. In order to encourage a higher usage of public transport throughout Celbridge improvements to the bus passenger facilities are **recommended** by the introduction of:
- high quality shelters at bus stops;
  - 'kassel kerbs' to allow horizontal boarding levels when used with 'low floor' buses; and
  - lighting and seating within the bus shelters.
- 6.31 Real Time Information (RTI) for buses, which keeps passengers informed of bus arrival or disruption, are now becoming more common place and it is **recommended** that Kildare County Council pursue the implementation of RTI in association with bus operators. With this in mind it is **recommended** that RTI is part of the ITS strategy (section 6.46) with the

ability to allow for other ITS modules such as smartcard ticketing, and CCTV and the UTMC.

6.32 With multiple operators it is essential that Kildare County Council take the lead on public transport initiatives and issues, and the setting up of the 'Transport Forum' should go some way to achieving this objective. However to ensure that the public transport issues are fully addressed and successfully implemented it is **recommended** that Kildare County Council set up a facility for monitoring the performance of transport operations to ensure public transport services are improving and that the capital funding of infrastructure is showing a return on the investment.

6.33 At present the Department of Transport (DoT) award licenses to bus operators to provide bus routes in the County of Kildare with the exception of Bus Eireann and Bus Atha Cliath. Current guidance of the monitoring and enforcement is provided by the DOT whereby:

*"The Department of Transport will monitor services where feasible, provided under license as well as services provided by Bus Atha Cliath and Bus Eireann. The department will investigate any written complaints received in relation to matters which may affect the operation of such services".*

6.34 In order to ensure that all operators (including Bus Eirarran and Bus Atha Cliath) are performing and combining to improve public transport provision in Celbridge it is **recommended** that Kildare County Council discuss with the DoT the setting up of a 'Pilot Monitoring Exercise' for Celbridge, which will in turn link into the facility for monitoring the improvement of public transport services as set out in Section 6.32.

6.35 As set out in Section 2.5 there are proposals to implement a North Kildare Bus Route linking Kilcock, Maynooth, Celbridge and Hazlehatch. It is **recommended** that the public transport initiatives set out above pay due cognizance to the North Kildare Bus Route which is critical in the encouragement of higher bus patronage. It is further **recommended** that the development at the 'Donaghcumper' site is reflected in the development of public transport provision throughout Celbridge and it is also **recommended** that enhanced public transport provision for Celbridge is provided for in the planning conditions for the 'Donaghcumper' development.

6.36 The problem of distance from bus stops is not so easily solved because the new estates tend to be self contained with no linkage to adjacent areas. This means a bus penetrating an estate couldn't proceed to another one without coming back onto the main road. Any attempt to serve more than one estate would therefore involve long journey times and be unlikely to attract many passengers.

6.37 Improving public transport accessibility is clearly difficult and its solution is even more important for people whose mobility is impaired compared with the able-bodied. It is **recommended** that Kildare CC undertake a study to investigate whether bus only access (which could be used by emergency vehicles) could be provided between adjacent housing developments.

6.38 The creation of a Transport Forum must include representatives from each of the bus operators. This will ensure that Kildare County Council are aware of developments initiated by the operators, such as passenger information systems, as well as dealing with problems raised by residents and Council Officers.

#### ***Traffic Control Systems***

6.39 Following the consultation process it became evident that Kildare County Council have introduced a rolling programme of connecting traffic signals throughout the County to the

TMC in Naas. This initiative by Kildare County Council is to be applauded and it is **recommended** that the programme should be continued to be financed.

6.40 In order to maximise the efficiency of traffic control systems in Celbridge it is **recommended** that a database and record maintenance of traffic signals in Celbridge is established. This would include traffic and pedestrian counts, condition of equipment and review of signal settings including the need for linkage to adjacent junctions. In addition cycle times should be reviewed as part of this process.

6.41 The key operational objectives considered to be important regarding the refurbishment/introduction of traffic signalling infrastructure are to:

- maximise operational efficiency during peak and off-peak periods;
- maximise operational effectiveness by installing equipment to the appropriate standard and possibly making use of automatic facilities to identify and report faults; and
- deliver cost effective services through the combination of the best use of technology and the highest appropriate standards for design, installation, operation and maintenance of equipment.

6.42 A strategy for upgrading existing and introducing new signals in Celbridge is **recommended** and should be based on the following:

- keep it simple – use vehicle actuation responsive to traffic flow changes, The current operational aspects of the junctions are poor as the signals operate on a fixed time basis so that the signals do not actively react to variable flows in traffic i.e. at night, if there is no traffic on the side road, the signals still turn red for the main road and give a green light to the “non-existent” traffic;
- design and construct the site with operation and maintenance in mind. There is no official maintenance contract in use by the County Council;
- use a combination of microwave vehicle detectors and loops on all approaches and for right turns and to detect the presence of vehicles on the side roads. The current staging/layout configurations can be improved to facilitate a more efficient throughput of traffic. Also the pedestrian phases of the signals are not all working on a demand basis. This results in the “green man” being shown, even when no pedestrians are wishing to use the facility;
- use a fully underground ducted system, i.e. a spinal duct system with chambers at major changes in direction/depth and loop chambers and pole chambers;
- install signal poles using pole chambers that connect to the spinal ducting system chambers;
- lay underground ducts across all approaches to the junction to provide a route around the junction, as improvements including re-surfacing are made;
- use simple cable runs, i.e. from controller to each pole for extra low voltage (ELV – up to 50 volts) and low voltage (LV – 50 to 250 volts) to assist repair/replacement;
- use a consistent design for controllers with bespoke timing parameters for each junction and keep a spare controller locally for standby;
- avoid complex strategies and complicated layouts; and include for possible CCTV cameras at all traffic signals.

6.43 It is **recommended** that Kildare County Council prepares a traffic signalling equipment maintenance contract as soon as possible to ensure the swift repair of equipment and the provision of preventative maintenance arrangements to assist in reducing the probability of traffic signal failures in the future. It is proposed that:

- local authority personnel undertake basic maintenance, e.g. lamps, transformers, etc. and routine inspection;
- spare equipment is held locally so that should a major problem occur, the controller can be removed and replaced quickly;

- external operational support should be available; and
  - a specialist supplier should be contracted to provide technical support.
- 6.44 It is also **recommended** that all the existing and future traffic signals are linked into the UTMC at the council's headquarters in Naas.
- 6.45 It is **recommended** that a network of CCTV's, linked to the TMC, should be installed in Celbridge to monitor the flow of traffic throughout the town. In particular the provision and installation of a CCTV camera at the Tesco / Maynooth Road junction, as part of the Tesco development, is strongly **recommended**. It is **recommended** that the introduction of CCTV system is integrated with the detailed design of any new traffic signal infrastructure, as the use of vehicle actuation and CCTV can ensure that traffic signal operations are be managed to be responsive to traffic flow changes.
- 6.46 In order to pull together different aspects of traffic management throughout the town the development of an Intelligent Transport System (ITS) strategy is **recommended**.

### ***Speed Management***

- 6.47 The speed of vehicles on Shackleton Road (Wolstan Haven Road) in the vicinity of Scoil Na Mainistreach was raised as a concern by a number of stakeholder groups. There is also the need to maintain the functionality of Shackleton Road, both as a distributor road and a bus route. It is therefore **recommended** that 4 pairs of speed cushions, are introduced at the following locations (Figure 15) and speeds monitored for a period not less than 12 months:
- Between The Dale and the Church Road/Oldtown Road junction;
  - Adjacent to Scoil Na Mainistreach;
  - Adjacent to Priory Square; and,
  - To the south of the St Raphael's Avenue junction.
- 6.48 As part of speed management it is **recommended** that 30kph speed limits should be introduced in the vicinity of all schools to create 'School Safety Zones'. These could be part time, controlled by Variable Message Signs to emphasise the speed change regime.

### ***Signing Strategy***

- 6.49 Signing is an endemic problem in towns like Celbridge and it is **recommended** that an overall signing strategy for the town should be developed for pedestrians, cyclists, strategic, local and car park traffic.
- 6.50 Whilst various locations are well signposted in the town, it is more important that visitors are directed to visitor centres and appropriate car parks. It is **recommended** that a review of the policy for the erection of signs for locations be instigated and the possibility of removing some signs on safety grounds and replacing them with an alternative information system should be considered. One suggestion would be to list the locations on the Council's web-site and to provide descriptions and directions here rather than clutter the local environment with un-necessary signs.
- 6.51 Good signing to direct traffic around the town is an important factor in the efficient movement of traffic. Unclear directions for drivers add to congestion and can result in traffic using inappropriate roads and junctions. This is a matter of particular importance in towns that cater for visitors who maybe unfamiliar with the local road network.
- 6.52 It is **recommended** that a strategic signing policy, is developed with a strategy prepared for the short term implementation, whereby;

Strategic traffic signing should be limited to:

- Naas and Clane;

- Maynooth;
  - Newcastle; and,
  - Other Routes (M4);
- and local traffic signing should be limited to:

- Ardclough;
  - Ballygoran;
  - Castletown House;
  - Railway Station;
  - Setanta House Hotel; and,
  - Town Centre.
- 6.53 It is **recommended** that the signs provided adhere to the Traffic Signs Manual, are consistent in design and show road numbers where relevant. Care should be taken when positioning signs to ensure they are not obscured by buildings or vegetation. Where background lighting is poor, consideration should be given to providing dedicated illumination.
- 6.54 With respect to signs within the town centre, it is **recommended** that a number of key guidelines are followed for both car drivers and pedestrians, namely;
- traffic signs should be kept to a minimum;
  - massing of small signs should be avoided and gathered onto as few posts as possible;
  - they should be clearly visible;
  - placement of signs should be given careful consideration; and
  - obstruction on footways should be minimised or avoided.
- 6.55 To provide for comprehensive tourist information, it is **recommended** that combined maps and tourist information boards are placed at strategic road crossings, at car parks and at focal points where there are high concentration of people walking.
- 6.56 All other local destinations such as schools should be signed as pedestrian and/or cycle routes.
- 6.57 On street-surveys have shown street name signing to be inconsistent and it is **recommended** that a survey of street signs should be undertaken to ensure consistency.

### **Safer Routes to Schools**

- 6.58 A new road safety scheme has recently been completed by Kildare County Council outside Scoil Na Mainistreach. Other physical measures identified to address those issues identified through consultation with Scoil Na Mainistreach; the survey completed by parents with children at the school; and, site visits, have been incorporated within this report. In summary they are:
- Minor and Maintenance Recommendations 14, 15, 16, 17, 18, 19, 20, 21 and 23;
  - Missing section of footway F5 - between Temple Manor and Simmonstown Manor;
  - Flush dropped kerbs and appropriate tactile paving on the main pedestrian routes to and from the school, including on Clane Road, Church Road and Shackleton Road;
  - Hazards H4 and H5 - incorrect accessibility measures including incorrectly shaped tactile paving and inappropriate upstands (Plate 9);
  - Junction Improvements J2 (Oldtown Road/Shackleton Road), J4 (Castletown Gates) and J5 (Either side of the Bridge over the Liffey, including the introduction of a pedestrian crossing across English Row at the exit from the pedestrian footbridge;

- A speed management scheme on Shackleton Road in the vicinity of the school, ensuring that vehicles on this distributor route are kept to the current 50kph speed limit, preferably reduced to 30kph as part of a School Safety Zone; and
- Recommendations to develop proposals for cycle routes including speed management on both Clane Road and Church Road.



**Plate 9: 50mm upstand at new tactile crossing point, Scoil Na Mainistreach, Celbridge**

6.59 It is further **recommended** that Kildare County Council contribute to the provision of modern covered cycle parking at the School, allowing the existing racks ( Plate 3) to be replaced, and that signing in the vicinity of the school (Plate 10), is reviewed. Consultation suggested that warning signing highlighting the presence of school children was lacking, but it is more likely that the barrage of signing currently facing drivers, particularly on Oldtown Road, is difficult to interpret.



**Plate 10: Signing on Oldtown Road near Scoil Na Mainistreach, Celbridge**

- 6.60 In addition to physical measures, it is **recommended** that a Safer Routes to Schools Travel Awareness programme is introduced at Scoil Na Mainistreach to highlight the problems of traffic growth and the problems encountered on the journey to school, for example, safe use of pedestrian facilities at traffic signals.
- 6.61 It was noted in Section 4.3 that *'61% of parents who responded (to the school travel survey) expressed an interest in car sharing for the journey to school'*. As many of the parents have children studying at a number of the schools within Celbridge, it is felt that this initiative would be more appropriate to introduce at the town-wide level. It is therefore included as a **recommendation** in Section 6.65.

### ***Extending Safer Routes to Schools***

- 6.62 Whilst there is no single answer to tackling traffic associated with the school run, the Safer Routes to Schools approach, and the toolbox of hard and soft measures that can be adopted to address real life problems, has been shown to be effective in many countries, both improving the safety of school children and enabling travel by more sustainable modes.
- 6.63 It is **recommended** that the approach piloted with Scoil Na Mainistreach is extended to cover each of the schools within Celbridge. Whilst many of the physical issues on the routes to school may have already been identified in this report, there is scope to reduce speeds and the risk of pedestrian/vehicle conflict in the vicinity of schools, and raise travel awareness issues with children as part of the curriculum.
- 6.64 Whilst measures such as the 'Walking Bus' has already been considered and discounted at Scoil Na Mainistreach, it may be appropriate at other schools in Celbridge. Other schools in the town could also discuss and learn from measures championed by Scoil Na Mainistreach, including:
- Staggering dropping off times;
  - Cycle awareness training; and
  - Revising school uniforms to incorporate retro-reflective material.

### **Soft Measures**

- 6.65 Soft measures, such as organisation and personal travel planning, are increasingly being identified as important in reducing the impact of traffic, and in particular, private cars, on towns like Celbridge. It is **recommended** that:
- The County Council work with employers located within the emerging business area adjacent to the M4 link at Crodaun to establish an area wide business travel plan;
  - The County Council investigate opportunities to establish a car sharing scheme within Celbridge, covering both school and work related travel, as well as other trips; and
  - The County Council should investigate the potential, with external operators, for establishing a car club scheme within Celbridge.

### **Transport Forum**

- 6.66 Feedback from the public consultation exercise provided significant input to this Traffic and Transportation Study. The respondents were widely informed and made a useful contribution. It is **recommended** that this public consultation be sustained throughout the implementation period of the plan. The Traffic and Transportation Study is a "living" strategy and a mechanism to ensure public inclusion in its development and implementation could be a 'Transport Forum'. This would involve regular meetings to which businesses,

organisations and individuals are invited, giving them the opportunity to raise issues of concern or put forward suggestions of their own. The 'Transport Forum' should be supported by the Council and should meet on a quarterly basis.

- 6.67 This Forum would prove invaluable during the implementation of the Traffic and Transportations Study's proposals. It would help the business community and general public understand what is being undertaken, the reasons and what it is hoped it will achieve. Involving people in the implementation of schemes reduces the likelihood of opposition, rumour and misinformation which may arise if people feel that changes are being imposed upon them.

### **Monitoring**

- 6.68 It is **recommended** that an ongoing monitoring framework be created and implemented to allow continual assessment of transport within Celbridge. This will allow the impact of both this plan, and of new development, to be identified and understood. This monitoring should include, but not be limited to:

- The introduction of permanent Automatic Traffic Counters, including Automatic Cycle Counters at cordon locations;
- Annual Manual Classified Counts at key junctions and at completed development;
- Monitoring of Road Traffic Accidents resulting in personal injury;
- Annual bus facility satisfaction surveys;
- Regular snapshot Parking Capacity surveys; and
- 'Hands-up' school travel surveys at all schools each term.

- 6.69 It is further **recommended** that Kildare County Council establish realistic targets for improvement once a reliable set of baseline data has been established.

### **Summary**

- 6.70 This chapter has outlined the main recommendations suggested for short term implementation in Celbridge. In the next chapter, the modelling process for longer term proposals is discussed and reported upon.