Mull Education Campus

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MULL EDUCATION CAMPUS TRANSPORT CONSIDERATIONS

Argyll Bute COUNCIL

hub North Scotland

SYSTRA

MULL EDUCATION CAMPUS

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1. INTRODUCTION

1.1 General

1.1.1 SYSTRA Ltd (SYSTRA) has been commissioned by Hub North Scotland Ltd (Hub) on behalf of Argyll and Bute Council (A&BC) to examine the transport baseline of the existing Tobermory 2-18 School. This report will also examine sites for A&BC's proposals to develop a new education campus for pupils aged between 2-18 on the island of Mull.

1.2 Context

1.2.1 The Isle of Mull is an island in the Inner Hebrides on the west coast of Scotland. Tobermory 2-18 School is an education campus providing nursery, primary and secondary school education to pupils aged 2 to 18. It is the only school on Mull that delivers education to S1-6. In addition are another 5 primary schools on Mull and one primary school on the nearby island of Iona. The nearest mainland secondary school is in Oban.

1.2.2 The locations of schools on Mull, Iona and the Mainland are shown in **Figure 1**.

Figure 1. Schools on Mull, Iona and the Mainland

1.2.3 Argyll and Bute Council is currently exploring options for a new 2-18 campus on Mull to replace the existing 2-18 school in Tobermory. At this stage, the location of a new campus has not been identified.

1.2.4 The purpose of this report is to establish a clear understanding of the transport situation and operations relating to the existing Tobermory 2-18 School. In so doing, the report examines travel and transport considerations for pupils and staff, and, through an examination of the local public transport network, it shows a series of dependencies and complexities which arise from the present-day school transport situation.

1.2.5 The Council has decided that the existing Education Campus should be replaced by a new facility. Should the existing 2-18 campus move to a new site, the existing travel patterns, habits and routines would need to change. This report will help Argyll & Bute Council and other stakeholders to understand the implications of a decision to relocate.

1.2.6 A clear objective of the report is to establish a set of suitable criteria against which the suitability of emerging candidate sites for the proposed new education campus can be evaluated.

1.3 Distribution and Catchment Data

1.3.1 This report examines the present distribution of pupils across Mull, Iona and Ulva. Absolute and percentage values which are used throughout the report should be viewed in that context. While there are changes in distribution year on year capturing the picture as it stands creates a baseline which can support subsequent analysis of proposed sites.

1.3.2 SYSTRA has discussed the presentation of geospatial data presented in this report with Argyll & Bute Council. Mindful of data protection considerations all location markers for staff and pupils shown within the figures of this report have been randomly cast within a 500m radius of the true location.

1.4 Report Structure

1.4.1 The remainder of this report is divided into two sections. The first section reviews the **baseline transport conditions** associated with the existing school site and the islands of Mull, Iona and Ulva more broadly. The section is structured as follows:

- **Chapter 2:** Existing School Operations;
- **Chapter 3:** Existing Travel Options;
- **Chapter 4:** Staff Travel Patterns;
- **Chapter 5:** Pupil Travel Patterns;
- **Chapter 6:** Key Findings;
- **Chapter 7:** Assessment Criteria; and
- **Chapter 8:** Forthcoming Development on Mull, Ulva and Iona.

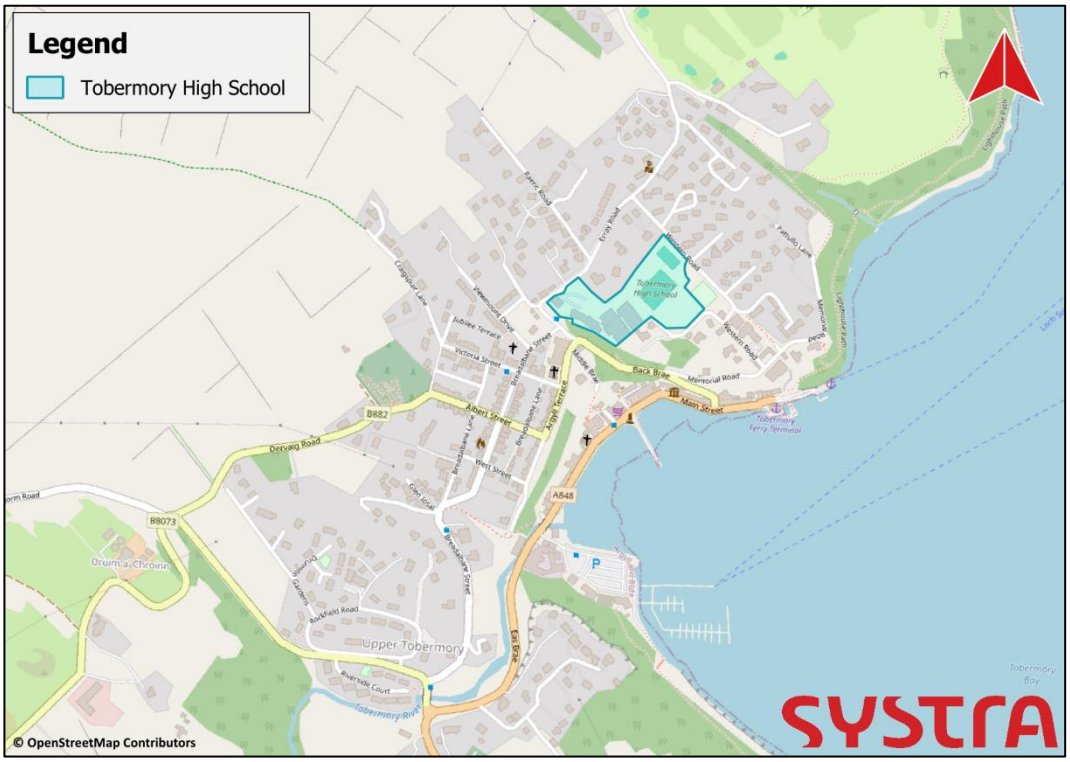
1.4.2 The second section of the report **assess each of the shortlisted sites** for the proposed Mull Education Campus and details the methodology used.

2. EXISTING SCHOOL OPERATIONS

2.1 Background

2.1.1 The existing Tobermory 2-18 School is located within the town of Tobermory - the largest settlement on Mull. The location of the campus within Mull is shown in **Figure 2**.

Figure 2. Tobermory 2-18 School



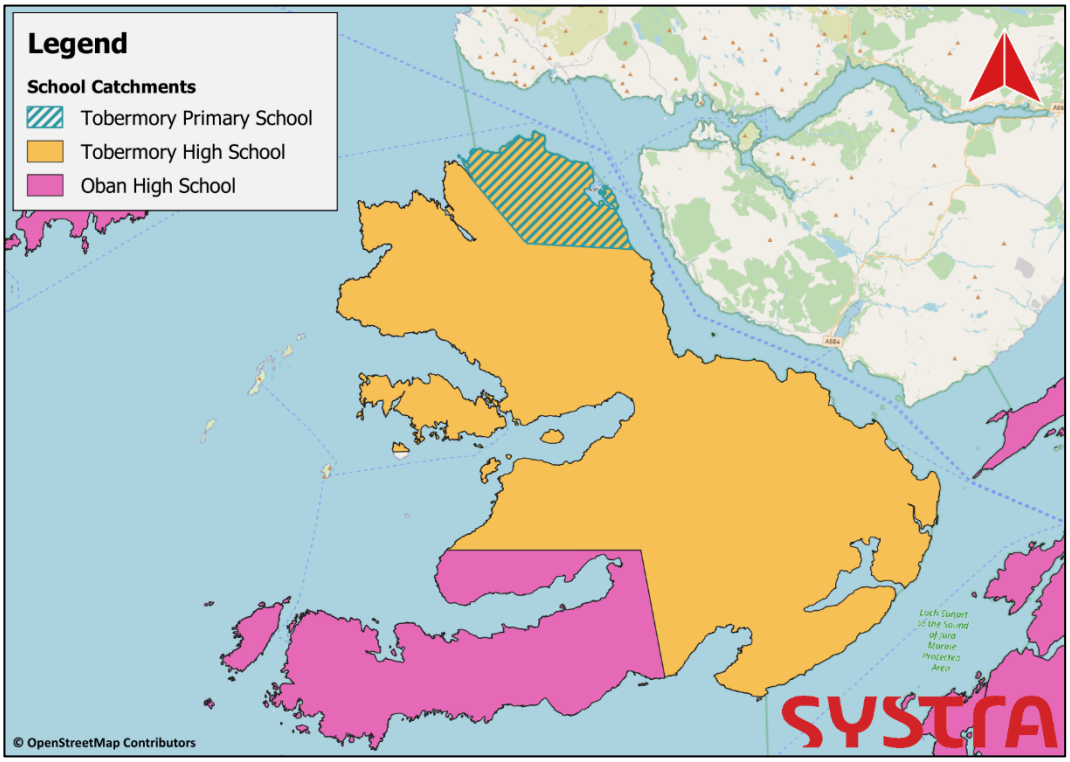
2.1.2 The campus is comprised of 3 departments: Pre-5 Unit, catering to pupils aged 2-4; primary school, offering P1-7 education (pupils aged 5-11); and the high school, offering S1-6 education (pupils aged 11—18). UHI Argyll, Tobermory Centre and Tobermory Library are also located within the campus, but these are separately operated entities.

2.1.3 Vehicular access into the site is taken by Erray Road, to the north of the campus, only. There are three pedestrian accesses on Erray Road, one to the north, a second via a set of steps opposite the Tobermory Arts Centre and from the east around the playing fields.

2.2 Catchment

2.2.1 The Pre-5 Unit serves pupils from Tobermory and Dervaig. The primary school currently serves pupils from Tobermory. The high school generally serves pupils in the north and the west of Mull. The extent of the primary and secondary school's catchments are shown in **Figure 3**.

Figure 3. Tobermory 2-18 School Catchments



2.2.2 Dervaig, Tobermory, Ulva, Salen and Lochdonhead Primary Schools all act as associated primary schools to the Tobermory High School. Subject to a placing request Tobermory High School does accept pupils from the Ardnamurchan peninsula in the Highland Council region. Pupils from Bunessan and Iona Primary Schools typically attend Oban High School.

2.3 Pupil and Staff Numbers

2.3.1 As of the academic year 2024/25 there are 14 pupils in the Pre-5 Unit which has a capacity of 30 pupils. The primary school has a capacity of 116 pupils with 81 pupils currently enrolled. The high school currently has 157 pupils enrolled with a capacity of 222 pupils. The distribution of these pupils will be explored further in Section 5.

2.3.2 There are currently around 5 staff employed in the Pre-5 Unit, 12 staff in the primary school and 42 staff in the high school. This includes the 3 and 15 support staff in the primary and secondary school, respectively. The distribution of staff will be explored further in Section 4.

2.4 Operating Hours

2.4.1 The Pre-5 Unit is currently open between 08:50 – 15:00. The primary school opens at 09:00 and it is understood that staff typically arrive between 08:00 and 09:00. The primary school closes at 15:15, with staff typically leaving between 15:15 and 17:00. The high school is open from 09:05 – 15:40 with staff typically arriving between 07:30 to 09:05 and departing between 15:40 to 18:30.

2.4.2 School drop-off is permitted between 08:45 and 09:00 for the primary school and between 08:45 and 09:05 for the high school. Pick up is at 15.15 for the primary school and 15.40 for the high school.

2.5 Operational Considerations

2.5.1 The adjoining streetscape of the current Tobermory 2-18 School is constrained and often challenging operationally. This is particularly problematic where buses and coaches are concerned.

2.5.2 The 495 bus service is occasionally operated by a 14.1m long double-decker coach. In a UK context, this is among the largest coaches available, with standard vehicles more typically being approximately 12m in length.

2.5.3 The current Tobermory site does not have dedicated bus set down area and the local streetscape was not designed with vehicles of this length, for this purpose, in mind. There can at times be complexities in accommodating and manoeuvring larger vehicles on site, particularly when multiple vehicles are present at once. Buses which arrive via Argyll Terrace then have to reverse up Erray Road with the aid of a banksman.

2.5.4 The staggered pattern of arrivals in the morning means that multiple buses are not present at the school at the same time. During the afternoon departure period, buses are stacked up in preparation for the end of the school day making it more likely that operational issues may present themselves.

3. EXISTING TRAVEL OPTIONS AND FACILITIES

3.1 Walking

3.1.1 The majority of Tobermory is within 1km of the education campus, equating to around a 10 to 15-minute walk. Consideration of walking distances should be viewed in the context of local topography, with a difference of around 50m in elevation between the campus and Main Street.

3.1.2 As a result of the nature of the town, pedestrian facilities are limited to larger residential streets on the adjacent road network such as Erray Road and Victoria Street. There is also an off-road path between Back Brae and Main Street via Middle Brae and a set of steps. The general characteristics of footways on Erray Road are shown in **Figure 4**.

Figure 4. Footways on Erray Road

3.2 Cycling

3.2.1 There are no formalised cycle facilities currently in the vicinity of the campus although cycling is possible via quieter residential roads. A covered bicycle shelter incorporating five Sheffield-style racks (space for up to 10 bicycles) is provided adjacent to the stepped pedestrian access from Erray Road.

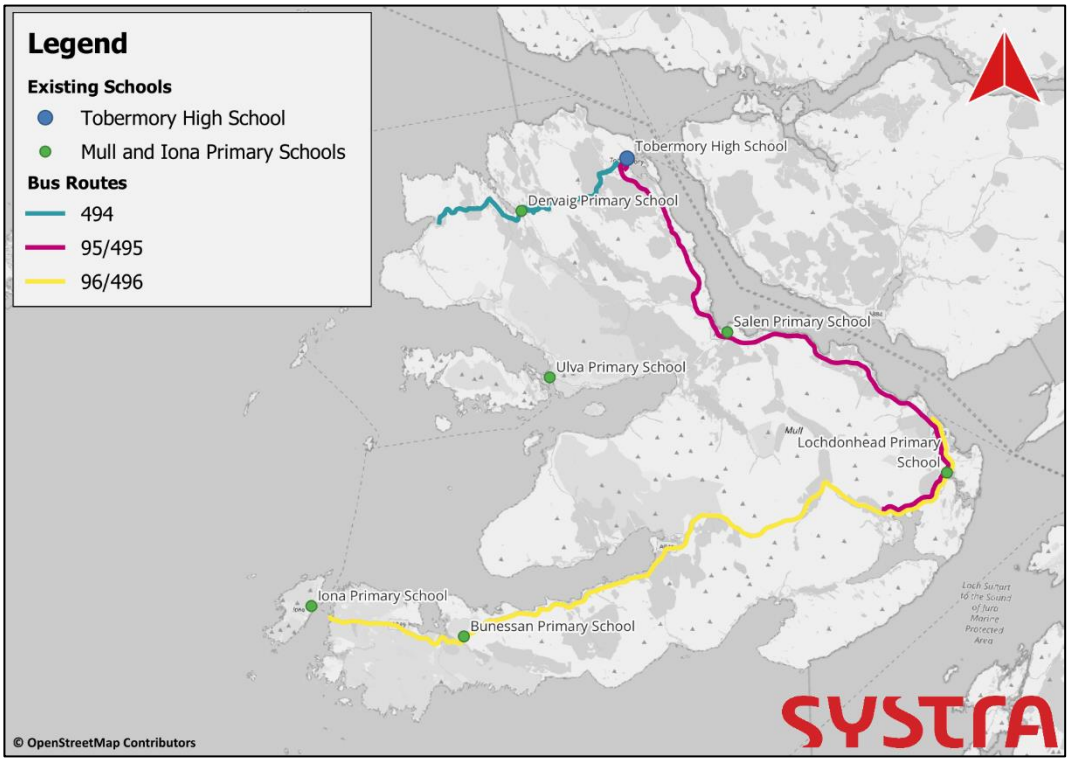
3.2.2 Lockers are currently provided for the senior secondary pupils only.

3.3 Public Transport

3.3.1 There are currently 3 public bus services on the Isle of Mull, all of which are operated by West Coast Motors. The 95/495 operates between Craignure and Tobermory, the 96/496 operates between Craignure and Fionnphort and the 494 operates between Tobermory and Calgary.

3.3.2 Both the 494 and 495 stop adjacent to the school – the 95 stops at Tobermory Harbour only. The routes of the 494, 95/495 and 96/496 are shown in **Figure 5**.

Figure 5. Bus Routes on Mull



3.3.3 The 494 operates between Tobermory and Calgary three times per day in each direction. The first inbound service arrives at Tobermory 2-18 School at 08:50 (having departed Calgary at 08:10). The last outbound service leaves the campus at 15:46 and arrives in Calgary at 16:33. Both the first inbound and last outbound coincide with primary and secondary school operating hours and therefore presents a viable mode of travel for pupils living in Calgary or Dervaig to access the school. This is unlikely to be suitable for staff who typically have to arrive before school start and depart after school finish.

3.3.4 The 495 operates between the campus and Craignure once per day in each direction. The inbound service arrives at the campus at 8:52, having left Strathcoil at 7:45. The outbound service leaves the high school at 15:45 and arrives at the terminus at 16:56. As with the 494, the 495 is likely to be viable for pupils and not staff.

3.3.5 The 496 currently runs twice per day eastbound in the AM and one per day westbound in the PM. There is an additional early morning service in each direction on the first school day of the week to take pupils from the south of the island to Oban High School.

3.3.6 The current configuration of the island's bus network is largely underpinned by school transport requirements. Services which are prefixed by a 4 are supplemented school services organised by Argyll and Bute Council.

3.3.7 During the winter period, these services are almost entirely funded by the Council whereas they operate on a commercial basis during summer months. This largely reflects peaks of tourism activity on the island.

3.4 Integration with Organised School Transport

3.4.1 Due to the dispersed population across Mull, and more broadly in Argyll and Bute, the public transport network is supplemented by a number of 'closed-door' school bus services and taxi operations to get pupils to the high school.

3.4.2 The Education (Scotland) Act 1980 requires the education authority (Argyll and Bute Council) to make appropriate provision to assist pupils' education. Under Section 42 of the Act, the authority must provide free transport or such other arrangements for all pupils up to age 8 who live more than 2 miles from their local school and for all pupils over age 8 who live more than 3 miles from their local school.

3.4.3 The Act also makes provision for a number of exceptional circumstances and special conditions under which the authority may also provide free transport. In the case of schools on Mull and Iona, free transport is provided for all primary-aged pupils who live more than 2 miles from their local school and pupils who live closer than 2 miles but where there is a safety concern associated with other means of travel (e.g. walking or cycling).

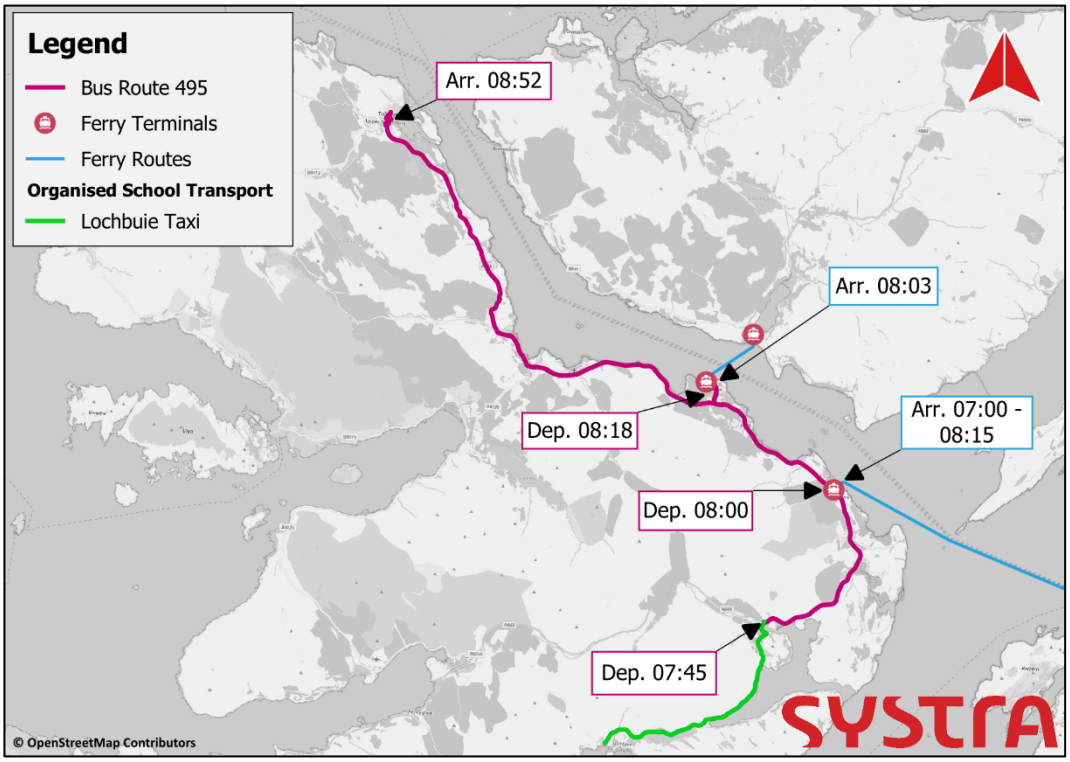
3.4.4 Free transport is provided to all secondary-aged pupils who live more than 3 miles from their local school and for those closer than 3 miles where there is a safety concern, as outlined above.

3.4.5 Free transport is also provided to some pupils with additional support needs.

3.4.6 There is currently a closed-door bus service, operated by West Coast Motors, which starts in Torloisk and ends at Tobermory 2-18 School, via Ulva Ferry and Gruline. This service is timetabled to align with a crossing of the Ulva ferry where a small number of pupils are collected.

3.4.7 The timetabling of the 495 is more complex so as to align with two ferries and a taxi. This is illustrated in **Figure 6**.

Figure 6. Connections with the 495 Bus Service



3.4.8 The Figure summarises the following carefully-planned operation, providing a worked example of the complex interdependencies which are a reality of existing school transport operations:

- The 495 bus is met by a taxi from Lochbuie at the Lochbuie Crossroads.
- The bus departs at 07:45, arriving at Craignure for 08:00. In the summer on a Monday and in the winter on any weekday, the first ferry into Craignure arrives before 08:00 and therefore a connection is possible.
- The first ferry from Lochaline arrives into Fishnish at 08:03 allowing pupils from the Ardnamurchan Peninsular to connect onto the 495 at 08:18.
- The 495 then continues on to pick up pupils in Salen and arrives at Tobermory 2-18 School at 08:52.

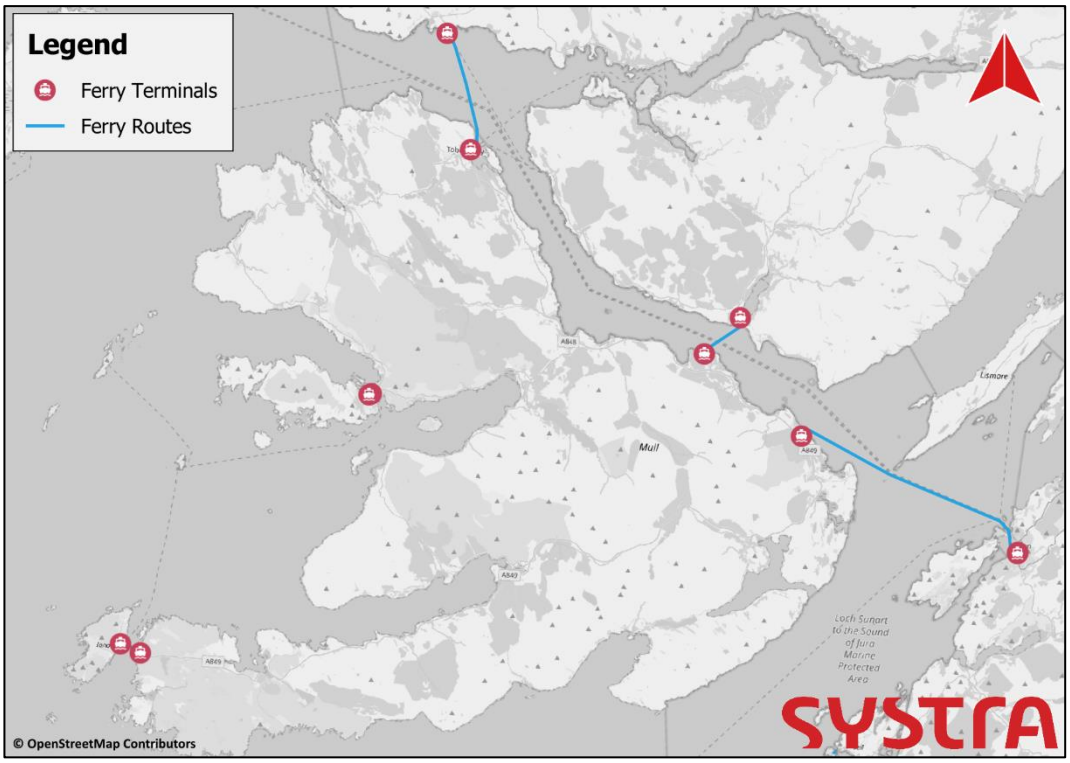
3.4.9 In the event of delays to services connecting with the 495 the bus will typically wait for up to 15 minutes to enable a connection. Instances of pupils being unable to get to school because of cancellations do occur although they are rare. Advances in remote (online) learning opportunities mean that such instances now have a diminished impact on pupil education.

3.4.10 Approximately once per year there is a light-touch review of the organised school services to ensure they best serve pupils and align with other timetables, such those provided by Caledonian MacBrayne.

3.5 Ferry Services

3.5.1 The relevant and regular ferry services on Mull are shown in **Figure 7**.

Figure 7. Ferry Services on Mull



3.5.2 There are 3 car ferry services, all operated by Caledonian MacBrayne, which offer service between the mainland and Mull. **Table 1** summarises the typical first sailing departing from the mainland and last sailing departing Mull and average sailings per day for a weekday. The summer timetable is typically operational between the first week in April to the third week in October. The winter timetable then operates for the remainder of the year.

Table 1. CalMac Mainland to Mull Service Summary

ROUTE	SAILING TIME	FIRST SAILING	LAST SAILING	SAILINGS PER DAY
Kilchoan – Tobermory (Summer/Winter)	35 mins	0800	1800 / 1600	7 / 3
Oban – Craignure (Summer/Winter)	60 mins	0725 / 0600	2110 / 2200	10 / 6
Lochaline – Fishnish (Summer/Winter)	18 mins	0700	1900 / 1805	14 / 11

3.5.3 On the summer timetable CalMac typically operates the 10-minute Iona to Fionnphort ferry frequently between 0610 and 1830. On the winter timetable the ferry is typically

operated 10 times per day between the same first and last sailing times. The Iona ferry is open to cars but only to those resident on the island or permit holders. Pedals cycles and foot passengers are also permitted.

3.5.4 The Ulva ferry is a small privately run foot and bicycle passenger only ferry. The ferry typically operates on demand Monday to Friday 09:00 to 17:30 from the first week in April to the last full week in October. During the winter there is a school run for the pupils on Ulva twice daily during term time.

3.5.5 All ferry services on Mull are subject to suitable weather and sailing conditions. The reliability of services, which is a metric of how many services were cancelled, and whether the services that did run were punctual is shown in **Table 2**. The data presented is an aggregate from September 2023 – August 2024 – cancellations are typically worse in the winter months.

Table 2. Reliability and Punctuality of CalMac Services to Mull

ROUTE	RELIABILITY		PUNCTUALITY	
	Average	Worst Month	Average	Worst Month
Kilchoan – Tobermory	95.2%	December – 89.2%	96.5%	May – 88.6%
Oban – Craignure	94.0%	January – 83.1%	88.6%	December – 74.5%
Lochaline - Fishnish	99.2%	December – 96.3%	98.3%	March – 92.1%
Fionnphort – Iona	95.3%	December – 78.3%	95.4%	February – 92.3%

3.6 Car Parking

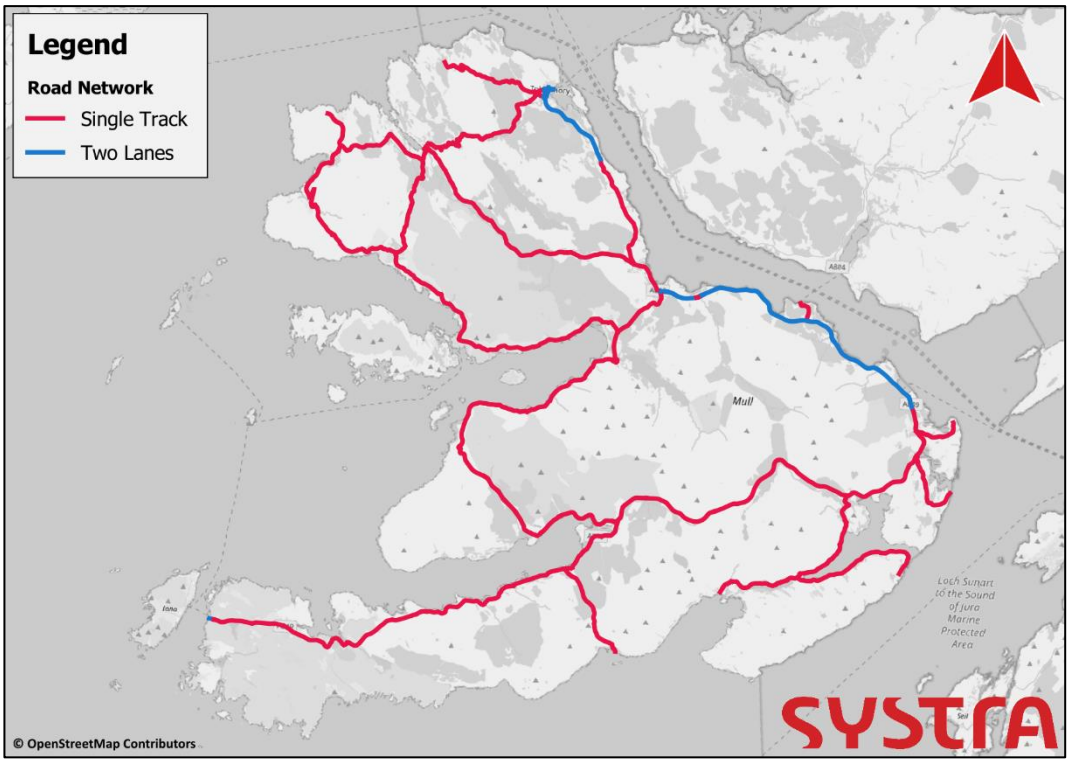
3.6.1 There are currently 6 standard marked car parking spaces and 2 accessible spaces at the school. There is an additional unmarked car parking area with space for approximately 10 cars.

3.6.2 There are 'No Loading' and 'No Stopping' restrictions on Erray Road between Breadalbane Street and the Erray Road Depot during school pick-up / drop-off time. Adjoining residential streets such as Victoria Street and Breadalbane Street are sufficiently wide enough for on-street parking.

3.7 Road Network

3.7.1 The main road links on Mull are shown in **Figure 8**.

Figure 8. Main Road Links on Mull



3.7.2 Figure 8 highlights the fact that the road network on Mull is largely composed of single-track sections, with some sections of two-way running between Craignure and Salen and over the section of road immediately to the south of Tobermory.

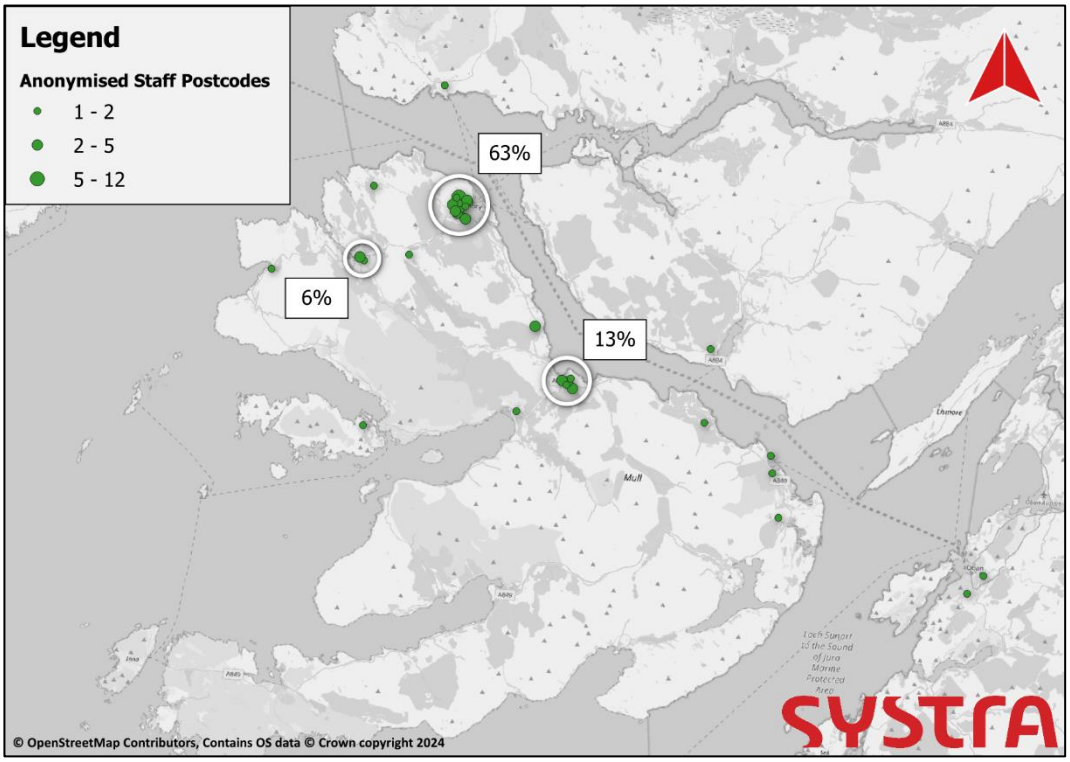
3.7.3 These roads are typically narrow and of varying quality, giving rise to platoons of vehicles and requiring frequent use of passing places. These factors can introduce driver delay and hamper journey time reliability.

4. STAFF TRAVEL PATTERNS

4.1 Catchment

4.1.1 There are currently around 60 staff employed at the site across all three teaching units and in supporting rolls such as administration, janitorial staff and catering staff. The distribution of these staff is shown in **Figure 9**.

Figure 9. Distribution of Tobermory 2-18 School Staff



Remaining 18% dispersed across Mull

4.1.2 Figure 9 shows that the majority of staff live within Tobermory (63%). There is also a clustering of staff in Salen, 13%, and in Dervaig, 7%. There are two staff members in Oban, and one each in Lochaline, Kilchoan and Ulva. All of these staff are therefore dependent on ferry services.

4.2 Mode Share

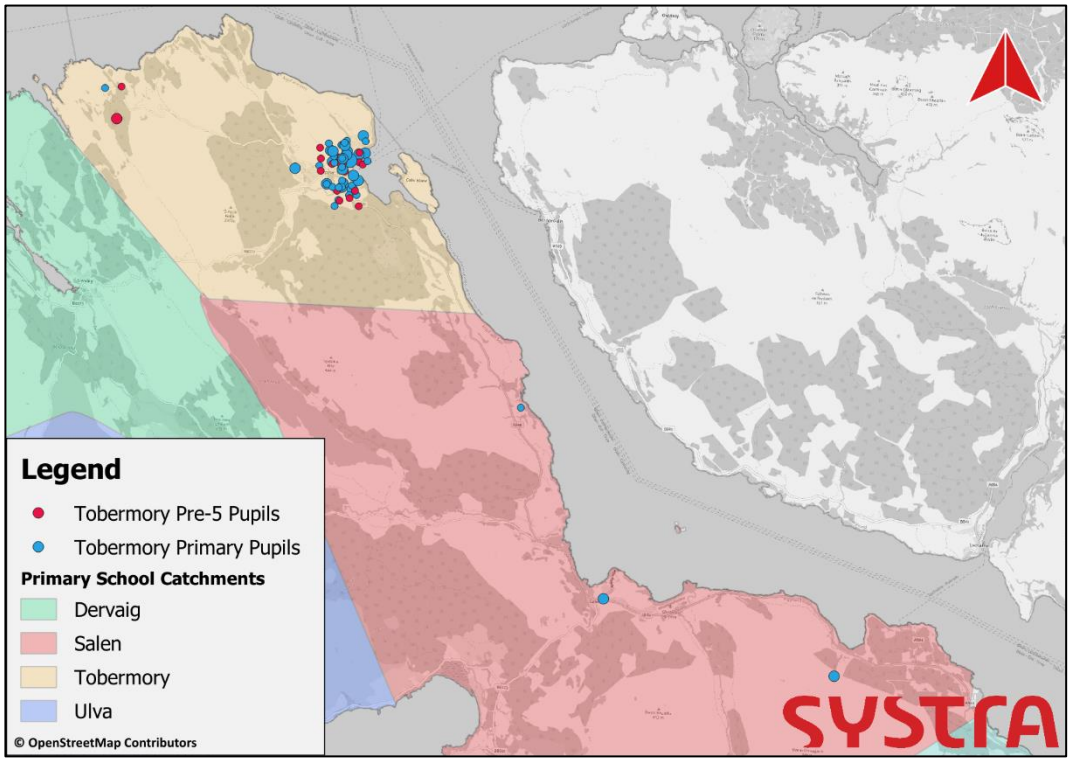
4.2.1 On the 23rd of October 2024 a "hands-up" of staff was conducted. The survey indicated that 20 members of staff walked to the school that day and 39 travelled by private car. Of those that drove 4 also travelled by ferry. The school has also indicated that 4 members of staff regularly car share.

5. PUPIL TRAVEL PATTERNS

5.1 Tobermory 2-18 School Pre-5 and Primary Pupil Distribution

5.1.1 There are currently around 14 pupils at the pre-5 unit and 81 pupils in the primary school located at the Tobermory 2-18 School. The distribution of these pupils is shown in **Figure 10** - larger markers represent multiple pupils at the same address.

Figure 10. Distribution of Tobermory Pre-5 and Primary Pupils

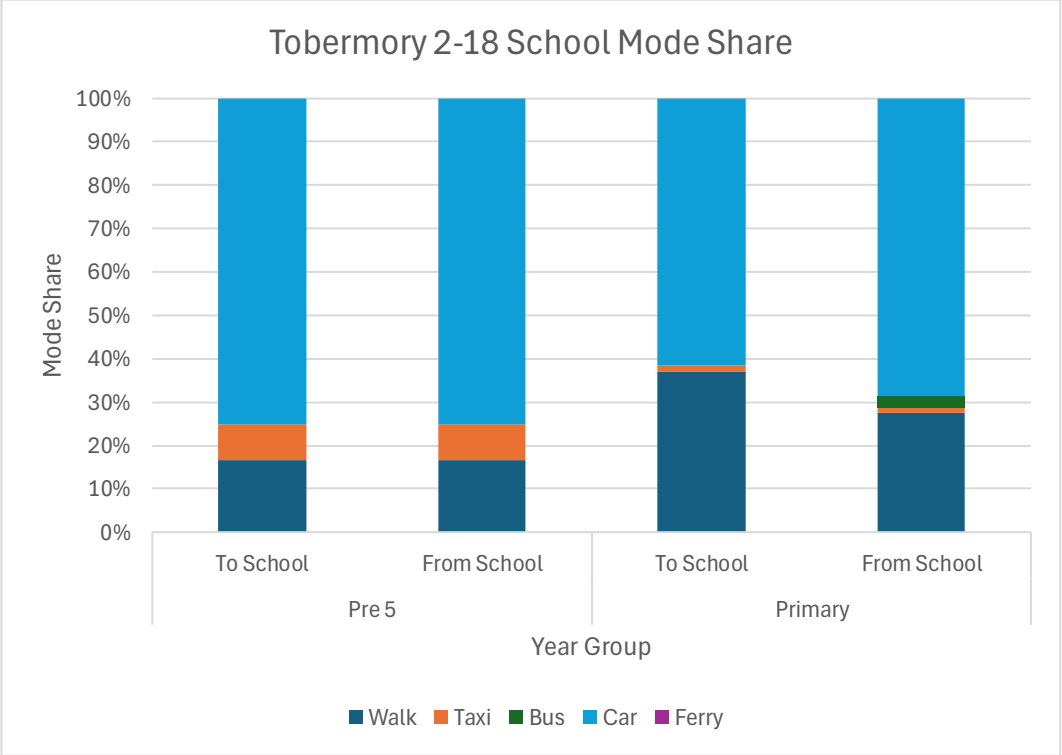


5.1.2 Figure 10 shows that pre-5 pupils are generally clustered within Tobermory itself (approximately 85%). Around 90% of pupils at the primary school also live within Tobermory and many of them within a 5-minute walk. The remaining pupils live on the west side of the island within a 30-minute drive.

5.2 Mode Share

5.2.1 A "hands-up" survey of pre-5 and primary school pupils was conducted by staff in w/c 30th September 2024. The survey asked pupils "By which mode did you travel to and from school today?". The results of this survey are presented in **Figure 11**.

Figure 11. Tobermory 2-18 School Pre-5 and Primary Unit Travel Mode Share

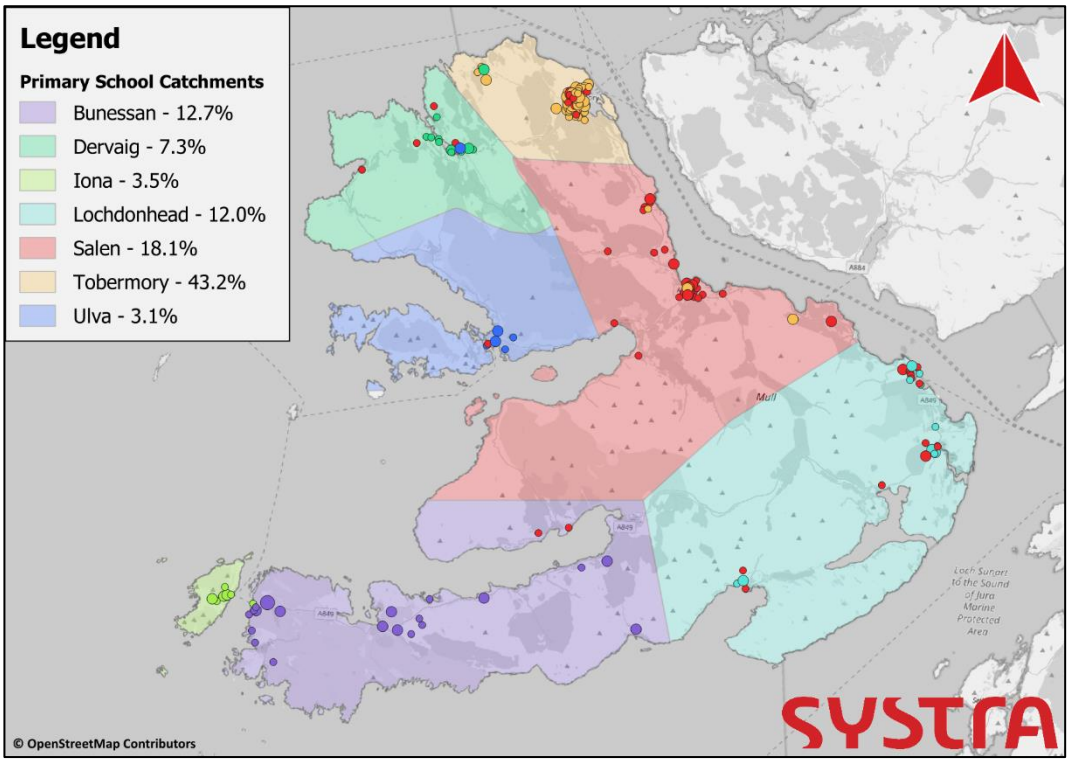


5.2.2 The results of the hands up survey indicate that the majority of both pre-5 and primary pupils arrive to the existing school by car. Just over 15% of pre-5 pupils and up to 40% of primary pupils do walk to the school. Taxis presently play a small role in transporting junior pupils to and from the school.

5.3 Island-Wide Pre-5 and Primary Pupil Distribution

5.3.1 There are currently around 280 pre-5 or primary aged pupils (aged 2-11) on the islands of Mull, Iona and Ulva. There are 6 primary school campuses on Mull and one on Iona, 4 of which have pre-5 units and 2 of which have Gaelic units. The distribution of pre-5 and primary pupils is shown in **Figure 12**, the colour of each dot corresponds to the catchment shading. The legend also contains the percentage of pupils currently residing in each catchment.

Figure 12. Island-Wide Distribution of Pre-5 and Primary Pupils



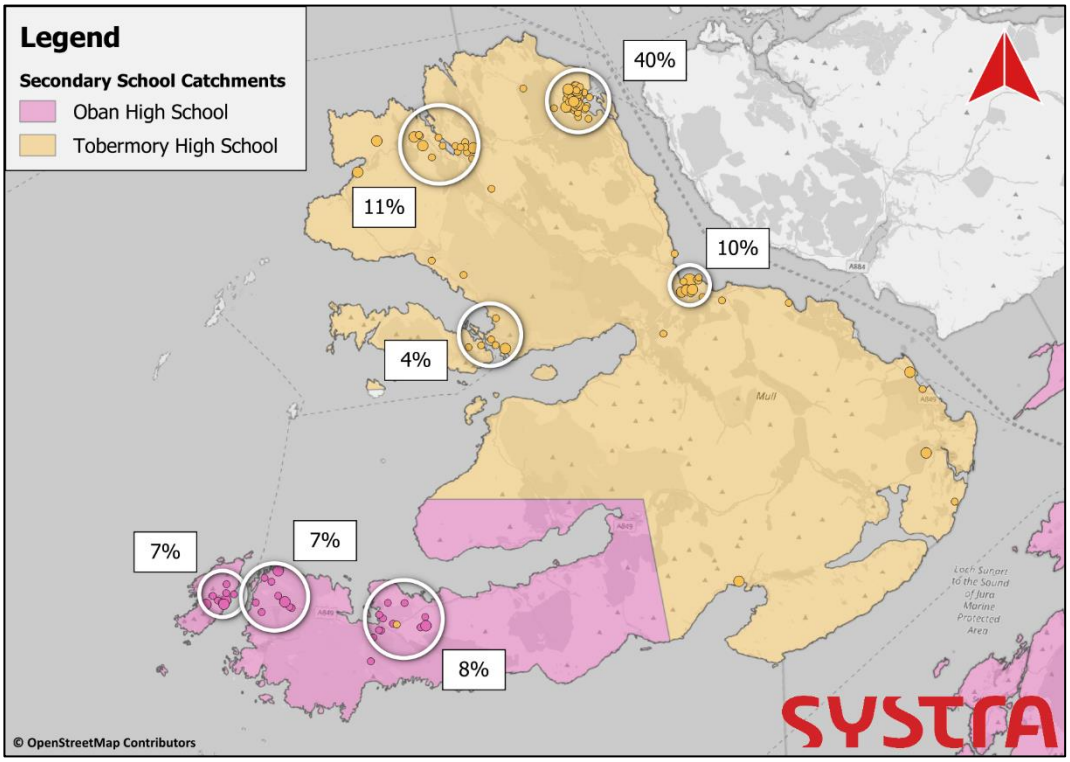
5.3.2 Figure 12 shows that primary aged pupils are distributed across the island with concentrations in key settlements. The Figure also shows that the majority of pupils live within their respective school catchments. The main exception is pupils at Salen.

5.3.3 The majority of pupils outlying the primary school catchment are those who attend the Salen Primary Gaelic school which is designed to serve the north of the island. This is one of two Gaelic Medium schools on the island, alongside Bunessan which serves the south of Mull and Iona.

5.4 Secondary Pupil Distribution

5.4.1 There are currently 157 pupils enrolled at Tobermory High School. The distribution of these pupils and the 36 pupils who attend Oban High School is shown in **Figure 13**, the colour of each dot corresponds to the catchment shading. Clusters of pupils and the proportion of the island-wide population is also shown.

Figure 13. Island-Wide Distribution of Secondary Pupils



Remaining 13% dispersed across the island

5.4.2 Figure 13 shows that secondary aged pupils (11-18) are also distributed across Mull, Iona and Ulva, with concentrations in key settlements, as with primary aged pupils. With few exceptions, pupils attend their catchment school.

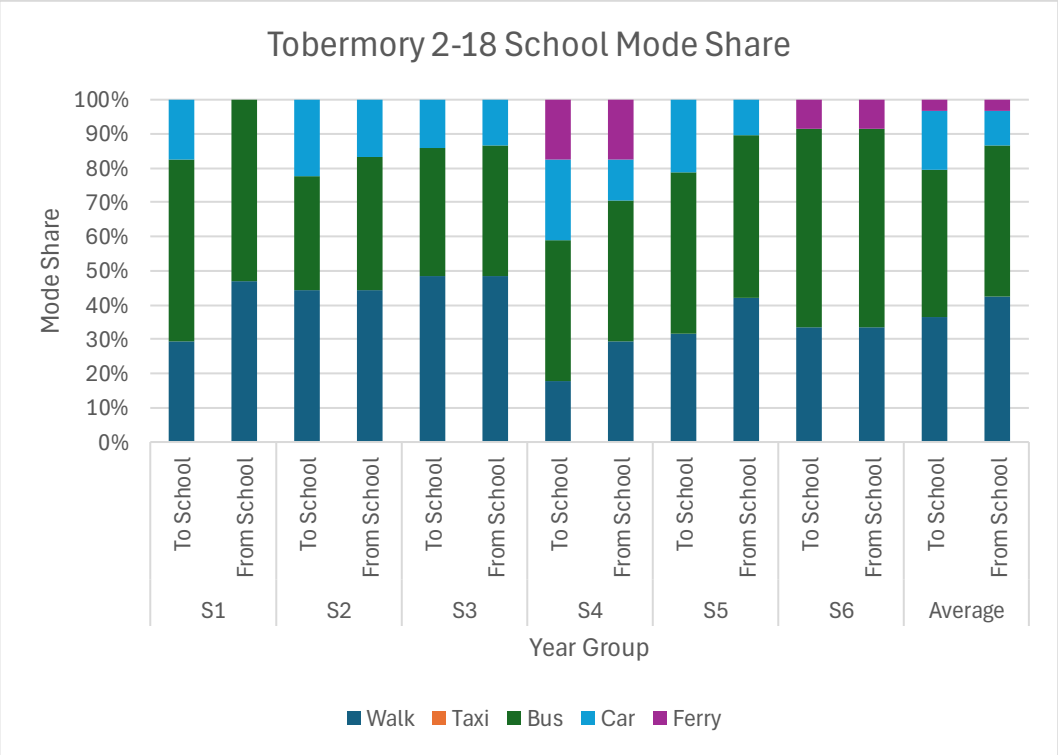
5.4.3 Of the total 193 secondary school-aged pupils on Mull, Iona and Ulva, around 40% of them live within Tobermory, 11% within Dervaig, 10% in Salen and 4% around Ulva and Ulva Ferry. 22% currently live with the Oban High School Catchment (8% around Bunessan, 7% on Iona and 7% around Fionnphort). The remaining 13% are dispersed across the island.

5.4.4 Of the 157 pupils at Tobermory High School approximately 50% live within Tobermory, 13% in Salen and 7% in Dervaig. The remaining 30% of pupils live in disparate locations around Mull.

5.5 Tobermory High School Mode Share

5.5.1 As with the pre-5 and primary unit pupils, each secondary class was asked "By which mode did you travel to and from school today?" in a "hands-up" survey conducted by staff in w/c 30th September 2024. The results of this survey are presented in **Figure 14**.

Figure 14. Tobermory 2-18 School Secondary School Travel Mode Share



5.5.2 The Figure shows that cars play a lesser role in the transport of secondary pupils to and from the Tobermory 2-18 school, representing around 14% of mode share on average. Bus is the predominant mode accounting for around 44% of all trips, just greater than walking which has a mode share of 40%. A small number of pupils' journeys to school currently involve ferries.

5.5.3 The mode split which is revealed by these summary statistics shows that while motorised travel modes account for just a little more than half of the trips which are made by secondary ager pupils, a significant proportion (40%) of pupils currently walk to and from school.

6. KEY FINDINGS

6.1 Introduction

6.1.1 This report provides an insight into the transport baseline which is associated with Tobermory 2-18 School and with school-age children on Mull, Iona and Ulva as a whole. In so doing, the report examines data related to pupils of all ages and staff who are associated with the facility. Through an examination of postcode data, the report presents a clear understanding of how the home locations of pupils and staff are dispersed around Mull and beyond.

6.1.2 While the datasets reveal concentrations in areas of population density, they also reveal that staff and pupils who travel to and from the school each day include individuals who live in lower population areas where transport facilities and services are less-well developed.

6.2 Dependencies and Complexities

6.2.1 The report identifies that the transport situation which relates to the existing school facility is complex; it includes multi-leg journeys and highlights a series of inter-dependencies between different transport modes.

6.2.2 Notably, the report also highlights that the commercially operated public transport network on the island is, to a large extent, framed by the requirements of school travel. This being the case, any changes in the location of the education campus seems likely to have implications for public transport as a whole.

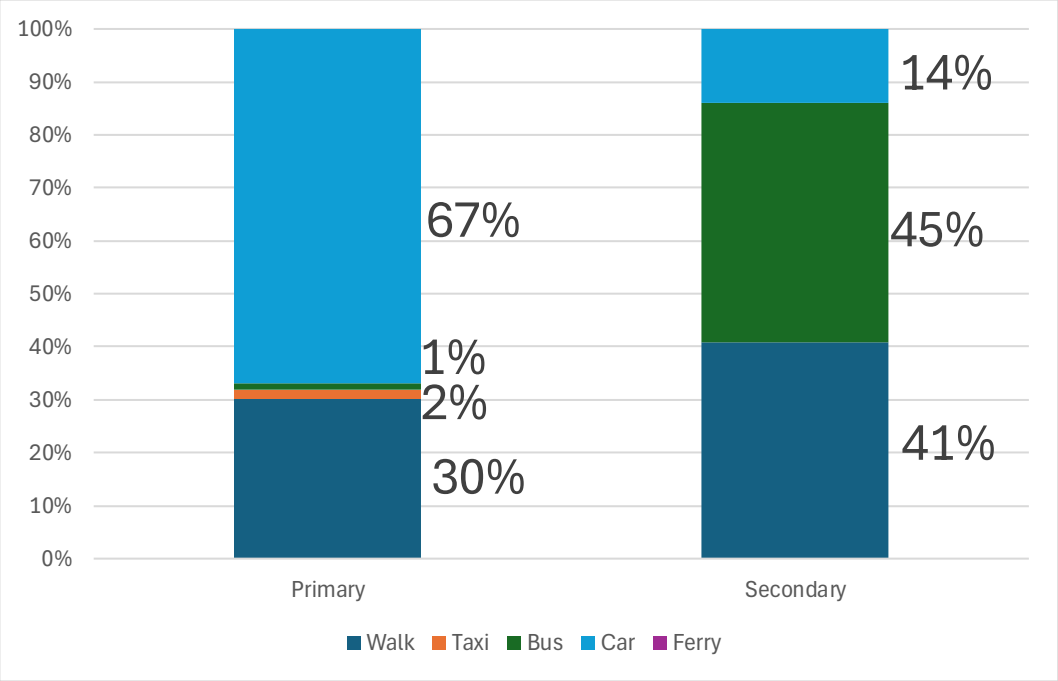
6.3 Headline Statistics

6.3.1 As of the academic year 2024/25 there are currently 14 pupils in the Tobermory 2-18 School Pre-5 Unit, 81 pupils in the primary school and 157 in the high school. There are a further 36 high school-aged pupils on Mull and Iona who currently attend Oban High School, on the mainland.

6.3.2 The pre-5 and primary pupils at the Tobermory 2-18 school live predominantly in Tobermory, around 90%, with the remaining 10% living in periphery communities such as Glengorm and Salen. Secondary school pupils are distributed more widely across the island. Around 40% of them live within Tobermory, 11% within Dervaig, 10% in Salen and 4% around Ulva and Ulva Ferry. 22% currently live with the Oban High School Catchment (8% around Bunessan, 7% on Iona and 7% around Fionnphort). The remaining 13% are dispersed across the island.

6.3.3 The mode share of pupils at the existing Tobermory 2-18 School, aggregated by primary and secondary age groups, is shown in **Figure 15**.

Figure 15. Aggregated Pupil Mode Share



6.3.4 The existing school is supported by around 5 staff employed in the Pre-5 Unit, 12 staff in the primary school and 42 staff in the high school. This includes the 3 and 15 support staff in the primary and secondary school, respectively.

6.3.5 The majority of staff live within Tobermory (63%). There is also a clustering of staff in Salen, 13%, and in Dervaig, 7%. There are two staff members in Oban, and one each in Lochaline, Kilchoan and Ulva. All of these staff are therefore dependent on ferry services. The remaining 18% are dispersed across Mull. Currently 34% of staff walk to the school and 66% drive to the school.

7. ASSESSMENT CRITERIA

7.1 Introduction

7.1.1 Matters relating to travel and transport are prominent among members of the community when discussing the question of a possible school relocation. As this report identifies, a decision to relocate the school to a new site would, in some cases, disturb established routines while giving rise to a series of other travel and transport implications.

7.1.2 The remainder of this report examines each of the short-listed school sites to determine how each performs in terms of travel, transport and access. While this includes local accessibility and connectivity, the appraisal also establishes the implications and opportunities when the home locations of staff and pupils are taken into account.

7.1.3 The assessment criteria below are designed to ensure each candidate site is appraised in the context of the island-wide school operations which are summarised in this report. This process will enable the Council to form a clear understanding of the implications and opportunities which arise from development of a given site. This appraisal process is separate from the various detailed analyses which would be required in support of a planning application in support of a selected site.

7.1.4 SYSTRA anticipates that the 'Application Stage' is likely to require the preparation of a comprehensive Transport Assessment and Travel Plan. Such a document would set out the detail of any plans which were necessary to develop a given site while ensuring its layout, connectivity and operations were all tailored to the specific requirements of a site and its locality.

7.2 Assessment Criteria

7.2.1 SYSTRA has considered the following metrics when evaluating candidate sites:

- Number of user journeys and mode split;
- Good public transport links to the site and location;
- Existing safe active travel links to site;
- Travel times for pupils and staff;
- Potential impact on public transport network;
- Ability of existing roads infrastructure to service site;
- Trips with complex dependencies/ multiple stages and modes of travel; and
- Carbon Impact of travel.

7.2.2 These criteria have been chosen following public consultation events, discussions with the Council and with the wider design team. SYSTRA's understanding for each of these criteria is presented in the following paragraphs.

User Journeys and Pupil Mode Split

7.2.3 The Baseline report presents a breakdown of how pupils travel, whether by active travel, bus, taxi or private car. If trip distance changes materially as a result of the school relocation, it is likely that the means by which people travel may also change. For example, a trip currently made on foot by a pupil whose home is within walking distance

of the school would no longer be practical by that means if the school were relocated to a site outside of walking distance.

Good Public Transport Links to the Site and Location

7.2.4 An assessment of the interactions between the site and the present-day public transport network. This section will also identify measures which could be implemented at each site to support journey by pupil transport.

Travel Time

7.2.5 As with journey distance, it will be possible to evaluate differences between the overall travel time required for current and potential future trips. Given the nature of road links on Mull, where single track roads are commonplace the consideration of travel time is perhaps more prominent than that relating to overall journey distance.

Potential Impact on Public Transport Network

7.2.6 This report highlights that most of the island's public transport network is shaped around the requirements of school travel. In the event that the school bus network was to change, adjustments to the commercial bus network may occur as a consequence.

Ability of Existing Roads Infrastructure to Service Site

7.2.7 This criterion will assess the present roads infrastructure adjacent to each of the sites. Off-site highway upgrades which may be necessary to support the site will also be identified.

Complex Dependencies

7.2.8 If a 'complex dependency' can be defined as a trip which requires multiple modes and stages, appraisal of alternative sites will help to determine if the share of trips which are 'complex' is likely to increase or not.

School Travel Emissions

7.2.9 A detailed understanding of pupil and staff home locations, accompanied by a breakdown of how many individuals travel from each location enables a quantification of the total distance travelled by each individual. The extent to which those values may change as a result of a new location being selected can be examined, enabling a comparison between present-day and future situation.

7.2.10 As an extension of changes to the distance travelled and mode used, it seems likely there will be changes in emissions related to school travel. In the baseline conditions, 37% of children travel by means which do not generate carbon emissions and 72 travel by bus. An appraisal of alternative locations will show how associated changes in travel then effect the requirement for vehicle-based trips.

8. FORTHCOMING DEVELOPMENT ON MULL, ULVA AND IONA

8.1 Introduction

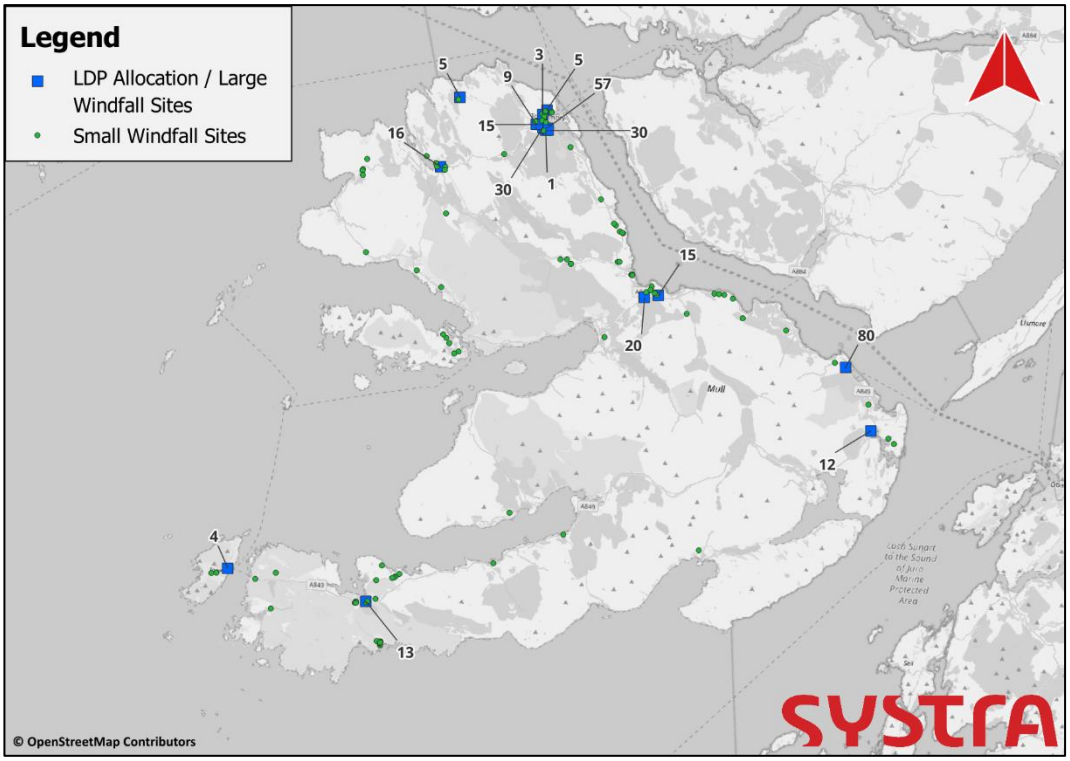
8.1.1 The main objective of this exercise is to consider the implications of developing the proposed Mull Education Campus in a location other than the existing site, examining the implications for travel, transport and access when viewed in the context of the Baseline situation. This section observes that the existing housing stock on the Islands is likely to be supplemented by the delivery of new homes over time, changing the absolute number of homes and potentially leading to a change in the overall distribution of homes across the study area.

8.2 Future Housing Allocation

8.2.1 Argyll and Bute Council conduct an annual Housing Land Audit which identifies two classifications of housing allocation sites. The first are ones contained in the Local Development Plan/Local Development 2 (either allocations, or Potential Development Areas that have received planning consent) and Large Windfall Sites, which are sites for 5 units or more that are not in the LDP/LDP2. Secondly, are Small Windfall Sites which are developments of less than 5 units not on LDP identified sites.

8.2.2 The location of housing sites identified in the 2023 Housing Land Audit and the number of units of remaining capacity (for LDP and LWF sites) are shown in **Figure 16**.

Figure 16. Future Housing Allocation



9. MULL EDUCATION CAMPUS OVERVIEW

9.1 Introduction

9.1.1 SYSTRA has worked closely with the Council and other project team members to evaluate the credentials of a long-list of possible locations for a single-site education campus. Following this high-level evaluation, four candidate sites have been shortlisted for further, more detailed evaluation.

9.1.2 The wider project team has worked together to agree suitable assessment criteria against which each of the shortlisted sites can be appraised, with matters relating to transport and access forming an important part of that overall consideration.

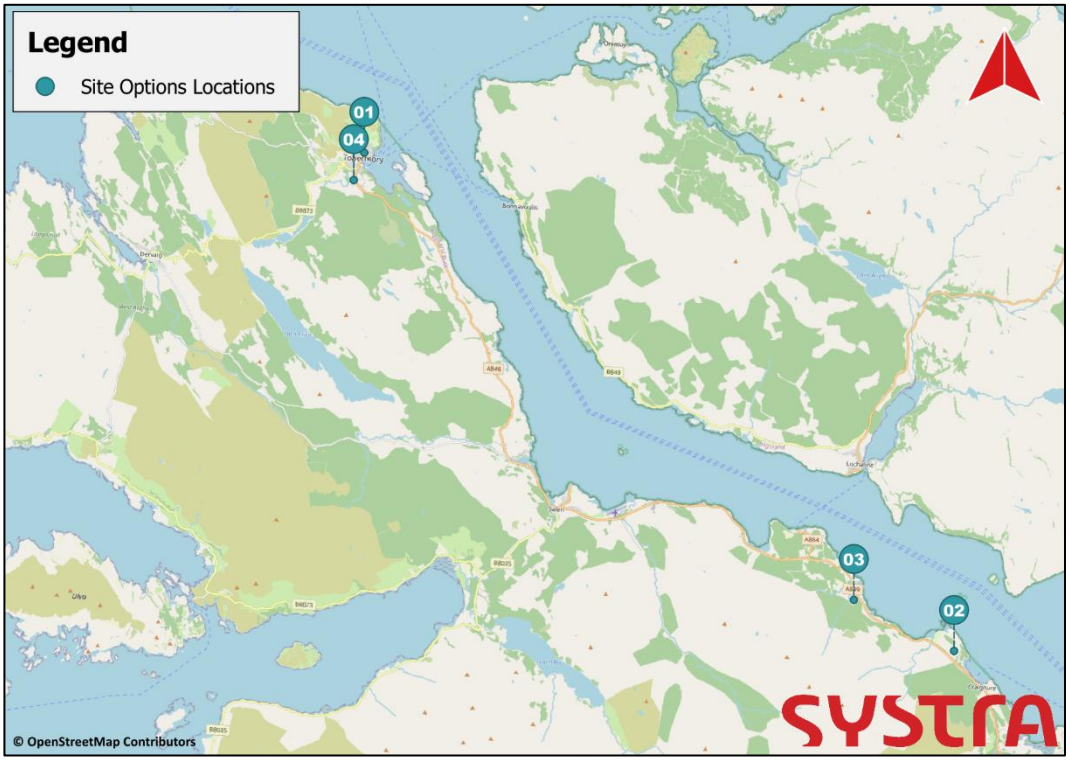
9.1.3 Consideration of transport matters related to the shortlisted sites is essentially two-fold, as follows:

- Matters which relate specifically to the sites and their immediate environs (access, layout and local connectivity)
- Matters related to travel to and from the sites from within the catchments which are defined in the Baseline review (changes in travel mode split, travel distance and carbon).

9.2 Shortlisted Sites

9.2.1 The locations of the shortlisted sites are shown in **Figure 17**.

Figure 17. Location of Shortlisted Sites



9.3 Overall Approach

9.3.1 Each of the shortlisted sites is evaluated in the sections which follow. The approach taken has sought to ensure that a common methodology has been applied to each of the sites, thereby providing outputs which can be readily compared across each of the sites.

9.3.2 Notwithstanding the physical considerations which relate to each site, the assessment requires evaluation of the extent to which transport routines and provisions would need to change in the event that a decision was taken to develop one particular site. For example, the evaluations which follow show how such a change might prompt an adjustment to travel mode split, overall distance travelled or the transport-related carbon effects that might result from additional mileage being incurred. Outputs such as these are presented in a consistent manner to enable direct comparisons.

9.3.3 The Baseline Evaluation section of this report documents a series of 'complex dependencies' which apply to travel to, and within the Island of Mull. These may include the requirement for certain staff members or pupils to travel to the island by ferry, or, for individuals whose home location is detached from the island's main road network (and hence bus services) to access bus stops by means of a feeder car or taxi trip. In evaluating the overall performance of each site, SYSTRA has assumed that the complex dependencies do not change; that is to say that regardless of the site which may be developed, it will remain necessary for a given individual to complete the first leg of their journey by ferry or feeder car or taxi.

10. FORECAST METHODOLOGY

10.1 Introduction

10.1.1 In order to make an informed assessment of each candidate site against the transport related criteria, it is necessary to understand where end users live, the distance they will be required to travel to a candidate site and the means by which that trip will be made. SYSTRA has developed a consistent methodology to arrive at site-specific forecasts, with each being informed by the observed travel behaviours which are discussed in the Baseline report. In developing those forecasts, it was necessary to make a number of assumptions and qualifications. The purpose of this Chapter is to document and explain those assumptions and any qualifications which apply to the methodology adopted.

10.2 Exclusions and Assumptions

10.2.1 The mode share forecast is representative of the primary mode of travel used to travel to and from the school site. The primary mode of travel is the one used for the longest distance in a given trip. For example, someone who takes the bus to school may also have a 400m walk to the bus stop. In such a case, it is only the bus journey which is of concern.

10.2.2 Similarly, in instances where pupils are taken from their (remote) home by car or taxi to access the bus which forms the main leg of their journey to school, the mode split recorded for this exercise will be recorded as 'bus'. Existing examples of such trips are evident at Lochbuie. Trips like this are likely to occur regardless of the site selected for a new campus and hence their inclusion within the mode share forecast is academic.

10.2.3 Ferry journeys have also been excluded for the same reason - pupils or staff who live on Iona, Ulva or the mainland will still have to use the ferry to get on to Mull regardless of the site selected.

10.2.4 This forecasting exercise does not account for any strategic changes in population distribution on Mull, Iona and Ulva. It also does not account for any pupils changing school. All sites have been assessed on the assumptions that school catchments would remain the same.

10.2.5 Consideration has been given to the impact of changing the secondary school catchments on the two sites outwith Tobermory (Site 02 – Craignure and Site 03 – Garmony) to include the Ross of Mull. In response to a request from the Iona Community to remain within the catchment area of Oban High School they have been removed from the scope of these additional tests.

10.2.6 SYSTRA has included these additional tests to consider their sensitivity, and it is noted that these are not intended to directly influence the scoring of the sites. The inclusion of these sensitivity tests does not represent a commitment by the council to implement any changes to the school catchments. Such a process would be subject a separate statutory process.

10.2.7 The travel time, distance and carbon emissions associated with pupils from the Ross and Mull and Iona travelling to and from Oban has not been accounted for in the baseline conditions.

10.2.8 The car requirement calculation assumes a pupil occupancy of 1.2. Staff vehicle occupancy is assumed at 1.05, this is based on observed car sharing behaviour as revealed by the staff 'hands up' travel survey.

10.2.9 SYSTRA anticipates that regardless of the site selected, Travel Planning measures would be adopted to ensure staff and pupil travel in the most efficient and sustainable way possible. In this context, it would be expected that efforts are made to maximise rates of car sharing, especially between staff – where possible.

10.2.10 For all of the following metrics, values are based on a single one-way trip. It is assumed that travel to and from school will be broadly similar although there may be some variation as a result of wrap-around activities. These have not been accounted for. It is assumed that travel behaviour will not vary significantly day to day across the week. Daily and weekly values could therefore be calculated by multiplying the values stated in this report by 2 and 10, respectively.

10.3 Mode Share

10.3.1 To suitably reflect the available travel modes SYSTRA has developed a range of generalised mode splits which reflect the outcomes of the 'hands-up' surveys of existing pupils. Five separate mode split combinations were developed to capture the breadth of circumstances which are evident in the Baseline situation – these capture the different ways that individuals travel according to the location and setting of their home.

10.3.2 The five generalised mode splits are shown in **Table 3**.

Table 3. Generalised Student Mode Splits

MODE SPLIT	WALK	TAXI	BUS	CAR
Primary School - Vehicle		2.5%	95%	2.5%
Secondary School - Vehicle			95%	5%
Remote Origin - Vehicle		2%		98%
Primary School - Walkable	35%			65%
Secondary School - Walkable	80%			20%

10.3.3 To calculate an overall pupil mode share for each of the candidate sites the most appropriate of the mode splits has been applied to each age group of pupils travelling from each the residential catchments on Mull and Ulva

10.3.4 The following example considers primary school-aged pupils living in Tobermory. For the existing school site those pupils have been assigned the 'Primary School - Walkable' mode split. However, for Site 03 – Garmony, as those pupils would have to travel to that site by vehicle, they are assigned the 'Primary School - Vehicle' mode split instead in this instance.

10.3.5 For each of around 11 residential areas (14 in the case of the additional assessments for Sites 2 and 3), such as Tobermory, Calgary, Salen and Ulva, a suitable mode split has been applied to primary and secondary pupils. There are a further two categories ("Within reasonable trip of bus" and "Remote") which captures the disparate location of pupils who live outwith a residential area.

10.3.6 To produce a mode split for each of the candidate sites, the individual mode splits for each area have been aggregated, taking account of the existing pupil populations in each area. These mode shares are presented within each relevant candidate site chapter.

10.4 Person and Vehicle Trips

10.4.1 Using the mode share for each site and age group and the anticipated pupil count, SYSTRA has sought to calculate the number of pupils travelling by each mode. To inform further calculations relating to journey time, journey distance and carbon emissions criteria an origin must be determined for each vehicle.

10.4.2 To determine the origin of taxi trips, the number of taxis estimated to be required is assigned to the areas with the largest pupil population which require them. Note that only one taxi is assigned to each area. For example, for sites where the campus remains in Tobermory, Tobermory is not assigned a taxi as the Tobermory generalised mode split for both primary and secondary is "Walkable". Instead, an area such as Salen is assigned one. However, in the instance that the site is located in Craignure then Tobermory would be the first to be assigned a taxi because it has the largest population which requires one. As in this case Tobermory is assigned the "Vehicle" mode split.

10.4.3 The number of buses required for each site is determined based on the anticipated mode share of buses. The configuration of the bus network is informed by the existing conditions and input from Argyll and Bute Council's School Transport officers. For the purposes of modelling, the origin of each bus route is the first stop on the route.

10.4.4 Cars, similar to taxis, are assigned proportionally to the residential areas which require them.

10.5 Travel Distance

10.5.1 The travel distance from the centre of each residential area to each candidate site has been calculated following the most suitable driving route for a single-direction trip (i.e. a trip TO school). Each vehicle is then assigned a mileage base upon its origin location. The total mileage for each site is an aggregation of all vehicle miles associated with the site.

10.6 Travel Time

10.6.1 The travel time for taxi and car passengers is derived from Google Maps for the average drive time on a Tuesday morning. Tuesday is considered to be a 'neutral weekday' in transport assessment terms. The travel time for buses is calculated based upon existing bus timetables. Unlike for travel distance, the total travel time is an aggregation of all passenger journey times, albeit the values presented relate to a single-direction trip.

10.7 Carbon Emissions

10.7.1 The carbon emissions of each vehicle trip are informed by the Transport Analysis Guidance (TAG) Data Book. The assumed split of car fuel types is taken from Table A1.3.9 for the year 2024 and is as follows:

- Petrol – 51%
- Diesel – 39%
- Electric – 11%

10.7.2 While this may not perfectly reflect the proportions of each car type on Mull and Ulva in any instance the proportion of engine types will change with time in line with national policy and changes in buyer habits.

10.7.3 The fuel / energy consumption of each vehicle type (Petrol Car, Diesel Car, Electric Car and Passenger Service Vehicle (PSV)) is calculated as a function of average speed. SYSTRA has assumed the average speed of all vehicles to be 30mph, this is broadly consistent with the average journey times derived from Google Maps.

10.7.4 Carbon dioxide emissions per litre of fuel burnt / kWh used is taken for the year 2024 from Table A3.3 of the TAG Data Book. This, combined with the fuel consumption can be used to derive a value for emissions per mile driven for cars and buses. This value is used to inform the travel related carbon emissions for each site for a single direction trip.

11. SITE 01 – EXISTING TOBERMORY SITE

11.1 Introduction

11.1.1 Site 01 – Tobermory is located on the existing Tobermory 2-18 School site. The indicative site layout is illustrated in **Figure 18** below.

Figure 18. Site 01 – Tobermory Indicative Layout

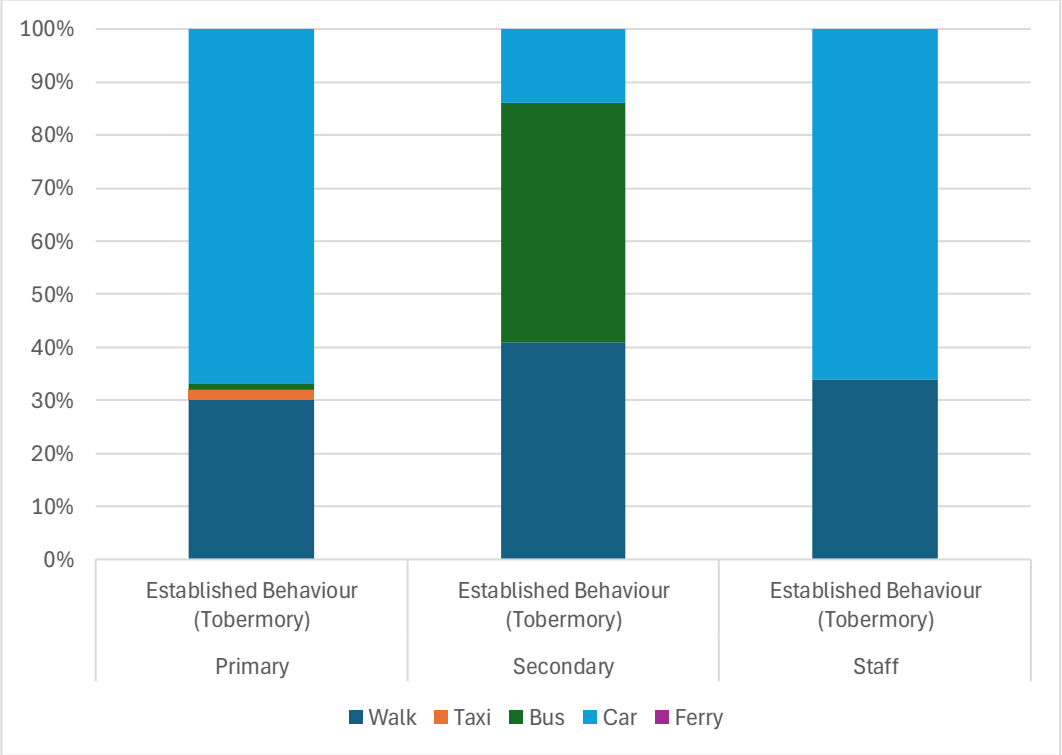
11.1.2 Travel habits to the existing site are already established and as such the redevelopment is unlikely to have a measurable impact on pupil and staff travel. The steep nature of Back Brae and the wider area as a whole constrain access as already demonstrated in the baseline section of this report. The site is within 500m of two large windfall (residential) sites, both currently under construction, with a total remaining capacity of 8 units.

11.2 Assessment Criteria – Existing School Catchments

Number of user journeys - bus, car, pedestrian (Pupil/ staff mode split)

11.2.1 As there will be little change to travel characteristics the anticipated mode share for the Tobermory site SYSTRA has assumed the mode share to remain the same as the results of the hands up survey conducted at the existing Tobermory 2-18 school. For completeness this mode share is presented in **Figure 19**.

Figure 19. Site 01 – Mode Share



11.2.2 Currently around 30% of primary-aged pupils walk to the site and 70% are driven to the site. There are also a few trips facilitated by taxi or bus. 40% of secondary-aged currently walk to the site and 45% arrive by bus. A further 15% drive or are driven to the school. 33% of staff walk to the site and the remaining 67% currently drive.

11.2.3 Based on the expected student cohort and staff numbers, the expected number of trips by each mode is presented in **Table 4**.

Table 4. Site 01 – Multi-Modal Trips

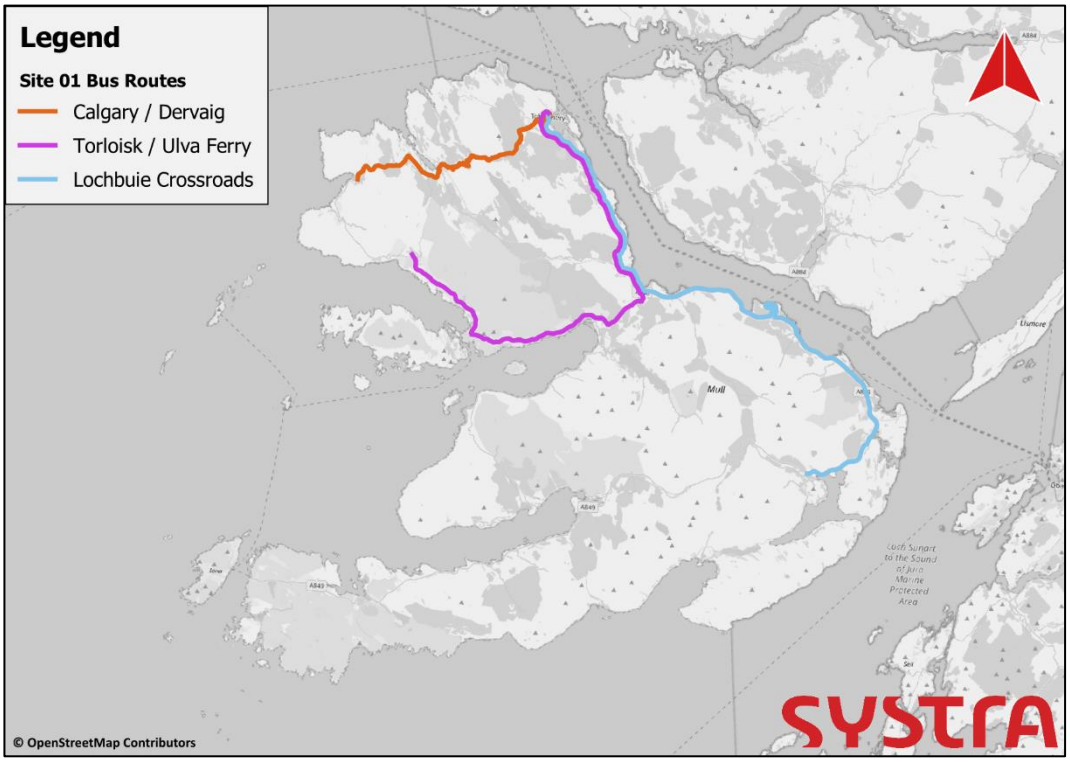
SITE	COHORT	WALK	TAXI	BUS	CAR	FERRY	TOTAL
Site 01 - Tobermory	Primary	29	2	1	64	0	95
Site 01 - Tobermory	Secondary	64	0	71	22	0	157
Site 01 - Tobermory	Staff	20	0	0	39	0	59

Note: minor discrepancies as a result of rounding

11.2.4 As the Tobermory site is located on the existing school site no changes to the current bus operations are anticipated. The buses which would be required for secondary school pupils are one bus from Calgary / Dervaig, one bus from Torloisk and Ulva Ferry via Salen and one bus from Lochbuie Crossroads. The annual revisions of the network and its complex dependencies are expected to be broadly in line with existing operations.

11.2.5 **Figure 20** illustrates the anticipated bus network for Site 01.

Figure 20. Site 01 Anticipated Bus Network



11.2.6 School buses would be funded as school transport where pupils meet Argyll and Bute Council's requirements – details of these requirements are provided in Section 3.4.

Good public transport links to site and location

Existing Conditions

11.2.7 The morning and afternoon school services currently serve the site by way of the bus layby on Erray Road. Tobermory is additionally served throughout the day by the 494 and the 95/495.

Future Conditions

11.2.8 The site could incorporate approximately three bus stances adjacent to the school entrance to enable safe boarding and disembarkation of pupils. Alternatively, as a result of site constraints, the use of the bus bays on Erray Road could continue to be utilised, perhaps with some rationalisation or upgrade.

Existing safe active travel links to site

Existing Conditions

11.2.9 Pedestrian facilities are limited to larger residential streets on the adjacent road network such as Erray Road and Victoria Street. There is also an off-road path between Back Brae and Main Street via Middle Brae and a set of steps.

Future Conditions

11.2.10 While infrastructure is currently limited, off-site improvement works would likely be a requirement following the standard consultation and transport assessment processes.

Travel times for pupils and staff

11.2.11 The estimated one-way travel times for primary and secondary pupils and staff are shown in **Table 5**. The travel times presented are an aggregate, encompassing the wide range of trips which would be made to the site. It should also be noted that the travel time for the minor leg of a trip (such as walking to the bus stop, a ferry crossing or travelling by car to access bus stops on the main road) are not accounted for in this analysis. In any case, the nature of these journeys is likely to remain constant across all four sites.

Table 5. Site 01 – Travel Time (Minutes)

SITE	COHORT	TAXI	BUS	CAR	WALK	TOTAL	AVERAGE
Site 01 - Tobermory	Primary	18	22	153	280	**473**	5
Site 01 - Tobermory	Secondary	0	2,356	162	588	**3,106**	20
Site 01 - Tobermory	Staff	0	0	695	163	**858**	15
Site 01 - Tobermory	**Total**	**18**	**2,378**	**1,010**	**1,031**	**4,438**	-

Note: minor discrepancies as a result of rounding

Potential impact on public transport network

11.2.12 As there will be no requirement to amend the bus services associated with school transport there is unlikely to be any impact, positive or negative, on the wider public transport network.

Ability of existing roads infrastructure to service site

11.2.13 The site is already a part of the established road network and the site's vehicular access would remain. The increase in car parking within the site will reduce the instances of on-street car parking occurring on the adjoining residential streets, in turn making it easier for buses to navigate these streets.

11.2.14 There can at times be complexities in accommodating and manoeuvring larger vehicles on the site, particularly when multiple vehicles are present at once. Buses which arrive via Argyll Terrace then have to reverse up Erray Road with the aid of a banksman.

Trips with complex dependencies/ multiple stages and modes of travel

11.2.15 Complex dependencies are likely to be broadly similar regardless of the selected site. Further details on this criterion are provided in Section 9.3. For pupils who live remotely from the main road network and key population centres, an additional leg of their journey will be required to intersect the bus service. This secondary journey will be facilitated by specific arrangements to them and may include a taxi or short car trip by a parent/carer.

Carbon impact of travel (travel distances and mode of transport)

11.2.16 The estimated one-way vehicle miles by cohort and vehicle for the Tobermory site are presented in **Table 6**. The values presented in this table represent the driven milage of each vehicle as opposed to each passenger. This accounts for the fact that one bus can carry multiple passengers.

Table 6. Site 01 – Travel Distance (Miles)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Site 01 - Tobermory	Primary	6	0	42	**48**
Site 01 - Tobermory	Secondary	0	63	57	**121**
Site 01 - Tobermory	Staff	0	0	303	**303**
Site 01 - Tobermory	**Total**	**6**	**63**	**402**	**471**

11.2.17 As with any new development of this nature Travel Planning measures have the potential to positively influence travel, particularly among staff members. A Travel Plan would seek

to encourage behaviours such as car sharing or public transport usage in order to reduce the number of vehicle miles incurred.

11.2.18 Applying the carbon emission assessment methodology outlined in Section 10.7 the estimated carbon emissions for one-way travel (of all vehicles) to the Tobermory site is presented in **Table 7**.

Table 7. Site 01 – Carbon Emissions (Kg Co2e)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Site 01 - Tobermory	Primary	0	0	9	**9**
Site 01 - Tobermory	Secondary	0	67	12	**79**
Site 01 - Tobermory	Staff	0	0	67	**67**
Site 01 - Tobermory	**Total**	**0**	**67**	**89**	**156**

11.2.19 Any increase in carbon emissions from bus travel may only be temporary. In line with current national policy bus fleets are gradually transitioning to electric and hydrogen systems. While SYSTRA is not aware of specific plans to convert the fleet on Mull, such an advancement would of course reduce the carbon impact from bus travel.

11.2.20 A similar transition is likely to occur to the car fleet, as residents increasingly embrace the use of electric cars.

11.3 Conclusion

11.3.1 The following considerations are given to Site 01 – Tobermory:

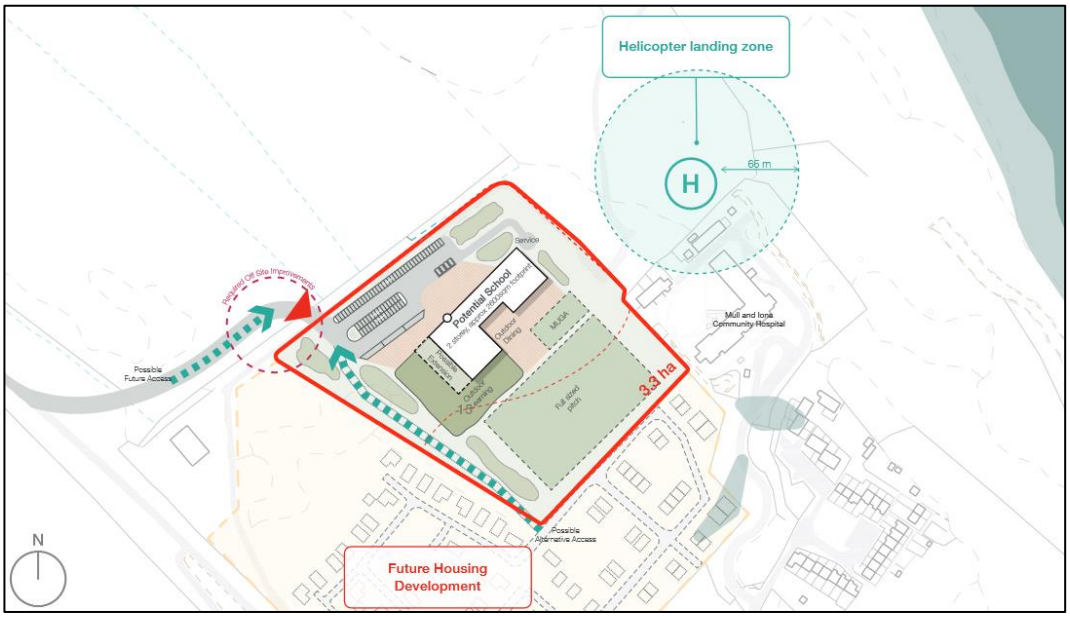
- Travel characteristics are mostly known as they are likely to align with present conditions;
- The site is within walking distance of the most existing housing; and
- The site is constrained making access for large vehicles (e.g. buses and HGVs during construction) difficult.

12. SITE 02 - CRAIGNURE

12.1 Introduction

12.1.1 Site 02 – Craignure is located to the west of Craignure Bay adjacent to the Mull and Iona Community Hospital. The indicative site layout is illustrated in **Figure 21** below.

Figure 21. Site 02 – Craignure Indicative Layout



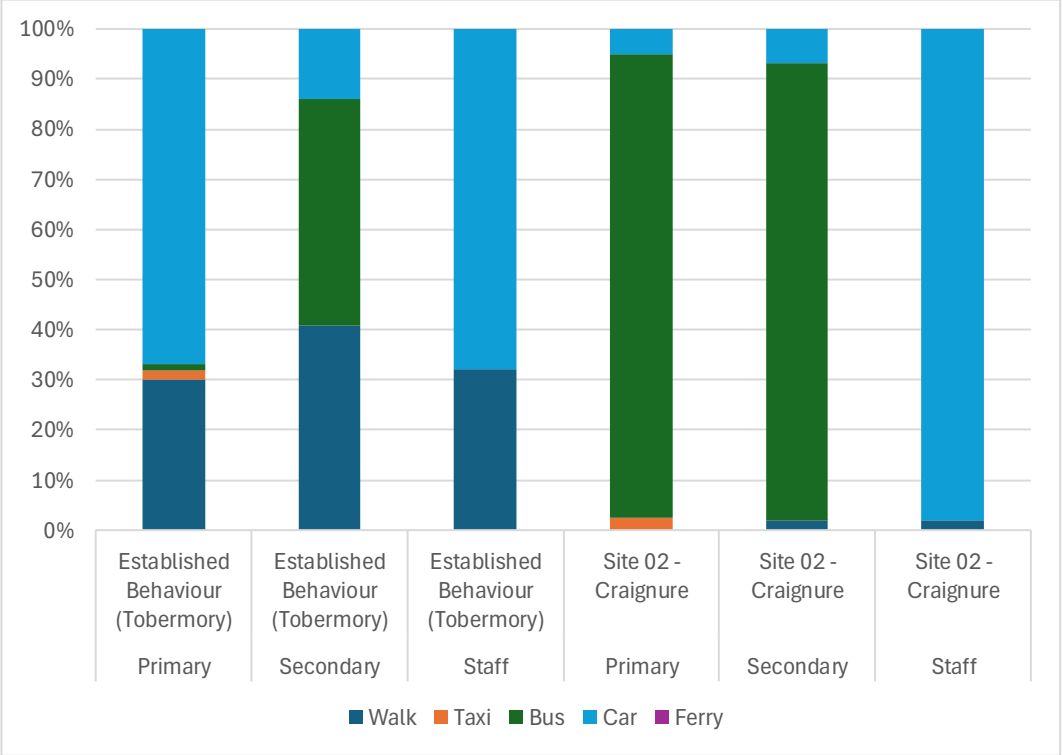
12.1.2 The site sits back from the main A849 which is subject to a 60mph speed limit in the vicinity of the site. It also sits adjacent to a site which has a local plan strategic housing allocation for c. 80 housing units. The site is greenfield in nature and on the basis of preliminary masterplanning work, it is of sufficient size to enable incorporation of necessary car parking and bus facilities.

12.2 Assessment Criteria – Existing School Catchments

Number of user journeys - bus, car, pedestrian (Pupil/ staff mode split)

12.2.1 The anticipated mode share for the Craignure site, in a scenario where the catchments do not change, is presented in **Figure 22.** For comparative purposes, the forecast mode split is presented in the context of established travel behaviour at the existing Tobermory 2-18 school.

Figure 22. Site 02 – Indicative Mode Share



12.2.2 The majority of both primary and secondary-aged pupils would be required to travel to the Craignure site by bus for the main leg of their trip. This mode share is based upon existing travel behaviours and the modelling exercise which is outlined in Chapter 9.

12.2.3 If established pupil and staff cohorts were to transfer to this site, a clear implication would be that those whose existing trip is made on foot would need to select an alternative travel mode. In view of the Council's obligation to provide school buses for pupils whose trip cannot be made on foot, it would seem likely that the majority of existing pedestrian trips would become bus trips.

12.2.4 While such a change is likely to cause some disruption in the short-term, the principle established by the existing Tobermory to Salen GMU bus demonstrates that primary school transport over an extended distance is practical and feasible. Importantly, in the context of the Salen GMU service, the Council has been able to understand, and address, concerns which had initially been expressed by parents around the requirement for primary school age children to travel by bus.

12.2.5 There will be limited opportunities the Craignure site to support trips on foot with just a handful of secondary school pupils and staff currently residing in Craignure. Should the adjacent site be developed with housing, it is reasonable to anticipate that a larger number of trips by active travel modes would result.

12.2.6 Based on the expected student cohort and staff numbers, the expected trips by each mode is presented in **Table 8**.

Table 8. Site 02 – Multi-Modal Trips

SITE	COHORT	WALK	TAXI	BUS	CAR	FERRY	TOTAL
Existing Conditions	Primary	29	2	1	64	0	95
Existing Conditions	Secondary	64	0	71	22	0	157
Existing Conditions	Staff	20	0	0	39	0	59
Site 02 - Craignure	Primary	0	2	88	5	0	95
Site 02 - Craignure	Secondary	3	0	143	11	0	157
Site 02 - Craignure	Staff	1	0	0	58	0	59

Note: minor discrepancies as a result of rounding

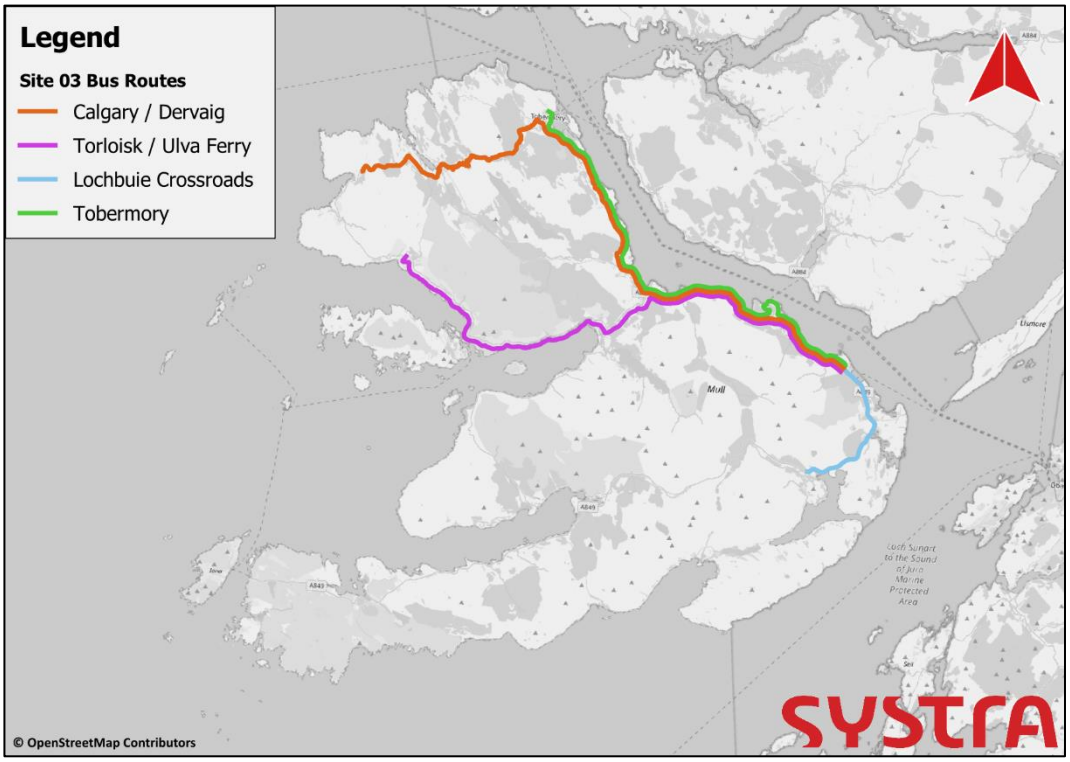
12.2.7 In order to serve the anticipated 231 pupils travelling by bus a total of approximately 7 buses will be required. It is expected that two buses/coaches would be provided to serve primary pupils travelling from Tobermory to Craignure. These would likely have a capacity of around 45 seats each and would operate as closed-door services, i.e. not open to members of the public.

12.2.8 For secondary school pupils, up to five buses (potentially of varying size) would be required.

- One smaller bus would collect children from Calgary and Dervaig before operating non-stop to Craignure. This is necessary as a result of a weight restriction on the Calgary road (B8073) which prohibits the use of buses with more than 33 seats.
- Two buses would collect children from around Tobermory and then collect pupils who live within a reasonable distance of the A849 (such as at Aros or Pennygown) enroute to Craignure. This could be reduced to one bus in the event that a higher-capacity bus/coach was used.
- A further bus would originate in Torloisk and collect children from Ulva Ferry and Salen before continuing non-stop to Craignure.
- Lastly, in the event that school catchments don't change a minibus or large taxi could collect pupils from communities south of Craignure such as Lochbuie and Lochdonhead.

12.2.9 **Figure 23** illustrates the anticipated bus network for Site 02.

Figure 23. Site 02 Anticipated Bus Network



12.2.10 School buses would be funded as school transport where pupils meet Argyll and Bute Council's requirements in line with the summary which is provided in Section 3.4. Notwithstanding the Council's preparedness to meet the costs of additional bus services, their provision depends on the ability of operators to recruit and retain a sufficient number of drivers, noting the practical operating issues relating to AM and PM-only journeys.

Good public transport links to site and location

Existing Conditions

12.2.11 The adjacent Mull and Iona Community Hospital is currently served by the service 95 bus. The 96/496 Craignure to Fionnphort service terminates at the nearby ferry terminal.

Future Conditions

12.2.12 The site would incorporate approximately four bus stances to enable pupils to board and disembark safely. These bays would ideally be positioned within the site such that bus doors opened directly onto an expansive pedestrian space, thereby removing the needs for pupils to interact with the car park and other trafficked spaces.

12.2.13 The primary and secondary school days finish approximately 20 minutes apart. Unlike the morning period, where buses are only present on site for as long as it takes for pupils to disembark, buses are required to be present on site in anticipation of the afternoon school bell. This means it is more likely that several buses would be present on site at

once. To avoid a scenario where buses blocked the operation of the car park, bays could be incorporated to the site access road to enable empty buses/coaches for the secondary school to dwell while the primary school buses are boarded.

Existing safe active travel links to site

Existing Conditions

12.2.14 There is currently limited active travel provision in Craignure. Footways which are provided on both sides of the A849 in the 30mph section are narrow. The footway is present on the north side of the road only, beyond the ferry terminal. This footway then stops beyond the entrance to the Mull Community Swimming Pool. There are currently no formal pedestrian crossings on the A849.

Future Conditions

12.2.15 While infrastructure is currently limited, it is clear that a package of off-site improvement works would be required to ensure the safe integration of the site to the established transport network. The scope of those works would emerge through the detailed Transport Assessment which would accompany and inform a Planning Application. At the time of writing, it seems likely that this package would at least comprise enhancements to existing footways, provision of new links where none are currently present and the delivery of new, safe crossing opportunities. It seems reasonable to assume that the adjacent residential allocation could be developed in a manner which facilitates active travel between Craignure and the school site.

Travel times for pupils and staff

12.2.16 The estimated one-way travel times for primary and secondary pupils and staff are shown in **Table 9**. The travel times presented are an aggregate, encompassing the wide range of trips which would be made to the site. It should also be noted that the travel time for the minor leg of a trip (such as walking to the bus stop, a ferry crossing or travelling by car to access bus stops on the main road) are not accounted for in this analysis. In any case, the nature of these journeys is likely to remain constant across all four sites.

Table 9. Site 02 – Travel Time (Minutes)

SITE	COHORT	TAXI	BUS	CAR	WALK	TOTAL	AVERAGE
Existing Conditions	Primary	18	22	153	280	**473**	5
Existing Conditions	Secondary	0	2,356	162	588	**3,106**	20
Existing Conditions	Staff	0	0	695	163	**858**	15
Existing Conditions	**Total**	**18**	**2,378**	**1,010**	**1,031**	**4,438**	-
Site 02 - Craignure	Primary	70	3,084	140	0	**3,294**	35
Site 02 - Craignure	Secondary	0	5,147	328	48	**5,523**	35
Site 02 - Craignure	Staff	0	0	1,966	16	**1,982**	34
Site 02 - Craignure	**Total**	**70**	**8,231**	**2,434**	**64**	**10,799**	-

Note: minor discrepancies as a result of rounding

12.2.17 Table 9 shows a general uplift in the total and average travel times for all pupil and staff cohorts. Comparisons of average travel time should be viewed in the context of the wide range of unique travel considerations.

Potential impact on public transport network

12.2.18 As discussed in Paragraph 12.2.7 and 12.2.8 it is likely that additional buses will be required to facilitate pupil transport. The availability of more buses and drivers has the potential to enhance general levels of public transport provision on the island, noting that many existing scheduled local bus services arise primarily because of school transport requirements.

Ability of existing roads infrastructure to service site

12.2.19 The site is well served by the adjoining A849 although there is currently no formalised access into the site.

12.2.20 There is the potential for access to the site to be taken from a new junction formed on the A849. The design of this junction would be subject to technical assessments at an early stage to ensure the suitability of its placement and format in view of road characteristics

and adjacent accesses, if applicable. Any new junction would need to comply with driver visibility criteria in line with standard assessment procedures.

Trips with complex dependencies/ multiple stages and modes of travel

12.2.21 Complex dependencies are likely to be broadly similar regardless of the selected site. Further details on this criterion are provided in Section 9.3. For pupils who live remotely from the main road network and key population centres, an additional leg of their journey will be required to intersect the bus service. This secondary journey will be facilitated by specific arrangements to them and may include a taxi or short car trip by a parent/carer.

Carbon impact of travel (travel distances and mode of transport)

12.2.22 The estimated one-way vehicle miles by cohort and vehicle for the Craignure site are presented in **Table 10**. The values presented in this table represent the driven milage of each vehicle rather than each passenger. This accounts for the fact that one bus can carry multiple passengers.

Table 10. Site 02– Travel Distance (Miles)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	6	0	42	**48**
Existing Conditions	Secondary	0	63	57	**121**
Existing Conditions	Staff	0	0	303	**303**
Existing Conditions	**Total**	**6**	**63**	**402**	**471**
Site 02 - Craignure	Primary	40	41	81	**162**
Site 02 - Craignure	Secondary	0	100	179	**278**
Site 02 - Craignure	Staff	0	0	1,113	**1,113**
Site 02 - Craignure	**Total**	**40**	**141**	**1,373**	**1,553**

12.2.23 Table 10 shows a modest uplift in the driven vehicle miles, particularly among staff. As with any new development of this nature Travel Planning measures have the potential to positively influence travel, particularly among staff members. A Travel Plan would seek to encourage behaviours such as car sharing or public transport usage in order to reduce the number of vehicle miles incurred.

12.2.24 Applying the carbon emission assessment methodology outlined in Section 10.7 the estimated carbon emissions for one-way travel (of all vehicles) to the Craignure site is presented in **Table 11**.

Table 11. Site 02 – Carbon Emissions (Kg Co2e)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	0	0	9	**9**
Existing Conditions	Secondary	0	67	12	**79**
Existing Conditions	Staff	0	0	67	**67**
Existing Conditions	**Total**	**0**	**67**	**89**	**156**
Site 02 - Craignure	Primary	9	43	18	**70**
Site 02 - Craignure	Secondary	0	105	39	**145**
Site 02 - Craignure	Staff	0	0	245	**245**
Site 02 - Craignure	**Total**	**9**	**149**	**302**	**460**

12.2.25 Any increase in carbon emissions from bus travel may only be temporary. In line with current national policy bus fleets are gradually transitioning to electric and hydrogen systems. While SYSTRA is not aware of specific plans to convert the fleet on Mull, such an advancement would of course reduce the carbon impact from bus travel.

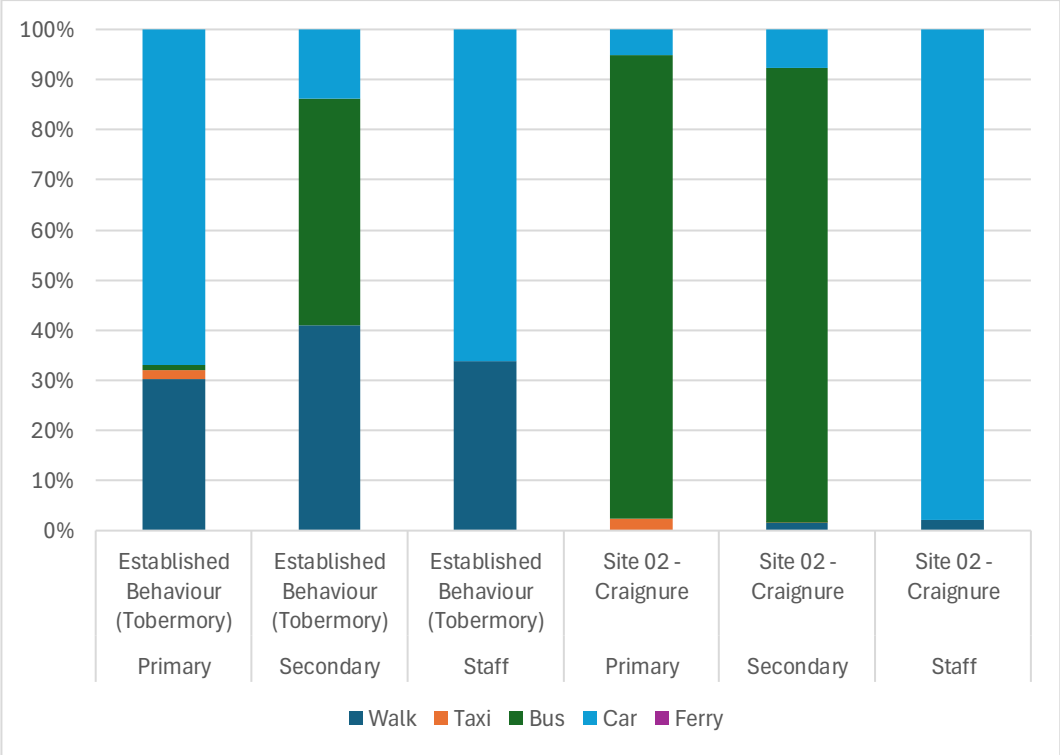
12.2.26 A similar transition is likely to occur to the car fleet, as residents increasingly embrace the use of electric cars.

12.3 Sensitivity Test – Revised Catchments

Number of user journeys - bus, car, pedestrian (Pupil/ staff mode split)

12.3.1 The anticipated mode share for the Craignure site, in a scenario where the secondary school catchments do change to include the Ross of Mull is presented in **Figure 24**. For comparative purposes, the forecast mode split is presented in the context of established travel behaviour at the existing Tobermory 2-18 school.

Figure 24. Site 02 – Indicative Mode Share



12.3.2 The mode share of the Craignure site in the event that the school catchments do change will be broadly the same as if the catchments don't change.

12.3.3 Based on the expected student cohort and staff numbers, the expected trips by each mode is presented in **Table 12**.

Table 12. Site 02 – Multi-Modal Trips

SITE	COHORT	WALK	TAXI	BUS	CAR	FERRY	TOTAL
Existing Conditions	Primary	29	2	1	64	0	95
Existing Conditions	Secondary	64	0	71	22	0	157
Existing Conditions	Staff	20	0	0	39	0	59
Site 02 - Craignure	Primary	0	2	88	5	0	95
Site 02 - Craignure	Secondary	3	0	164	14	0	181
Site 02 - Craignure	Staff	1	0	0	58	0	59

Note: minor discrepancies as a result of rounding

12.3.4 The primary difference in the number of multi-modal trips if the catchments change is an additional 21 bus passengers and an additional 3 car trips from the Ross of Mull.

12.3.5 In the event of catchments changing, a similar reconfiguration of the bus network will be required to serve the Craignure site, as outlined in Paragraph 12.2.7 and 12.2.8. The key difference is that the minibus/taxi from Lochbuie would instead have to be a full-sized bus/coach originating at the Fionnphort ferry. The characteristics of this bus service would broadly align with the existing 96/496 bus service.

12.3.6 School buses would be funded as school transport where pupils meet Argyll and Bute Council's requirements in line with the summary which is provided in Section 3.4. Notwithstanding the Council's preparedness to meet the costs of additional bus services, their provision depends on the ability of operators to recruit and retain a sufficient number of drivers, noting the practical operating issues relating to AM and PM-only journeys.

Good public transport links to site and location

12.3.7 The public transport considerations of the site remain consistent regardless of the catchments. See Paragraphs 12.2.11 to 12.2.13 for more details.

Existing safe active travel links to site

12.3.8 The active travel considerations of the site remain consistent regardless of the catchments. See Paragraphs 12.2.14 and 12.2.15 for more details.

Travel times for pupils and staff

12.3.9 The estimated one-way travel times, if the catchments were to change, for primary and secondary pupils and staff are shown in **Table 13**. The travel times presented are an aggregate, encompassing the wide range of trips which would be made to the site. It

should also be noted that the travel time for the minor leg of a trip (such as walking to the bus stop, a ferry crossing or travelling by car to access bus stops on the main road) are not accounted for in this analysis. In any case, the nature of these journeys is likely to remain constant across all four sites.

Table 13. Site 02 – Travel Time (Minutes)

SITE	COHORT	TAXI	BUS	CAR	WALK	TOTAL	AVERAGE
Existing Conditions	Primary	18	22	153	280	**473**	5
Existing Conditions	Secondary	0	2,356	162	588	**3,106**	20
Existing Conditions	Staff	0	0	695	163	**858**	15
Existing Conditions	**Total**	**18**	**2,378**	**1,010**	**1,031**	**4,438**	-
Site 02 - Craignure	Primary	70	3,082	140	0	**3,292**	35
Site 02 - Craignure	Secondary	0	6,738	360	48	**7,146**	39
Site 02 - Craignure	Staff	0	0	1,966	16	**1,982**	34
Site 02 - Craignure	**Total**	**70**	**9,821**	**2,465**	**64**	**12,420**	-

Note: minor discrepancies as a result of rounding

12.3.10 Table 13 shows an uplift in the total and average travel times for all cohorts. Comparisons of average travel time should be viewed in the context of the wide range of unique travel considerations.

Potential impact on public transport network

12.3.11 As discussed in Paragraph 12.2.7 and 12.2.8 it is likely that additional buses will be required to facilitate pupil transport. The availability of more buses and drivers has the potential to enhance general levels of public transport provision on the island, noting that many existing scheduled local bus services arise primarily because of school transport requirements.

Ability of existing roads infrastructure to service site

12.3.12 The adjacent infrastructure considerations of the site remain consistent regardless of the catchments. See Paragraphs 12.2.19 and 12.2.20 for more details.

Trips with complex dependencies/ multiple stages and modes of travel

12.3.13 Complex dependencies are likely to be broadly similar regardless of the selected site. Further details on this criterion are provided in Section 9.3. For pupils who live remotely from the main road network and key population centres, an additional leg of their journey will be required to intersect the bus service. This secondary journey will be facilitated by specific arrangements to them and may include a taxi or short car trip by a parent/carer.

Carbon impact of travel (travel distances and mode of transport)

12.3.14 The estimated one-way vehicle miles by cohort and vehicle for the Craignure site, should the catchments change, are presented in **Table 14**. The values presented in this table represent the driven milage of each vehicle rather than each passenger. This accounts for the fact that one bus can carry multiple passengers.

Table 14. Site 02 – Travel Distance (Miles)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	6	0	42	**48**
Existing Conditions	Secondary	0	63	57	**121**
Existing Conditions	Staff	0	0	303	**303**
Existing Conditions	**Total**	**6**	**63**	**402**	**471**
Site 02 - Craignure	Primary	40	41	81	**162**
Site 02 - Craignure	Secondary	0	127	192	**319**
Site 02 - Craignure	Staff	0	0	1,113	**1,113**
Site 02 - Craignure	**Total**	**40**	**168**	**1,386**	**1,594**

12.3.15 Table 14 shows a modest uplift in the driven vehicle miles particularly among staff. As with any new development of this nature travel planning would seek to encourage behaviours such as car sharing or public transport usage in order to reduce these vehicle miles.

12.3.16 Applying the carbon emission assessment methodology outlined in Section 10.7 the estimated carbon emissions for one-way travel (of all vehicles) to the Craignure site is presented in **Table 15**.

Table 15. Site 02 – Carbon Emissions (Kg Co2e)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	0	0	9	**9**
Existing Conditions	Secondary	0	67	12	**79**
Existing Conditions	Staff	0	0	67	**67**
Existing Conditions	**Total**	**0**	**67**	**89**	**156**
Site 02 - Craignure	Primary	9	43	18	**70**
Site 02 - Craignure	Secondary	0	135	42	**177**
Site 02 - Craignure	Staff	0	0	245	**245**
Site 02 - Craignure	**Total**	**9**	**178**	**305**	**492**

12.3.17 Any increase in carbon emissions from bus travel may only be temporary. In line with current national policy bus fleets are gradually transitioning to electric and hydrogen systems. While SYSTRA is not aware of specific plans to convert the fleet on Mull, such an advancement would of course reduce the carbon impact from bus travel.

12.3.18 A similar transition is likely to occur to the car fleet, as residents increasingly embrace the use of electric cars.

12.4 Conclusion

12.4.1 The following considerations are given to Site 02 – Craignure:

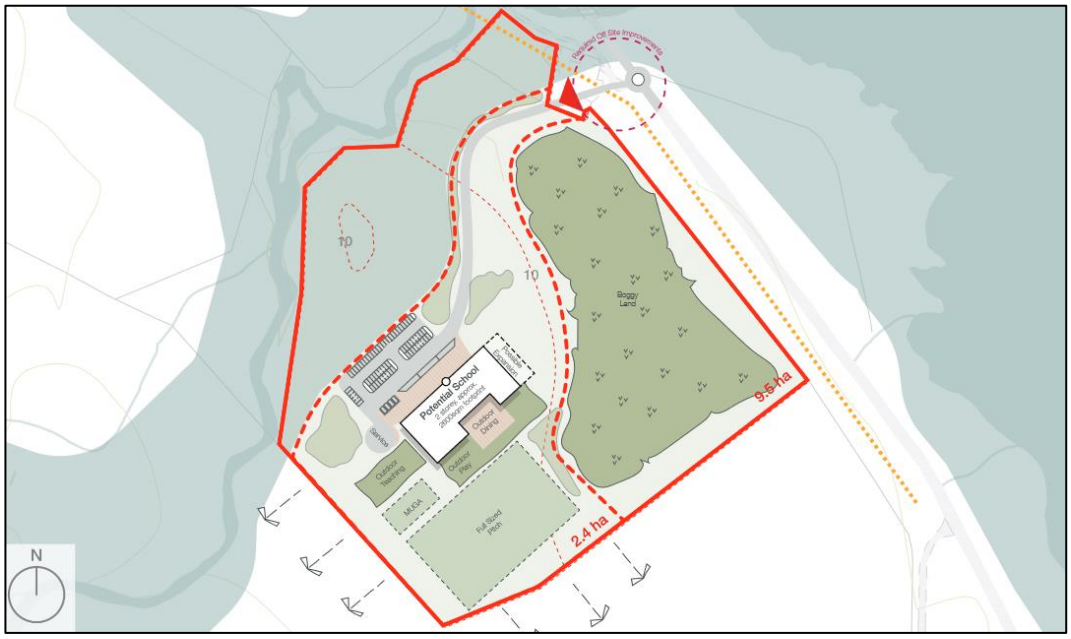
- Travel times, distances and carbon emissions will increase over the baseline (more so if the catchments are amended to include the Ross of Mull);
- Average journey times will increase by approximately 20 minutes;
- Pupils who currently walk will likely have to be taken to the Craignure site by bus requiring approximately 4 additional buses over the baseline;
- There is an adjacent allocation for c. 80 housing units, enabling trips by active modes; and
- Footways and crossing opportunities on the adjacent highway network are limited but could be improved.

13. SITE 03 - GARMONY

13.1 Introduction

13.1.1 Site 03 – Garmony is located in Garmony to the south of the Isle of Mull Rugby Club. The indicative site layout is illustrated in **Figure 25** below.

Figure 25. Site 03 – Garmony Indicative Layout



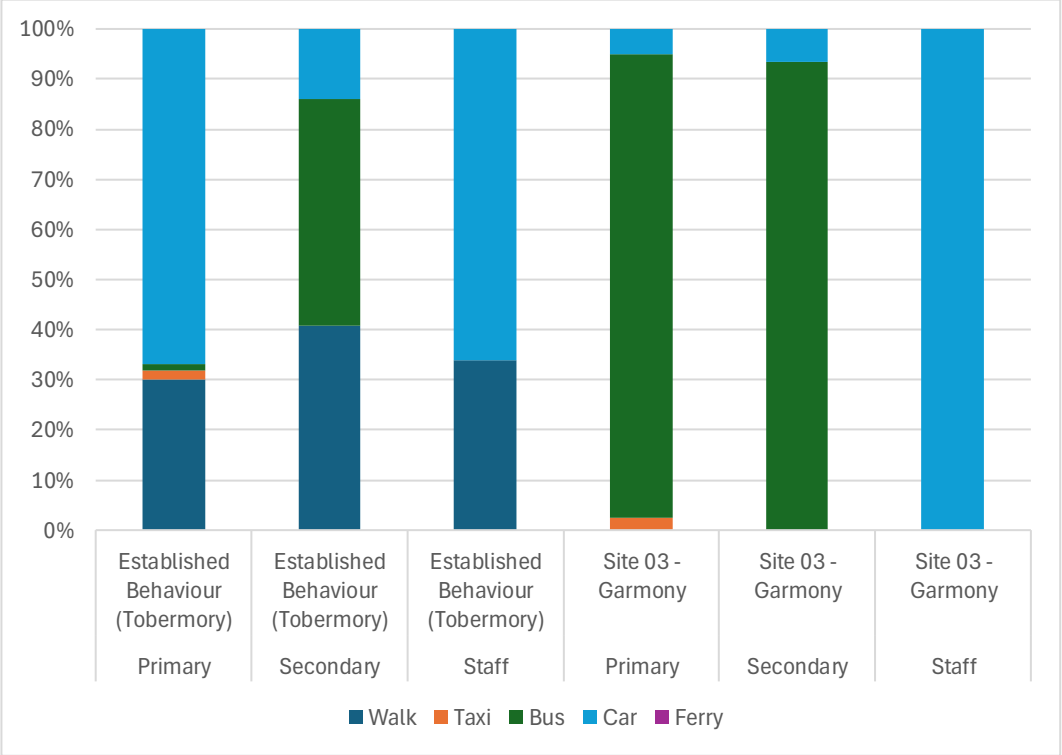
13.1.2 The site boundary sits adjacent to the A849, although the school building itself will be set back from the main road due to a large area of boggy land to the north east. In the vicinity of the site the A849 runs as a single carriageway, two-way road subject to the national speed limit of 60mph. The site is greenfield in nature and on the basis of preliminary masterplanning work, it is of sufficient size to enable incorporation of necessary car parking and bus facilities.

13.2 Assessment Criteria – Existing School Catchments

Number of user journeys - bus, car, pedestrian (Pupil/ staff mode split)

13.2.1 The anticipated mode share for the Garmony site, in a scenario where the catchments do not change, is presented in **Figure 26.** For comparative purposes, the forecast mode split is presented in the context of established travel behaviour at the existing Tobermory 2-18 school.

Figure 26. Site 03 – Indicative Mode Share



13.2.2 The majority of both primary and secondary-aged pupils would be required to travel to the Garmony site by bus for the main leg of their trip. This mode share is based upon existing travel behaviours and the modelling exercise which is outlined in Chapter 9.

13.2.3 If established pupil and staff cohorts were to transfer to this site, a clear implication would be that those whose existing trip is made on foot would need to select an alternative travel mode. In view of the Council's obligation to provide school buses for pupils whose trip cannot be made on foot, it would seem likely that the majority of existing pedestrian trips would become bus trips.

13.2.4 While such a change is likely to cause some disruption in the short-term, the principle established by the existing Tobermory to Salen GMU bus demonstrates that primary school transport over an extended distance is practical and feasible. Importantly, in the context of the Salen GMU service, the Council has been able to understand, and address, concerns which had initially been expressed by parents around the requirement for primary school age children to travel by bus.

13.2.5 There will be limited opportunities for the Garmony site to support trips on foot with a very limited number of pupils or staff currently living locally.

13.2.6 Based on the expected student cohort and staff numbers, the expected number of trips by each mode is presented in **Table 16**.

Table 16. Site 03 – Multi-Modal Trips

SITE	COHORT	WALK	TAXI	BUS	CAR	FERRY	TOTAL
Existing Conditions	Primary	29	2	1	64	0	95
Existing Conditions	Secondary	64	0	71	22	0	157
Existing Conditions	Staff	20	0	0	39	0	59
Site 03 - Garmony	Primary	0	2	88	5	0	95
Site 03 - Garmony	Secondary	0	0	147	10	0	157
Site 03 - Garmony	Staff	0	0	0	59	0	59

Note: minor discrepancies as a result of rounding

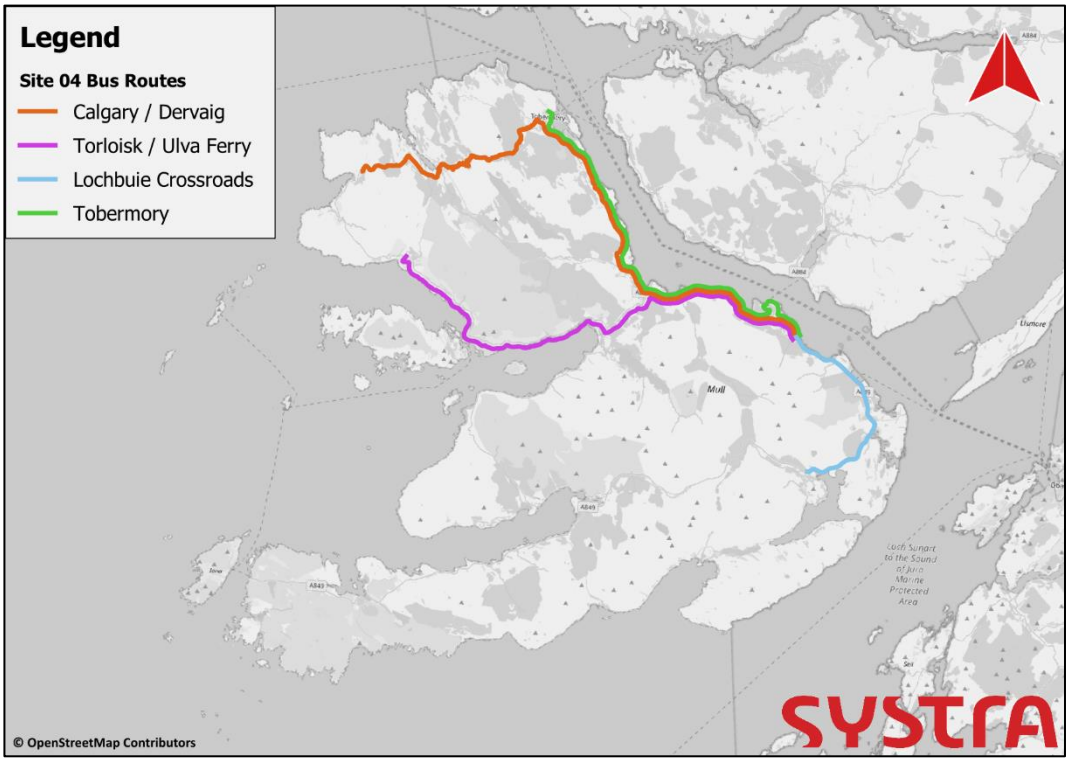
13.2.7 In order to serve the anticipated 235 pupils travelling by bus a total of approximately 7 buses will be required. It is expected that two buses/coaches would be provided to serve primary pupils travelling from Tobermory to Garmony. These would likely have a capacity of around 45 seats each and would operate as closed-door services, i.e. not open to members of the public.

13.2.8 For secondary school pupils, up to five buses (potentially of varying size) would be required.

- One smaller bus would collect children from Calgary and Dervaig before operating non-stop to Garmony. This is necessary as a result of a weight restriction on the Calgary road (B8073) which prohibits the use of buses with more than 33 seats.
- Two buses would collect children from around Tobermory and then collect pupils who live within a reasonable distance of the A849 (such as at Aros or Pennygown) enroute to Garmony. This could be reduced to one bus in the event that a higher-capacity bus/coach was used.
- A further bus would originate in Torloisk and collect children from Ulva Ferry and Salen before continuing non-stop to Garmony.
- Lastly, in the event that school catchments don't change a minibus or large taxi could collect pupils from communities south of Garmony such as Lochbuie and Lochdonhead.

13.2.9 **Figure 27** illustrates the anticipated bus network for Site 03.

Figure 27. Site 03 Anticipated Bus Network



13.2.10 School buses would be funded as school transport where pupils meet Argyll and Bute Council's requirements in line with the summary which is provided in Section 3.4. Notwithstanding the Council's preparedness to meet the costs of additional bus services, their provision depends on the ability of operators to recruit and retain a sufficient number of drivers, noting the practical operating issues relating to AM and PM-only journeys.

Good public transport links to site and location

Existing Conditions

13.2.11 The service 95/495 currently stops at the nearby rugby club, although this stop is unmarked.

Future Conditions

13.2.12 The site would incorporate four bus stances to enable pupils to board and disembark safely. These bays would ideally be positioned within the site such that bus doors opened directly onto an expansive pedestrian space, thereby removing the needs for pupils to interact with the car park and other trafficked spaces.

13.2.13 The primary and secondary school days finish approximately 20 minutes apart. Unlike the morning period, where buses are only present on site for as long as it takes for pupils to disembark, buses are required to be present on site in anticipation of the afternoon school bell. This means it is more likely that several buses would be present on site at

once. To avoid a scenario where buses blocked the operation of the car park, bays could be incorporated to the site access road to enable empty buses/coaches for the secondary school to dwell while the primary school buses are boarded.

Existing safe active travel links to site

Existing Conditions

13.2.14 There is currently limited active travel provision in Garmony. No footways are present on this section of A849.

Future Conditions

13.2.15 While infrastructure is currently limited, it is clear that a package of off-site improvement works would be required to ensure the safe integration of the site to the established transport network. The scope of those works would emerge through the detailed Transport Assessment which would accompany and inform a Planning Application. At the time of writing, it seems likely that this package would at least comprise provision of new links where none are currently present.

Travel times for pupils and staff

13.2.16 The estimated one-way travel times for primary and secondary pupils and staff are shown in **Table 17**. The travel times presented are an aggregate, encompassing the wide range of trips which would be made to the site. It should also be noted that the travel time for the minor leg of a trip (such as walking to the bus stop, a ferry crossing or travelling by car to access bus stops on the main road) are not accounted for in this analysis. In any case, the nature of these journeys is likely to remain constant across all four sites.

Table 17. Site 03 – Travel Time (Minutes)

SITE	COHORT	TAXI	BUS	CAR	WALK	TOTAL	AVERAGE
Existing Conditions	Primary	18	22	153	280	**473**	5
Existing Conditions	Secondary	0	2,356	162	588	**3,106**	20
Existing Conditions	Staff	0	0	695	163	**858**	15
Existing Conditions	**Total**	**18**	**2,378**	**1,010**	**1,031**	**4,438**	-
Site 03 - Garmony	Primary	57	2,623	117	0	**2,797**	29
Site 03 - Garmony	Secondary	0	4,479	283	0	**4,762**	30
Site 03 - Garmony	Staff	0	0	1,670	0	**1,670**	28
Site 03 - Garmony	**Total**	**57**	**7,102**	**2,070**	**0**	**9,229**	-

Note: minor discrepancies as a result of rounding

13.2.17 Table 17 shows a general uplift in the total and average travel times for all pupil and staff cohorts. Comparisons of average travel time should be viewed in the context of the wide range of unique travel considerations.

Potential impact on public transport network

13.2.18 As discussed in Paragraph 13.2.7 and 13.2.8 it is likely that additional buses will be required to facilitate pupil transport. The availability of more buses and drivers has the potential to enhance general levels of public transport provision on the island, noting that many existing scheduled local bus services arise primarily because of school transport requirements.

Ability of existing roads infrastructure to service site

13.2.19 The site is well served by the adjoining A849 although there is currently no formalised access into the site.

13.2.20 There is the potential for access to the site to be taken from a new junction formed on the A849. The design of this junction would be subject to technical assessments at an early stage to ensure the suitability of placement and format in view of road characteristics and

adjacent accesses, if applicable. Any new junction would need to comply with driver visibility criteria in line with standard assessment procedures.

Trips with complex dependencies/ multiple stages and modes of travel

13.2.21 Complex dependencies are likely to be broadly similar regardless of the selected site. Further details on this criterion are provided in Section 9.3. For pupils who live remotely from the main road network and key population centres, an additional leg of their journey will be required to intersect the bus service. This secondary journey will be facilitated by specific arrangements to them and may include a taxi or short car trip by a parent/carer.

Carbon impact of travel (travel distances and mode of transport)

13.2.22 The estimated one-way vehicle miles by cohort and vehicle for the Garmony site are presented in **Table 18**. The values presented in this table represent the driven milage of each vehicle rather than each passenger. This accounts for the fact that one bus can carry multiple passengers.

Table 18. Site 03 – Travel Distance (Miles)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	6	0	42	**48**
Existing Conditions	Secondary	0	63	57	**121**
Existing Conditions	Staff	0	0	303	**303**
Existing Conditions	**Total**	**6**	**63**	**402**	**471**
Site 03 - Garmony	Primary	35	35	70	**140**
Site 03 - Garmony	Secondary	0	96	162	**258**
Site 03 - Garmony	Staff	0	0	960	**960**
Site 03 - Garmony	**Total**	**35**	**132**	**1,192**	**1,358**

13.2.23 Table 18 shows a modest uplift in the driven vehicle miles, particularly among staff. As with any new development of this nature Travel Planning measures have the potential to positively influence travel, particularly among staff members. A Travel Plan would seek to encourage behaviours such as car sharing or public transport usage in order to reduce the number of vehicle miles incurred.

13.2.24 Applying the carbon emission assessment methodology outlined in Section 10.7 the estimated carbon emissions for one-way travel (of all vehicles) to the Garmony site is presented in **Table 19**.

Table 19. Site 03 – Carbon Emissions (Kg Co2e)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	0	0	9	**9**
Existing Conditions	Secondary	0	67	12	**79**
Existing Conditions	Staff	0	0	67	**67**
Existing Conditions	**Total**	**0**	**67**	**89**	**156**
Site 03 - Garmony	Primary	8	37	15	**60**
Site 03 - Garmony	Secondary	0	102	36	**138**
Site 03 - Garmony	Staff	0	0	211	**211**
Site 03 - Garmony	**Total**	**8**	**139**	**263**	**409**

13.2.25 Any increase in carbon emissions from bus travel may only be temporary. In line with current national policy bus fleets are gradually transitioning to electric and hydrogen systems. While SYSTRA is not aware of specific plans to convert the fleet on Mull, such an advancement would of course reduce the carbon impact from bus travel.

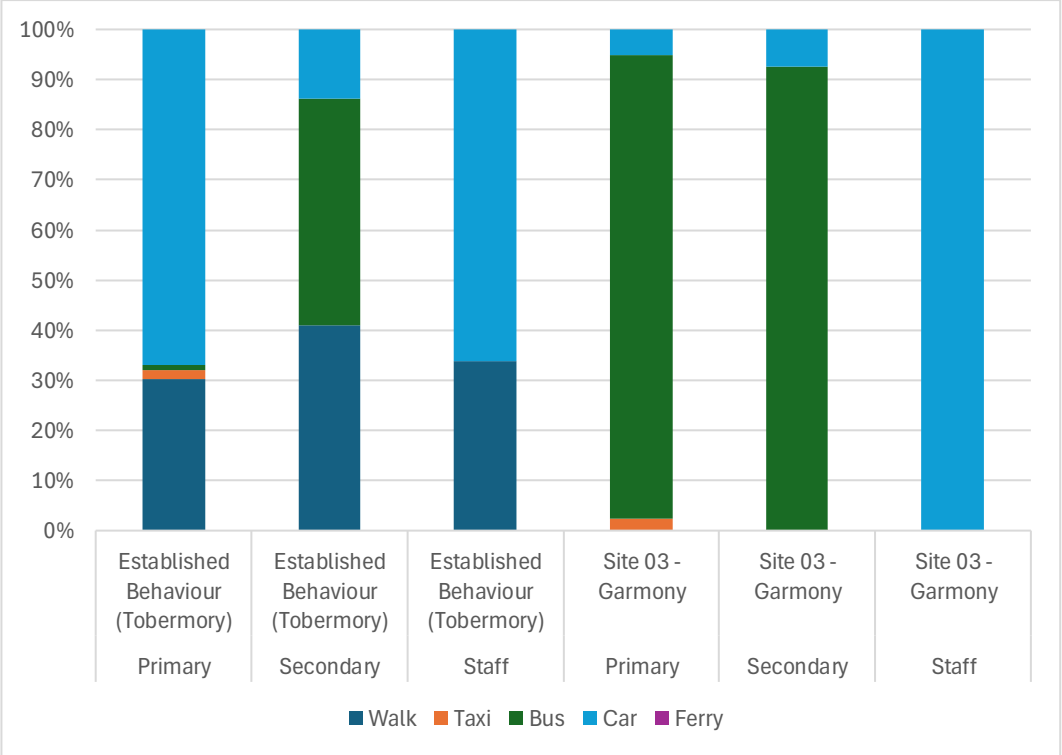
13.2.26 A similar transition is likely to occur to the car fleet, as residents increasingly embrace the use of electric cars.

13.3 Sensitivity Test – Revised Catchments

Number of user journeys - bus, car, pedestrian (Pupil/ staff mode split)

13.3.1 The anticipated mode share for the Garmony site, in a scenario where the secondary school catchments do change to include the Ross of Mull is presented in **Figure 28**. For comparative purposes, the forecast mode split is presented in the context of established travel behaviour at the existing Tobermory 2-18 school.

Figure 28. Site 03 – Indicative Mode Share



13.3.2 The mode share of the Garmony site in the event that the school catchments do change will be broadly the same as if the catchments don't change.

13.3.3 Based on the expected student cohort and staff numbers, the expected trips by each mode is presented in **Table 20**.

Table 20. Site 03 – Multi-Modal Trips

SITE	COHORT	WALK	TAXI	BUS	CAR	FERRY	TOTAL
Existing Conditions	Primary	29	2	1	64	0	95
Existing Conditions	Secondary	64	0	71	22	0	157
Existing Conditions	Staff	20	0	0	39	0	59
Site 03 - Garmony	Primary	0	2	88	5	0	0
Site 03 - Garmony	Secondary	0	0	167	13	0	0
Site 03 - Garmony	Staff	0	0	0	59	0	0

Note: minor discrepancies as a result of rounding

13.3.4 The primary difference in the number of multi-modal trips if the catchments change is an additional 24 bus passengers and an additional 3 car trips from the Ross of Mull.

13.3.5 In the event of catchments changing, a similar reconfiguration of the bus network will be required to serve the Garmony site, as outline in Paragraph 13.2.7 and 13.2.8. The key difference is that the minibus/taxi from Lochbuie would instead have to be a full-sized bus/coach originating at the Fionnphort ferry terminal. The characteristics of this bus service would broadly align with the existing 96/496 bus service, although continuing further north than it currently does.

13.3.6 School buses would be funded as school transport where pupils meet Argyll and Bute Council's requirements in line with the summary which is provided in Section 3.4. Notwithstanding the Council's preparedness to meet the costs of additional bus services, their provision depends on the ability of operators to recruit and retain a sufficient number of drivers, noting the practical operating issues relating to AM and PM-only journeys.

Good public transport links to site and location

13.3.7 The public transport considerations of the site remain consistent regardless of the catchments. See Paragraphs 13.2.11 to 13.2.13 for more details.

Existing safe active travel links to site

13.3.8 The active travel considerations of the site remain consistent regardless of the catchments. See Paragraphs 13.2.14 and 13.2.15 for more details.

Travel times for pupils and staff

13.3.9 The estimated one-way travel times, if the catchments were to change, for primary and secondary pupils and staff are shown in **Table 21**. The travel times presented are an

aggregate, encompassing the wide range of trips which would be made to the site. It should also be noted that the travel time for the minor leg of a trip (such as walking to the bus stop, a ferry crossing or travelling by car to access bus stops on the main road) are not accounted for in this analysis. In any case, the nature of these journeys is likely to remain constant across all four sites.

Table 21. Site 03 – Travel Time (Minutes)

SITE	COHORT	TAXI	BUS	CAR	WALK	TOTAL	AVERAGE
Existing Conditions	Primary	18	22	153	280	**473**	5
Existing Conditions	Secondary	0	2,356	162	588	**3,106**	20
Existing Conditions	Staff	0	0	695	163	**858**	15
Existing Conditions	**Total**	**18**	**2,378**	**1,010**	**1,031**	**4,438**	-
Site 03 - Garmony	Primary	57	2,634	117	0	**2,808**	29
Site 03 - Garmony	Secondary	57	2,622	117	0	**2,796**	35
Site 03 - Garmony	Staff	0	6,130	288	0	**6,418**	28
Site 03 - Garmony	**Total**	0	0	1,670	0	**1,670**	-

Note: minor discrepancies as a result of rounding

13.3.10 Table 21 shows an uplift in the total and average travel times for all cohorts. Comparisons of average travel time should be viewed in the context of the wide range of unique travel considerations.

Potential impact on public transport network

13.3.11 As discussed in Paragraph 13.2.7 and 13.2.8 it is likely that additional buses will be required to facilitate pupil transport. The availability of more buses and drivers has the potential to enhance general levels of public transport provision on the island, noting that many existing scheduled local bus services arise primarily because of school transport requirements.

Ability of existing roads infrastructure to service site

13.3.12 The adjacent infrastructure considerations of the site remain consistent regardless of the catchments. See Paragraphs 13.2.19 and 13.2.20 for more details.

Trips with complex dependencies/ multiple stages and modes of travel

13.3.13 Complex dependencies are likely to be broadly similar regardless of the selected site. Further details on this criterion are provided in Section 9.3. For pupils who live remotely from the main road network and key population centres, an additional leg of their journey will be required to intersect the bus service. This secondary journey will be facilitated by specific arrangements to them and may include a taxi or short car trip by a parent/carer.

Carbon impact of travel (travel distances and mode of transport)

13.3.14 The estimated one-way vehicle miles by cohort and vehicle for the Garmony site, should the catchments change, are presented in **Table 22**. The values presented in this table represent the driven milage of each vehicle rather than each passenger. This accounts for the fact that one bus can carry multiple passengers.

Table 22. Site 03 – Travel Distance (Miles)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	6	0	42	**48**
Existing Conditions	Secondary	0	63	57	**121**
Existing Conditions	Staff	0	0	303	**303**
Existing Conditions	**Total**	**6**	**63**	**402**	**471**
Site 03 - Garmony	Primary	35	35	70	**140**
Site 03 - Garmony	Secondary	0	123	159	**283**
Site 03 - Garmony	Staff	0	0	960	**960**
Site 03 - Garmony	**Total**	**35**	**159**	**1,190**	**1,383**

13.3.15 Table 22 shows a modest uplift in the driven vehicle miles particularly among staff. As with any new development of this nature travel planning would seek to encourage behaviours such as car sharing or public transport usage in order to reduce these vehicle miles.

13.3.16 Applying the carbon emission assessment methodology outlined in Section 10.7 the estimated carbon emissions for one-way travel (of all vehicles) to the Garmony site is presented in **Table 23**.

Table 23. Site 03 – Carbon Emissions (Kg Co2e)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	0	0	9	**9**
Existing Conditions	Secondary	0	67	12	**79**
Existing Conditions	Staff	0	0	67	**67**
Existing Conditions	**Total**	**0**	**67**	**89**	**156**
Site 03 - Garmony	Primary	8	37	15	**60**
Site 03 - Garmony	Secondary	0	130	35	**166**
Site 03 - Garmony	Staff	0	0	211	**211**
Site 03 - Garmony	**Total**	**8**	**168**	**262**	**437**

13.3.17 Any increase in carbon emissions from bus travel may only be temporary. In line with current national policy bus fleets are gradually transitioning to electric and hydrogen systems. While SYSTRA is not aware of specific plans to convert the fleet on Mull, such an advancement would of course reduce the carbon impact from bus travel.

13.3.18 A similar transition is likely to occur to the car fleet, as residents increasingly embrace the use of electric cars.

13.4 Conclusion

13.4.1 The following considerations are given to Site 03 – Garmony:

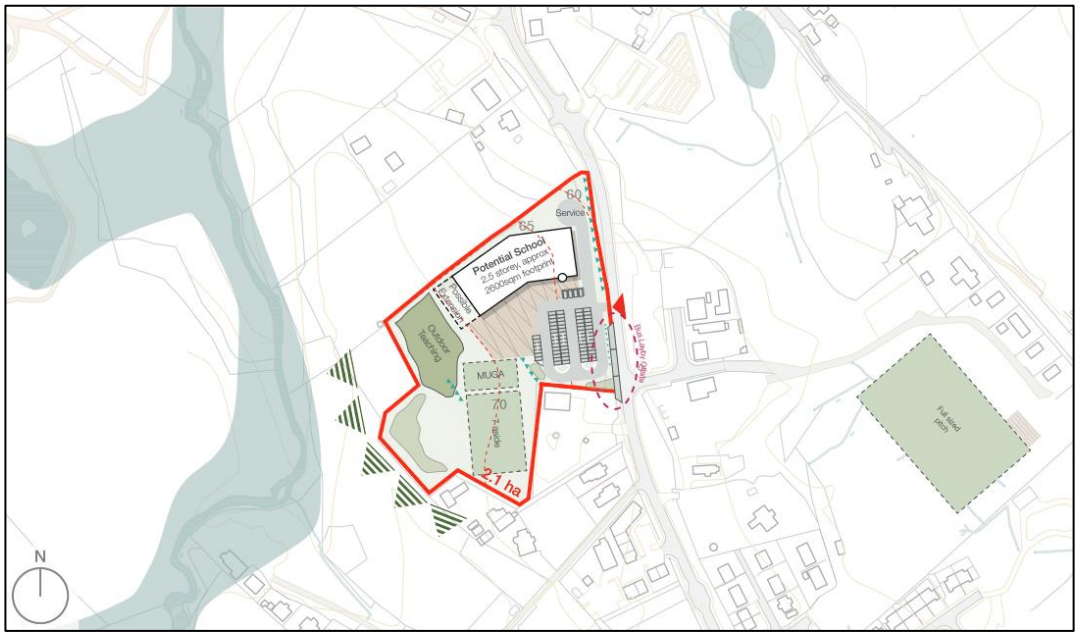
- Travel times, distances and carbon emissions will increase over the baseline (more so if the catchments are amended to include the Ross of Mull);
- Average journey times will increase by approximately 15 minutes over the baseline;
- Pupils who currently walk will likely have to be taken to the Garmony site by bus requiring approximately 4 additional buses over the baseline;
- The site is located adjacent to a limited number of existing housing and no LDP or LWF housing sites identified in the Housing Land Audit; and
- There are no footways or crossing opportunities on the adjacent highway network – providing them would deliver limited benefit.

14. SITE 04 – TOBERMORY SOUTH

14.1 Introduction

14.1.1 Site 04 – Tobermory South is located in Baliscate, to the south of Tobermory. The indicative site layout is illustrated in **Figure 29** below.

Figure 29. Site 04 – Tobermory South Indicative Layout



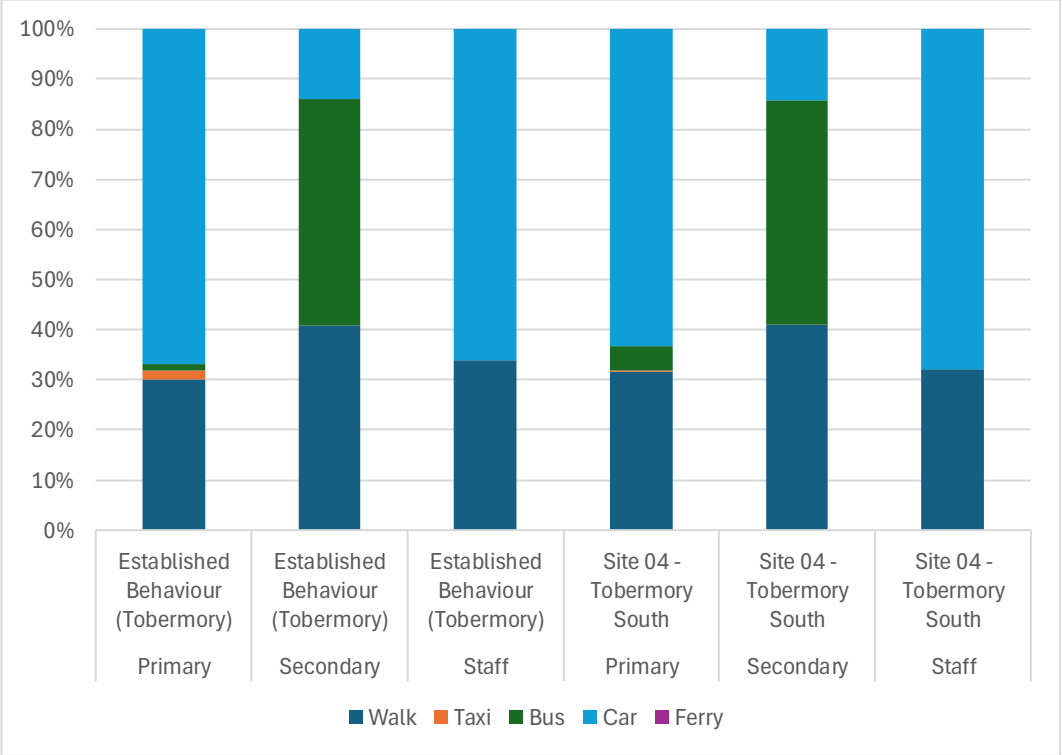
14.1.2 The site sits adjacent to the A848 which is subject to a 30mph speed limit in the vicinity of the site. The site is a greenfield site, although smaller than the Garmony and Craignure sites, and therefore requires some degree of flexibility for car parking and bus facilities. The site also sits within 500m of four Local Development Plan housing sites and one large windfall (not including the LDP site which the school site occupies) which have a total housing capacity of c. 112 units.

14.2 Assessment Criteria – Existing School Catchments

Number of user journeys - bus, car, pedestrian (Pupil/ staff mode split)

14.2.1 The anticipated mode share for the Tobermory South site is anticipated to be broadly similar to that of the existing school site. For comparative purposes, the forecast mode split is presented in the context of established travel behaviour at the existing Tobermory 2-18 school in **Figure 30**.

Figure 30. Site 04 – Indicative Mode Share



14.2.2 Figure 30 demonstrates that mode share among all cohorts is expected to remain broadly similar. The main difference is the slight increase in bus travel among primary-aged pupils. While this is borne out as a result of the modelling assumptions there are a handful of pupils who live outwith the catchment but on the main A849/A848 road. There is potential, therefore, for these pupils to be transported to the site by bus.

14.2.3 Based on the expected student cohort and staff numbers, the expected number of trips by each mode is presented in **Table 24**.

Table 24. Site 04 – Multi-Modal Trips

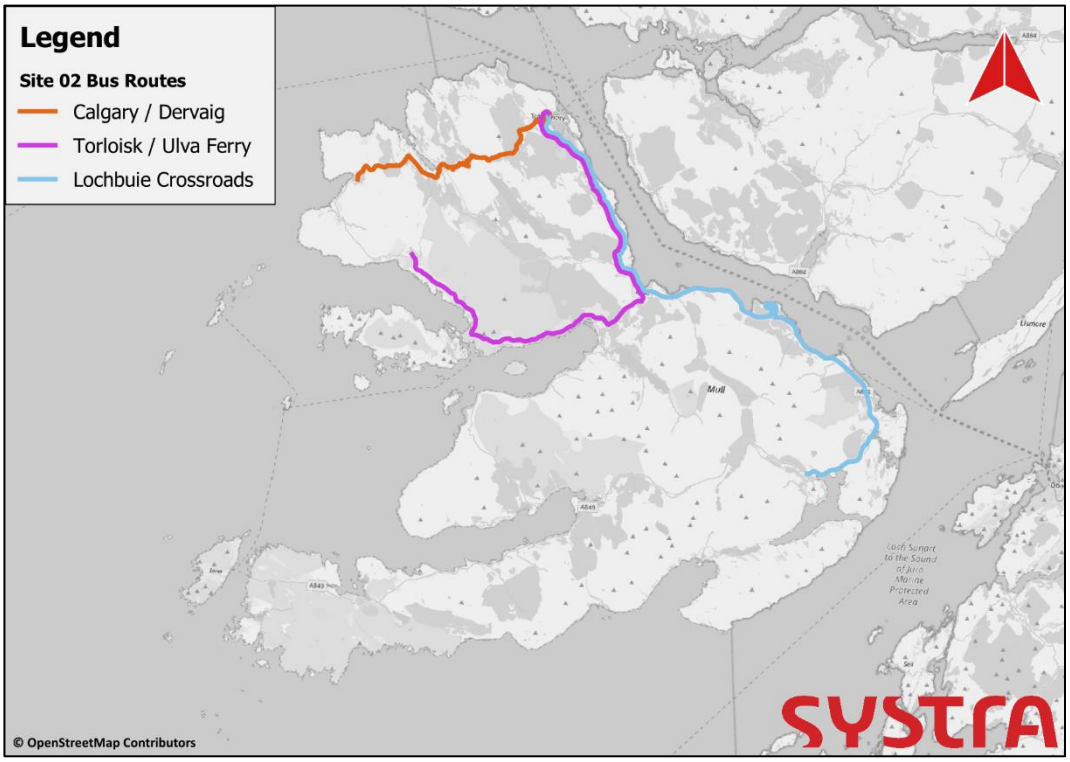
SITE	COHORT	WALK	TAXI	BUS	CAR	FERRY	TOTAL
Existing Conditions	Primary	29	2	1	64	0	**95**
Existing Conditions	Secondary	64	0	71	22	0	**157**
Existing Conditions	Staff	20	0	0	39	0	**59**
Site 04 – Tobermory South	Primary	30	0	5	60	0	**95**
Site 04 – Tobermory South	Secondary	64	0	70	22	0	**157**
Site 04 – Tobermory South	Staff	19	0	0	40	0	**59**

Note: minor discrepancies as a result of rounding

14.2.4 As the Tobermory site is located just 0.7miles from the existing school site no changes to the current bus operations are anticipated. The buses which would be required for secondary school pupils are one bus from Calgary / Dervaig, one bus from Torloisk and Ulva Ferry via Salen and one bus from Lochbuie Crossroads. The annual revisions of the network and its complex dependencies are expected to be broadly in line with existing operations.

14.2.5 **Figure 31** illustrates the anticipated bus network for Site 04.

Figure 31. Site 04 Anticipated Bus Network



14.2.6 School buses would be funded as school transport where pupils meet Argyll and Bute Council's requirements – details of these requirements are provided in Section 3.4.

Good public transport links to site and location

Existing Conditions

14.2.7 The existing service 95/495 passes the site frontage. There are a pair of bus stops located south of the site at Struan Crescent.

Future Conditions

14.2.8 The site could incorporate approximately three bus stances adjacent to the school entrance to enable safe boarding and disembarkation of pupils. Alternatively, as a result of site constraints, bus bays could be provided adjacent to the site on the A848.

14.2.9 The service 494 bus from Calgary to Tobermory would not have to be significantly diverted from its present route in order to service the Tobermory South Site.

Existing safe active travel links to site

Existing Conditions

14.2.10 There are currently footways on both sides of the A848 between Eas Brae and the site. Footways are provided on at least one side of the road down into the town centre and up

into Rockfield Road and the Tobermory Medical Practice. These footways are generally lit and appear to be of a good quality, albeit narrow in some locations.

14.2.11 There are currently no footways provided on Dervaig Road or Breadalbane Street, both of which are narrow and unsuitable for pedestrians. There is a pedestrian footway between Argyll Terrace and Eas Brae enabling access between the site and the majority of housing in Tobermory.

14.2.12 There are currently no formalised pedestrian crossings on the A848 in the vicinity of the site.

Future Conditions

14.2.13 While crossing infrastructure is currently limited, off-site improvement works of this nature would likely be a requirement following the standard consultation and transport assessment processes. It seems reasonable to assume that the adjacent residential allocation could be developed in a manner which facilitates active travel between these sites and the school site.

Travel times for pupils and staff

14.2.14 The estimated one-way travel times for primary and secondary pupils and staff are shown in **Table 25**. The travel times presented are an aggregate, encompassing the wide range of trips which would be made to the site. It should also be noted that the travel time for the minor leg of a trip (such as walking to the bus stop, a ferry crossing or travelling by car to access bus stops on the main road) are not accounted for in this analysis. In any case, the nature of these journeys is likely to remain constant across all four sites.

Table 25. Site 04 – Travel Time (Minutes)

SITE	COHORT	TAXI	BUS	CAR	WALK	TOTAL	AVERAGE
Existing Conditions	Primary	18	22	153	280	**473**	5
Existing Conditions	Secondary	0	2,356	162	588	**3,106**	20
Existing Conditions	Staff	0	0	695	163	**858**	15
Existing Conditions	**Total**	**18**	**2,378**	**1,010**	**1,031**	**4,438**	-
Site 04 – Tobermory South	Primary	0	80	150	440	670	7
Site 04 – Tobermory South	Secondary	0	2,110	135	948	3,192	20
Site 04 – Tobermory South	Staff	0	0	655	293	948	16
Site 04 – Tobermory South	**Total**	**0**	**2,190**	**940**	**1,681**	**4,810**	-

Note: minor discrepancies as a result of rounding

14.2.15 Table 25 shows that travel times will increase marginally compared to the established travel behaviours associated with the existing Tobermory 2-18 school. This is primarily as a result of longer walking times.

Potential impact on public transport network

14.2.16 As there will be no material requirement to amend the bus services associate with school transport there is unlikely to be any impact, positive or negative, on the wider public transport network.

Ability of existing roads infrastructure to service site

14.2.17 The site is well served by the adjoining A848 although there is currently no formalised access into the site.

14.2.18 There is the potential for access to the site to be taken from a new junction formed on the A848. The design of this junction would be subject to technical assessments at an early stage to ensure the suitability of junction placement and format in view of road characteristics and adjacent accesses, if applicable. Any new junction would need to be checked for driver visibility in line with standard assessment procedures.

Trips with complex dependencies/ multiple stages and modes of travel

14.2.19 Complex dependencies are likely to be broadly similar regardless of the selected site. Further details on this criterion are provided in Section 9.3. For pupils who live remotely from the main road network and key population centres, an additional leg of their journey will be required to intersect the bus service. This secondary journey will be facilitated by specific arrangements to them and may include a taxi or short car trip by a parent/carer.

Carbon impact of travel (travel distances and mode of transport)

14.2.20 The estimated one-way vehicle miles by cohort and vehicle for the Tobermory South site are presented in **Table 26**. The values presented in this table represent the driven milage of each vehicle as opposed to each passenger. This accounts for the fact that one bus can carry multiple passengers.

Table 26. Site 04 – Travel Distance (Miles)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	6	0	42	**48**
Existing Conditions	Secondary	0	63	57	**121**
Existing Conditions	Staff	0	0	303	**303**
Existing Conditions	**Total**	**6**	**63**	**402**	**471**
Site 04 – Tobermory South	Primary	0	0	37	**37**
Site 04 – Tobermory South	Secondary	0	62	50	**112**
Site 04 – Tobermory South	Staff	0	0	304	**304**
Site 04 – Tobermory South	**Total**	**0**	**62**	**390**	**453**

14.2.21 Table 26 shows a minor decrease in the driven vehicle miles. This is primarily as a result of marginally shorter trips for those travelling from the south of Mull. As with any new development of this nature Travel Planning measures have the potential to positively influence travel, particularly among staff members. A Travel Plan would seek to encourage behaviours such as car sharing or public transport usage in order to reduce the number of vehicle miles incurred.

14.2.22 Applying the carbon emission assessment methodology outlined in Section 10.7 the estimated carbon emissions for one-way travel (of all vehicles) to the Tobermory South site is presented in **Table 27**.

Table 27. Site 04 – Carbon Emissions (Kg Co2e)

SITE	COHORT	TAXI	BUS	CAR	TOTAL
Existing Conditions	Primary	0	0	9	**9**
Existing Conditions	Secondary	0	67	12	**79**
Existing Conditions	Staff	0	0	67	**67**
Existing Conditions	**Total**	**0**	**67**	**89**	**156**
Site 04 – Tobermory South	Primary	0	0	8	**8**
Site 04 – Tobermory South	Secondary	0	66	11	**77**
Site 04 – Tobermory South	Staff	0	0	67	**67**
Site 04 – Tobermory South	**Total**	**0**	**66**	**86**	**152**

14.2.23 Any increase in carbon emissions from bus travel may only be temporary. In line with current national policy bus fleets are gradually transitioning to electric and hydrogen systems. While SYSTRA is not aware of specific plans to convert the fleet on Mull, such an advancement would of course reduce the carbon impact from bus travel.

14.2.24 A similar transition is likely to occur to the car fleet, as residents increasingly embrace the use of electric cars.

14.3 Conclusion

14.3.1 The following considerations are given to Site 04 – Tobermory South:

- The site is walkable from some existing housing, and it is noted nearby and adjacent sites are allocated with up to 112 new residential units;
- There are some existing footways from adjacent residential catchments; and
- Travel time, distance and associated carbon emissions are likely to remain broadly similar to the baseline.

15. SUMMARY

15.1.1 The technical assessment presented in the second section of this report has highlighted key considerations for each of the short-listed sites. For ease of comparison these summaries are reiterated below.

15.1.2 The following considerations are given to Site 01 – Tobermory:

- Travel characteristics are mostly known as they are likely to align with present conditions;
- The site is within walking distance of the most existing housing; and
- The site is constrained making access for large vehicles (e.g. buses and HGVs during construction) difficult.

15.1.3 The following considerations are given to Site 02 – Craignure:

- Travel times, distances and carbon emissions will increase over the baseline (more so if the catchments are amended to include the Ross of Mull);
- Average journey times will increase by approximately 20 minutes;
- Pupils who currently walk will likely have to be taken to the Craignure site by bus requiring approximately 4 additional buses over the baseline;
- There is an adjacent allocation for c. 80 housing units, enabling trips by active modes; and
- Footways and crossing opportunities on the adjacent highway network are limited but could be improved.

15.1.4 The following considerations are given to Site 03 – Garmony:

- Travel times, distances and carbon emissions will increase over the baseline (more so if the catchments are amended to include the Ross of Mull);
- Average journey times will increase by approximately 15 minutes over the baseline;
- Pupils who currently walk will likely have to be taken to the Garmony site by bus requiring approximately 4 additional buses over the baseline;
- The site is located adjacent to a limited number of existing housing and no LDP or LWF housing sites identified in the Housing Land Audit; and
- There are no footways or crossing opportunities on the adjacent highway network – providing them would deliver limited benefit.

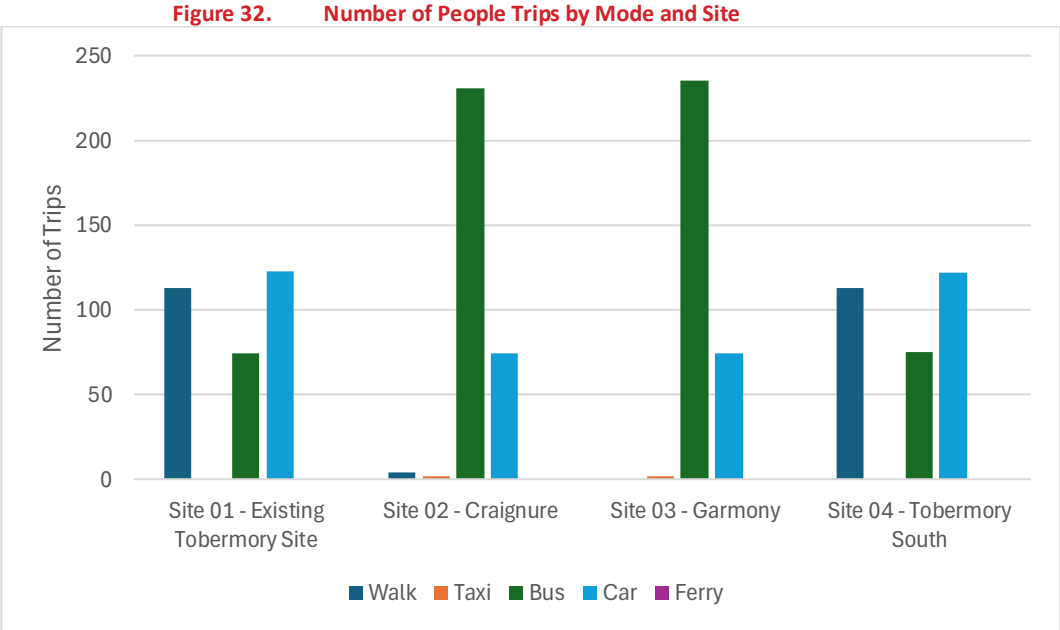
15.1.5 The following considerations are given to Site 04 – Tobermory South:

- The site is walkable from some existing housing, and it is noted nearby and adjacent sites are allocated with up to 112 new residential units;
- There are some existing footways from adjacent residential catchments; and
- Travel time, distance and associated carbon emissions are likely to remain broadly similar to the baseline.

15.1.6 A summary of the site-specific metrics (number of trips, vehicle miles, carbon emissions and travel time) are illustrated in **Figure 32** to **Figure 35**, respectively. This is to enable an "at-a-glance" comparison between short-listed sites, broken down by mode. For all of the following metrics, values are based on a single one-way trip. Daily and weekly values

could therefore be calculated by multiplying the values stated in this section by 2 and 10, respectively.

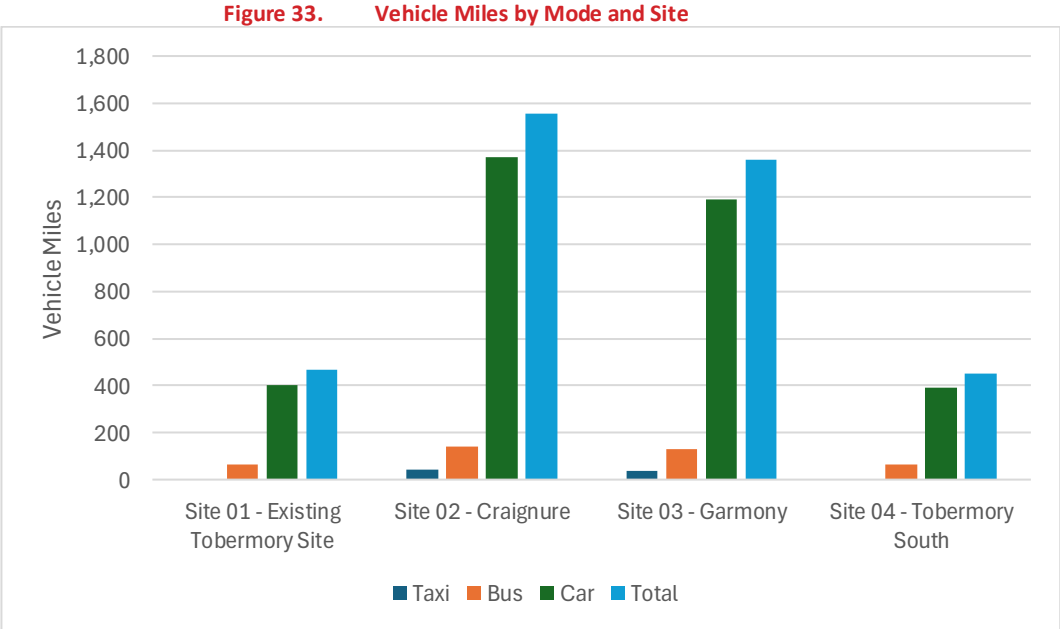
Figure 32. Number of People Trips by Mode and Site



15.1.7 The following considerations are given to people trips:

- The number of trips associated with Tobermory and Tobermory South are broadly similar;
- Craignure and Garmony will have very few walking trips which most travelling by bus instead; and
- The southern sites have the opportunity to reduce car trips with fewer primary school aged pupils being driven to school and instead travelling by bus.

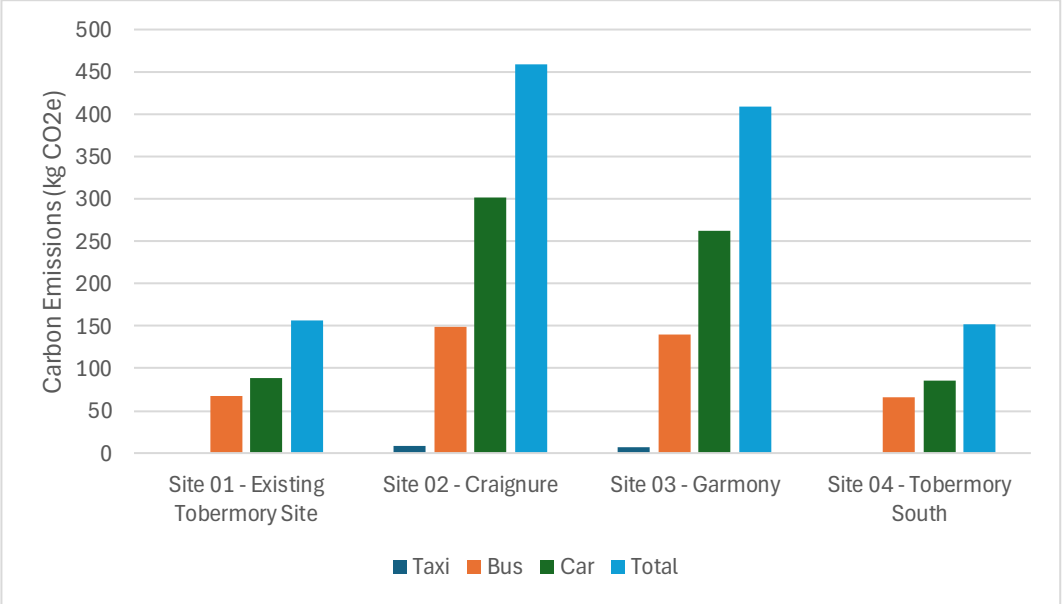
Figure 33. Vehicle Miles by Mode and Site



15.1.8 The following considerations are given to driven vehicle miles:

- The number of vehicle miles associated with Tobermory and Tobermory South are broadly similar;
- Car miles will increase significantly for southern sites;
- Bus miles will also increase for southern sites due to the additional services required; and
- Vehicle miles associated with Garmony will be marginally less than Craignure due to being closer to Tobermory.

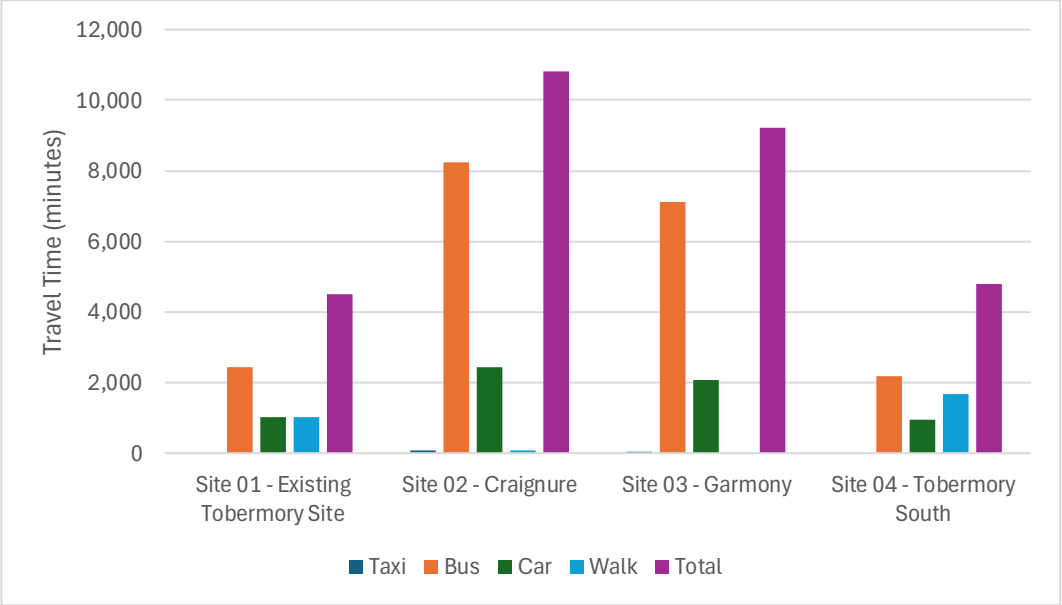
Figure 34. Carbon Emissions by Mode and Site



15.1.9 The following considerations are given to travel related carbon emissions:

- The carbon emissions associated with Tobermory and Tobermory South are broadly similar; and
- As with driven vehicle miles the carbon emissions for the southern sites are greater than Tobermory sites with emissions for the Garmony site being slightly less.

Figure 35. People Travel Time by Mode and Site



15.1.10 The following considerations are given to people travel time:

- The travel associated with Tobermory and Tobermory South are broadly similar although Tobermory South has a slightly greater total as a result of longer walking times;
- Total travel time for Craignure is approximately double that of Tobermory South; and
- Travel time for Garmony is slightly less than Craignure, again this is due to the site being closer to Tobermory.

15.1.11 Provided overleaf in **Table 28** is a numerical summary of the site-specific metrics providing the means to make an "at-a-glance" comparison.

Table 28. Summary of Site Metrics

SITE	GROUP	TRIPS					TIME (MINS)					MILES				CARBON EMISSIONS (KG CO2E)			
		Walk	Taxi	Bus	Car	Ferry	Taxi	Bus	Car	Walk	Total	Taxi	Bus	Car	Total	Taxi	Bus	Car	Total
Site 01 - Existing Site (Existing Conditions)	Primary	30	0	5	60	0	0	87	153	280	**520**	0	0	42	**42**	0	0	9	**9**
	Secondary	64	0	69	23	0	0	2,356	160	588	**3,104**	0	63	57	**120**	0	67	12	**79**
	Staff	19	0	0	40	0	0	0	700	163	**863**	0	0	305	**305**	0	0	67	**67**
	Total	**113**	**0**	**74**	**123**	**0**	**0**	**2,444**	**1,013**	**1,031**	**4,488**	**0**	**63**	**404**	**467**	**0**	**67**	**89**	**156**
Site 02 - Craignure	Primary	0	2	88	5	0	70	3,084	140	0	**3,294**	40	41	81	**162**	9	43	18	**70**
	Secondary	3	0	143	11	0	0	5,147	328	48	**5,523**	0	100	179	**278**	0	105	39	**145**
	Staff	1	0	0	58	0	0	0	1,966	16	**1,982**	0	0	1,113	**1,113**	0	0	245	**245**
	Total	**4**	**2**	**231**	**74**	**0**	**70**	**8,231**	**2,434**	**64**	**10,799**	**40**	**141**	**1,373**	**1,553**	**9**	**149**	**302**	**460**
Site 03 - Garmony	Primary	0	2	88	5	0	57	2,623	117	0	**2,797**	35	35	70	**140**	8	37	15	**60**
	Secondary	0	0	147	10	0	0	4,479	283	0	**4,762**	0	96	162	**258**	0	102	36	**138**
	Staff	0	0	0	59	0	0	0	1,670	0	**1,670**	0	0	960	**960**	0	0	211	**211**
	Total	**0**	**2**	**235**	**74**	**0**	**57**	**7,102**	**2,070**	**0**	**9,229**	**35**	**132**	**1,192**	**1,358**	**8**	**139**	**263**	**409**
Site 04 – Tobermory South	Primary	30	0	5	60	0	0	80	150	440	**670**	0	0	37	**37**	0	0	8	**8**
	Secondary	64	0	70	22	0	0	2,110	135	948	**3,192**	0	62	50	**112**	0	66	11	**77**
	Staff	19	0	0	40	0	0	0	655	293	**948**	0	0	304	**304**	0	0	67	**67**
	Total	**113**	**0**	**75**	**122**	**0**	**0**	**2,190**	**940**	**1,681**	**4,810**	**0**	**62**	**390**	**453**	**0**	**66**	**86**	**152**

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