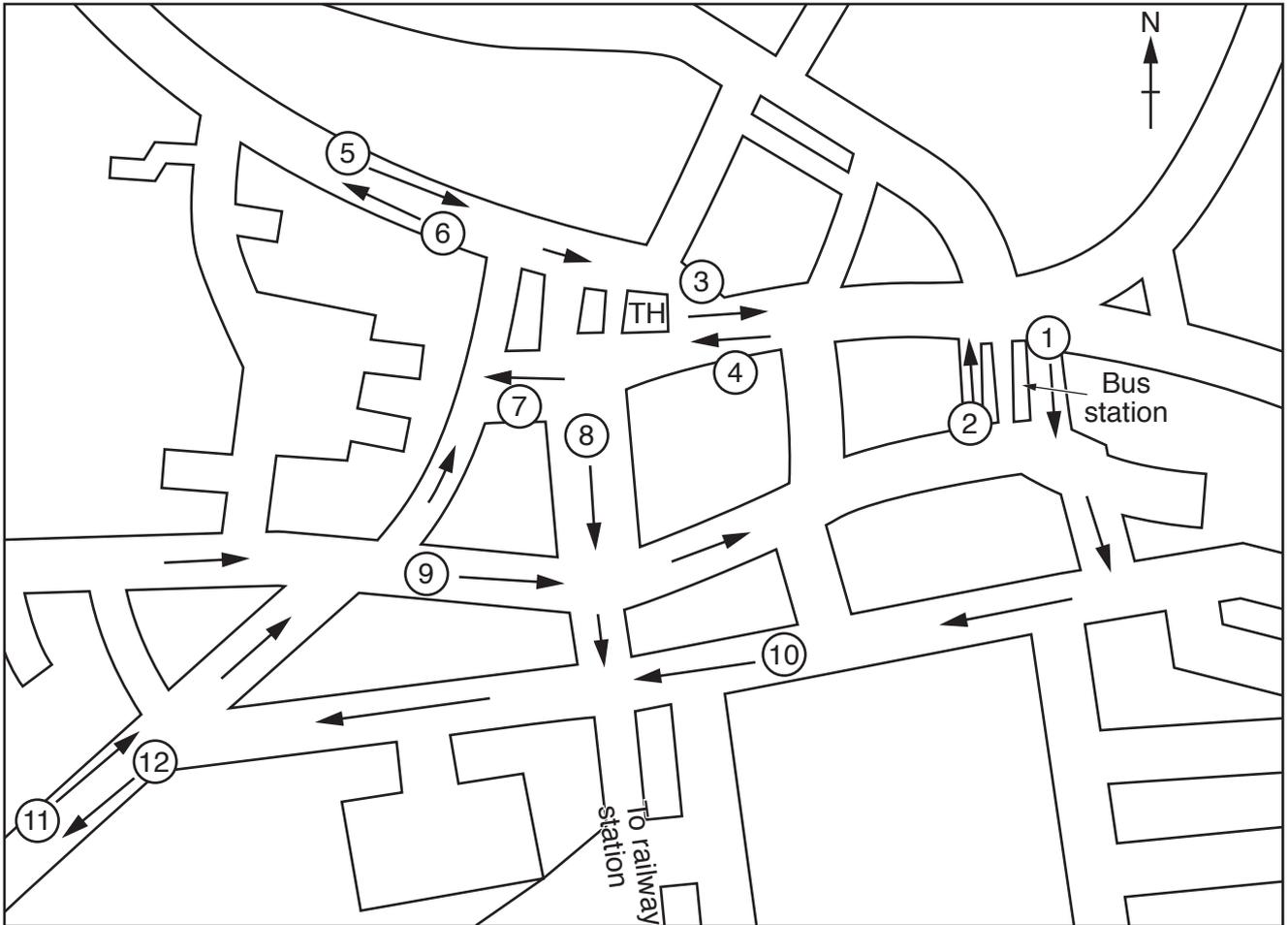


Fig. 1.1 for Question 1

Traffic count sites in the town centre



Key

① – ⑫ counting sites

→ direction of traffic movement

TH Town Hall

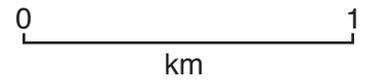


Table 1.1 for Question 1

Results of the traffic count
(number of vehicles counted at each site in each 10 minute period)

Site	Start time of traffic count							Total
	07:00	09:00	11:00	13:00	15:00	17:00	19:00	
1	50	74	55	59	52	43	30	363
2	33	55	68	72	63	61	41	393
3	50	72	54	76	79	94	56	481
4	48	74	55	80	77	83	52	469
5	32	100	77	74	74	48	55	460
6	25	47	48	63	60	94	57	394
7	51	77	50	95	66	93	66	498
8	42	53	70	71	75	104	86	501
9	58	93	81	80	77	106	56	551
10	61	92	78	82	83	99	57	552
11	32	74	48	47	53	56	31	341
12	20	31	39	46	46	69	53	304
Total	502	842	723	845	805	950	640	

Fig. 1.4 for Question 1

Questionnaire about traffic congestion

Please answer the following questions to provide information about traffic congestion in the town centre.

1. At what time of day do you think traffic congestion is worst?

06:00 - 07:59	<input type="checkbox"/>	08:00 - 09:59	<input type="checkbox"/>	10:00 - 11:59	<input type="checkbox"/>
12:00 - 13:59	<input type="checkbox"/>	14:00 - 15:59	<input type="checkbox"/>	16:00 - 17:59	<input type="checkbox"/>
18:00 - 19:59	<input type="checkbox"/>				

2. On how many days of the week do you think there is traffic congestion?

7 days (every day)	<input type="checkbox"/>	5 days	<input type="checkbox"/>	3 days	<input type="checkbox"/>
1 day	<input type="checkbox"/>	0 days	<input type="checkbox"/>		

3. On which day do you think traffic congestion is worst?

Monday	<input type="checkbox"/>	Tuesday	<input type="checkbox"/>	Wednesday	<input type="checkbox"/>	Thursday	<input type="checkbox"/>
Friday	<input type="checkbox"/>	Saturday	<input type="checkbox"/>	Sunday	<input type="checkbox"/>		

Thank you for your help.

Table 1.2 for Question 1

Results of the questionnaire about traffic congestion

Question 1: At what time of day do you think traffic congestion is worst?

Time	06:00 – 07:59	08:00 – 09:59	10:00 – 11:59	12:00 – 13:59	14:00 – 15:59	16:00 – 17:59	18:00 – 19:59
Percentage of answers	0	32	3	22	5	37	1

Question 2: On how many days of the week do you think there is traffic congestion?

Number of days	7 (every day)	5	3	1	0
Percentage of answers	10	58	28	4	0

Question 3: On which day do you think traffic congestion is worst?

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Percentage of answers	19	18	17	21	23	2	0

Fig. 2.1 for Question 2

Tide table

June 2016

Wed 1	Thu 2	Fri 3	Sat 4	Sun 5
02:31 L 1.5m	03:33 L 1.2m	04:29 L 0.8m	05:21 L 0.6m	06:11 L 0.5m
08:20 H 6.2m	09:23 H 6.7m	10:21 H 7.1m	11:14 H 7.4m	12:05 H 7.6m
14:59 L 1.3m	15:59 L 1.0m	16:54 L 0.8m	17:44 L 0.6m	18:35 L 0.5m
20:54 H 6.7m	21:51 H 7.1m	22:46 H 7.5m	23:36 H 7.7m	
Mon 6	Tue 7	Wed 8	Thu 9	Fri 10
00:24 H 7.8m	01:11 H 7.7m	01:55 H 7.5m	02:40 H 7.2m	03:23 H 6.8m
07:00 L 0.4m	07:49 L 0.5m	08:35 L 0.6m	09:21 L 0.8m	10:05 L 1.1m
12:54 H 7.7m	13:41 H 7.6m	14:26 H 7.5m	15:09 H 7.2m	15:54 H 6.8m
19:23 L 0.6m	20:11 L 0.7m	20:57 L 0.8m	21:42 L 1.1m	22:27 L 1.4m

Key

02:31	time
L	low tide
H	high tide
1.5m	height of tide

Fig. 2.2 for Question 2

Weather forecast for Bawdsey on 1st June

Time	03:00	06:00	09:00	12:00	15:00	18:00	21:00	24:00
Weather	partly cloudy	partly cloudy	partly cloudy	sunny	sunny	partly cloudy	cloudy	cloudy
Temperature (°C)	10	13	15	17	18	16	14	11
Wind direction	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW
Wind speed (km per hour)	19	19	19	22	24	19	18	16
Chance of rainfall (%)	less than 10	less than 10	less than 10	0	0	less than 10	less than 10	10 to 20
Cloud cover (%)	43	41	35	25	15	47	54	57

Fig. 2.3 for Question 2

Longshore drift

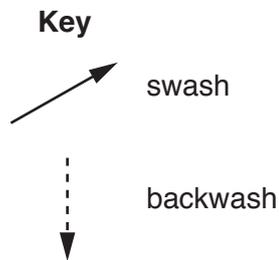
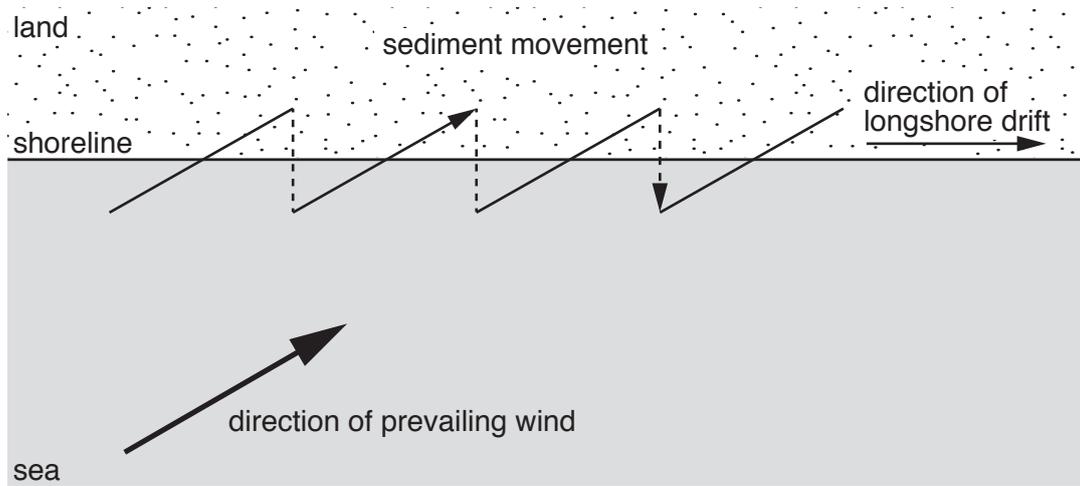


Fig. 2.4 for Question 2

Fieldwork method to test Hypothesis 1

- Use brightly coloured waterproof paint to paint 50 pebbles of different sizes and shapes.
- Select a clear section of beach, avoiding obstacles and groynes.
- Put the pebbles in the zone of swash/backwash and mark this position with a ranging pole.
- After 30 minutes locate the pebbles and work out the direction and distance they have moved.
- Collect the pebbles to use them again. Replace any missing pebbles with spare ones.
- Repeat the method three times to calculate the average distance travelled and to check the normal direction of longshore drift.

Table 2.1 for Question 2

Results of the students' measurements

Distance moved west of starting point (m)	Total number of pebbles in three tests	Average length of long axis of pebbles (cm)
0.1 – 10.0	8	8.5
10.1 – 20.0	27	6.9
20.1 – 30.0	40	5.3
30.1 – 40.0	37	4.6
40.1 – 50.0	21	4.0
50.1 – 60.0	5	3.2

Fig. 2.6 for Question 2

Wooden groyne



Figs. 2.7 and 2.8 for Question 2

Gabions



Fig. 2.7

Rip rap



Fig. 2.8

Figs. 2.9 and 2.10 for Question 2

Sea wall



Fig. 2.9

Beach replenishment



Fig. 2.10

Fig. 2.11 for Question 2

Bi-polar survey sheet to use with coastal defences near Bawdsey

Type of coastal defence:

Negative factor	Score					Positive factor
	-2	-1	0	+1	+2	
Ugly						Attractive
Does not protect land behind beach						Protects land behind beach
Erosion by the waves still happens						Stops all erosion by the waves
Poor access to beach						Good access to beach
Dangerous to people						Safe for people
High construction and maintenance costs						Low construction and maintenance costs
Lots of disturbance caused during construction						Little disturbance caused during construction

Total Score:

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cie.org.uk after the live examination series.

Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.