11. TRAFFIC AND TRANSPORTATION

11.1 INTRODUCTION

This EIAR Traffic and Transportation Chapter quantifies and assesses the impact of construction and operational traffic generated by the proposed development on the existing local road network, and recommends mitigation measures, as appropriate. Refer to **Chapter 2 Project Description** for a full description of the proposed development.

11.1.1 Scope of Assessment

The scope of the Assessment in this Chapter includes the following:

- Existing and expected future road and transport network;
- Existing and predicted future baseline traffic volumes on the surrounding local road network;
- Predicted proposed development construction and operational traffic volumes and likely impacts; and
- Proposed mitigation measures.

11.1.2 Methodology and References

This Traffic and Transportation Chapter has been prepared in the context of the following:

- Offaly County Council's Offaly County Development Plan 2014-2020. Offaly County Council has prepared a Draft Offaly County Development Plan 2021-2027;
- The Transport Infrastructure Ireland (TII) Traffic and Transport Assessment (TTA) Guidelines PE-PDV-02045 May 2014;
- The permitted Cushaling Wind Farm EIAR;
- TII's Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections PE-PAG-02017 May 2019;
- TII's Rural Road Link Design DN-GEO-03031 June 2017;
- The UK Traffic Capacity of Urban Roads TA79/99; and
- The Environmental Protection Agency (EPA) Guidelines On The Information To Be Contained In Environmental Impact Assessment Reports Draft August 2017 (EPA EIAR Guidelines).

11.1.3 Assessment Criteria

Existing baseline traffic volumes on the surrounding local road network have been established on the basis of on-site traffic surveys by Malachy Walsh and Partners, and automatic traffic counter data from TII's online database for national roads.

The significance and duration of predicted impacts have been defined in accordance with the EPA EIAR Guidelines.

11.1.4 Statement of Limitations and Difficulties Encountered

This Chapter was prepared in early 2021, during which time Ireland was experiencing travel restrictions due to Covid-19 (Coronavirus), and travel was restricted for essential work only. This meant that typical baseline traffic volumes in the Kilcumber Bridge 110kV substation site area and along delivery routes could not be recorded. Accordingly, the existing baseline traffic volumes provided in the EIAR for the permitted nearby Cushaling Wind Farm, prepared by Malachy Walsh and Partners, have been used for this Chapter.

11.1.5 Competency of Assessor

This Traffic and Transportation Chapter has been prepared by Seamus Quigley BE CEng MIEI MCIHT of Malachy Walsh and Partners. Seamus Quigley has 30 years' experience in transport planning and traffic engineering projects, including EIS/EIAR traffic and transportation chapters, traffic impact assessments, traffic management studies, mobility management plans, traffic modelling studies, feasibility studies and road safety audits. He is a Chartered Engineer with Engineers Ireland, and also a member of the Chartered Institution of Highways and Transportation. He joined Malachy Walsh and Partners in 2007, having spent over sixteen years with Atkins.

11.2 EXISTING ENVIRONMENT

11.2.1 Do-Nothing Scenario

The proposed substation site is located on the east side of the R401 Regional Road, south of Edenderry, as shown on the Site Location Map provided in Figure 11.1. The R401 extends from Kildare in the south, via Rathangan, to Kinnegad in the north, via Edenderry. The R401 links with the M4 Motorway at M4 Junction 10, at Kinnegad. A Road Network Map is provided in Figure 11.2.

The R401 has a typical rural road carriageway width of 6.0 metres, with centreline and hard shoulder markings.

The proposed development substation site is located on the west side of the R401, opposite Edenderry Power Station. The R401 has a vertical crest curve at Kilcumber Bridge, on the River Figile, approximately 220 metres south of the Edenderry Power Station access. The R401 has a reduced road carriageway width of 4.2 metres on the bridge, with a posted Stop for northbound traffic for priority for southbound traffic at the bridge.

The Edenderry Power Station transports biomass into the adjacent site using standard capacity trucks. As an existing operational development this traffic is part of the existing baseline and the future do-nothing baseline.

The R401 rural road in the vicinity of the proposed development site is located within the 80 km/hour speed limit zone.

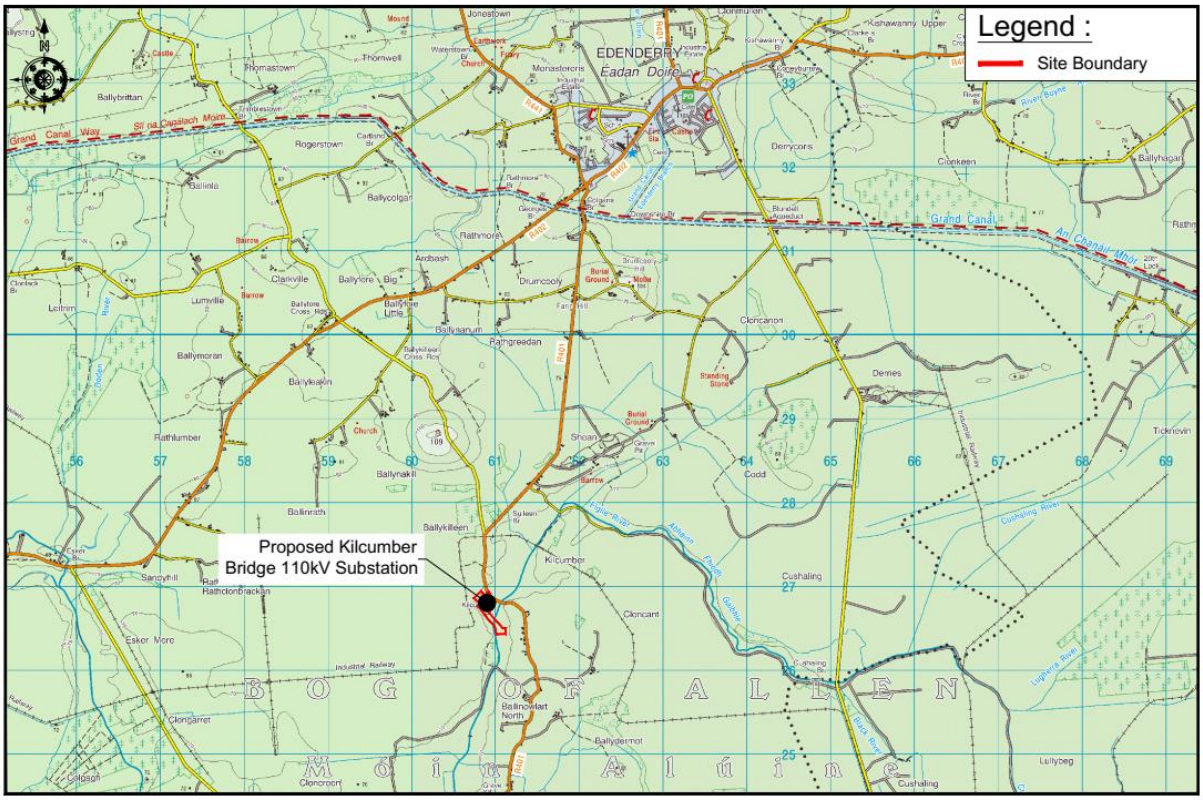

Figure 11.1: Site Location Map

Approximately 5.0 kms north of the proposed development site, the R401 forms a Stop T-junction on the south side of the R402 Regional Road, within the Edenderry 50 km/hour urban speed limit zone.

The R402 urban route through Edenderry includes a traffic signal controlled junction with the R441 on the west side of the town centre; a mini-roundabout junction on JKL Street with Fr. McWey Street at The Grand Canal with Zebra controlled pedestrian crossings on all junction arms; and a mini-roundabout junction with the R401 in the town centre with Zebra controlled pedestrian crossings on all junction arms. Zebra controlled pedestrian crossings are also provided along the R402 on JKL Street between these mini-roundabout junctions. A Zebra pedestrian crossing is also provided on the R402 north east of the town centre.

North of Edenderry, the R401 has a typical rural road carriageway width of 5.5 metres.

Approximately 3.9 kms south of the proposed development site, the R401 forms a Stop T-junction on the east side of the R442 Regional Road, within the Clonbulloge 50 km/hour urban speed limit zone.

The R401 urban road at Rathangan has a Stop T-junction with the north east section of the R414 within the village centre. The junction has a raised table surface with brick paving. A Zebra pedestrian crossing with footway buildouts is provided on the west side of the junction.

The R401 overpasses the Grand Canal on the east side of the Rathangan village centre. A separate dedicated pedestrian bridge is provided on the west side of the road bridge. The R401 has a Stop T-junction with the south west section of the R414, immediately east of its Grand Canal road bridge. The R414 has Zebra pedestrian crossings at its R401 junction and adjacent to the Grand Canal pedestrian bridge access location. The R401 also has a Zebra pedestrian crossing on the east side of the junction.

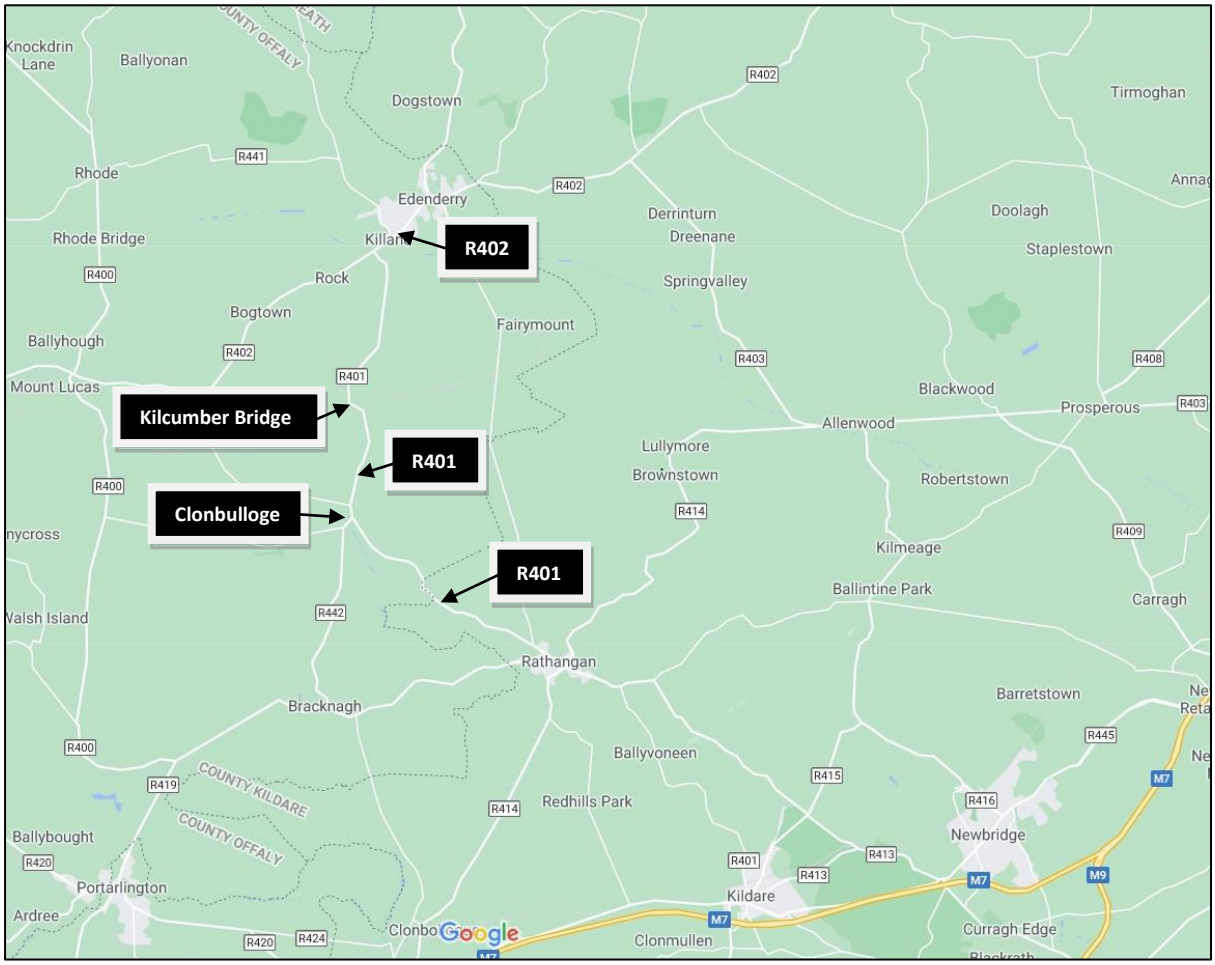

Figure 11.2: Road Network Map

EIAR baseline traffic data for the permitted nearby Cushaling Wind Farm, prepared by Malachy Walsh and Partners, are provided in Table 11.1. These are total two-way vehicles at the road locations identified. The volumes of peak hour Heavy Goods Vehicles (HGVs) and the proportions (%) of AADT HGVs are also provided.

Table 11.1: Existing Traffic Volumes

Road Location	Total Vehicles (HGVs)	
	2019 Peak Hour	2018 AADT (% HGVs)
R401 in vicinity of proposed site	240 (25)	2,205 (13.1%)
R402 at Edenderry	620 (32)	5,640 (6.1%)

The rural road link capacity of the R401 within its 80 km/hour rural speed limit zone, estimated on the basis of the TII Rural Road Link Design DN-GEO-03031 June 2017, for its typical road carriageway width of 6.0 metres, is provided in Table 11.2. The TII rural road link capacity is an AADT capacity.

Table 11.2 Estimated R401 TII Road Link Capacity

R401 Rural Road	TII Urban Road Link		
	Type	Carriageway Width (m)	AADT Capacity (Vehicles)
R402 at Edenderry Town Centre	Type 3 Single	6.0	5,000

The estimated existing rural road link AADT volume/capacity ratio for the R401 in the vicinity of the proposed development site is provided in Table 11.3, on the basis of the TII Rural Road Link Design, for the latest full year, 2018.

Table 11.3 Estimated R401 TII Rural Road Link 2018 AADT Volume/Capacity Ratio

R401 80 km/hour Rural Road	2018 AADT Vehicles	AADT Capacity (Vehicles)	AADT Volume/Capacity Ratio
R401	2,205	5,000	44%

The R401 is operating well within its estimated rural road link AADT capacity, with a 2018 volume/capacity ratio of 44%.

The urban road link capacity of the R402 within its Edenderry 50 km/hour urban speed limit zone, estimated on the basis of the Traffic Capacity of Urban Roads TA79/99, are provided in Table 11.4. The TII urban road link capacity is per each direction per hour, based on a 60/40 directional split.

Table 11.4 Estimated R402 TII Urban Road Link Capacity in Each Direction

R402 50 km/hour Urban Road	TII Urban Road Link			
	Type	Lanes	Carriageway Width (m)	Capacity/Hour/Direction (Vehicles)
R402 at Edenderry Town Centre	UAP4	2	6.75	900

The estimated existing urban road link peak hour volume/capacity ratio for the R402 within its Edenderry 50 km/hour urban speed limit zone is provided in Table 11.5, on the basis of the Traffic Capacity of Urban Roads TA 79/99.

Table 11.5 Estimated Existing R402 TII Urban Road Link Peak Hour Volume/Capacity Ratio

R402 50 km/hour Urban Road	Peak Hour Vehicles	Capacity/Hour/ Direction (Vehicles)	Volume/Capacity Ratio
R402 at Edenderry Town Centre	372	900	41%

The R402 at Edenderry town centre is operating well within its estimated urban road link capacity, with highest volume/capacity ratios during the peak hour of 41%. The R401, at Rathangan and Clonbulloge, is also operating well within estimated urban road link capacity, on the basis that traffic volumes on the R401 are significantly lower than on the R402 at Edenderry.

11.3 LIKELY SIGNIFICANT IMPACTS

11.3.1 Do Nothing Impacts

The roads and transportation objectives and policies of Offaly County Council are set out in their Offaly County Development Plan 2014-2020. Offaly County Council has prepared a Draft Offaly County Development Plan 2021-2027.

Offaly County Council has adopted a restrictive policy in relation to new development on certain regional routes in the interests of preserving the traffic capacity of these routes and in order to avoid the creation of traffic hazards. These restricted regional routes include the R402 Ballina Cross to Edenderry. The R401 is not identified as a restricted regional route.

It is an objective of Offaly County Council to construct, upgrade and improve, where necessary, the regional roads in the county.

Subject to planning permission, it is envisaged that work would commence at the site during late 2022 or 2023, with a duration of approximately 12 months. Accordingly, the proposed development is scheduled to be fully complete and operational by 2024. The TII Traffic and Transport Assessment Guidelines recommend that the opening year of a development proposal and plan years, five and 15 years after the opening year, should be considered for assessing a development proposal. In this case, the opening year is 2024 and the plan years are 2029 and 2039.

TII in their Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections October 2019 envisage that car and light vehicle volumes, on County Offaly roads, would increase by an annual factor of 1.0152 during the period to 2030, and by a factor of 1.0357 for heavy vehicles, based on their high sensitivity growth scenario. The equivalent factors for the period 2030 to 2040 are 1.0081 and 1.0176, respectively.

The predicted peak hour and AADT traffic volumes on the R401, adjacent to the proposed development site, and on the R402 at Edenderry, with the foregoing TII predicted high sensitivity growth scenario are provided in Table 11.6.

Table 11.6: Predicted Traffic Volumes with TII High Growth

Road Location	Year	Total Vehicles (HGVs)	
		Peak Hour	AADT (% HGVs)
R401 at site vicinity	2024	262 (30)	2,455 (14.5%)
	2029	286 (36)	2,688 (15.8%)
	2039	271 (44)	2,948 (17.5%)
R402 at Edenderry	2024	672 (38)	6,224 (6.8%)
	2029	729 (45)	6,761 (7.5%)
	2039	796 (56)	7,339 (8.4%)

The estimated rural road link AADT volume/capacity ratios for the R401 in the vicinity of the proposed development site are provided in Table 11.7, on the basis of the TII Rural Road Link Design, for predicted 2024, 2029 and 2039 AADT volumes with the TII high growth scenario, without the proposed development.

Table 11.7 Predicted R401 TII Rural Road Link AADT Volume/Capacity Ratios with TII High Growth

R401 80 km/hour Rural Road	Year	AADT Vehicles	AADT Capacity (Vehicles)	AADT Volume/Capacity Ratio
R401	2024	2,455	5,000	49%
	2029	2,688		54%
	2039	2,948		59%

The R401 would continue to operate well within its estimated rural road link AADT capacity, for the predicted 2024, 2029 and 2039 AADT volumes on the basis of the TII high growth scenario, with a highest volume/capacity ratio of 59%, in 2039.

The predicted 2024, 2029 and 2039 urban road link peak hour volume/capacity ratios for the R402 within its Edenderry 50 km/hour urban speed limit zone are provided in Table 11.8, on the basis of the Traffic Capacity of Urban Roads TA 79/99, with the TII high growth scenario.

Table 11.8 Predicted R402 TII Urban Road Link Peak Hour Volume/Capacity Ratios with TII High Growth

R402 50 km/hour Urban Road	Year	Peak Hour Vehicles	Capacity/Hour/ Direction (Vehicles)	Volume/Capacity Ratio
R402 at Edenderry Town Centre	2024	403	900	45%
	2029	437		49%
	2039	478		53%

The R402 at Edenderry town centre would continue to operate well within its estimated urban road link capacity, with the predicted 2024, 2029 and 2039 peak hour traffic volumes on the basis of the TII high growth scenario, with a highest volume/capacity ratio during the peak hour of 53%, in 2039.

11.3.2 Construction Phase Impacts

A detailed description of the proposed development construction is provided in Chapter 2.

Subject to planning permission, the proposed construction works would commence on site in 2022 or 2023. The construction phase is expected to last 12 months and would be completed by 2024.

11.3.2.1 Access and Vehicle Routing

Access to the proposed substation would be provided via a new single access on the west side of the R401 at the site. The compound is set back from the R401 in order to allow room for the permitted Cushaling Wind Farm substation and battery energy storage system (BESS). The entrance road into the Kilcumber Bridge 110kV substation is proposed to be used by both the Kilcumber Bridge 110kV substation and the Cushaling Wind Farm compound. The Kilcumber Bridge 110kV substation will have its own entrance gate at the end of the shared entrance road.

Access to the grid connection construction areas will be via existing field entrances and routes used by the landowner. The detailed design of any temporary access routes and construction methodology will be based on the condition of the land at the time of construction and will be agreed and recorded with the landowner prior to the commencement of works.

The majority of materials for delivery to site will be sourced from local quarries. These are likely to include existing quarries located north of Edenderry and east of Rathangan. Construction materials' delivery vehicle routes are likely to include the R401 and/or R414 north of Edenderry, the R402 at Edenderry and R401 south of Edenderry; and the R401 at Rathangan.

11.3.2.2 Hours and Staff

The proposed on-site working hours for the construction works are 8.00 a.m. to 6.00 p.m., Monday to Friday, and 8.00 a.m. to 1.00 p.m. on Saturdays. Concrete pours will commence early in mornings pre 8.00 a.m.

Site personnel would travel to site prior to 8.00 a.m. and depart from site from 6.00 p.m., on weekdays, outside the peak traffic hours. The expected peak staff would be up to 30-35 personnel, which would generate approximately 30 car and van trips, both to and from the site each working day. Canteen facilities for personnel would be provided on-site. It is envisaged that the distribution of construction staff vehicles would be circa 50:50 south and north of the proposed development site on the R401.

11.3.2.3 Delivery Vehicle Volumes

All construction excavated material would be retained on-site.

The 12 months construction would require the importation of a total of 2,982 loads of construction materials. Construction materials would be imported using standard heavy vehicle delivery trucks with capacities of 10 m^3 and 20 tonnes. Concrete would be imported using 7 m^3 capacity concrete delivery trucks.

The proposed construction works heavy vehicle delivery traffic volumes are provided in Table 11.9.

Table 11.9: Proposed Construction Works Heavy Vehicle Delivery Volumes

Total Number of Heavy Vehicles		
Total Construction Programme (12 months)	**Peak Daily**	**Highest Peak Hour**
2,982	60	8

Peak heavy vehicle traffic volumes generated by the delivery of construction materials would be up to 60 heavy vehicles per day, both to and from the site. This would occur for circa two months during the importation of stone. Highest peak hour heavy vehicle traffic volumes would be up to eight heavy vehicles, both to and from the site.

11.3.2.4 Traffic Volumes

The predicted average annual daily traffic volumes, peak daily traffic volumes and highest peak hour traffic volumes generated by the proposed development construction are provided in Table 11.10.

Table 11.10: Proposed Construction Works Traffic Volumes

Total Vehicles (HGVs)		
AADT	**Peak Daily**	**Highest Peak Hour**
68 (16)	180 (120)	16 (16)

The predicted 2024 peak daily and peak hour traffic volumes on the existing local road network with the proposed peak construction works traffic volumes are provided in Tables 11.11 and 11.12, respectively.

Table 11.11: Predicted 2024 Daily Traffic Volumes with Peak Daily Construction Traffic Volumes

Road Location	**Peak Daily Vehicles (HGVs)**	
	Total Vehicles (HGVs)	**Change**
R401	2,605 (477)	+ 150 (120)
R402 at Edenderry	6,374 (545)	+ 150 (120)

Table 11.12: Predicted 2024 Peak Hour Traffic Volumes with Peak Construction Traffic Volumes

Road Location	**Highest Peak Hour Vehicles (HGVs)**	
	Total Vehicles (HGVs)	**Change**
R401	278 (46)	+16 (16)
R402 at Edenderry	688 (54)	+16 (16)

11.3.2.5 Volume/Capacity Ratios

The estimated rural road link AADT volume/capacity ratio for the R401 in the vicinity of the proposed development site is provided in Table 11.13, on the basis of the TII Rural Road Link Design, for predicted 2024 AADT volumes with the TII high growth scenario, with the proposed construction development.

Table 11.13 Predicted 2024 R401 TII Rural Road Link AADT Volume/Capacity Ratio with TII High Growth and Peak Construction Traffic

R401 80 km/hour Rural Road	AADT Vehicles	AADT Capacity (Vehicles)	AADT Volume/Capacity Ratio
R401	2,605	5,000	52%

The R401 would continue to operate well within its estimated rural road link AADT capacity, for the predicted 2024 AADT volumes on the basis of the TII high growth scenario and the proposed construction traffic volumes, with a volume/capacity ratio of 52%. This compares to a 2024 ratio of 49% without the proposed development construction.

The predicted 2024 urban road link peak hour volume/capacity ratio for the R402 within its Edenderry 50 km/hour urban speed limit zone is provided in Table 11.14, on the basis of the Traffic Capacity of Urban Roads TA 79/99, with the TII high growth scenario and the proposed peak construction traffic volumes.

Table 11.14 Predicted 2024 R402 TII Urban Road Link Peak Hour Volume/Capacity Ratio with TII High Growth and Peak Construction Traffic

R402 50 km/hour Urban Road	Year	Peak Hour Vehicles	Capacity/Hour/ Direction (Vehicles)	Volume/Capacity Ratio
R402 at Edenderry Town Centre	2024	413	900	46%

The R402 at Edenderry town centre would continue to operate well within its estimated urban road link capacity, with the predicted 2024 peak hour traffic volumes on the basis of the TII high growth scenario and the proposed peak construction traffic volumes, with a volume/capacity ratio during the peak hour of 46%. This compares to a 2024 ratio of 45% without the proposed development construction.

11.3.2.6 Road Pavements

Heavy vehicle traffic volumes generated by the proposed development construction could result in damage to existing and proposed road pavements on public roads, including at vehicle turning, accelerating and decelerating locations. Road pavements would be regularly monitored and reinstated in accordance with the requirements of Offaly County Council.

11.3.2.7 EPA Guidelines

On the basis of the EPA Guidelines, the proposed construction works would have slight to moderate short-term negative effects.

11.3.3 Operational Phase Impacts

During the operational phase, there will be periodic maintenance on site. This would generate a relatively low volume of vehicles, including occasional heavy vehicles.

On the basis of the EPA Guidelines, the proposed operational phase would have imperceptible to not significant traffic effects.

11.3.4 Risk of Major Accidents and Disasters

Road traffic accidents on the R401, L3001 and other roads, used by traffic volumes generated by the proposed construction works, could result in delays to traffic generated by the proposed works and to other traffic. Traffic generated by the proposed works could be involved in road traffic accidents.

11.3.5 Cumulative Effects

The predicted future baseline traffic volumes are on the basis of TII's predicted high sensitivity growth scenario. This high sensitivity growth scenario includes for other proposed development generated traffic volumes on the surrounding local road network.

The EIS for the permitted Cloncreen WF, located west of the proposed site, indicates that only approximately 10% of HGV construction traffic would access the site from the R401. All other construction traffic would access the Cloncreen WF site on the northwest side of the site, via its proposed access on the south side of the R402. Accordingly, there would be no significant cumulative traffic volumes on the proposed development local road network should the construction phase of the Cloncreen WF coincide with the proposed development construction phase.

The proposed development construction could coincide with the permitted Cushaling Wind Farm construction.

11.3.5.1 Traffic Volumes

The predicted average annual daily traffic volumes, peak daily traffic volumes and highest peak hour traffic volumes generated by the cumulative proposed development and permitted Cushaling Wind Farm development construction are provided in Table 11.15.

Table 11.15: Predicted Cumulative Construction Works Traffic Volumes

Construction Development	Total Vehicles (HGVs)		
	AADT	Peak Daily	Highest Peak Hour
Proposed Kilcumber Bridge 110kV substation	68 (16)	180 (120)	16 (16)
Permitted Cushaling Wind Farm	145 (42)	240 (120)	16 (16)
Cumulative Total	**213 (58)**	**420 (240)**	**32 (32)**

The predicted 2024 peak daily and peak hour traffic volumes on the existing local road network with the cumulative proposed development and permitted Cushaling Wind Farm development peak construction works traffic volumes are provided in Tables 11.16 and 11.17, respectively, on the basis that their peak construction periods coincide.

Table 11.16: Predicted 2024 Daily Traffic Volumes with Peak Daily Cumulative Construction Traffic Volumes

Road Location	Peak Daily Vehicles (HGVs)	
	Total Vehicles (HGVs)	Change
R401	2,785 (597)	+ 330 (240)
R402 at Edenderry	6,554 (665)	+ 330 (240)

Table 11.17: Predicted 2024 Peak Hour Traffic Volumes with Peak Cumulative Construction Traffic Volumes

Road Location	Highest Peak Hour Vehicles (HGVs)	
	Total Vehicles (HGVs)	Change
R401	294 (62)	+32 (32)
R402 at Edenderry	704 (70)	+32 (32)

11.3.5.2 Volume/Capacity Ratios

The estimated rural road link AADT volume/capacity ratio for the R401 in the vicinity of the proposed development site is provided in Table 11.18, on the basis of the TII Rural Road Link Design, for predicted 2024 AADT volumes with the TII high growth scenario, with the cumulative proposed development and permitted Cushaling Wind Farm development peak construction works traffic volumes, on the basis that their peak construction periods coincide.

Table 11.18 Predicted 2024 R401 TII Rural Road Link AADT Volume/Capacity Ratio with TII High Growth and Peak Cumulative Construction Traffic

R401 80 km/hour Rural Road	AADT Vehicles	AADT Capacity (Vehicles)	AADT Volume/Capacity Ratio
R401	2,785	5,000	56%

The R401 would continue to operate well within its estimated rural road link AADT capacity, for the predicted 2024 AADT volumes on the basis of the TII high growth scenario and the cumulative proposed and permitted developments' construction traffic volumes, with a volume/capacity ratio of 56%. This compares to a 2024 ratio of 49% without the proposed cumulative developments' construction.

The predicted 2024 urban road link peak hour volume/capacity ratio for the R402 within its Edenderry 50 km/hour urban speed limit zone is provided in Table 11.19, on the basis of the Traffic Capacity of Urban Roads TA 79/99, with the TII high growth scenario and the cumulative proposed development and permitted Cushaling Wind Farm development peak construction works traffic volumes, on the basis that their peak construction periods coincide.

Table 11.19 Predicted 2024 R402 TII Urban Road Link Peak Hour Volume/Capacity Ratio with TII High Growth and Peak Cumulative Construction Traffic

R402 50 km/hour Urban Road	Year	Peak Hour Vehicles	Capacity/Hour/ Direction (Vehicles)	Volume/Capacity Ratio
R402 at Edenderry Town Centre	2024	422	900	47%

The R402 at Edenderry town centre would continue to operate well within its estimated urban road link capacity, with the predicted 2024 peak hour traffic volumes on the basis of the TII high growth scenario and the cumulative proposed and permitted developments' construction traffic volumes, with a volume/capacity ratio during the peak hour of 47%. This compares to a 2024 ratio of 45% without the proposed cumulative developments' construction.

11.3.5.3 EPA Guidelines

On the basis of the EPA Guidelines, the cumulative proposed and permitted developments' construction works would have slight to moderate short-term negative effects.

11.4 MITIGATION

11.4.1 Construction Phase

The construction phase mitigation measures are incorporated within the construction phase design and measures, assessed in this foregoing chapter. A detailed Construction Traffic Management Plan will be developed at the construction stage (or commenced during planning compliance stage) to ensure controls are in place with all suppliers coming to the project site, including coordination with the permitted Cushaling Wind Farm construction. No additional mitigation measures are proposed as no significant adverse impacts are envisaged.

11.4.2 Operational Phase

The proposed development would not have a significant operational traffic impact.

11.5 RESIDUAL IMPACTS

11.5.1 Construction Phase

On the basis of the EPA Guidelines, the proposed construction works would have slight to moderate short-term negative effects.

11.5.2 Operational Phase

The proposed development would not have a significant operational traffic impact.

11.6 CONCLUSION

The proposed development would not have a significant adverse traffic impact on the surrounding road network.