Pearson BTEC Level 3 Diploma in Transport Planning

Specification

BTEC Specialist

First teaching October 2016

Edexcel, BTEC and LCCI qualifications

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All information in this specification is correct at time of publication.

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1 Introducing BTEC Specialist qualifications

What are BTEC Specialist qualifications?

BTEC Specialist qualifications are work-related qualifications available from Entry to Level 3 in a range of sectors. They give learners the knowledge, understanding and skills they need to prepare for employment in a specific occupational area. The qualifications also provide career development opportunities for those already in work.

BTEC Specialist qualifications put learning into the context of the world of work, giving students the opportunity to apply their research, skills and knowledge in relevant and realistic work contexts. This applied, practical approach means learners build the knowledge, understanding and skills they need for career progression or further study.

The qualifications may be offered as full-time or part-time courses in schools, colleges, training centres and through employers.

Sizes of BTEC Specialist qualifications

For all regulated qualifications, Pearson specify a total number of hours that it is estimated learners will require to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities, such as lessons, tutorials, online instruction, supervised study and giving feedback on performance, that directly involve tutors and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by tutors or assessors will include private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

As well as TQT and GLH, qualifications can also have a credit value, equal to one tenth of TQT, rounded to the nearest whole number.

TQT and credit values are assigned after consultation with employers and training providers delivering the qualifications.

BTEC Specialist qualifications are generally available in the following sizes:

- Award – a qualification with a TQT value of 120 or less (equivalent to a range of 1–12 credits)
- Certificate – a qualification with a TQT value in the range of 121–369 (equivalent to a range of 13–36 credits)
- Diploma – a qualification with a TQT value of 370 or more (equivalent to 37 credits and above).

2 Qualification summary and key information

Qualification title	Pearson BTEC Level 3 Diploma in Transport Planning
Qualification Number (QN)	603/0607/5
Regulation start date	29/09/2016
Operational start date	01/10/2016
Approved age ranges	16–18 19+ Please note that sector-specific requirements or regulations may prevent learners of a particular age from embarking on this qualification. Please see *Section 7 Access and recruitment*.
Total Qualification Time (TQT)	800 hours.
Guided Learning Hours (GLH)	600.
Assessment	Internal assessment.
Grading information	The qualification and units are at a Pass grade.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, it is expected that learners have or are working towards a minimum of a grade C in GCSE English and Mathematics or equivalent. Centres must also follow the Pearson Access and Recruitment policy (see *Section 7 Access and recruitment*).
Funding	Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The Skills Funding Agency also publishes a funding catalogue that lists the qualifications available for 19+ funding.

Centres should use the Qualification Number (QN) when seeking funding for their learners. The qualification title, units and QN will appear on each learner's certificate. You should tell your learners this when your centre recruits them and registers them with us. Further information about certification is given in our *UK Information Manual,* available on our website.

3 Qualification purpose

Qualification objective

The Pearson BTEC Level 3 Diploma in Transport Planning is primarily for learners employed as apprentices in the role of Transport Planning Technician and are working towards gaining their apprenticeship.

This qualification may also be taken as a standalone BTEC qualification for non-apprenticeship learners who are interested in learning more about the transport planning industry.

Transport Planning Technicians provide technical support to professional Transport Planners. They assist in the preparation, assessment and implementation of policies, plans and projects to manage and improve local, regional, national and international transport systems, services and their connections with land use planning to support economic growth, protect the environment and support social cohesion. All Transport Planning Technicians will have a broad knowledge base. This breadth of knowledge reflects that of professional Transport Planners, who come from a wide variety of backgrounds, including mathematics, engineering and the social sciences. Transport Planning Technicians work for both public and private sector companies.

The qualification gives learners the opportunity to:

- develop the technical knowledge and understanding required to meet the Transport Planning Technician Apprenticeship Standard. This includes areas such as the policy, legal and regulatory context; the collection and analysis of data; stakeholder and public engagement; communication and project management techniques
- achieve a nationally-recognised Level 3 qualification
- achieve the qualification as part of their apprenticeship programme.

Apprenticeships

The Pearson BTEC Level 3 Diploma in Transport Planning has been designed in collaboration with the Transport Planning Apprenticeship Trailblazer Employer group and as such, it can used as the on-programme qualification in the Transport Planning Technician Apprenticeship. Learners can achieve this qualification before progressing to the End-point Assessment.

Progression opportunities

Learners who achieve the Pearson BTEC Level 3 Diploma in Transport Planning and the Transport Planning Technician Apprenticeship – Skills Portfolio, can then progress to the sign-off process to move on to the End-point assessment. Achievement of the End-point assessment leads to the full Apprenticeship certification that confirms competency in the role of Transport Planning Technician. In the longer term, learners can progress to more senior or complex job roles such as Transport Planner. On completing the Apprenticeship, learners can apply to become Engineering Technician (EngTech) registered with the relevant professional engineering institution.

Alternatively, non-apprenticeship learners who have achieved the qualification and not completed the Apprenticeship End-point assessment could, with further work-based training, progress to job roles such as trainee Transport Planning Technician.

Industry support and recognition

The Pearson BTEC Level 3 Diploma in Transport Planning was developed in close collaboration with the Transport Planning Apprenticeship Trailblazer employer group.

The qualification is supported by the following employers:

AECOM

Arcadis

Arup

Atkins

London Borough of Hackney

CH2M

Chartered Institution of Highways & Transportation

Curtins

Highways England

Jacobs

JMP Consultants Ltd

Leeds City Council

Mott MacDonald

Mouchel

Odyssey Markides

Peter Brett Associates

Transport for London

Transport Planning Society

WSP Parsons Brinckerhoff

4 Qualification structure

Pearson BTEC Level 3 Diploma in Transport Planning

Learners will need to complete all units as outlined in the table below before the qualification can be awarded.

Minimum number of units that must be achieved	10

Unit number	Mandatory units	Level	Guided learning hours
1	Understanding Current National, Regional and Local Transport Policies	3	60
2	Understanding Laws and Regulations in Transport Planning	3	60
3	Understanding the use of Data and Information in Transport Planning	3	60
4	Understanding Modelling and Analysis Techniques in Transport Planning	3	60
5	Understanding Appraisal and Assessment Techniques in Transport Planning	3	60
6	Understanding Public Consultation and Stakeholder Engagement in Transport Planning	3	60
7	Understanding Transport System and Scheme Design	3	60
8	Principles of Changing Travel Behaviour	3	60
9	Understanding Communication Techniques for Transport Planning	3	60
10	Principles of Management of Projects, Tasks and Personal Developments in Transport Planning	3	60

5 Programme delivery

Centres are free to offer this qualification using any mode of delivery that meets learners' and employers' needs. It is recommended that centres make use of a wide range of training delivery methods, including direct instruction in classrooms, simulated demonstrations, research or applied projects, e-learning, directed self-study, field visits and role play. Whichever mode of delivery is used, centres must make sure that learners have access to the resources identified in the specification and to the subject specialists delivering the units.

Centres must adhere to the Pearson policies that apply to the different models of delivery. Our *Collaborative arrangements for the delivery of vocational qualifications policy* is available on our website.

Those planning the programme should aim to involve employers as far as possible in the delivery of the qualification. This could be by:

- spending time with employers to better understand their organisational requirements and the methods of training that are most suitable, taking into consideration their available resources and working patterns
- collaborating with employers to ensure that learners have opportunities in the workplace to implement the knowledge and skills developed through the training programme
- having regular meetings with employers to discuss learner progress, providing feedback and agreeing how any issues will be resolved
- developing projects or assessments with input from employers
- developing up-to-date and relevant teaching materials that make use of scenarios relevant to the sector and relevant occupation
- using 'expert witness' reports from employers to support assessment
- making full use of the variety of experience of work and life that learners bring to the programme.

Where legislation is taught, centres must ensure that it is current and up to date.

Delivery guidance for Pearson BTEC Level 3 Diploma in Transport Planning

The following delivery guidance is not intended to be prescriptive. Those delivering the learning programme can adapt the guidance to meet the needs of learners, employers and the specific context.

All units include aspects that would be most appropriately delivered using practical activities, group and individual research projects, and relevant case studies. Learners should be encouraged to discuss and justify their findings with peers and work as a team. Extensive use of transport plans will be required as examples, including larger plans from major cities to enable learners to see the scale of transport plans. It will be necessary for employers to be involved in this aspect of the delivery through the use of masterclasses to explain current projects they are working on, by providing resources and through work shadowing.

There are several areas of content that would benefit from units being taught simultaneously. For example, *Units 1*, *2* and *7* could be delivered together to cover all of the different areas of transport plans. Alongside this, to enable learners to see the links between the units more clearly, it would be beneficial to have a diagram showing different plans and transport plans, and how they are all interlinked.

Appropriate IT facilities are necessary for demonstration purposes, in particular for the demonstration of modelling techniques in *Unit 4*. Although learners will not be assessed on their ability to use modelling techniques as part of this qualification, practical application during delivery would be beneficial to help learners to understand the processes involved.

As data is used to inform many decisions in transport planning, *Unit 3* has links to *Units 1*, *4*, *5* and *6*. Case studies and themes for the delivery of *Unit 3* might be used across the other units to show the similarities clearly.

Unit 7 requires the demonstration of specific software to gather and interpret data and to produce sketches or diagrams. Learners would benefit from being able to see the software being used and then trying it out for themselves, either individually or as part of a group project.

Units 9 and *10* can be taught alongside the other units, as understanding the required communication skills and project management skills for working in Transport Planning may need to be contextualised with examples of real projects from the other units.

6 Centre resource requirements

As part of the approval process, centres must make sure that the resource requirements below are in place before offering the qualification.

General resource requirements

- Centres must have appropriate physical resources (for example IT, learning materials, teaching rooms) to support the delivery and assessment of the qualification.
- Staff involved in the delivery and assessment process must have relevant expertise and occupational experience.
- There must be systems in place that ensure continuing professional development (CPD) for staff delivering and assessing the qualification.
- Centres must have in place appropriate health and safety policies relating to the use of equipment by learners.
- Centres must have in place robust internal verification systems and procedures to ensure the quality and authenticity of learners' work as well as the accuracy and consistency of assessment decisions between assessors operating at the centre. For information on the requirements for implementing assessment processes in centres, please refer to the *BTEC UK Quality Assurance Handbook* on our website.
- Centres must deliver the qualifications in accordance with current equality legislation. For further details on Pearson's commitment to the Equality Act 2010, please see *Section 7 Access and recruitment.* For full details of the Equality Act 2010, please go to www.legislation.gov.uk

Specific resource requirements

As well as the general resource requirements given above, there are specific resources that centres must provide. They are listed by unit below.

Unit	**Resources required**
4	Access to junction-modelling software such as Junctions 9.
7	Software to gather and interpret data to produce sketches or diagrams.

7 Access and recruitment

Our policy on access to our qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- they should be free from barriers that restrict access and progression
- there should be equal opportunities for all wishing to access the qualifications.

Centres must ensure that their learner recruitment process is conducted with integrity. This includes ensuring that applicants have appropriate information and advice about the qualification to ensure that it will meet their needs.

Centres should review applicants' prior qualifications and/or experience, considering whether this profile shows that they have the potential to achieve the qualification.

Prior knowledge, skills and understanding

No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, it is expected that learners have or are working towards a minimum of a grade C in GCSE English and Mathematics or equivalent.

Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Pearson's Equality Policy requires all learners to have equal opportunity to access our qualifications and assessments and that our qualifications are awarded in a way that is fair to every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

For learners with disabilities and specific needs, the assessment of their potential to achieve the qualification must identify, where appropriate, the support that will be made available to them during delivery and assessment of the qualification. Please see the information regarding reasonable adjustments and special consideration in *Section 8 Assessment*.

Learners taking a qualification may be assessed in British sign language or Irish sign language where it is permitted for the purpose of reasonable adjustments.

8 Assessment

The table below gives a summary of the assessment methods used in the qualification.

Units	Assessment method
All units	Internal assessment (centre-devised assessments)

In administering internal assessments, centres need to be aware of the specific procedures and policies that apply to, for example, registration, entries and results. More information can be found in our *UK Information Manual*, available on our website.

Language of assessment

Assessments for all units are in English only.

A learner taking the qualification may be assessed in British or Irish Sign Language where it is permitted for the purpose of reasonable adjustment.

For further information on access arrangements, please refer to *Reasonable adjustments to assessments* later in this section.

Internal assessment

All units in this qualification are internally assessed and subject to external standards verification. This means that centres set and mark the final summative assessment for each unit, using the examples and support that Pearson provides. Centres need to be, if they are not already, approved to offer the qualification before conducting assessments. *Section 9 Centre recognition and approval* gives information on approval for offering this qualification.

Assessment through assignments

For internally-assessed units, the format of assessment is an assignment taken after the content of the unit, or part of the unit if several assignments are used, has been delivered. An assignment may take a variety of forms, including practical and written types. An assignment is a distinct activity, completed independently by learners, that is separate from teaching, practice, exploration and other activities that learners complete with direction from tutors and assessors.

An assignment is issued to learners as an assignment brief with a defined start date, a completion date and clear requirements for the evidence that they need to provide. Assignments can be divided into tasks and may require several forms of evidence. A valid assignment will enable there to be a clear and formal assessment outcome based on the assessment criteria.

Designing effective assignments

To ensure that final assessment decisions meet the required standard, assignments must be fit for purpose as a tool to measure learning against the defined content and assessment criteria.

Centres should make sure that assignments enable learners to produce valid, sufficient, authentic and appropriate evidence that relates directly to the specified criteria within the context of the learning outcomes and unit content. Centres need to ensure that the generation of evidence is carefully monitored and controlled and that it is produced to an appropriate timescale. This helps to make sure that learners are achieving to the best of their ability and that at the same time the evidence is genuinely their own.

An assignment that is fit for purpose and suitably controlled is one in which:

- the tasks that learners are asked to complete provide evidence for a learning outcome that can be assessed using the assessment criteria
- the time allowed for the assignment is clearly defined and consistent with what is being assessed
- the centre has the required resources for all learners to complete the assignment fully and fairly
- the evidence the assignment will generate will be authentic and individual to learners
- the evidence can be documented to show that the assessment and verification has been carried out correctly.

Recommended assignments are provided in the *Further information for tutors and assessors* section of each unit. In designing assignments, centres need to work within the structure of these assignments. They need to consider the following points when developing their assignment briefs.

- Centres may choose to combine all or parts of different units into single assignments, provided that all units and all their associated learning outcomes are fully addressed in the programme overall. If this approach is taken, centres need to make sure that learners are fully prepared so that they can provide all the required evidence for assessment, and that centres are able to track achievement in the records.
- An outcome must always be assessed as a whole and must not be split into two or more assignments.
- The assignment must be targeted to the learning outcomes but the learning outcomes and their associated criteria are not tasks in themselves. Criteria are expressed in terms of the outcome shown in the evidence.
- Centres do not have to follow the order of the outcomes of a unit in developing assignments, but later learning outcomes often require learners to apply the content of earlier learning outcomes and they may require learners to draw their learning together.
- As assignments provide a final assessment, they will draw on the specified range of teaching content for the learning outcomes. The specified content is compulsory. The evidence for assessment need not cover every aspect of the teaching content as learners will normally be given particular examples, case studies or contexts in their assignments. For example, if a learner is carrying out one practical performance, or an investigation of one organisation, then they will address all the relevant range of content that applies in that instance.

Providing an assignment brief

A good assignment brief is one that motivates learners to provide appropriate evidence of what they have learned through providing challenging and realistic tasks. An assignment brief should include:

- a vocational scenario, context, or application for the tasks to be completed
- clear instructions to the learner about what they are required to do – normally set out through a series of tasks
- an audience or purpose for which the evidence is being provided
- an explanation of how the assignment relates to the unit(s) being assessed.

Forms of evidence

Centres may use a variety of forms of evidence, provided that they are suited to the type of learning outcome being assessed. For many units, the practical demonstration of skills is necessary and for others, learners will need to carry out their own research and analysis. The units give information on what would be suitable forms of evidence.

Centres may choose to use different suitable forms of evidence to those proposed. Overall, learners should be assessed using varied forms of evidence.

Some of the main forms of evidence include:

- written tasks or reports
- projects
- time-constrained simulated activities with observation records and supporting evidence
- observation and recordings of performance in the workplace
- sketchbooks, work logbooks, reflective journals
- presentations with assessor questioning.

The form(s) of evidence selected must:

- allow learners to produce evidence that is their own independent work
- allow a verifier to independently reassess learners to check the assessor's decisions.

For example, when using performance evidence, centres need to think about how supporting evidence can be captured through recordings, photographs or task sheets.

Centres need to take particular care that learners are enabled to produce independent work. For example, if learners are asked to use real examples, then best practice would be to encourage them to use examples of their own experiences.

For information on the requirements for implementing assessment processes in centres, please refer to the *BTEC UK Quality Assurance Handbook* on our website.

Making valid assessment decisions

Authenticity of learner work

Once an assessment has begun, learners must not be given feedback on progress towards fulfilling the targeted criteria.

An assessor must assess only work that is authentic, i.e. learners' own independent work. Learners must authenticate the evidence that they provide for assessment through signing a declaration stating that it is their own work.

Assessors must ensure that evidence is authentic to learners by setting valid assignments and supervising learners during the assessment period. Assessors must take care not to provide direct input, instructions or specific feedback that may compromise authenticity.

Assessors must complete a declaration that:

- the evidence submitted for the assignment is learners' own
- learners have clearly referenced any sources used in the work
- they understand that false declaration is a form of malpractice.

Centres may use Pearson templates or their own templates to document authentication.

During assessment, an assessor may suspect that some or all of the evidence from a learner is not authentic. The assessor must then take appropriate action using the centre's policies for malpractice. More information is given later on in this section.

Making assessment decisions using unit-based criteria

Assessment decisions for the qualification are based on the specific criteria given in each unit.

Assessors make judgements using the criteria and must show how they have reached their decisions in the assessment records. The evidence from a learner can be judged using all the relevant criteria at the same time. The assessor needs to make a judgement against each criterion that evidence is present and sufficiently comprehensive.

For example, the inclusion of a concluding section may be insufficient to satisfy a criterion requiring 'evaluation'.

Assessors should use the following information and support in reaching assessment decisions:

- the *Essential information for assessment* section of each unit, which gives examples and definitions related to terms used in the assessment criteria
- the centre's Lead Internal Verifier and assessment team's collective experience supported by the information provided by Pearson.

When learners have completed the assessment for a unit the assessment team will give an assessment outcome for the unit.

To achieve a Pass, learners must have satisfied all the Pass criteria for the learning outcomes, showing coverage of the unit content and therefore attainment at the stated level of the qualification. The award of a Pass is a defined level of performance and cannot be given solely on the basis of learners completing assignments. Learners who do not satisfy the Pass criteria should be reported as Unclassified.

Dealing with late completion of assignments

Learners must have a clear understanding of the centre's policy on completing assignments by the stated deadlines. Learners may be given authorised extensions for legitimate reasons, such as illness at the time of submission, in line with centre policies.

For assessment to be fair, it is important that learners are all assessed in the same way and that some learners are not advantaged by having additional time or the opportunity to learn from others.

If a late completion is accepted, then the assignment should be assessed normally using the relevant assessment criteria.

Issuing assessment decisions and feedback

Once the assessment team has completed the assessment process for an assignment, the outcome is a formal assessment decision. This is recorded formally and reported to learners.

The information given to learners:

- must show the formal decision and how it has been reached, indicating how or where criteria have been met
- may show why attainment against criteria has not been demonstrated
- must not provide feedback on how to improve evidence
- must be validated by an Internal Verifier before it is given to learners.

Resubmissions and retakes

On 1 September 2014, Pearson introduced a framework to support centres in delivering high-quality internal assessments for BTEC Firsts and Nationals. The framework can be found on the BTEC delivery pages of our website. Within this framework, only one opportunity for resit can be authorised by the Lead Internal Verifier and retakes are not available. These rules do not apply to BTEC Specialist programmes at Entry Level to Level 3 but we do recommend the approach as best practice. As the rules are, therefore, not mandatory for BTEC Specialist programmes, they will not be checked as part of the standards verification and quality-assurance process for this qualification.

Administrative arrangements for internal assessment

Records

Centres are required to retain records of assessment for each learner. Records should include assessments taken, decisions reached and any adjustments or appeals. Further information can be found in our *UK Information Manual.* We may ask to audit centre records, so they must be retained as specified.

Reasonable adjustments to assessments

Centres are able to make adjustments to assessments to take account of the needs of individual learners, in line with the guidance given in the Pearson document *Supplementary guidance for reasonable adjustments and special consideration in vocational internally assessed units* (available on our website). In most instances, adjustments can be achieved by following the guidance, for example allowing the use of assistive technology or adjusting the format of the evidence. We can advise you if you are uncertain as to whether an adjustment is fair and reasonable. Any reasonable adjustment must reflect the normal learning or working practice of a learner in a centre or a learner working in the occupational area.

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Adjustments for candidates with disabilities and learning difficulties, Access Arrangements and Reasonable Adjustments, General and Vocational qualifications*.

Both documents are available on the policy page of our website.

Special consideration

Centres must operate special consideration in line with the guidance given in the Pearson document *Supplementary guidance for reasonable adjustments and special consideration in vocational internally assessed units*. Special consideration may not be applicable in instances where:

- assessment requires the demonstration of practical competence
- criteria have to be met fully
- units/qualifications confer licence to practice.

Centres cannot apply their own special consideration; applications for special consideration must be made to Pearson and can be made on a case-by-case basis only.

A separate application must be made for each learner. Certification claims must not be made until the outcome of the application has been received.

Further information on special consideration can be found in the Joint Council for Qualifications (JCQ) *Adjustments for candidates with disabilities and learning difficulties, Access Arrangements and Reasonable Adjustments, General and Vocational qualifications*.

Both of the documents mentioned above are on our website.

Appeals against assessment

Centres must have a policy for dealing with appeals from learners. Appeals may relate to assessment decisions being incorrect or assessment not being conducted fairly. The first step in such a policy is a consideration of the evidence by a Lead Internal Verifier or other member of the programme team. The assessment plan should allow time for potential appeals after learners have been given assessment decisions.

Centres must document all learners' appeals and their resolutions. Further information on the appeals process can be found in the document *Enquiries and appeals about Pearson vocational qualifications policy*, available on our website.

Internal assessment

Centres are required to take steps to prevent malpractice and to investigate instances of suspected malpractice. Learners must be given information that explains what malpractice is for internal assessment and how suspected incidents will be dealt with by the centre. The *Centre Guidance: Dealing with Malpractice* document gives full information on the actions we expect you to take.

Pearson may conduct investigations if we believe that a centre is failing to conduct internal assessment according to our policies. The above document gives further information and examples, and details the penalties and sanctions that may be imposed.

In the interests of learners and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice.

Learner malpractice

The head of centre is required to report incidents of suspected learner malpractice that occur during Pearson examinations. We ask centres to complete *JCQ Form M1* (available at www.jcq.org.uk/malpractice) and email it with any accompanying documents (signed statements from the learner, invigilator, copies of evidence, etc.) to the Investigations Team at pqsmalpractice@pearson.com. The responsibility for determining appropriate sanctions or penalties to be imposed on learners lies with Pearson.

Learners must be informed at the earliest opportunity of the specific allegation and the centre's malpractice policy, including the right of appeal. Learners found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

Teacher/centre malpractice

The head of centre is required to inform Pearson's Investigations Team of any incident of suspected malpractice by centre staff, before any investigation is undertaken. The head of centre is requested to inform the Investigations Team by submitting a *JCQ M2(a) Form* (available at www.jcq.org.uk/exams-office/malpractice) with supporting documentation to pqsmalpractice@pearson.com. Where Pearson receives allegations of malpractice from other sources (for example Pearson staff, anonymous informants), the Investigations Team will conduct the investigation directly or may ask the head of centre to assist.

Incidents of maladministration (accidental errors in the delivery of Pearson qualifications that may affect the assessment of learners) should also be reported to the Investigations Team using the same method.

Heads of centres/principals/chief executive officers or their nominees are required to inform learners and centre staff suspected of malpractice of their responsibilities and rights, please see section 6.15 of the *JCQ Suspected Malpractice in Examinations and Assessments Policies and Procedures* document.

Pearson reserves the right in cases of suspected malpractice to withhold the issuing of results/certificates while an investigation is in progress. Depending on the outcome of the investigation, results and/or certificates may not be released or they may be withheld.

We reserve the right to withhold certification when undertaking investigations, audits and quality-assurance processes. You will be notified within a reasonable period of time if this occurs.

Sanctions and appeals

Where malpractice is proven, we may impose sanctions or penalties.

Where learner malpractice is evidenced, penalties may be imposed such as:

- mark reduction for affected external assessments
- disqualification from the qualification
- debarment from registration for Pearson qualifications for a period of time.

If we are concerned about your centre's quality procedures, we may impose sanctions such as:

- working with centres to create an improvement action plan
- requiring staff members to receive further training
- placing temporary blocks on the centre's certificates
- placing temporary blocks on registration of learners
- debarring staff members or the centre from delivering Pearson qualifications
- suspending or withdrawing centre approval status.

The centre will be notified if any of these apply.

Pearson has established procedures for centres that are considering appeals against penalties and sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from the head of centre (on behalf of learners and/or members or staff) and from individual members (in respect of a decision taken against them personally). Further information on appeals can be found in our *Enquiries and appeals about Pearson vocational qualification policy*, available on our website. In the initial stage of any aspect of malpractice, please notify the Investigations Team (via pqsmalpractice@pearson.com) who will inform you of the next steps.

9 Centre recognition and approval

Centres that have not previously offered BTEC Specialist qualifications need to apply for, and be granted, centre recognition as part of the process for approval to offer individual qualifications.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by a new qualification and the conditions for automatic approval are met.

Guidance on seeking approval to deliver BTEC qualifications is given on our website.

Approvals agreement

All centres are required to enter into an approval agreement with Pearson, in which the head of centre or principal agrees to meet all the requirements of the qualification specification and to comply with the policies, procedures, codes of practice and regulations of Pearson and relevant regulatory bodies. If centres do not comply with the agreement, this could result in the suspension of certification or withdrawal of centre or qualification approval.

10 Quality assurance

Quality assurance is at the heart of vocational qualifications. The centre assesses BTEC qualifications. The centre will use quality assurance to make sure that their managers, internal verifiers and assessors are standardised and supported. Pearson uses quality assurance to check that all centres are working to national standards. It gives us the opportunity to identify and provide support, if needed, to safeguard certification. It also allows us to recognise and support good practice.

For the qualification in this specification, the Pearson quality assurance model will the process below:

- an annual visit to the centre by a Centre Quality Reviewer to review centre-wide quality assurance systems
- Lead Internal Verifier accreditation – this involves online training and standardisation of Lead Internal Verifiers using our OSCA platform, accessed via Edexcel Online. Please note that not all qualifications will include Lead Internal Verifier accreditation. Where this is the case, each year we will allocate a Standards Verifier to conduct postal sampling of internal verification and assessor decisions for the Principal Subject Area.

For further details please see the *UK Vocational Quality Assurance Handbook* on our website.

11 Units

This section explains how the units are structured. It is important that all tutors, assessors, Internal Verifiers and other staff responsible for the programme, review this section.

Internal units

Section	Explanation
Unit number	The number is in a sequence in the specification. Where a specification has more than one qualification, numbers may not be sequential for an individual qualification.
Unit title	This is the formal title of the unit that will appear on learners' certificates.
Level	All units and qualification have a level assigned to them. The level assigned is informed by the level descriptors defined by Ofqual, the qualifications regulator.
Unit type	This says if the unit is mandatory or optional for the qualification. See information in *Section 4 Qualification structure* for full details.
Assessment type	This says how the unit is assessed – i.e. whether it is internal or external. See information in *Section 8 Assessment* for details.
GLH	This indicates the number of hours of activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners. Units may vary in size.
Unit introduction	This is designed with learners in mind. It indicates why the unit is important, what will be learned and how the learning might be applied in the workplace.
Learning outcomes	These help to define the scope, style and depth of learning of the unit.
Content	This section sets out the required teaching content of the unit. Content is compulsory except when shown as 'e.g.'. Learners should be asked to complete summative assessment only after the teaching content for the unit or learning outcomes has been covered.

Section	Explanation
Assessment criteria	Assessment criteria specify the standard required by learners to achieve each learning outcome.
Further information for teachers and assessors	This section gives information to support the implementation of assessment. It is important that the information is used carefully, alongside the assessment criteria.
Resource requirements	This section lists any specific resources needed to be able to teach and assess the unit.
Essential information for assessment	This section gives guidance on the expectations for Pass standard for each learning outcome or assignment. It contains examples and essential clarification.

Unit 1: Understanding Current National, Regional and Local Transport Policies

Level: 3

Guided learning: 60

Unit introduction

The government, regional and local authorities and a number of other stakeholders are responsible for developing transport plans and policies that deliver transport services and schemes across the United Kingdom. These plans and policies aim to plan for and provide transport systems that facilitate the movement of goods and people efficiently and safely, and contribute to economic growth.

This unit will introduce you to the key themes and objectives of transport policies at national, regional and local levels, and the hierarchical structure of policy development. As a transport planner, it is important that you understand the influence of the current national, regional and local transport policies and their application in your work.

You will be introduced to policy-making bodies and the principal roles and responsibilities of the bodies in the development and approval of transport policy.

Transport policies impact directly on the provision and management of transport systems and services across the United Kingdom. You will learn about the structure of the different sectors of the transport industry such as rail, road, passenger transport and freight distribution, and the role of public, private and voluntary sector bodies in the delivery of transport services. Case studies and examples of the impact of transport policy change on the different sectors will be used to illustrate the important role that transport policy plays, and the impact it has on your work as a transport planner.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the documents that define the objectives of national, regional and local transport policies	1.1	Explain the hierarchical organisation of transport policy documents
		1.2	Explain the objectives of transport policy documents
		1.3	Explain where to access transport policy documents
2	Understand transport policy-making bodies at a national, regional and local level	2.1	Explain the structure of policy-making bodies from national to local level
		2.2	Explain the role and responsibilities of each level of policy-making bodies
3	Understand the process for the approval of transport policies, plans and projects	3.1	Explain the process for the approval of transport policies
		3.2	Explain the process for the approval of transport plans
		3.3	Explain the process for the approval of transport projects
4	Understand the structure of the transport industry	4.1	Explain the structure of central and local government in relation to the transport industry
		4.2	Explain the structure of the transport industry in relation to: • railways • road provision and maintenance • bus and coach services • freight, distribution and logistics • airports • modes with fixed infrastructure
		4.3	Explain the role of the private, public and voluntary sectors in relation to the provision of transport services
5	Understand the impact other related disciplines have on transport planning	5.1	Explain the roles of other disciplines in relation to transport planning
		5.2	Explain the impact of other disciplines on transport planning

Content

What needs to be learned
Learning outcome 1: Understand the documents that define the objectives of national, regional and local transport policies
1.1 Current transport policy documents *Policy:* course or principle of action agreed by an organisation, e.g. government sets the objectives of the national infrastructure plan. *Reasons for having transport policies*: e.g. to set the objectives against which transport strategies, plans and schemes are judged, to prioritise funding, to inform decision making on, e.g., plans, projects and funds. *Hierarchy of policy documentation:* central government (national policies), regional bodies, e.g. combined authorities and Local Enterprise Partnerships (LEPS) (regional policies), local authority (local policies and plans), initiatives. *Central:* national transport policies tend to be modal, e.g. transport security, air/aviation, maritime, accessible transport, local transport, special policies, e.g. High Speed Rail 2, refer to other national approaches, i.e. Wales and Scotland. *Regional policies:* regional transport plans or strategies, combined authority economic strategies *Local policies:* these tend to have a more integrated approach across all modes but reflect national policies, local plan and local development framework, local transport plans, local implementation plans, Mayor of London's Transport Strategy, local authority specific policies (e.g. travel plans, parking). *Initiatives:* government-led schemes, e.g. Construction Logistics and Cyclist Safety (CLOCS), TfL, Freight Operator Recognitions Scheme (FORS). **1.2 Objectives of transport policies** *Overarching objectives of national policies:* sustainability (economic, commercial, social), inclusivity (equality and disability), accessibility, connectivity, safety, promotion of sustainable transport modes, supporting economic growth and jobs, support health objectives, e.g. encourage more movement, resilience of infrastructure. *Local policies:* likely to be more tailored to the local need but reflecting national policies.

Learning outcome 2: Understand transport policy-making bodies at a national, regional and local level

2.1 Transport policy-making bodies

Hierarchy of policy-making bodies: central government departments, government executive agencies and government companies, regional bodies (e.g. combined authorities), role of the European Union, e.g. ports, airports, interoperability, European Transport Network.

Government departments: Department for Transport (DfT), Department for Environment, Food & Rural Affairs (Defra), Department for Communities and Local Government (DCLG), HM Treasury, Planning Inspectorate.

Government executive bodies and companies: Highways England (government company), Network Rail (government company), Environment Agency (government executive public body), Airports Commission (as was).

Regional bodies: regional combined authorities, local enterprise partnerships (LEPs).

Local bodies: Transport for London (TFL), local authorities, local enterprise partnerships (LEPs).

2.2 Roles and responsibilities of policy-making bodies

Development of policy: e.g. from political stimulus or identified need for policy, to present and consult, use policies to aid decision making.

Roles: policy makers develop the policies and oversee the process of approval and implementation, they make decisions on transport projects based on these policies.

Responsibilities: e.g. to ensure policies meet overarching transport objectives, duty to consult, ensure equality in the policy-making process.

Learning outcome 3: Understand the process for the approval of transport policies, plans and projects

3.1 Definitions of policies, plans and projects

Policy: course or principle of action agreed by an organisation, e.g. a transport policy.

Plan: a plan sets out the methods of implementing the policy/policies, e.g. transport plan.

Project: a transport scheme or development, proposed to help implement the transport plan and assessed against objectives of policy. Inclusion in a plan does not guarantee implementation of a project, e.g. Road Investment Strategy 2015 to 2020.

3.2 Approval of policies, plans and projects

Need of approval: for policies, plans and projects the process is broadly the same – defined stages, responsibility and accountability, allows proper scrutiny, consistency and fairness in process, controlled decision making.

Process of approval: defined stages, e.g. develop options, assessment of options, further development of options, assessment in greater detail, approval of preferred option, consultation during or following each stage with different stakeholders, can be time-constrained.

Role of the transport planner: not in approval, present evidence to inform the approval process.

Appeals: appeals can be made against policies, plans and schemes, e.g. appeal against procedure of developing policies, plans and schemes, for example consultation not broad enough or wide enough, need for public inquiry.

Learning outcome 4: Understand the structure of the transport industry

4.1 Difference between private sector, public sector and voluntary sector

Ownership:

- private sector organisations – owned by individuals, partners or shareholder
- public sector – owned by the country, paid for by taxes or government money
- voluntary sector – 'third sector', owned by a charity or trust.

Purpose:

- private sector organisations – provide profits for owners
- public sector – provide services or resources to public
- voluntary sector – benefit the public, community interest, charities.

Ownership of assets: private organisations have few restrictions on development of their assets, public sector is constrained by laws, regulation and policy.

4.2 Structure of the industry for each mode

Principal actors: for example regulator, owner of asset, provider, operator, where money comes from, user, need to consider differences in London.

Railways (passenger and freight): Department for Transport and Secretary of State for Transport, Office of Road and Rail (ORR) (regulator), Network Rail (owner, operator, framework agreement with the DfT), train operating companies (provider, private sector franchises), publicly funded (majority), public use and private sector use (freight).

Strategic road network provision and maintenance: Department for Transport and Secretary of State for Transport, Office of Road and Rail (ORR) (regulator), Highways England (operator and provider, government company, Transport Scotland and Welsh Assembly equivalent), private sector provision of some services, public funding, public use and private sector use (freight).

Local road provision and maintenance: local authorities (owner, operator, provider, private sector frameworks for design, operation and maintenance), publicly funded; road improvements required as part of a development, privately funded, public and private sector user

Learning outcome 4: Understand the structure of the transport industry (continued)

Bus and coach services:

- Local services: Transport Commissioners and Driver and Vehicle Standards Agency (licensor and regulator), private sector (provider, operator) funding complex, e.g. private sector which local authorities can choose to subsidise or have contracts for, e.g. school buses.
- National services: deregulated, private sector, make all own decisions, still need licenses.
- Community services: voluntary sector funded and run.

Freight, distribution and logistics, ports: Transport Commissioners and Driver and Vehicle Standards Agency (DVSA) (licensor and regulator), private sector (provider, operator)

Airports: Civil Aviation Authority (CAA) (regulator), Department for Transport (licensor in some cases), private sector (provider, operator, funding).

Modes with fixed infrastructure: Department for Transport and Secretary of State for Transport, Office of Road and Rail (ORR) (regulator), provider, e.g. local authority, private sector (operator), public funding.

Learning outcome 5: Understand the impact other related disciplines have on transport planning

5.1 Stages in the transport planning process (policy to scheme)

Identify need for policy. e.g. from legislation, approve policy, policy informs development of plans, e.g. transport or land use (local) plans, scheme identification, scheme development, planning permission, scheme design, scheme implementation.

5.2 Related disciplines

The impact of related disciplines such as, and not limited to, those given below.

Policy and planning stage: for example town planners, urban designers, sociologists, economists, specialist transport modellers.

Scheme development, design and approval: for example planning consultants, solicitors, surveyors, architects, landscape architects, town planners, environmental specialists (e.g. air, noise, water), engineers (e.g. structural, civil).

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Suggested reading/resources

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Planning – Haymarket Media Group

Transport Professional – Chartered Institution of Highways and Transportation

Websites

https://infrastructure.planninginspectorate.gov.uk/	National infrastructure planning
http://planningguidance.communities.gov.uk/	Planning practice guidance
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf	National Policy Planning Framework
www.gov.uk/government/collections/dft-circular	Department for Transport circulars
https://www.gov.uk/government/publications	UK government guidance
www.gov.uk/guidance/local-plans	Local plan guidance
www.gov.uk/government/organisations/environment-agency	Environment Agency
www.gov.uk/government/uploads/system/uploads/attachment_data/file/3695/inclusive-mobility.pdf	Inclusive Mobility
www.hse.gov.uk	Health and Safety Executive
www.legislation.gov.uk	United Kingdom legislation
www.planningportal.co.uk	Useful site for information on the planning process

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand the documents that define the objectives of national, regional and local transport policies	Research and Compare and Contrast Two Transport Policies	Open-book, timed assignment following research into local, regional and national transport policies. The assessment will give an outline assignment plan as a guide.
2 Understand transport policy-making bodies at a national, regional and local level		
3 Understand the process for the approval of transport policies, plans and projects		
4 Understand the structure of the transport industry	Structure of Transport Systems	Produce a guide that illustrates the structure of local and central government and the role of the private, public and voluntary sectors in relation to the provision of one mode of transport.
5 Understand the impact other related disciplines have on transport planning	Investigation into Transport-planning-related Disciplines	Produce a report and presentation on three of a given list of related disciplines and how they impact on transport planning.

Learning outcomes 1, 2 and 3: Research, Compare and Contrast Transport Policies

To achieve a Pass, learners will write a report that summarises the main features of the transport policies and compare and contrast them. For each transport plan chosen, the report should show knowledge of the principal bodies involved in the production of the policy, understanding of what the policy relates to and the objectives of the policy, as well as how the policy is likely to have been approved. The report will discuss the hierarchy of transport policy documents in the United Kingdom and how the chosen policies relate to this hierarchy through, for example, the use of a diagram. Learners will compare the objectives of the policies to each other and the overarching policy objectives of the UK government in terms of planning for transport, and analyse the extent to which the policies meet the objectives. Learners could present this analysis as a table and explain the differences between the objectives of the policies. The report will show a clear understanding of the policies reviewed and their place within the wider transport planning industry.

Learning outcome 4: Structure of Transport Systems

To achieve a Pass, learners will prepare a guide that presents information on their chosen mode of transport, using case-study examples to illustrate their work. Learners will demonstrate that they are familiar with the structure of the bodies that have responsibility for the management and delivery of that transport mode, and the transport systems it uses. Learners should identify what these bodies are and their role and principal responsibilities. The guide should show that they understand the role of the public, private and voluntary sectors, and their impact on the delivery of services for their chosen mode of transport. Learners will identify the main strengths and weaknesses in operating, managing and delivering the mode of transport in this way, referring to the case-study examples.

Learning outcome 5: Investigation into Transport-planning-related Disciplines

To achieve a Pass, learners will present a summary of their investigations as a presentation to their peers. The presentation will identify the chosen disciplines and summarise the role of those disciplines in transport planning. Learners will identify where the related discipline has an impact on transport planning and analyse the potential impact on the transport-planning process. This analysis could, for example, be presented as a diagram and will identify important points on the relationship of this discipline and transport planning. For example, if the impact is at a specific time or for a specific duration it is mandatory. The accompanying report will show greater detail of their investigation, showing a clear understanding of the relationships of the disciplines.

Unit 2: Understanding Laws and Regulations in Transport Planning

Level: 3

Guided learning: 60

Unit introduction

Laws and regulations govern the work that transport planners carry out and it is important that you understand the statutory and regulatory requirements with which you have to comply. It is important that you are aware of what these requirements are, what impact they have and when they do and do not apply to your work.

The regulations and policy documentation produced by the government often set out the process by which transport policies, plans and schemes are prepared and progressed, and ensure that important impacts are addressed. You will consider the impact of equality and discrimination, health and safety, and environmental impacts on the development of transport plans, policies and schemes and how these impacts are assessed, reported and managed, referring to current industry best practice. It is important to note that there are other areas of important regulation introduced in other units.

The development of transport plans, policies and schemes is influenced by statutory and regulatory frameworks, which clearly set out the process that will be followed, including the need for consultation on the emerging plans, policies and schemes. You will develop an understanding of the key statutory and regulatory instruments that impact transport plans, policies and schemes.

The way in which transport projects are funded is often subject to regulation and will be introduced in this unit. Funds for transport schemes are applied for by following a prescribed process and you will look at how transport schemes and services are funded on a national, regional and local level, and the different stakeholders involved. A mix of public and private sector case studies will be used to highlight the differences in approach and the stakeholder involved.

You will look at examples of where the law and regulations might not apply, or where they might not be appropriate or sufficient to improve your understanding of the subject.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the key principles of current statutory and regulatory requirements relating to the preparation of transport policies, plans and schemes	1.1	Explain the key themes found in statutory and regulatory requirements for the preparation of transport policies, plans and schemes
		1.2	Explain how policies, plans and schemes are prepared in accordance with guidance and best practice
2	Understand the key principles of how transport projects and services are funded	2.1	Compare the main sources of funding used for transport projects
		2.2	Compare the public and private sector bodies that provide funding for transport projects
3	Understand the laws, regulations and guidance governing health and safety in transport planning	3.1	Explain the purpose of health and safety laws, regulations and guidance in transport planning
		3.2	Explain how features of a transport policy, plan or project have been influenced by health and safety laws
4	Understand the laws, regulations and guidance governing equality in transport planning	4.1	Explain the purpose of equality laws, regulations and guidance in transport planning
		4.2	Explain how features of a transport policy, plan or scheme have been designed to achieve inclusiveness for transport operators or users

Learning outcomes		Assessment criteria	
5	Understand the laws, regulations and guidance governing environmental impact in transport planning	5.1	Explain the regulations relating to the environmental impact of transport policies and projects
		5.2	Explain the application of appropriate environmental impact laws and regulations in transport planning
6	Understand the laws, regulations and guidance governing development planning	6.1	Describe the laws, regulations and guidance governing development planning
		6.2	Explain the key elements of the development planning process
		6.3	Evaluate the impact of transport policy and plans on the development planning process
7	Understand the importance of ethical professional conduct	7.1	Explain the importance of ethical professional conduct
		7.2	Explain the meaning of: • public interest • reputation • conflict of interest • equality of opportunity

Content

What needs to be learned
Learning outcome 1: Understand the key principles of current statutory and regulatory requirements relating to the preparation of transport policies, plans and schemes
1.1 Principles of statutory and regulatory requirements *Hierarchy of requirements:* primary legislation (laws and acts, e.g. Highways Act 1980), secondary legislation (regulations, rules, orders, e.g. Traffic Management Act 2004), policies, guidance and approved codes of practices; London regulatory framework different. *Impact:* statutory duties, mandatory, policies and guidance, more flexible, e.g. ensure preparation is sufficient and practicable.
Learning outcome 2: Understand the key principles of how transport projects and services are funded
2.1 Types of funding *Sources:* public, private, public-private partnership, e.g. PFI, PPP. *Bodies providing funding:* public, e.g. Department for Transport, private-public partnerships, e.g. local enterprise partnerships; private, e.g. private developers or companies. **2.2 How different transport projects are funded** The process of funding for project/service, using examples to include the following. *Strategic Road Network (motorways and A roads):* Highways England has the Roads Investment Strategy, which sets out schemes, public funding application, project control framework. *Railways:* Network Rail framework, public funds, GRIP process. *Local transport projects:* for example roads, cycling, walking, schemes set out in local transport plan, publicly funded, Local Growth Fund and Growth Deals. *Development-led:* privately funded, development and associated transport infrastructure paid for by developer, agreed with the local highway authority or Highways England through planning permission, Section 106 contributions. *Bus and coach-based transport:* privately funded, some services subsidised by local authority. **2.3 Key factors in availability of funds** *Public sector funding:* budgets allocated, applied for using a prescribed process, prioritisation of funds, delivery timescales. *Private sector:* budget, commercial viability, delivery timescales.

Learning outcome 3: Understand the laws, regulations and guidance governing health and safety in transport planning

3.1 Principles of health and safety

Definitions: for example hazard, risk, risk assessment, as far as is reasonably practicable.

Principles of health and safety laws, regulation and guidance: promote safety at all times, to minimise the hazards presented, reduce risk, record and monitor, consult, communicate risk, reduce accidents, reduce economic cost of accidents; hazards should be removed or mitigated early in project, overarching objective of transport policies and plans is to improve road safety and ensure transport systems, services and schemes are safe.

3.2 Relevant laws, regulations and guidance

Health and Safety at Work etc. Act 1974: e.g. employers must carry out risk assessments to identify, control or reduce risks to protect employees. They must provide training for employees and visitors on workplace conditions, e.g. ventilation, heating and lighting, provision of relevant personal protective equipment.

Construction (Design and Management) Regulations 2015: e.g. safety in design, identify, record and mitigate hazards in design.

Road Safety Audit (from HD 19/15 Design Manual for Roads and Bridges): audit of transport scheme design to identify and remove or reduce the risk of hazards.

Codes of practice: for example from Health and Safety Executive, WebTAG.

3.3 Impact on transport planning

Construction (Design and Management) Regulations 2015: relevant during design from concept to detailed design, identify, record and mitigate hazards in designs, risk registers, risk assessments.

Road Safety Audit: third-party review of design, required for planning permission, required at preliminary design stage (stage 1), at detailed design stage (stage 2), prior to opening (stage 3) and post-implementation (stage 4).

Appraisal: WebTAG appraisal of schemes uses impact on road safety, e.g. economic cost of accidents.

Consequences: potential injury and loss of life, complaints, legal fines penalties, appeals against process taken to approve plans and schemes, time and budget, reputation.

Learning outcome 4: Understand the laws, regulations and guidance governing equality in transport planning

4.1 Principles of equality and diversity

Definition: equality, e.g. treating people fairly; diversity, e.g. embracing difference.

Principles: do not discriminate, for example age, gender, disability, pregnancy, race, religion, belief, to ensure and prove that all users of the transport scheme or system are considered and their needs addressed, overarching objective of transport plans and policies, duty to consult.

Benefits: e.g. inclusive, accessible transport systems, addressing all needs, encourage use of transport system by all users.

Consequences: complaints, legal fines and penalties, appeals against process taken to approve plans and schemes, time and budget, reputation

4.2 Relevant laws, regulations and guidance

Equality Act 2010, Inclusive Mobility guidance.

4.3 Impact on transport planning

Policies and plans: e.g. equality impact assessment of alternative strategies and schemes.

Transport scheme or development: audit to identify where existing infrastructure is not Equality Act compliant and addressed in design of scheme, design and access statement submitted as part of planning application.

Learning outcome 5: Understand the laws, regulations and guidance governing environmental impact in transport planning

5.1 Environmental impacts of transport

Principles: ensure impact considered, minimise environmental impact of development and associated transport systems and schemes, plan and design to reduce environmental impact, duty to consult.

Impacts: to include air quality, noise, culture, heritage, biodiversity, water and flooding, as per guidance.

5.2 Relevant laws, regulations and guidance

Laws: Environment Act 1995, Environmental Protection Act 1990, Flood and Water Management Act 2010.

Regulations: The Town and Country Planning (Environmental Impact Assessment) Regulations 2011.

Guidance: Strategic Environmental Assessment, DMRB Volume 11, transport emissions policy, WebTAG.

5.3 Impact on transport planning

Plans and policies: strategic environmental assessment of alternative strategies.

Appraisal: assessment of alternative schemes, compare environmental impact, WebTAG.

Schemes and projects: Environmental Impact Assessment (EIA), to include different chapters, e.g. transport chapter and the need for EIA, flood risk assessment, link to planning permission.

Consequences: complaints, legal fines and penalties, appeals against process taken to approve plans and schemes, time and budget, reputation.

Learning outcome 6: Understand the laws, regulations and guidance governing development planning

6.1 Key elements of the process of development planning

Development planning: planning and control of development, e.g. retail, leisure, houses (residential), industry, mining, plans for development, planning permission, transport schemes also subject to planning permission, private sector and public sector led.

Key laws and regulations: Highways Act 1980, Town and Country Planning Act 1990, Infrastructure Act 2015.

Key guidance: National Planning Policy Framework (NPPF) for England and planning practice guidance.

6.2 Key elements of the process of development planning

National level: national guidance dictates that local authorities have to prepare local plans, nationally significant infrastructure projects, development orders.

Regional level: statutory consultees for approval, combined authorities, e.g. West Yorkshire Combined Authority, city regions, e.g. Transport for Greater Manchester, Transport for London.

Local level: site allocation, preferred sites identified in local plan, application for planning permission, type and scale of development (or scheme) determines detail and documents submitted for planning, consultation and stakeholder engagement, review by local authority and other statutory bodies, e.g. highway authority, Environment Agency, planning department, approval and permission with or without conditions, detailed design construction and operation.

Planning permission documents: e.g. transport assessment or statement, environmental impact assessment, site layouts drawings, details of access, parking, roads, provision for cyclists and pedestrians, accessibility planning, public transport, highway improvement drawings, masterplan, travel plan.

6.3 Impact of transport policy and plans on development planning

Impacts: planning permission more difficult to obtain for a site that is not in local plan, failure to comply with guidance, no planning permission of development order, judicial review or public inquiry.

National Planning Policy Framework: presumption in favour of sustainable development, need for travel plans

Learning outcome 7: Understand the importance of ethical professional conduct

7.1 Ethical professional conduct

Ethical professional conduct: duty as professional person to act in a proper manner to client, employer, profession, institution, public; acting in a way that would be expected of society.

Key moral principles: to include honesty, fairness, equality, dignity, diversity and individual rights.

Codes of conduct: set out standard for ethical behaviour, e.g. organisational, institution.

Examples of unethical conduct in transport planning: e.g. collusion on projects, not considering the environment, not considering health and safety, non-disclosure of conflict of interest.

Penalties: e.g. loss of business and reputation, personal dismissal from a professional institution.

7.2 Terms used in describing ethical conduct

Public interest: matters in which the public in general has an interest and which as professionals we should protect, e.g. environment, public safety.

Reputation: opinion of other people as individuals or in organisations. Ethical conduct has benefits to business.

Conflict of interest: situation where an individual or organisation has duties to more than one individual or organisation, duties to both cannot be performed adequately.

Equal opportunities: assumption of non-discrimination so that the same opportunities are available to all individuals and groups, Equality Act 2010.

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Suggested reading/resources

Textbooks

Malik H – *A Practical Guide to Equal Opportunities*, 3rd edition (Nelson Thornes, 2009) ISBN 9781408504826

Thompson N – *Promoting Equality: Working with Diversity and Difference*, 3rd edition (Palgrave Macmillan, 2011) ISBN 9780230223431

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Planning – Haymarket Media Group

Transport Professional – Chartered Institution of Highways and Transportation

Websites

https://infrastructure.planninginspectorate.gov.uk/	National Infrastructure Planning
http://planningguidance.communities.gov.uk/	Planning Practice Guidance
www.acas.org.uk	Resources on equality. Government-sponsored organisation, *Delivering equality and diversity* advisory booklet
https://www.gov.uk/government/publications/national-planning-policy-framework--2	National Policy Planning Framework
www.gov.uk/government/organisations/environment-agency	Environment Agency
www.gov.uk/government/uploads/system/uploads/attachment_data/file/3695/inclusive-mobility.pdf	Inclusive mobility
https://www.gov.uk/government/organisations/government-equalities-office	Government guidance on discrimination, Government Equalities Office, Equality Advisory and Support Service
www.gov.uk/guidance	UK government guidance
www.gov.uk/guidance/local-plans	Local planning guidance
www.gov.uk/guidance/standards-for-highways-online-resources	Standards for Highways, including *The Design Manual for Roads and Bridges*
www.hse.gov.uk	Health and Safety Executive
www.legislation.gov.uk	United Kingdom legislation
www.planningportal.co.uk	Useful site for information on the planning process

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The following table shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
2 Understand the key principles of how transport projects and services are funded	Compare and Contrast the Funding of Transport Projects	Open-book, timed assignment using two case studies to compare and contrast how the two transport projects or services are funded. Learners will explain the likely sources of funding for the projects and the public and private sector bodies that provide this funding. Learners could identify constraints to this funding and how the funding is applied for.
1 Understand the key principles of current statutory and regulatory requirements relating to the preparation of transport policies, plans and schemes	Impact of Laws, Regulation and Guidance on the Development of Transport Schemes	Learners are given a relevant scenario covering the phases of a transport scheme, from the development of policy to the design of a scheme, and will identify the different laws, regulations and guidance and at what stage in a project these would be considered. Learners will produce a report that discusses the relevant points and what impact the legislation is likely to have on the scheme development and why. Learners will explain the principles of current statutory and regulatory requirements, and how they relate to transport policies, plans and schemes. Learners will identify and explain the different statutory and regulatory impacts, including those involving health and safety, environmental impact and development planning.
3 Understand the laws, regulations and guidance governing health and safety in transport planning		
4 Understand the laws, regulations and guidance governing equality in transport planning		
5 Understand the laws, regulations and guidance governing environmental impact in transport planning		

Learning outcome	Assignment title	Recommended assessment approach
6 Understand the laws, regulations and guidance governing development planning		
7 Understand the importance of ethical professional conduct	Reflective Report on Self-guided Study	Learners will write a reflective report describing their research into ethics. They will explain their understanding of ethics, what ethical conduct encompasses and why it is important. They will explain how ethics is governed in transport planning, giving examples from company policies, professional institutions or other sources. They will be asked to explain the meaning of common terms used in discussing ethical conduct. Learners should reflect on how they themselves act in an ethical way in work and study and how they meet the requirements of the ethical standards that apply to them.

Learning outcome 2 assignment title: Compare and Contrast the Funding of Transport Projects

To achieve a Pass, learners will define how each project or service is funded and discuss the sources of the funding. They will be able to identify if the main source of funding is a public, private or jointly-funded project and why a project would be privately funded, for example in the case of a new road as part of a development. Learners will compare the two case studies and identify issues on how each project/service is funded in terms of the availability of funding and how this funding is applied for.

Learning outcomes 1, 3, 4, 5 and 6 assignment title: Impact of Laws, Regulation and Guidance on the Development of Transport Schemes

To achieve a Pass, learners will use the given scenario and project timeline, and identify the relevant laws, regulations and guidance that have an impact on the different phases of scheme development. Learners will identify examples of laws, regulation and guidance in the areas, to include health and safety, equality and the environment, as well as explaining when there is a need for planning permission and the production of documents to support planning application. Learners will identify at least one example for each phase of the transport scheme development, to include development of transport policy, development of a transport plan, scheme development, scheme appraisal and scheme approval. In each case, learners will identify the relevant law, regulation or guidance, and explain why it is important and the impact on the transport scheme, to include impact on costs and timescale where appropriate.

Learning outcome 7 assignment title: Reflective Report on Self-guided Study

To achieve a Pass, learners will carry out self-guided research into ethical considerations in transport planning. Their accompanying reflective report will demonstrate their understanding of the concepts related to ethical conduct, how they apply this to their own work and the importance of ethical conduct in transport planning.

Unit 3: Understanding the use of Data and Information in Transport Planning

Level: 3

Guided learning: 60

Unit introduction

Transport planning is a dynamic, fast-moving industry. Transport planning considers a range of scales (national, regional, local), transport sectors (road, passenger, freight) and modes of transport.

The predicted and actual success of a transport policy or plan and the schemes and services implemented through them need to be modelled, assessed and monitored. The tools and techniques used to do this require a diverse range of data, which needs to be collected, processed, analysed and presented in the correct way. Current best practice on the use of data can change as innovative new tools and techniques emerge.

In this unit, you will learn about the diverse uses of data in transport planning and also the methods used to collect the data, for example from local pedestrian and vehicle surveys, regional origin-destination surveys and market research, and from a number of existing data sources. You will learn about innovative survey techniques that use new technology, saving the industry time and money. You will also explore the issues around using new technology in transport planning.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the key principles underlying the use of data in transport planning	1.1	Explain how data is selected and prepared for use in transport planning
		1.2	Explain how current guidance and best practice impacts on data collection
2	Know the principal sources of existing transport statistics and data, and their key characteristics	2.1	Identify the existing sources of data used in transport planning
		2.2	Evaluate the existing sources of data used in transport planning
3	Understand methods of data collection used for transport planning	3.1	Evaluate the different methods of data collection used in transport planning
		3.2	Explain how to carry out transport surveys using appropriate methods
4	Understand the key principles of processing, analysing and presenting transport survey data	4.1	Explain the key principles of basic survey data: • processing • analysis • storage
		4.2	Explain the key characteristics of data storage, processing and analysis systems and techniques
		4.3	Evaluate the selection of appropriate data presentation formats to meet the objectives of a project

Content

What needs to be learned
Learning outcome 1: Understand the key principles underlying the use of data in transport planning
1.1 Explain how data is used *Data use:* project/scheme, mapping, modelling, feasibility study, appraisal/assessment, design, travel plans and travel behaviour, e.g. identify needs, assess preferences. *Type of data:* informative, prescriptive, qualitative, quantitative, trends and patterns. *Stages of data collection:* analyse problem, identify data requirements, identify collection techniques, production of specification for data, filtering, collation, processing raw data, calibration and validation, e.g. checking against other data analysis, presentation. **1.2 Current guidance and best practice** *Current guidance:* WebTAG; factors affecting planning of surveys, to include, for example, neutral month, neutral days, appropriate time periods (weekday, weekend, peak hours), passenger car units. *Principles of best practice:* confidence in data, strengths of different sources, survey proportionate for use in scale and budget, need to compromise in cost, carrying out a safe survey, quality management (of survey company), data protection (access to data and sharing of data) commercial sensitivity. *Health and safety:* plan a safe survey, identify hazards, reduce risk, follow organisational procedures. **1.3 Principles of data protection** *Data Protection Act 1998:* addresses how we retain data we collect and hold, data protection rights. *Principles:* ensure that data is, for example used fairly and lawfully, for a specified purpose, in a relevant way, kept safely and securely for no longer than is necessary, additional safeguards for certain data, e.g. health, children, criminal records. *Impact on your work:* for example policies and guidelines affecting use of data, e.g. organisation or client, restricted access to data, file protection and security, treatment of sensitive information.

Learning outcome 2: Know the principal sources of existing transport statistics and data, and their key characteristics

2.1 Existing sources of data

Data sources: for example central government, e.g. DfT, local government, charities, third parties.

Traffic and movement: e.g. census data, road traffic accidents data, traffic flow, journey time and congestion data.

Traffic growth: e.g. TRICS® (trip generation analysis tool), Trip End Model Presentation Program (TEMPro), mobile phone, GPS and Bluetooth® data.

Passenger transport: e.g. annual statistics, satisfaction surveys, National Travel Survey, rail patronage data (LENNON).

Sustainable modes and travel behaviour: e.g. travel surveys (phone, paper, online) and diaries, questionnaires, GIS, mapping.

Environmental: e.g. air quality, noise.

2.2 Evaluate the existing sources of data used

Characteristics: what is available, how it is collected, level of accuracy, how the data is used, fitness for purpose, strengths and weaknesses of data sources, confidence in data and unreliable sources, verification and calibration, validation of these sources.

Confidence in the source of data: reliability, currency, accuracy, cost of acting on inaccurate or out-of-date information, risk associated with data and consequences of acting on it.

Learning outcome 3: Understand methods of data collection used for transport planning

3.1 Methods of data collection

Surveys might be carried out by the organisation or by a third party (survey company). Case-study examples of all the different methods below should be introduced and discussed.

Local: classified turning count, queue lengths, speed, registration plate surveys.

Network/strategic: to include journey time, e.g. traffic master, origin/destination using mobile phone/Bluetooth®, Automatic Number Plate Recognition, automatic traffic count.

Public transport: e.g. railway and bus passenger surveys.

Influencing travel behaviour/market research: e.g. surveys, questionnaires.

On-site survey: 'static survey' to collect information, e.g. junction geometry, utilities, observations of junction operation.

Audits: e.g. infrastructure, pedestrian, cycle, station, accessibility.

3.2 Explain how to carry out transport surveys using appropriate methods

Identifying data requirement: objectives of survey, final use of data, regulation or best practice (e.g. WebTAG).

Collection method: e.g. third party, manual, automated, new technology, survey, sampling, consultation.

Survey specification: survey brief, data to be collected, collection methods, resources, e.g. equipment, recording data, permissions and authority, health and safety, review of potential issues and contingencies.

Tender process: tender process for third-party surveys. For travel surveys and questionnaires – identifying the audience, sampling, questionnaire design.

Review of data collected: against survey specification, fitness for purpose, information gaps, anomalies.

Data checking and consistency: internal check, e.g. checking in a spreadsheet, external check, e.g. against other data, calibration.

Confidence in the data: what can go wrong during a survey, reliability, currency, accuracy, bias (in qualitative surveys), cost of acting on inaccurate or out-of-date information, risk associated with data and consequences of acting on it.

Learning outcome 4: Understand the key principles of processing, analysing and presenting transport survey data

4.1 Explain the key principles of survey data processing, analysis and storage

Principles: processing of data to achieve aims of project, identify use of data, use of software to analyse data, evaluation of data to highlight key messages (analysis), identify further data required (gap analysis), data consistency and credibility, e.g. potential issues.

Data storage: quality assurance and version control, data protection, security, file sharing systems.

4.2 Explain the key characteristics of data processing and analysis systems and techniques

Qualitative data: informative, visual, market research, opinion based.

Quantitative data: prescriptive, data and numbers based.

Data storage: e.g. file sharing, cloud-based, quality assurance, version control, change control and record keeping.

Processing systems: Excel®, mapping, e.g. accessibility analysis, geographical information systems (GIS).

Analysis systems: Statistical Package for the Social Sciences (SPSS), Excel, mapping, e.g. accessibility analysis, geographical information systems (GIS).

4.3 Evaluate the selection of appropriate data presentation formats to meet the objectives of a project

Data use: presentation reflects use, e.g. to inform an assessment, to pass on information, to elicit opinion, e.g. report, presentation, leaflets and information, for further use in an assessment or appraisal.

Qualitative: e.g. spreadsheets, diagrams, reports, presentations.

Quantitative: e.g. charts (for example pie, bar), spreadsheets, reports and tables.

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Suggested reading/resources

Ebook

Transport in the Urban Environment – Chartered Institution of Highways and Transport (1997) www.ciht.org.uk/en/knowledge/publications/index.cfm/transport-in-the-urban-environment-1997

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Planning – Haymarket Media Group

Transport Professional – Chartered Institution of Highways and Transportation

Websites

https://tps.org.uk/	Transport Planning Society
www.ciht.org.uk	The Chartered Institution of Highways and Transport
www.ciltuk.org.uk	The Chartered Institute of Logistics and Transport
www.data.gov.uk	Searchable database of UK datasets, including road safety
www.gov.uk/government/collections/tempro	TEMPro
www.gov.uk/government/organisations/department-for-transport	Department for Transport
www.gov.uk/government/statistics	Links to census information
www.gov.uk/guidance/standards-for-highways-online-resources	DMRB Volume 12 Traffic Appraisal of Road Schemes
www.gov.uk/guidance/transport-analysis-guidance-webtag	WebTAG
www.highways.co.uk	Highways England website
www.ice.org.uk	Institution of Civil Engineers
www.legislation.gov.uk	United Kingdom legislation
www.ons.gov.uk	Office for National Statistics
www.trics.org	TRICS® trip generation analysis tool

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand the key principles underlying the use of data in transport planning	Data Collection Case Study Comparison	Timed open-book assignment. Learners are given two case studies and asked to outline a data collection strategy for each and compare the two strategies and explain the suggested methods and explain their choices. Learners will then explain for each case study how the data is processed and analysed, the tools and techniques used and how this might be best presented, concluding with an evaluation of the different strategies.
3 Understand methods of data collection used for transport planning		
4 Understand the key principles of processing, analysing and presenting transport survey data		
2 Know the principal sources of existing transport statistics and data, and their key characteristics	Analysing Transport Data	Learners are given a scenario and will need to access the information they require to analyse the data, extract the information and present it in an appropriate manner, explaining their methodology.

Learning outcomes 1, 3 and 4 assignment title: Data Collection Case Study Comparison

To achieve a Pass, learners will prepare a data-collection strategy for each case study presented. This strategy will identify the purpose of the data collection and what the data will be used for. The report will specify what data is required and why this data helps meet the objectives of the project, the report will also specify the data to be collected, i.e. what, when, and the method of data collection. Learners will identify options for data collection and explain their preferred choice, outlining strengths and weaknesses of each survey type. Most importantly, learners should stress the importance of knowing when and how the survey should be carried out and that it needs to be within budget and timescales.

The strategy should identify the current best practice and guidance that impacts on the data collection, to include data protection and equality. Learners will explain this impact and how their strategy deals with it. Learners will identify how they would ensure that the data collection strategy is safe. They will identify a simple way of sense checking the survey and the possible issues that might arise when carrying the sense check out. Learners will refer to referenced research and examples where appropriate.

Learners will compare the two strategies, outlining the advantages and disadvantages of each in the form of a simple table.

The data-collection strategies proposed by learners will be extended to include how the data would then be processed and analysed, identifying appropriate tools and techniques and proposing how the data would ultimately be presented, referring back to the objectives of the project. Learners will evaluate whether their strategy achieves the objectives of the project and the strengths and weaknesses of their proposed approaches.

Learning outcome 2 assignment title: Analysing Transport Data

To achieve a Pass, learners will present a report that evaluates their methodology in analysing and presenting the data as proposed by the assignment scenario. The scenario should be chosen so that learners have to access an existing source of data given in the assignment scenario.

Firstly, learners will evaluate the existing source of data they are given. This should show that they are familiar with how the data is collected and whether it is fit for purpose. They will identify how valid the data is (e.g. age of the data or coverage), their confidence in the data and any issues or risks that might arise from the use of the data.

Learners will then perform the processing and analysis of the data appropriate to the scenario, and explain why their methodology is appropriate for the data given, i.e. how it meets the objectives of the scenario. Learners will identify the tools and techniques they have used and why. Importantly at this stage, they will highlight any issues they can identify in the data or in the process they have chosen, and reflect on their confidence in their findings.

Learners will report on the storage of the data and, as a minimum, refer to issues of data protection and quality assurance.

Learners will present a summary of the data they have analysed in a format appropriate to the end use of the data, explaining why it is relevant, referring to the audience and the end use of the data. If this end use is a technical report for a client, then a brief written statement or a table might be appropriate. If the end use is a public consultation leaflet, then a more-visual chart might be more appropriate. Learners will refer to whether the data is qualitative or quantitative and how this affects their choice of presentation format.

Unit 4: Understanding Modelling and Analysis Techniques in Transport Planning

Level: 3

Guided learning: 60

Unit introduction

Transport systems are continually developing as use of land changes from agricultural to industrial, for example and thus demand for travel changes. Improvements to transport systems and infrastructure are often required to accommodate these changes in travel patterns. Public and private sector organisations both want to make sure that the improvements they are planning offer the best value for money possible, while meeting the needs of future travel demand.

Transport planners are employed to propose potential solutions that deal with the problems identified. They use models to develop these solutions and assess their impact. For example, a model might be used to determine whether a road can carry the traffic we need it to, whether junction improvements will resolve issues of queuing and delays, the optimum route for a new road.

Transport models cover road networks and junctions on different scales, for example regional, city wide or junction. Transport models can also cover public transport, walking and cycling, and even air, sea and freight. Models can also be used to investigate the impact of fare increases on certain modes of transport.

You will learn about the main types of models and their purpose and use, as well as their limitations and any issues with their application of which you need to be aware. You will be able to describe the main stages in the development model and the data requirements for model development and application.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the main types of transport models	1.1	Describe the key characteristics of the main types of transport models
		1.2	Explain the purpose of the main types of transport models
		1.3	Explain the appropriate use of the main types of transport models
2	Understand transport model development	2.1	Explain the principles of each stage of model development
		2.2	Explain the process of developing forecasts from transport models
3	Understand the role of data in all stages of modelling	3.1	Explain the sources of data frequently used in the development of transport models
		3.2	Explain the possible impacts of data shortages and errors at each stage of modelling
4	Understand the limitations of transport models	4.1	Explain the limitations of transport models
		4.2	Explain constraints that can be encountered when interpreting and applying transport model outputs
		4.3	Describe the analysis techniques used in transport modelling

Content

What needs to be learned
Learning outcome 1: Understand the main types of transport models
1.1 Why do we need models? *What is a model:* representation of a real-life situation, e.g. an existing transport network, a proposed transport network, usually computer generated. *Need:* to simulate our transport networks, to understand interaction between land use and travel demand, help predict traffic impact, help plan for future transport demand between origins and destinations, used in a number of ways, e.g. predict, test, assessment, evidence, models used to solve problems; can be sped up or slowed down to assess behaviour easily. *Predict:* for example, where does the traffic generated by a development travel to? *Test:* to test alternatives, e.g. plans, schemes, and the impact they have, save time and money, cost effective. *Assessment:* e.g. to assess the impact of a scheme or plan, advantages, disadvantages, to identify a problem and propose/test/compare solutions. *Evidence:* to provide evidence of identified issues, testing and assessing alternatives, evidence to support choice of a preferred scheme, e.g. funding bids. *Main types:* manual (e.g. spreadsheet model) or software based, local junction, network (microsimulation and meso-models), macro (strategic) models, pedestrian movement models, multi-modal models, public transport models. *Constraints:* time, cost, varies with model type.

Learning outcome 1: Understand the main types of transport models (continued)

1.2 Main types of models, purpose and use

Types of models: For example, vary in scale and complexity, can apply to one or more modes, large number of different models.

Local models:

- to include junction models such as roundabouts, priority junctions and traffic signals, e.g. Junctions 8 and LinSig
- purpose: model impact of traffic demand changes or highway improvement, not dynamic, manual trip assignment and distribution
- support planning application, assess impact of proposed highway mitigation.

Microsimulation/meso-model:

- to include modelling of networks, for example town level, e.g. Paramics, VISSIM
- model impact of traffic demand changes or highway improvement
- purpose: support planning application, assess impact of proposed highway mitigation, can be dynamic
- use: support planning applications, assess impact of highway improvements.

Macro-models:

- model interaction between land use and transport, area or region-wide model, e.g. Aimsun, SATURN
- purpose: assess wider area impact of changes to transport systems, dynamic, model predicts changes to assignment of traffic
- use: support local plan development, assess wider impact of development and highway improvements, changes in journey times.

Learning outcome 2: Understand transport model development

2.1 Principles of model development

Definitions: to include origin, destination, trip matrix, mode, demand, capacity, model elements, e.g. links, junctions, base year, future year.

Four-stage model: models perform one or all of the following:

- trip generation
- trip distribution
- modal split
- traffic assignment.

Principles: preparation of the base model, to include model specification, model building, model calibration, model validation, application, guidance on model specification and development, e.g. WebTAG.

Model specification: the 'what', 'how' and 'why' of a model for a given project, e.g. scale, time periods, modes of transport, data required, what will be modelled, e.g. scenarios or alternatives, methodology for developing the model and applying it, checking procedures, constraints, risks.

Calibration: e.g. comparison of model against known data, amend model to reflect known data.

Validation: comparison of base model output against data not used in model development, e.g. journey times, queues, validate against certain criteria, e.g. Design Manual for Roads and Bridges or WebTAG, approval of model relies on validation.

Approval: transport models need approval, e.g. local authority, Highways England, Department for Transport, approval of base model and future year model, based on validation.

2.2 Principles of model application

Principles: to include future year scenario, traffic growth, future year model development, model interventions in future years, analysis and interpretation of outputs. Guidance on model application, e.g. WebTAG.

Traffic growth: applied to base traffic to predict future traffic.

Forecasts: prediction or estimation of future travel demand, e.g. traffic on links, queueing at junctions; use to assess impact of whatever change has been tested.

Learning outcome 3: Understand the role of data in all stages of modelling

3.1 Sources of data used in the stages of modelling

Source: traffic survey, existing data set.

Model development: input data, to include traffic survey data, e.g. traffic counts, trip matrices, geometric data.

Calibration and validation: against known data, e.g. queue lengths, journey times, trip matrix.

Applying traffic growth: use existing national transport survey data, e.g. TEMPro, TRICS®.

Future year model: predicted travel demand data, trip matrix.

Analysis and interpretation: model output, data from model, various formats, further analysis to present findings.

3.2 Impact of data errors and shortages on model development and application

Impacts:

- inaccurate representation of existing scenario, e.g. network, junction, too many/too few, geometric factor errors
- confidence in data: data sample size, sample error
- uncertainty: data not available to calibrate, accuracy of base model unproven
- model is not approved: data not available to undertake validation for certain criteria, errors in validation data, model does not validate
- cumulative error: input data error can lead to model not validating
- forecasting and assessment inaccurate: results of forecasting and testing not reliable, conclusions unreliable.

Learning outcome 4: Understand the limitations of transport models

4.1 Limitations of transport model application

Limitations of application: appropriate model for scale, area of application and area of impact, e.g. strategic model for a small network of two junctions, thorough understanding and awareness of all factors needed.

Model limitations: in building the model, e.g. some models cannot assign traffic dynamically, cannot model linked trips.

Limitations of data inputs: e.g. sample size, accuracy, method of collection, errors.

Cost: data collection and model development, cost and time, model needs to be fit for purpose.

4.2 Interpreting and analysing transport model outputs

Potential constraints of model outputs:

- different formats, e.g. sets of numbers, visual, diagrams, large amounts of data
- modelling is appropriate, further analysis needed to interpret and present model outputs, further analysis to present data
- inaccurate base model or forecasting, model outputs unreliable, interpretation unreliable.

4.3 Analysis techniques

Analysis: take model outputs, interpret to present summary, e.g. spreadsheets, charts, reports, interpret for use in further assessment.

Choice of analysis technique: output required, budget, resources required, drawbacks and limitations, sense check.

Further information for tutors and assessors

Essential resources

For this unit, to demonstrate differences between the main types of models, centres need to be able to present a range of models to learners. This is for demonstration purposes only and not for model development or application.

Access to junction modelling software such as Junctions 9 might be useful.

Suggested reading/resources

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Planning – Haymarket Media Group

Transport Professional – Chartered Institution of Highways and Transportation

Websites

https://tps.org.uk/	Transport Planning Society
www.ciht.org.uk	The Chartered Institution of Highways and Transport
www.ciltuk.org.uk	The Chartered Institute of Logistics and Transport
www.data.gov.uk	Searchable database of UK datasets, including road safety
www.gov.uk/government/collections/tempro	TEMPro
www.gov.uk/government/collections/transport-appraisal-and-modelling-tools	Transport appraisal and modelling tools
www.gov.uk/government/organisations/department-for-transport	Department for Transport
www.gov.uk/government/statistics	Links to census information
www.gov.uk/guidance/standards-for-highways-online-resources	DMRB Volume 12 Traffic Appraisal of Road Schemes
www.gov.uk/guidance/transport-analysis-guidance-webtag	WebTAG
www.highways.co.uk	Highways England website
www.tfl.gov.uk	Transport modelling guidelines
www.transportmodeller.com	Useful reference for transport models
www.trics.org	TRICS® trip generation analysis tool

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand the main types of transport models 4 Understand the limitations of transport models	Selection of Models	Timed assignment on case studies. Learners are given two scenarios and a number of model types, and will select and justify the choice of model for each scenario, referring to the purpose and appropriate use of that particular model. Learners will need to show their knowledge of at least two of the main types of models. Learners need to explain how the outputs from the model will be analysed, the limitations of using the chosen model type and what issues might be encountered when applying these models. The scenarios set need to be significantly different to allow learners to show they know the differences between the modelling approaches.
2 Understand transport model development 3 Understand the role of data in all stages of modelling	Reflective Journal – Transport Model Development and Data Use	Reflective journal template provided by the centre. Learners will work through the stages of model development, including model specification, development, calibration and validation and application to provide forecasts. In order to do this the centre will need to either provide the data for learners to use to show they understand how to develop, calibrate, validate and apply a model, or learners will be using traffic data they have collected.

Learning outcomes 1 and 4: Selection of Models

To achieve a Pass, learners will choose a modelling approach from those given by the centre, which is appropriate for each scenario. They should explain their choice covering the following points: what the model is required for, scale of model coverage, what we use this type of model to test, for example highway improvements or impact of a local plan and wider area transport impacts. Learners need to refer to the cost and time implications of the model type chosen, and ensure the choice of model is proportionate to what needs to be modelled.

Learners need to identify and explain any constraints they can foresee with using that type of model, for example need for a large amount of data through surveys, what the model cannot do, for example cannot re-route traffic as a result of a transport scheme.

This might be shown in a table that learners fill in, or as a written statement. The answers do not need to be complex, but must show that learners understand the purpose, use, cost and time implications of the main model types in a simple way.

Learners should then discuss the interpretation and analysis of the model outputs. They will describe what this stage is aiming to achieve. This will be a general discussion on modelling conceptually, rather than focused on the two scenarios, and will identify that in order to interpret and analyse outputs, further analysis is often needed.

Learning outcomes 2 and 3: Reflective journal – Transport Model Development and Data Use

To achieve a Pass, learners will keep a reflective journal of their work on the following stages of the development and application of transport models: specifying, development, calibration, validation, application, forecasting and analysis.

Learners should maintain a journal of the activities they have completed. They might append evidence to the journal and refer to this evidence in the journal entries.

Specifying: learners must explain how they specified the model that was required, and refer to the objectives and purpose of the modelling, scale, time periods, modes of transport and the data that is required. They should also refer to any risks that have been identified with using this type of model.

Model building: learners will identify any issues they encountered and how they dealt with them.

Calibration/validation: learners will explain the need for this stage and the importance of it. They will identify how they have calibrated and validated their model and what data was used. Learners will evaluate the validation of their model, whether the validation shows the model is fit for purpose and the impact of a model that does not validate, for example no approval for project.

Application: identify what the model is going to be used to test/predict/assess and how this is done, for example creation of new models to model junction changes or a new road or impact of traffic from a new development.

Forecasting: learners will explain how they have used the model to show a future scenario or tested the alternative schemes, including how traffic growth has been applied.

Analysis: learners will explain the process of analysing the data and present a summary of their findings. They will identify alternative analysis techniques and justify their choice in terms of final use.

In each of the stages, learners should also identify the data that will be required, the format it is needed in, and what it will be used for as well as alternative data sources. Learners need to demonstrate they understand the impact of data shortages and errors in the data at every stage, for example cumulative error, confidence, and unreliable analysis, and this reflection will be built into the journal template.

Unit 5: Understanding Appraisal and Assessment Techniques in Transport Planning

Level: 3

Guided learning: 60

Unit introduction

Efficient transport systems promote economic growth, facilitating development and the movement of people and goods but it is recognised that transport systems have a wide-ranging impact. National policies on infrastructure, land use and development planning now oblige decision makers to ensure that the wider impacts of transport plans, policies and schemes have been considered properly. This is to minimise environmental impact, ensure value for money and deliverability, promote sustainability and safety, and maximise the opportunities for promoting modal shift to sustainable transport modes.

The appraisal frameworks used by transport planners guide them through the building of an evidence base they can use to model, assess and compare a number of alternative solutions using a consistent industry-wide approach. This, in turn, helps to build a transport business case and helps decision makers, such as governments and local authorities to identify, and eventually fund and implement, a final solution. You will learn about the key principles that apply to this process and how appraisal frameworks help ensure consistency in approach.

The transport appraisal process for transport policies, plans and schemes follows a well-defined process. First identifying problems and then developing potential solutions, followed by the modelling and assessment of those solutions against a number of factors relating to economic, environmental, sustainability, safety and financial impacts. Quantification of impacts is often in monetary terms but a lot of impacts cannot be quantified in this way and so a weighting, scoring or multi-criteria approach is often used to help compare and rank alternatives.

The development of land generates traffic and changes travel demand for the surrounding transport networks and systems. The impact of these changes and proposed solutions to mitigate this impact are assessed and presented during the application for planning permission for a development site. You will learn about transport assessments and their importance to the development planning process, the different stages of assessment and the factors that must be considered at each stage, including the impacts during construction of large developments.

The approach to appraisal and assessment changes frequently, as new evidence or modelling technologies become available and become to be considered as best practice. You will learn how to keep up with these changes throughout your career.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the purpose of appraisal and assessment of transport policies, plans and schemes	1.1	Explain the statutory and regulatory requirements and guidance relating to the assessment of transport policies, plans and schemes
		1.2	Explain the objectives of the assessment of transport policies, plans and schemes
2	Understand the key principles of the appraisal frameworks used in transport planning	2.1	Explain the principles of transport appraisal frameworks
		2.2	Describe the techniques used in conducting the appraisal of transport policies, plans and schemes
		2.3	Explain how to keep up to date with changes to these appraisal frameworks
3	Understand the key principles of the standard assessment techniques used in transport planning	3.1	Explain the requirements of transport assessment
		3.2	Explain the key stages in conducting the assessment of schemes
		3.3	Explain how to keep up to date with changes to these assessment frameworks

Content

What needs to be learned
Learning outcome 1: Understand the purpose of appraisal and assessment of transport policies, plans and schemes
1.1 Statutory and regulatory requirements and guidance relating to the assessment of transport policies, plans and schemes *Statutory duties and requirements:* transport authorities have duties under various transport acts, for example the Local Transport Act 2008, including duty to consult, duty to obtain best value and value for money. *Current guidance:* all public spending proposals accompanied by a Transport Business Case ('Five Case Approach'), assessed against *The Green Book* (HM Treasury) (guidance on development and assessment of the business case), transport analysis guidance *(*WebTAG), requirement for Environmental Impact Assessment (EIA), including transport assessment, planning practice guidance. *Impact of requirements and guidance:* highway authorities have statutory duties, failure to follow these could result in, for example, an appeal against the policy, plan or scheme, result in court ruling to force authority to act, failure to secure funding. *Other statutory requirements:* e.g. stakeholder engagement, equality, data protection.
1.2 The need for appraisal and assessment *Appraisal:* e.g. typically public sector evaluation of transport schemes/plans/projects. *Assessment:* e.g. typically private sector assessment of the transport impacts of development. *Prioritise public funding:* scarce resources, high number of projects, to inform decision making, benefits versus the costs (benefit-cost ratio), Transport Business Case, project is assessed against policies at national and local level. *Sustainable development:* assess land use developments to ensure they are sustainable to meet national planning objectives, e.g. NPPF. *Equality in approach:* ensures transparency, proper scrutiny and consistency in approach to prioritising funding. *Public/private sector:* public sector accountable to public, private sector has fewer restraints, e.g. sets own objectives and can determine its own course of action (within planning process). *Key objectives of appraisal and assessment:* *Score projects against overarching principles:* key factors for assessment follow national or local transport policy objectives, e.g. environmental impact, sustainability, safety, economics and finance, benefit cost ratio. *Sustainability*: promote sustainable development, mitigate impact of development and promote sustainable modes.

Learning outcome 2: Understand the key principles of the appraisal frameworks used in transport planning

2.1 Transport appraisal frameworks

Appraisal frameworks: for example WebTAG transport analysis guidance, Network Rail Governance for Railway Investment Projects (GRIP), Highways England Project Control Framework (PCF), need for transport assessment.

Emerging assessment frameworks: public bodies are setting own objectives and frameworks against which they determine their preferred options.

General requirement: governance of the funding process, the frameworks define objectives of the framework, objectives based on relevant transport policies, set out stages and gateways that projects pass through, define what is required at each stage, e.g. assessments to perform, modelling, documents to produce, approval required at each stage for progression to next stage.

Evidence building: at each stage, evidence base is increased.

Final approval/project go ahead: not simply based on the BCR but by scoring of non-monetised costs, e.g. social improvement and regeneration.

2.2 Principles of appraisal

Principle of proportionality: assessment commensurate with scale of scheme and stage in development of policy, plan or scheme.

Stage of development of policy, plan or scheme: detail and depth of assessment increases as scheme develops.

2.3 Standard appraisal techniques

Factors: appraisal and comparison of policies, plans and schemes against, for example environmental, social, and economic factors, monetised and non-monetised.

Level of detail: for example the data and modelling required increases as project passes into later stages and solutions are better defined.

Early assessment techniques: e.g. Highways England Early Sifting Tool, strategic environmental assessment, sustainability appraisal, use of geographic information systems, mapping, travel market and demand data analysis, social and distributional impacts analysis, strategic environmental assessment.

More detailed assessment techniques: as above but more detailed, for example TUBA (benefit-cost ratio), Cobalt (economic cost of accidents), modelling, e.g. network, junction, environmental, appraisal summary table.

Appraisal summary table (AST): for each option/alternative, economic, social, environmental etc. compare advantages and disadvantages of each alternative.

Environmental Impact Assessment (EIA): process of considering environmental impact of a scheme or development, need for carrying out an EIA governed by regulations.

Learning outcome 2: Understand the key principles of the appraisal frameworks used in transport planning (continued)

Keeping up to date:

Why change: assessment techniques and frameworks change as we know more about how transport impacts on the wider area, e.g. impact of public realm, impact of and benefits of sustainable mode use.

Updates: many frameworks and guidance documents, e.g. DMRB, WebTAG, NPPF have update services.

Learning outcome 3: Understand the key principles of the standard assessment techniques used in transport planning

3.1 Standard transport assessment techniques

Transport assessments and statements: process of considering traffic impact of a development, promote sustainable development, help meet national planning policy objectives, help inform travel plans, scope agreed with local authority in advance.

Environmental Impact Assessment (EIA): process of considering environmental impact of a scheme or development, need for carrying out an EIA governed by regulations, statutory requirement for larger development, transport input required.

3.2 Key stages in transport assessments

Scoping: very important, process of agreeing scope for transport assessment or statement, scale of development, study area, trigeneration, type of analysis required important to determine costs and timescales.

Transport statement: concise approach, minor traffic impact in the local area, qualitative.

Transport assessment: thorough and comprehensive assessment, quantitative evaluation of impact.

Assessment of impact: trip generation and distribution, future forecasting, modelling (possibly), identifying impact and consequences.

Measures to promote sustainable travel: reduction of traffic impact, travel plans.

Design of highways mitigation: using models where necessary, e.g. junction improvement, new roads, road safety audit.

Construction phase: significant impact, construction of traffic management plans, route plans, stakeholder engagement important, environmental impact can be significant.

3.3 Keeping up to date

Assessment techniques change, impact on approach to transport assessment, update services, case law and appeal judgments change assessment approach.

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Suggested reading/resources

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Planning – Haymarket Media Group

Transport Professional – Chartered Institution of Highways and Transportation

Websites

assets.highways.gov.uk/our-road-network/managing-our-roads/project-control-framework/	Highways England Project Control Framework Handbook
www.gov.uk/government/publications/guidance-on-transport-assessment	Withdrawn but still useful
www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development	DfT Circular 02/13, the Strategic road network and the delivery of sustainable development
www.gov.uk/government/publications/transport-business-case	Transport business case
www.gov.uk/guidance/transport-analysis-guidance-webtag	WebTAG transport analysis guidance
www.networkrail.co.uk/aspx/4171.aspx	Network Rail GRIP framework
www.planningguidance.communities.gov.uk/	Travel plans, transport assessments and statements, environmental impact assessments, transport evidence bases
www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/index.htm	Environmental Assessment
www.standardsforhighways.co.uk/ha/standards/dmrb/vol12/index.htm	Traffic Appraisal of Road Schemes

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand the purpose of appraisal and assessment of transport policies, plans and schemes	Appraisal of Transport Schemes	Process flow diagram preparation with explanatory notes in a short report. The centre will need to provide a case study or scenario for learners to base their answers on, for example the development of options for a new river crossing.
2 Understand the key principles of the appraisal frameworks used in transport planning		
3 Understand the key principles of the standard assessment techniques used in transport planning	Transport Assessment	Open-book, timed assignment. Learners are given a scenario, and explain the process of preparing a transport assessment for that scenario.

Learning outcomes 1 and 2 assignment title: Appraisal of Transport Schemes

To achieve a Pass, learners will explain the objectives of the appraisal and assessment and justify the need for the appraisal for the scenario given. This will include the prioritising and governance of public funds to ensure that projects meet national and local transport policy objectives (and what these are).

Learners will prepare a process flow diagram for the scenario to identify the relevant stages of appraisal based on a suitable appraisal framework that they identify and justify the use of. The stages will include option identification, option sifting, a shortlist and a final preferred options shortlist, which learners should annotate, approval gateways and also the level of data used to appraise the options at each stage. Learners will explain that the level of data required and the detail of the appraisal increases as the project approaches identifying a preferred option.

As a final task, learners will be asked to identify the factors that might be used in an appraisal to assess the alternative schemes for the scenario given. In a table, learners should identify factors relating to the environment (for example air quality, noise), economy (for example reduction in time to travel, improved access to services) and social factors (for example accessibility, access to services, health improvements), and also refer to project costs. Learners should also refer to the safety of the scheme and a reduction in accidents. They will identify the way that these factors are assessed (mentioning specific software or tools where appropriate) and also whether the factor is monetised or not for the purposes of the appraisal. Learners will conclude by discussing the outcomes of the appraisal and how a decision is then made on a project. They should acknowledge that a decision on whether a project should go ahead or not is not just based on a benefit-cost ratio but on other factors and what they are.

Learning outcome 3 assignment title: Transport Assessment

To achieve a Pass, learners will prepare a sketch process diagram or process in tabular form to show the process that would be carried out for the preparation of a transport assessment. The process should start with a scoping exercise and cover important points that need to be determined in that stage, to include the need for transport assessment, study area, trip generation and types of analysis required. In this stage, learners should identify that the scope will impact on the cost and timescales of the project.

The next stage will be the assessment of impact (through trip generation and distribution and modelling, to identifying the impact of the development). Learners should show that they are familiar with the way impact is assessed and the potential for modelling, and why, but in simple terms only.

Learners may move to the preparation of a travel plan, but as a minimum they will identify that there is a need to propose measures for encouraging the use of sustainable modes, which they should identify as public transport, cycling and walking.

Following this, learners will move to the design of the mitigation of the impact and should identify the need for a road safety audit.

As a final stage, learners should explain the importance of understanding the impacts of the construction phase and how its impact could be assessed and managed. The scenario given should be a significantly large project to justify the production of a construction traffic management plan.

Unit 6: Understanding Public Consultation and Stakeholder Engagement in Transport Planning

Level: 3

Guided learning: 60

Unit introduction

Transport systems facilitate access to other services and activities. A change to a transport policy or plan, a proposed new housing development, or a new public transport service or road have the potential to affect not just people and access to services but also the environment, the economy and our use of resources.

Transport planning professionals often act as facilitators of stakeholder engagement, providing technical guidance, knowledge and advice.

Stakeholder engagement is the process by which people affected by proposed changes are involved in the decision-making process. The term 'stakeholder' includes many different individuals, groups and organisations, for example members of the public and local community, transport operators, local interest groups (such as Chambers of Commerce), businesses, local enterprise partnerships, charities such as Sustrans and statutory consultees such as the Environment Agency and Highways England.

It is important to understand that stakeholders can have a significant influence on the transport planning process, supporting or opposing proposals and even directing the nature of the transport proposals. When stakeholder engagement is effective, it offers great value to a project and can help to bring about the implementation of innovative, sustainable transport solutions.

In this unit, you will learn about the different stakeholder groups, their expectations and their potential impact on a project. You will learn about the current regulations and best practice governing stakeholder engagement, and how to ensure that your engagement process is legally valid. You will also learn how to identify the stakeholders of a project and the tools and techniques you might use to engage with them and when. Finally, you will consider which tools and techniques are appropriate to use for a given scenario and how to plan a stakeholder engagement strategy, as well as reporting on the engagement process.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the key principles of stakeholder engagement in transport planning	1.1	Explain the importance of stakeholder engagement in transport planning
		1.2	Explain the key principles of stakeholder engagement in transport planning
2	Understand when stakeholder engagement should be used	2.1	Explain when and if it is appropriate to use stakeholder engagement
		2.2	Explain the impact of current legislation and best practice guidance on stakeholder engagement
		2.3	Compare the different types of stakeholder engagement for transport projects
3	Understand the responsibilities of participants in stakeholder engagement in transport planning	3.1	Describe the participants of stakeholder engagement in transport planning
		3.2	Compare the responsibilities of the participants in stakeholder engagement in transport planning
		3.3	Compare the techniques used to engage with different stakeholders

Content

What needs to be learned
Learning outcome 1: Understand the key principles of stakeholder engagement in transport planning
1.1 Explain the importance of stakeholder engagement in transport planning *Stakeholder:* any person or group with an interest or influence on a transport policy, plan, strategy, scheme; public (users, community, business, landowner), group (e.g. service operators, chamber of commerce, campaign groups), statutory stakeholder (e.g. local highway authority, Environment Agency). *Stakeholder engagement:* process by which the views of interested parties are accounted for in a project, difference between consultation to elicit opinion and giving information. *Value to the transport planning:* identify needs, shape and refine plans and assess levels of acceptance, stakeholder engagement promotes sustainable long-term transport solutions that aim to meet the needs of all, encourage co-operation through communicating and listening, less resistance by taking ownership of decisions, promotes innovation, reduces delay/cost in planning process. *Gains support and co-operation:* before and during planning. *Statutory requirements:* prescribed consultation process in certain situations, e.g. planning applications, approval of local plans and transport plans. **1.2 Explain the key principles of stakeholder engagement in transport planning** *Consultation principles:* consultation principles (www.gov.uk, 2016). *Identifying and analysing stakeholders*: identify, identify interests, assess and prioritise; direct and indirect, influence, interest. *Well-planned stakeholder engagement strategy*: logical, accessible, consult early and often, consultees may change throughout process. *Appropriate communication method*: for each stakeholder. *Communication of information:* at all relevant stages of a project. *Resolving conflicts of interests:* of stakeholders to come to agreement on a certain issue. *Recording, monitoring and evaluation:* to learn from the consultation process.

Learning outcome 2: Understand when stakeholder engagement should be used

2.1 Explain when it is appropriate to use stakeholder engagement

Stakeholder engagement strategy: identifies stakeholders, statutory duties, scope, objectives, requirements of relevant best practice guidance, methods, timetable, programme and budget, different stakeholders may require different methods of consultation, recording and using results.

When: during different projects (plan, policy, scheme) stages, e.g. pre-feasibility, feasibility, following option development.

Frequency: either prescribed or un-prescribed, dependent on stakeholder.

Purpose of the engagement: to give information, to gather information or opinion, qualitative, quantitative.

Examples of use of stakeholder engagement to include: development of transport plans and policies, public sector- and private sector-led development planning, including master planning and neighbourhood planning, planning application process, travel plan preparation.

2.2 Explain the impact of current legislation and best practice guidance on stakeholder engagement

Legislation, guidance and best practice: prescribes what needs to be done and when, e.g. timescales, guidance (what could be done), best practice (what should be done).

Impacts: link to stakeholder review and strategy, prescribed course of action, e.g. timescales, stakeholders to consult, consideration of scale, proportionality ethics, timing, e.g. give enough time to affect change, impact of litigation or appeal.

Examples: National Policy Planning Framework, Planning Act 2008, Localism Act 2011, Environmental Impact Assessments, The Infrastructure Planning (Environmental Impact Assessment) Regulations 2012, 2008 BIS Code of Practice.

Planning Practice Guidance: Consultation and pre-decision matters.

Stakeholder engagement policies or procedures: many public sector bodies, e.g. local authority, Highways England, Environment Agency have a policy on engagement and an engagement strategy that is not always legally binding but will meet statutory responsibilities.

Learning outcome 2: Understand when stakeholder engagement should be used (continued)

2.3 Compare the different types of stakeholder engagement for transport projects

Types of stakeholder engagement: qualitative, quantitative, public consultation, community involvement.

Non-statutory consultees and community involvement: focus groups, meetings, workshops, social media.

Public consultation: potentially a prescribed process and often multi-platform for larger infrastructure projects, e.g. online surveys, opinion polls, social media, questionnaires, road shows, public meetings, exhibitions, public inquiries for larger projects.

Statutory consultees: risk workshops, meetings, prescribed forms, letters.

Learning outcome 3: Understand the responsibilities of participants in stakeholder engagement in transport planning

3.1 Describe the participants of stakeholder engagement in transport planning

Participants: promoter, e.g. government department, highway authority, local authority, private developer, employs planning consultant, stakeholder engagement expert (e.g. transport planner), local authorities, e.g. planning, highway, statutory and non-statutory consultees, lobby groups, e.g. Campaign for Better Transport, users, interest groups, e.g. investors, charity and pressure groups, media, legislators, local members of parliament, users, wider community, Secretary of State and Planning Inspectorate.

3.2 Compare the responsibilities of the participants in stakeholder engagement in transport planning

Stakeholder influence – power, influence, interest.

Promoter: duty to consult, statutory duties.

Government: Secretary of State, Planning Inspectorate.

Statutory consultee: statutory duties, duty to respond and engage, can influence and dictate changes to the proposals.

Non-statutory consultee: no duty to respond.

Members of the public, users, interest groups, lobby groups: engage on their own terms.

Learning outcome 3: Understand the responsibilities of participants in stakeholder engagement in transport planning (continued)
3.3 Compare the techniques used to engage with different stakeholders *Stakeholder engagement strategy*: identifies stakeholders, statutory duties, requirements of relevant best practice guidance, methods, timetable, programme and budget, different stakeholders may require different methods of consultation. *Community involvement:* often qualitative, e.g. focus groups, meetings, workshops. *Public consultation:* online surveys, opinion polls, social media, questionnaires, road shows, public meetings, exhibitions, public inquiries for larger projects. *Statutory consultees:* process and method of consultation is often prescribed, forms, letters, drawings, reports, risk workshops, project steering groups. *Non-statutory consultees:* letters, drawings, reports, focus groups, workshops.

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Suggested reading/resources

E-book

Chartered Institution of Highways and Transport, *Involving the Public and Other Stakeholders* (CIHT, June 2015) ISBN 9780902933552

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Transport Professional – Chartered Institution of Highways and Transportation

Websites

www.bis.gov.uk/files/file47158.pdf	Code of practice, BIS, 2008
http://www.communityplanning.net/methods/methods_a-z.php	Review of consultation methods
https://www.gov.uk/government/consultations/hs2-phase-2a-west-midlands-to-crewe-working-draft-equality-impact-assessment-eqia-report-consultation	Equality Impact Assessments
www.gov.uk/guidance/local-plans	Local plans
www.gov.uk/government/publications/consultation-principles-guidance	Consultation principles: guidance
www.gov.uk/government/publications/guidance-on-the-pre-application-process-for-major-infrastructure-projects	Guidance on the pre-application process for major infrastructure projects
www.gov.uk/government/organisations/planning-inspectorate	Planning Inspectorate
https://www.gov.uk/government/publications/national-planning-policy-framework--2	National Planning Policy Framework
www.highways.gov.uk/roads/	Searchable road projects database with public consultation materials
www.legislation.gov.uk	All current legislation
http://www.legislation.gov.uk/ukpga/2008/29/section/47	Local Planning Act 2008 Section 47
www.planningportal.co.uk	Useful site for information on the planning process

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand the key principles of stakeholder engagement in transport planning	Preparation of a Stakeholder Engagement Review	Timed assignment. Learners will write a report that explains what stakeholder engagement is and its importance in transport planning, where appropriate drawing on examples they have studied. Learners will explain the key principles of stakeholder engagement and how to ensure stakeholder engagement is effective.
2 Understand when stakeholder engagement should be used	Preparation of a Stakeholder Engagement Strategy	Learners will prepare a stakeholder engagement strategy for a scenario set by the centre. This strategy will be accompanied by an explanatory report. Learners will prepare a stakeholder review that will identify the stakeholders of the project and explain when and how it is appropriate to contact them. The strategy will also describe the participants in the engagement strategy and their responsibilities. Learners are given alternative scenarios to compare how these parties and responsibilities might change with the type of project. Learners will finally explain the impact of current legislation and best practice on the strategy proposed, including duties, timescales and data protection.
3 Understand the responsibilities of participants in stakeholder engagement in transport planning		

Learning outcome 1 assignment title: Preparation of a Stakeholder Engagement Review

To achieve a Pass, learners will prepare a report that explains stakeholder engagement and its importance in transport planning. To provide relevant contextualisation, learners will draw on examples they have studied. They will explain the key principles of stakeholder engagement and how to ensure that it is effective. This will involve explaining stakeholders' influence on the project and their role at different phases of the project (if it changes) with reference to examples they have studied, outlining the methods of communication used for each of the stakeholders, explaining why these are appropriate methods for that stakeholder and any other methods that could have been appropriate and why.

Learning outcomes 2 and 3 assignment title: Preparation of a Stakeholder Engagement Strategy

To achieve a Pass, learners will prepare a report that presents their stakeholder strategy for a relevant transport scheme scenario. Building on the assignment to prepare a stakeholder review, learners will prepare a fully-detailed programme of engagement activities. This will identify, for two different stakeholder groups, at what phase(s) in the project the stakeholder will need to be engaged and what method of communication will be used (as identified previously). Learners will then produce two or three examples of appropriate communication, for example letters, surveys and drawings that give the stakeholder the relevant information, and request information from the stakeholder relevant to their role in the engagement process as determined in the earlier stakeholder review. To show a clear understanding of the duties, timescales and data protection, an additional discussion of the impact of current legislation and best practice on their proposed strategy is required. Through the use of additional scenarios, learners will need to compare how these parties and responsibilities may change for alternative projects.

Unit 7: Understanding Transport System and Scheme Design

Level: 3

Guided learning: 60

Unit introduction

Local and regional authorities are responsible for the provision of transport systems that meet the needs of proposed land use development, facilitate the movement of goods and people efficiently and safely, and contribute to economic growth, while minimising the impact on the environment.

In this unit, you will gain an understanding of the evolution of transport systems, through the development of transport plans to the identification of conceptual transport solutions. The unit will introduce you to the key factors influencing transport plans and transport systems, the main stakeholders involved in the development of these plans and the legal, regulatory and best practice framework within which transport solutions are developed. You will learn about the organisations responsible for the strategic and local road networks, railways, ports and airports, and how they operate.

You will develop an understanding of the main modes of transport that are considered as part of transport plans, the interaction between those modes and how the needs of a transport system may differ on a local and national level. Key concepts of design for different modes of transport will be introduced and you will consider how to identify sustainable solutions that are safe and accessible.

This unit brings together the relevant planning policies, legislation and best practice that underpin the design of sustainable transport systems. You will develop an awareness of these elements and how each one has an impact on the development of potential schemes.

In learning about transport systems and conceptual solutions, you will be encouraged to discuss the management of health and safety in the development of schemes. You will be introduced to the use of Computer Aided Design (CAD) software and information-sharing systems such as Geographic Information Systems (GIS) and Building Information Modelling (BIM) in transport planning.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the process of developing a transport plan	1.1	Explain the requirements for transport plans
		1.2	Explain the relationship between transport planning and the principles of: • economic activity • land use
		1.3	Outline the key components of a transport plan
		1.4	Outline the key stages in the development of a transport plan
		1.5	Explain the importance of following planning principles
2	Know the key operating and practical constraints of the main transport modes and systems	2.1	Describe the operating procedures of the main transport modes
		2.2	Describe the uses of each main transport mode
		2.3	Describe the constraints of the main transport modes
3	Understand the key concepts in the development of transport systems and schemes	3.1	Explain the key objectives for the design of a transport system or scheme
		3.2	Describe the key elements and concepts in the design of transport systems and schemes
		3.3	Describe the guidance and best practice governing the design of transport systems and schemes

Learning outcomes		Assessment criteria	
4	Understand the key principles of the Construction (Design and Management) Regulations (CDM) in relation to transport planning	4.1	Explain how the Construction (Design and Management) Regulations 2015 impact on transport planning and the development of transport schemes
		4.2	Describe the key roles in the development of a transport scheme in relation to the Construction (Design and Management) Regulations (CDM)
5	Understand the use of computer-aided design systems in transport planning	5.1	Explain the relationship between Building Information Modelling and computer-aided design systems
		5.2	Explain how the features of a computer-aided design system assist with the design of a transport scheme

Content

What needs to be learned
Learning outcome 1: Understand the process of developing a transport plan
1.1 Requirements for transport plans *What is a transport plan?:* statutory requirement for local authority, sets out policies, objectives and targets for improving transport across a specific area, fixed-plan period. *Overarching objectives of transport plans:* economic growth and efficiency, promotion of movement and access to jobs and services, reduce the impact of transport on the environment, healthy and safe travel, deliver outcomes that achieve the common objectives, ensuring resources and capacity needed to achieve objectives exist, prioritise and tailor investment to the national objectives, variation in priority given to objectives at different levels and in different geographical areas. *Types of transport plan:* national, including differences in England, Scotland and Wales, regional, local, London transport plan, masterplans (site specific). *Transport plan coverage:* to include modes of transport, e.g. road, rail, aviation, ferry and ports, road-based passenger transport, cycling, walking, management and maintenance of networks, differences between plans, e.g. national, regional, local. **1.2 Relationship between transport, economic activity and land use** *Relationships:* land use planning and development, travel demand and impact, economic competitiveness (e.g. Eddington study) impacted by performance of transport system (e.g. congestion and delay), social regeneration. **1.3 Key components of a transport plan** *Components:* scope of the transport plan, vision, drivers, objectives and targets (linked to policies), needs, challenges and opportunities, strategies, actions and targets, assessment, implementation and review of strategies.

Learning outcome 1: Understand the process of developing a transport plan (continued)

1.4 The development of a transport plan

Key components and stages in development: baseline data collation and presentation, review of relevant national, regional and local transport objectives, define plan-specific objectives, prioritisation of objectives, identifying targets, identify strategies for delivering objectives, modelling of strategies or policy packages, assessment of strategies, e.g. traffic impact, strategic environmental impact, health impact, selection of preferred strategies, improvement scheme identification, assessment of preferred strategies against objectives, final strategy and scheme selection, approval; consultation runs as a thread through the process.

1.5 Key principles of planning practice in transport plans

Sustainability: economic, environmental, social; transport plans are part of the planning system aiming to achieve sustainable development.

Planning principles: presumption in favour of sustainable development, plan-led, consultation, promote sustainable modes, objectively assess needs, enhance environment, conserve heritage assets, support local strategies to promote health and wellbeing.

Learning outcome 2: Know the key operating and practical constraints of the main transport modes and systems

2.1 Operation of main transport modes

Road: strategic, local road, London-specific (e.g. 'red routes'), personal travel (business, leisure), freight, point to point, direct.

Rail: passenger (business, leisure), freight.

Air: regional, international, passenger (business, leisure), freight.

Ports: passenger (business, leisure), freight.

Bus and coach: passenger (business, leisure), long distance (e.g. national or European), local services.

Cycling: on-road, off-road, short- and long-distance waymarked routes, leisure or commuter.

Walking: on-road, off-road, short- and long-distance waymarked routes, leisure or commuter.

2.2 Objectives of each of the main transport modes

Roads: improve economic activity, tackle congestion, support development, connectivity, reliability, quality, safety and resilience.

Rail: improve capacity, journey times, improve connectivity, improve reliability, safety and passenger experience.

Air: connectivity, capacity.

Local transport: tailored to local communities, support jobs and growth, reliability, safety.

2.3 Principle constraints of main transport mode

Road: flexible, journey time variability, inefficient off-peak provision, local/strategic transition problem with capacity, highway condition, fuel, taxes, safety, budget, maintenance.

Rail: fixed network, modal interchange, aging network (UK), fuel, capacity.

Air: fixed network, modal interchange, taxes, capacity (expansion).

Ports: fixed network, modal interchange, distance from supply/demand.

Bus and coach: more flexible than rail, congestion/delay, fuel, taxes, regulation, capacity linked to frequency, low passenger numbers.

Cycling: road-user hierarchy, lack of specific infrastructure (on route and destination), safety, security.

Walking: road-user hierarchy, security, accessibility and inclusive design, infrastructure (on route and destination), safety.

Learning outcome 3: Understand the key concepts in the development of transport systems and schemes

3.1 Key objectives and principles of design

Objectives: e.g. accessibility, safety, security, sustainability.

Development of transport systems and schemes: includes improvements to existing systems, new systems or schemes, improvements to existing components of a system, e.g. road or rail with a targeted scheme.

Principles: problem identification and investigation, scheme development and assessment, scheme proportionate to address problem identified and meet objectives.

Private and public sector: need for improvements, e.g. private sector to facilitate development and mitigate impact, public sector to achieve the objectives of a transport plan and implement a transport policy.

3.2 Key elements and concepts in the planning and design of transport schemes

Roads

Elements: roundabouts, priority junctions and traffic signals, roads and pavements: alignment, geometry, e.g. radius, width, signing, road markings.

Concepts: demand, capacity and effect of geometry and speed, road space, priority, cycle times and green time, safety and user conflicts, road user hierarchy, visibility.

Rail

Elements: lines, stations, structures.

Concepts: headway, safety, capacity.

Cycling

Elements: shared, segregated, storage, cycle lanes and paths, on-road, off-road.

Concepts: interaction with other road users, safety, security, on-road, off-road.

Pedestrian

Elements: shared, segregated, crossings.

Concepts: interaction with other road users, safety, security.

Public transport

Elements: fixed route, e.g. guided bus, light rapid transit, overhead infrastructure, stops and stations.

Concepts: design of certain elements dictated, interaction with other road users, safety, security.

Learning outcome 3: Understand the key concepts in the development of transport systems and schemes (continued)

3.3 Guidance and best practice

Levels of requirements: can be regulatory (e.g. must be done), accepted best practice or guidance (e.g. should be done), design of different elements can be covered by standards or guidance.

Examples of design requirements:

- regulatory: traffic signs manual (road markings and signs)
- regulatory: The Traffic Signs Regulations and General Directions 2016 (road markings and signs)
- *Design Manual for Roads and Bridges*, Highways England (strategic road network)
- best practice: local transport notes, e.g. public transport, cycle and walking infrastructure, pedestrian crossings and traffic signals
- best practice: *Manual for Streets*
- guidance: local authority, Transport for London
- Network Rail design standards.

Learning outcome 4: Understand the key principles of the Construction (Design and Management) Regulations (CDM) in relation to transport planning

4.1 CDM and the impact on transport schemes

Principles of CDM: planning, management, monitoring and coordination of risk, whole project life cycle consideration, information management and effective communication, cooperation and coordination.

Impact on transport schemes: identifying where CDM applies from in transport scheme design, transport planning organisation as principal designer, implement systems to identify, record, manage and communicate risk in design from early stage.

Tools and techniques: e.g. project risk register, risk workshop, design risk assessment.

4.2 Key roles in CDM

Client (public, private), principal designer, designer, e.g. transport planner, architect, principal contractor, contractor.

Learning outcome 5: Understand the use of computer-aided design systems in transport planning

5.1 Computer-aided design (CAD)

What is CAD?: use of computer systems in creation, modification and optimising design, drafting of technical drawings, improved communication of solutions for eventual implementation (transport schemes), two- or three-dimensional graphical entities.

Uses in transport planning: AutoCAD, Bentley, Civils 3D®, design and modelling of transport schemes and components, 2D, 3D, presentation of design solutions, associated programs (e.g. AutoTrack, AutoSign) as design aids.

5.2 Building Information Modelling (BIM)

What is BIM?: data rich information technology, three-dimensional models that carry much more intelligent information about the design itself.

Why BIM?: government strategy, required for all new infrastructure, BIM level 2 and BIM level 3 initiatives, improved information handling and sharing, improved collaboration, intended outcome of reduced carbon burden in the built environment.

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Suggested reading/resources

Textbook

Health and Safety Executive – Construction (Design and Management) Regulations 2015 Guidance on Regulations (HSE, 2015) ISBN 9780717666263

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Planning – Haymarket Media Group

Transport Professional – Chartered Institution of Highways and Transportation

Websites

www.bimtaskgroup.org	Building Information Modelling (BIM) Task Group – UK
www.gov.uk/government/collections/local-transport-notes	Local transport notes
www.gov.uk/guidance/local-plans	Local plans
www.hse.gov.uk	Health and Safety Executive
www.legislation.gov.uk	All legislation for the United Kingdom
http://planningguidance.communities.gov.uk/	National Planning Practice Framework, Planning Practice Guidance
https://www.gov.uk/government/publications/national-planning-policy-framework--2	National Policy Planning Framework
www.standardsforhighways.co.uk	Design Manual for Roads and Bridges

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand the process of developing a transport plan	Creating Transport Plans	Timed, written questions. To explore learners' understanding of the need for a transport plan and how a transport plan is developed, using case studies as examples. The questions will require learners to explain the relationship between transport planning and economic activity and land use planning, as well as planning principles that are considered in a transport plan and why. The questions will lead learners to draw a process flow chart showing the key stages in the production of a transport plan and the key components of a transport plan and how they link together. Finally, learners will justify the inclusion of the transport modes that are included in the transport plans.

Learning outcome	Assignment title	Recommended assessment approach
2 Know the key operating and practical constraints of the main transport modes and systems 3 Understand the key concepts in the development of transport systems and schemes 4 Understand the key principles of the Construction (Design and Management) Regulations (CDM) in relation to transport planning 5 Understand the use of computer-aided design systems in transport planning	Production of a Design Guide to Accompany a City-wide Transport Plan	Learners are given a city-wide transport plan layout for a large urban extension, and they must produce part of a design guide for the proposed city-wide transport plan. Learners will choose two modes of transport from a given list to produce a design guide. Learners will firstly explain the overarching objectives for the design of a transport system, regardless of mode. For each mode of transport chosen, learners will describe how that transport mode operates, the key practical and operational constraints of the mode and how they relate to the site in question, the key elements and concepts that need to be considered in the design for each mode, and how the city-wide transport plan improves the existing network for that mode. Learners will describe the guidance and best practice that needs to be considered in the design process for the two chosen modes of transport. As a conclusion to the design guide, learners will explain the impact of the Construction (Design and Management) Regulations on the project and the key roles involved in ensuring that the design of the transport systems and the masterplan is safe. Learners will describe how computer-aided design will be used during the design of the transport schemes and how Building Information Modelling might be used, explaining the relationship between the two.

Learning outcome 1 assignment title: Creating Transport Plans

To achieve a Pass, learners will provide simple coherent answers to the questions posed. It is not expected that learners will provide more than a simple explanation of the interrelationship between transport and land use/economic activity. They will identify that the need for travel created by and the efficiency of travel between land uses will promote economic activity. Learners will refer to sustainability and national or local transport policy objectives.

Learners will identify the key components of a transport plan against the stages of the development of a transport plan. This can be shown in a process flow diagram. The key stages will include a review of relevant policies, establishing baseline travel patterns to identify need, define objectives and targets, identify strategies for achieving targets, modelling, appraisal, preferred strategies and schemes, and approval. Against this flow diagram, learners will identify the key components of the transport plan developed in each stage, and also show important points in the process, to include consultation and approval.

Learners will explain how the transport plan is adopted by the government, the importance of the process of following planning principles (with a description of the key principles that are followed), as well as the impact of not having followed planning principles, including the importance of stakeholder engagement and consultation, for example appeal against process followed, transport plan or masterplan not approved.

Learners could do the same for a masterplan, but the process is not too dissimilar and it would be much more appropriate to question them on the differences in the preparation of, and approval of a masterplan. This will identify simple differences, for example a masterplan is development specific and approved by the local authority.

Learning outcomes 3, 5, 6 and 7: Production of a design guide to accompany a city-wide transport plan

To achieve a Pass, learners will prepare a design guide together, which will be structured with an introduction, a description of the site and the modes of transport that are provided for on the site. The introduction will also identify the key objectives of design, for example sustainability (such as value for money, environmental impact), safety, security, and accessibility. Learners will take responsibility for two modes of transport, these will be clearly identified as their contribution in the design guide.

The design guide will introduce the CDM regulations, the objectives of the regulations in relation to a transport scheme, and include a discussion of their applicability to the development of a city-wide transport plan. The group will provide an organisational chart of the different roles in the development of the transport plan, to include client, other professional partners, for example architects, environmental engineers, local authority planners, and potentially contractors. The chart will be annotated to show the main roles and responsibilities under the CDM regulations (client, principal design and designer as a minimum) with learners' organisations clearly identified.

The design guide will introduce each mode of transport in turn and identify how that mode of transport operates in the UK (apart from walking and cycling). Learners will explain the key operating constraints generally encountered for this mode of transport and the objectives of transport policies and plans that the design of schemes for that mode of transport aim to achieve. For example, roads tend to suffer from congestion due to high traffic demand, particularly in the peak hours, which can lead to safety concerns, and so highway improvements tend to aim to reduce congestion, improve safety, increase capacity, improve air quality and reduce noise.

Following this, learners will prepare a table that identifies the key elements that need to be considered in the design of the city-wide transport plan layout, relating to that mode of transport. They will add to the table to identify why these factors are important to design and, importantly, why they help meet the objectives of the design of transport schemes (learners will refer back to the report introduction). Learners will identify the main design standards for this mode, why they are appropriate and where they are accessed. The final column in the table will identify examples of standards that apply to this transport plan, for example for roads, learners might enter road widths for residential and industrial roads or motorways, or, for cycling off-road, that segregated cycle ways are desirable. If there are no dedicated standards, the assessor should accept appropriate alternatives with justification of why they are appropriate.

The design guide will then move to the undertaking of the design of the transport plan itself, and the role of BIM and CAD in the design process. Learners will explain how CAD systems have helped in the production of the transport plan design, and the benefits offered, to include preparation of plans, accurate design, use of additional software. Learners will discuss the potential for BIM on this site; they should refer to government strategy, collaboration, cost savings, and reduced carbon burden on the environment. They will comment on whether they believe BIM will be useful in this development.

Unit 8: Principles of Changing Travel Behaviour

Level: 3

Guided learning: 60

Unit introduction

Every time we make a trip, we make a travel choice. A lot of the travel taken in this country is by private car. The impact on our road networks at peak times is seen in congestion and delays. National transport policies are leading us to consider the best use of our road capacity, rather than building more road space, as well as developing transport systems that reduce the environmental impact of travel and promote health and social benefits.

'Modal shift' to more sustainable modes of travel such as using public transport (road and rail), and 'active' modes such as walking and cycling have many benefits. Travel by these modes helps to reduce the environmental impact of travel, but also promotes health and social mobility and the associated reduced healthcare costs of increased activity and better air quality. Well-planned access to public transport and availability of good quality walking and cycling infrastructure can improve the 'accessibility' of an area, and encourage social cohesion and security as well as a sense of a community.

Influencing travel behaviour is an important part of transport planning as it helps achieve all of the objectives outlined above. It can be difficult to change the travel behaviour of individuals and organisations to encourage them to make 'smarter choices'. You will learn about the different methods of encouraging the change in travel behaviour, including the planning of high-quality walking and cycling infrastructure into new developments, to marketing campaigns, initiatives and also the use of travel plans. You will also learn about the importance of promoting awareness of the alternatives for travel and the benefits that can be gained by changing travel behaviour. Information is a powerful tool in changing travel behaviour.

Changes in land use and new developments change the demand for travel, often creating the need for new trips on the transport networks to use the services, for example new homes, offices and leisure facilities. The requirement for the preparation of travel plans to support the planning process for new developments is embedded in national planning policy, in order to ensure that sustainable travel is integral to the new development. You will learn about the different types of travel plans and how to develop a successful travel plan, including measures to promote sustainable travel to, from and within the new development.

Key to the development of effective programmes and initiatives to influence travel behaviour is the evaluation of the impact that such measures have. You will learn how targets for modal change are identified, the techniques for measuring behaviour change and assessing the benefits from the change.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand the rationale for travel plans	1.1	Describe the different types of travel plans
		1.2	Explain how travel plans support the planning application process
		1.3	Explain the economic, environmental and social benefits of travel plans
		1.4	Explain the characteristics of a successful travel plan
2	Understand the key stages involved in changing travel behaviour	2.1	Explain the motivations for individuals and organisations to travel sustainably
		2.2	Explain the barriers to travelling sustainably that individuals and organisations may face
		2.3	Explain the key stages involved in changing travel behaviour
3	Understand the measures available to encourage travel behaviour change	3.1	Explain measures that might encourage groups of travellers to change their travel behaviour
		3.2	Explain the role of accessibility analysis within a travel plan's development
		3.3	Explain how appropriate measures for a travel plan would be determined
		3.4	Describe travel marketing techniques
4	Understand the evaluation of alternative travel behaviour change projects	4.1	Explain how modal shift targets for behavioural change are determined
		4.2	Explain the techniques for measuring travel behaviour change and assessing the benefits

Content

What needs to be learned
Learning outcome 1: Understand the rationale for travel plans
1.1 What is a travel plan? *Travel plan*: management strategy for a development to promote sustainable travel, e.g. public transport, walking, cycling, and reduce reliance on private car. Identify barriers and opportunities, specify outcomes and targets, e.g. reduction in single car occupancy and appropriate measures, to achieve targets. *Planning application process:* support planning application and transport assessment; transport assessment may consider impact of travel plan measures on predicted traffic impact of a development. *When required*: National Planning Policy Framework (NPPF), local authority or Highways England determine need for a travel plan (often have their own guidance), need based on scale, impact, cumulative impacts of development in area. **1.2 Different types of travel plans** *Types:* varies with land use, e.g. workplace, residential, education, leisure, station. *Scale:* site specific, e.g. for an office or school, framework, e.g. industrial estate with numerous companies involved. **1.3 Benefits of travel plans** *Sustainability:* support NPPF, promote sustainable development. *Benefits:* reduce travel demand particularly by motorised vehicles, reduce carbon emissions and other environmental impacts, e.g. air pollution and noise, accessibility and access to facilities (social benefit), social and community cohesion (social benefit), promote active modes of transport (health benefits), improve road safety, reduce need for new road capacity (economic); all benefits also have an economic benefit. **1.4 Characteristics of a successful travel plan** *SMART targets:* specific, measurable, achievable, realistic, time-bound. *Measures proportionate:* to size and scale of development, tailored to local situation, tailored to needs of target groups of travellers. *Management:* how travel plan will be managed, implemented and reviewed, external review, continuous improvement. *Cost:* important to identify costs and funding. *Early engagement:* discussed early in planning process, collaborative working, travel plan outcomes discussed.

Learning outcome 2: Understand the key stages involved in changing travel behaviour

2.1 Motivation for and barriers to sustainable travel

Different travellers: different priorities, e.g. commuter, travel for work, leisure and tourism, travel choices are complex.

Barriers: habit, attitude, external, e.g. accessibility, location and cost of infrastructure, knowledge and information, social perception, e.g. public transport.

Motivations: social perception, i.e. environmental impact, reduced cost of travel, health benefits.

Individuals: habit, time, e.g. need to change mode, door-to-door, linked trip, cost, e.g. perceived costs, information, e.g. lack of environmental awareness.

Organisation: time in preparing a travel plan, cost of implementing measures, lack of information on benefits of sustainable travel for business.

2.2 Stages involved in changing travel behaviour

Stages: establish what you want to change (objectives), baseline travel patterns, identify targets, propose package of measures (hard and soft), implementation, monitor, evaluate whether change has occurred.

Learning outcome 3: Understand the measures available to encourage travel behaviour change

3.1 Encouraging travel behaviour change

Method of encouraging sustainable travel: incentives, disincentives, development-specific, e.g. travel plan and associated measures, or public-led, e.g. walking and cycling, group of initiatives, programme, campaign, project.

Different traveller groups: to include commuter, travel for work, leisure and tourism, may require different interventions.

Four Rs of travel planning: to reduce, e.g. minimise the need to travel, re-time, e.g. perform the journey outside of peak hours, re-mode, e.g. change mode, re-route, e.g. use a different route.

3.2 Travel behaviour change measures

Potential measures: hard, soft, to include physical, e.g. infrastructure, behavioural, e.g. improving knowledge or awareness of benefits, incentives and disincentives, carrot and stick (financial, e.g. parking cost, travel passes, regulatory, e.g. seat belts), usually a package of measures.

Measures to encourage travel behaviour change:

- reduce: e.g. work from home, conference calls, relevant to, for example, commuters or those who travel for work
- re-time: e.g. avoid peak-hour travel, journey planning, travel planning information and apps, flexible working contracts, changing shift patterns, relevant to, for example, commuters
- re-mode: e.g. car sharing, upgrades to infrastructure, e.g. specific walking and cycling routes, station access upgrades, information packs, journey planning, information apps, relevant to all users
- re-route: travel planning information, journey planning, apps, relevant to all users.

3.3 Identifying appropriate measures in a travel plan

Travel plan process: identify existing travel patterns and groups through, for example travel surveys and site audit, identifying barriers and constraints through, for example accessibility analysis, site audit, identifying specific objectives and targets for masterplan linked to initial findings, propose measures to meet targets.

Accessibility analysis: used to determine how accessible a site or area is, identify/confirm issues from travel survey or site audit, based on time or cost of travel, uses GIS data.

3.4 Travel marketing

Small scale: e.g. posters, information to a wide audience, company events.

Journey planning: e.g. targeted promotion and marketing, personalised travel planning, e.g. information tailored to a person or household, residential or office information packs.

Large scale: e.g. marketing campaign, for example government initiatives, social media, telephone marketing, city-wide travel events.

Learning outcome 4: Understand the evaluation of alternative travel behaviour change projects

4.1 Determining modal shift targets

Campaigns and initiatives: national policies and priorities drive local authority targets, mode shift targets determined from local targets.

Travel plans: prove development sustainable, reduce traffic impact, 'nil detriment' sets target reduction in traffic generated, must be achievable.

4.2 Techniques for measuring and assessing travel behaviour change

Measuring change: e.g. travel diaries, travel questionnaires, telephone or online surveys.

Assessing benefits: calculate changes, assess benefits, e.g. environmental, health, monetary value of benefits, widespread small changes in travel patterns can meet targets.

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Journals

Local Transport Today – Landor Links Ltd

New Civil Engineer – Institution of Civil Engineers

Planning – Haymarket Media Group

Transport Professional – Chartered Institution of Highways and Transportation

Websites

www.acttravelwise.org/home	ACT TravelWise
www.bettertransport.org.uk	Campaign for Better Transport
http://planningguidance.communities.gov.uk/blog/guidance/travel-plans-transport-assessments-and-statements-in-decision-taking/overarching-principles-on-travel-plans-transport-assessments-and-statements/	Travel plans, transport assessments and statements in decision-making
https://www.gov.uk/government/publications/national-planning-policy-framework--2	National Policy Planning Framework
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4469/enabling-behaviour-change-info-pack.pdf	Enabling Behaviour Change, DfT information pack.
www.gov.uk/government/organisations/department-for-transport	Research database on Understanding and Influencing Travel Behaviour and Attitudes
www.sustrans.org.uk	Useful information on changing travel behaviour

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand the rationale for travel plans 2 Understand the key stages involved in changing travel behaviour	Travel Plan Comparison	Open book, timed assignment. Learners will be given two different travel plans and they need to evaluate the effectiveness of these plans. They will need a brief outline of the travel plan, what it covers, e.g. a specific site or area, and also the contents list and the measures proposed in them (sufficient information to allow learners to comment on the effectiveness of the travel plan). The two travel plans chosen will include a site-specific travel plan for an office or school, and a large site incorporating many proposed land uses, e.g. residential, office, leisure in order for learners to describe why the type of travel plan is appropriate for the development. The assignment will prompt learners to explain how the travel plans will support the planning application process and the benefits of the travel plans, referring to the case studies and identifying differences in the benefits provided by the two case studies. Learners will identify the different user groups that are affected by each travel plan and explain the barriers and motivations to travelling sustainably that these groups exhibit. They will finally explain the key stages involved in changing travel behaviour, and evaluate the travel plans to conclude whether they would be effective.

Learning outcome	Assignment title	Recommended assessment approach
3 Understand the measures available to encourage travel behaviour change	Sustainable Travel Campaign Marketing for a Travel Plan	Learners will be given a case study of a proposed travel plan and will need to write a report in response, outlining the steps they would take to change people's travel behaviour in line with the case study. The report should include discussing the use of accessibility analysis, their proposed measures for encouraging travel behaviour change (including soft and hard measures), and the marketing techniques that would be used to promote the travel plan measures. Learners will need to evaluate the effectiveness of their chosen method against other available methods.
4 Understand the evaluation of alternative travel behaviour change projects	Assessing Modal Shift	Learners will be given a case study and asked to write a report in response, which identifies how modal shift targets would be identified. For example, in the case of a public sector-led marketing campaign, this would be linked to transport policies and local transport plan targets. In a private-sector-led travel plan this would be linked to the existing baseline in terms of travel and what is a reasonable expected reduction in car-based travel. Learners are expected to be able to discuss why this approach is appropriate. Learners should also explain their approach to the assessment of the impact of three of the measures promoted by the case study (impacts to be given by centre but to include health, environment, modal shift, reduction in traffic demand), and to discuss how these might be presented, i.e. monetised and non-monetised, quantitative and qualitative benefit.

Learning outcomes 1 and 2: Travel Plan Comparison

To achieve a Pass, learners will be able to identify the type of travel plan, and explain why the type of travel plan – site-specific or framework – is most appropriate, linking this to the scale and type of development that is the subject of the travel plan. Learners must show that they understand the importance of the travel plan, linking this to planning permission for the site and that the travel plan will be submitted in support of a transport assessment. Learners must correctly identify at least three benefits of travel plans (one each from economic, environmental and social) and explain the role of a travel plan in this. The explanations will be straightforward and show understanding of the role of the travel plan but will be appropriate to the travel plan being considered.

Learners will correctly identify the different groups that will be affected by the travel plan and list their motivations and barriers to travelling sustainably. This list will include environmental, social (including health) and economic motivations and barriers, and will clearly differentiate these for each user, to include both individuals and organisations. As a minimum, learners will identify awareness of environmental impact, time, costs and congestion and delay on the surrounding road network in both lists of motivations and barriers. This might be best presented in a tabular format.

Learners will explain why the motivations and barriers are different for at least two of the groups and organisations identified, to show a depth of understanding of the linkages between them.

For each travel plan in consideration, learners will explain the stages of changing travel behaviour and explain any differences between the two. The differences will be apparent in how data is collected and the measures proposed and will be linked to the user groups identified earlier.

Learners will evaluate the potential effectiveness of a travel plan, linking their explanation to the contents of the travel plan that has been given. They will link the effectiveness to SMART targets, the cost of implementation identified in the travel plan, whether a management plan for the travel plan is included, monitoring and review procedures in place. If these are not present in the case study contents list, learners should identify that this is the case and explain why their inclusion is beneficial.

Learning outcome 3: Sustainable travel campaign marketing for a travel plan

To achieve a Pass, learners will prepare a poster as part of a marketing campaign for promoting sustainable travel as part of a travel plan. The poster will identify information on proposed measures to promote sustainable travel, including hard and soft measures, events, incentives and where to get information on sustainable modes. Learners need to show that they appreciate that a package of different measures will be required to encourage change. The accompanying report will justify the inclusion of information on the poster.

In the accompanying assignment, learners will firstly explain how the group decided the measures to be included in the plan. It is not expected that the group will conduct their own travel plan research (although this might be an option), but they should suggest how this might be carried out, i.e. through travel surveys or questionnaires. Their research should identify the target groups of user for the travel plan and their modes of travel. Learners will also identify barriers and constraints to sustainable travel appropriate for the scenario given, and will explain where accessibility analysis might have made the travel plan process better.

Learners will explain how each target group and potential interventions for each group might differ, and different measures that might be appropriate to each of the users. This would be best presented in a tabular format. For example, commuters will be more interested in reducing their travel time and the cost of travel, and may be interested in opportunities to work from home or for conference calling. Learners should identify whether the interventions mentioned fall into the '4R' categories and why. They will explain why there may be a need to use disincentives alongside the proposed measures on the poster and why these might not be mentioned on the poster.

Finally, learners will identify other potential methods of marketing the travel plan measures, and the advantages and disadvantages of these in terms of scale and cost, for example social media strategy, personalised journey planning, information packs. Importantly, learners should identify that communication of information about sustainable travel is key to behaviour change.

Learning outcome 4: Assessing Modal Shift

To achieve a Pass, learners will work independently to write a report in response to the given case study, identifying how modal shift targets would be identified. This will include the identification of the baseline travel patterns helping to set modal shift targets. Learners will explain what a modal shift target is and how to ensure that it is achievable for the scenario. Learners should evaluate different options, substantiating their decisions with data where appropriate. Learners should also explain their approach to the assessment of the impact of three of the measures promoted by the case study (impacts to be given by centre but to include health, environment, modal shift, reduction in traffic demand), and to discuss how these might be presented, i.e. monetised and non-monetised, quantitative and qualitative benefit. Learners should explain how change would be calculated and presented, for example through a reduction in the use of the private car and an increase in cycling. They will explain how these changes will be compared against the targets set to evaluate effectiveness of the travel plan measures.

Unit 9: Understanding Communication Techniques for Transport Planning

Level: 3

Guided learning: 60

Unit introduction

Transport systems facilitate access to development, services and facilities. As such, in order to develop, design and implement transport systems that meet the objectives of transport policies and plans as well as meeting the needs of the various stakeholders in a project, transport planners need to communicate effectively with different people using a number of different methods.

As a transport planner, you may be expected to communicate with your colleagues and peers, internal managers, professionals in related disciplines, as well as clients, other stakeholders and importantly, the public. This communication might be through technical reports, letters and email, drawings, brochures and flyers or on the telephone, in meetings or at public events. Effective communication is therefore an essential skill; misunderstanding and misinterpretation through ineffective communication can lead to costly errors and wasted time.

In this unit, you will learn key skills in communicating both verbally and in written form, as well as how the approach adopted might need to be tailored to meet the needs of the audience. As such, you will learn how to prepare reports and present data in a clear, concise and accurate manner using a variety of tools and techniques.

As a transport planner, you may be expected to participate in internal and external meetings and communicate your ideas with both colleagues and external contacts. You will prepare oral presentations and learn presentation techniques that help you participate effectively in meetings. You will be aware of how to ensure that meetings are effective.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Understand effective communication techniques in the workplace	1.1	Explain the principles of effective written communication in the workplace
		1.2	Explain the principles of effective verbal communication in the workplace
		1.3	Evaluate the use of communication methods for different stakeholder audiences
2	Understand how to prepare documents for transport planning	2.1	Explain how to prepare a well-structured written report
		2.2	Explain how to display data effectively
		2.3	Explain how and why to check documents for accuracy before issuing
3	Understand how to give effective oral presentations for transport planning	3.1	Explain how to prepare an oral presentation for a transport planning audience
		3.2	Explain communication techniques used to gain and maintain the attention of an audience
4	Understand how to communicate information for public consultations	4.1	Explain the appropriate level of formality for a public audience
		4.2	Evaluate the appropriateness of different presentation techniques for public consultations
5	Understand how to contribute effectively to meetings	5.1	Explain the key elements of an effective meeting
		5.2	Evaluate the effectiveness of methods of presenting information in meetings
		5.3	Explain the importance of accurate meeting records

Content

What needs to be learned
Learning outcome 1: Understand effective communication techniques in the workplace
1.1 Principles of effective written communication *Purpose:* giving information, requesting information, instructing. *Most appropriate format:* e.g. formal or informal report, letter, email, text message, instant messaging. *Content:* clear, formal versus informal, appropriate to audience, accurate, correct spelling and grammar, structured, logical sequence of ideas, clear, can be read quickly, inoffensive, discrete. *Structure of a letter/email:* single topic, heading, introduction, main body, ending, address and sign-off. *Circulation:* internal, external, restricted, unrestricted, direct recipient, use of cc, bcc.
1.2 Principles of effective verbal communication *Purpose:* inform, guide, persuade, advise, instruct, request. *Planning:* needs of others, purpose of verbal communication, information needed, time, place, audience. *Delivery:* e.g. greet others, put at ease, agree/outline process/topic, use appropriate language, use appropriate tone, check understanding, actively listen, summarise, agree next steps.
1.3 Communication techniques and methods Advantages and disadvantages of communication methods to include the following. *Written:* e.g. emails, letters, notes and reports (technical and non-technical). *Visual:* e.g. presentations, data analysis, drawings, sketches. *Verbal:* e.g. telephone. *Face to face:* e.g. presentations, meetings, workshops. *Distance:* e.g. video conferencing, conference calls. *Audiences:* internal, for example colleagues, line manager, senior management; external, for example clients, professional third parties, e.g. engineers, architects, planners, sub-consultants and sub-contractors, e.g. survey companies, internal managers, e.g. senior and line managers. *Appropriate method:* to include equality and diversity, data protection, authority and permissions, sensitivity of information.

Learning outcome 2: Understand how to prepare documents for transport planning

2.1 Preparing a report

Planning: purpose and objectives, e.g. a brief; audience, e.g. internal, external, technical, non-technical.

Design: e.g. format, templates (client or organisation), organisational guidelines, appropriate writing style, e.g. first, second or third person, need for data to be presented.

Structure: contents, opening, e.g. introduction, objectives, main body of report in sections, summary, conclusions, bibliography, appendices.

Checking: review of own work, software checks, e.g. spelling and grammar, organisational procedure for sign off, quality assurance, consequences of errors in the report, e.g. reputational, misinterpretation, misunderstanding, cost, programme.

2.2 Principles in the use and display of data

Purpose and objective: e.g. informative, engaging, presenting information to simplify, maintain interest.

Design: e.g. format, templates, clear, accurate, concise, location in report, e.g. in main text, appendices.

Formats: to include tables, pictures, drawings and sketches, graphical, e.g. charts, graphs and geographical formats, e.g. mapping.

Learning outcome 3: Understand how to give effective oral presentations for transport planning

3.1 Factors to be accounted for in developing presentations

When a presentation is required: e.g. internal meeting, external meeting, public consultation.

Planning: purpose and objectives, e.g. a brief; consider audience, e.g. size, internal, external, technical, non-technical; organisational policies and guidelines.

Design: e.g. format, templates, media, content (logical and structured).

Structure: opening, e.g. introduction, objectives, materials, choosing main points, conclusions, e.g. review and summarise.

Organise and prepare: e.g. venue, equipment, IT, printed material and supporting resources.

Practice: e.g. rehearse, timings, amend, practice using an appropriate pace, clear concise voice.

Learning outcome 3: Understand how to give effective oral presentations for transport planning (continued)

3.2 Different communications media

Communication media: verbal communication, written communication, e.g. slides, hand-outs; images, e.g. graphs, charts, diagrams; sound, e.g. audio clips, recordings; video, e.g. animations, embedded videos.

Advantages and limitations: audience, e.g. learning styles, ability; topic, e.g. appropriateness of media, validity, reliability; budget; audio-visual equipment, e.g. availability, accessibility, telecommunications, power; written resources, e.g. production time, content, relevance, cost; verbal communication, e.g. effectiveness, direct communication, misinterpretation.

Learning outcome 4: Understand how to communicate information for public consultations

4.1 Appropriate delivery at public consultation

Public audience: to include non-technical audience, not trained in interpretation of data, need to convey ideas concisely, maintain interest, level of formality, politeness, professional conduct.

4.2 Appropriate forms of communications for public consultation

Written documentation: communication of basic ideas, written format for taking information from the consultation, can take longer.

Visual documentation: complex data in an understandable form, aid comprehension, to facilitate small-group discussion, visual presentation to a larger audience, consider equality.

Learning outcome 5: Understand how to contribute effectively to meetings

5.1 Key elements in an effective meeting

Types of meeting: to include internal, e.g. team, training and external, e.g. client meetings, workshops, consultation.

Purpose: discuss important issues, identify issues, present and review information, make decisions, agree actions.

Advantages: relationship building, face to face, opportunity to make decisions, progress, regular identification of risks and opportunities.

Invitation: e.g. issue in good time, purpose, objectives, background, details of venue and times, issue supporting information and materials for meeting.

Agenda: e.g. define objectives of meeting, time allocation to agenda items, items to include, introductions, apologies, main discussion points, dates of next meeting.

Meeting: discuss agenda items, contribute to discussions within area of own responsibility, contribute to decisions within own area of responsibility, summarise actions and responsibilities, agree future arrangements.

Learning outcome 5: Understand how to contribute effectively to meetings (continued)
Importance of accurate minutes: record of important decisions, e.g. impact on project programme or budget, allocation of actions and timeframes for those actions, reference for future meetings, prevent disagreements and misunderstandings. *Making an effective contribution:* *Preparation:* know the subject, research, share ideas with confidence, understand the objectives, understand your role at the meeting. *Convey ideas simply:* e.g. tailor to audience, e.g. technical and non-technical, be clear and concise. *Keep on track:* discuss agenda items within time limits, focus on objectives of meetings. *Ask questions:* to contribute effectively you need to understand the discussion. *Always raise issues:* meetings are arranged to identify and address issues. **5.2 Effectiveness of methods of presenting information in meetings** *Communication media:* verbal communication; written communication, e.g. slides, handouts; images, e.g. graphs, charts, diagrams; sound, e.g. audio clips, recordings; video, e.g. animations, embedded videos, visual formats to inform discussions are useful. *Advantages and limitations:* audience, e.g. learning styles, ability; topic, e.g. appropriateness of media, validity, reliability; budget; audio visual equipment, e.g. availability, accessibility, telecommunications, power; written resources, e.g. production time, content, relevance, cost; verbal communication, e.g. effectiveness, direct communication, misinterpretation **5.3 Explain the importance of accurate meeting records** *Minutes:* accurate record of decisions and actions, format, e.g. organisational, client, summarise discussions, actions and responsibilities within agreed timescale, future arrangements.

Further information for tutors and assessors

Essential resources

There are no special resources needed for this unit.

Suggested reading/resources

Textbooks

Harvard Business Essentials – *Business Communication: Your Mentor and Guide to Doing Business Effectively* (Harvard Business School Press, 2003) ISBN 9781591391135

Reynolds, G – *Presentation Zen Design: Simple Design Principles and Techniques to Enhance your Presentations*, 2nd Edition (New Riders, 2013) ISBN 9780321934154

Schofield J and Osborn A – *Business Speaking: B1-C2 (Collins Business Skills Communication)*, 1st edition (Collins, 2011) ISBN 9780007423231

Websites

www.bbc.co.uk/schools/gcsebitesize	Learning resources to support development of business skills
www.businessballs.com	Guidance on writing and communicating information, running meetings, workshops and presentations
www.office.microsoft.com	Guidance on effective use of Microsoft PowerPoint

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Understand effective communication techniques in the workplace	Effective Communication Techniques in Transport Planning	Learners will prepare a technical report covering the use of different forms of communication, preparing documents and giving effective oral presentations, referring to examples they have produced or experienced in their course. The centre will give appropriate scenarios for learners to use, for example for oral presentations. The scenario could be to give a presentation to a public consultation. The scenario set should also encourage learners to present data in an appropriate way in their report. Learners will explain the different forms of communication they use and evaluate these. Learners will reflect on how they produced the technical report, displaying the data given, explaining the main considerations in producing the report and their choice of presentation style.
2 Understand how to prepare documents for transport planning		
3 Understand how to give effective oral presentations for transport planning		

Learning outcome	Assignment title	Recommended assessment approach
4 Understand how to communicate information for public consultations	Report on Repairing for a Public Consultation	Learners will be involved in the preparation of material for a public consultation. Learners will write a report explaining the development of the material used for the public consultation and evaluate the appropriateness of this material. Learners will explain the communication techniques to be used. They will explain how this is appropriate to the public consultation scenario.
5 Understand how to contribute effectively to meetings	Reflective Journal on Meetings	Learners will maintain a reflective journal (layout to be set by centre) throughout their course, which they will complete following the preparation and organisation, participation or chairing and recording of meetings as part of group work carried out on their course. Learners should refer to evidence of them having organised, participated in or recorded meetings, how successful this was and what could be improved next time.

Learning outcomes 1, 2 and 3: Effective Communication Techniques in Transport Planning

To achieve a Pass, learners will prepare a report structured as a technical report and which discusses examples of different communication techniques that learners have used throughout their course. The main content of the report will deal with preparing documents, displaying data and preparing a presentation as well as discussing the different forms of communication used on the course.

Learners will structure the report with an introduction that sets out the purpose and objectives of the report, has a coherent structure to the main report with sections as necessary, and a summary, bibliography and appendices. The report should also have a contents page and front cover. The report should be written in the appropriate voice (third person).

For learning outcome 1, learners will introduce the various forms of communication that they might use. This could be done simply as a table or as a list in the report. The table could include columns for learners to expand to identify important factors relating to the effectiveness of this form of communication and also its strengths and weaknesses. Learners could suggest appropriate audiences for this form of communication.

For learning outcome 2, the report will prove achievement, however learners need to explain why they chose the structure they did and why the format and style is appropriate for the intended use of their report. This could be documented in a separate section in the main body of the report.

Learners will need to present some data within the report as given by the centre, and it should be presented appropriately, discussing why they have chosen that method of presentation. The data should be presented in a clear and concise manner appropriate to the information given, for example qualitative data might be presented in a table, quantitative data in a chart.

In the final section of the report, learners will show how they would plan a presentation based on a scenario given by the centre. They will have to identify the audience, the purpose and objectives and explain how they would plan the presentation so that it was appropriate. Learners will, in explaining decisions, refer back to the purpose and objectives of the presentation. They will discuss how they would plan the presentation, the structure of the presentation, the format they might use, including the use of software and media and different ways they would engage the audience, and the purpose of the meeting. Learners will explain how they would ensure that their presentation was delivered well and the issues they might face.

Learning outcomes 4: Report on Preparing for a Public Consultation

To achieve a Pass, learners will prepare invitation letters to a public meeting addressed to the relevant stakeholders (to be determined by the centre). They will prepare A2 storyboards showing their preferred option for a relevant transport project. The storyboards will present information that is appropriate for a public consultation, for example brief project background and scope, work to date, information on the project that reflects objectives of transport plans and policy, i.e. environment, economy, social wellbeing, promotion of sustainable transport modes and how they have considered equality and safety. The storyboard will show the benefits of the project.

Learners will explain the content of the storyboards, how the content is appropriate for a public, non-technical audience and how it might differ from a technical audience. Learners should discuss the alternative ways that the information on the storyboard might have been presented to the audience, explain the strengths and weaknesses of each and comment on the effectiveness of the storyboard as a means of presenting.

Learning outcome 5: Reflective Journal on Meetings

To achieve a Pass, learners will keep a reflective journal of meetings that they have been part of during their course. The journal will need to record the purpose and objectives of meetings and why a meeting is appropriate to their work in this instance, along with an evaluation of how effective the meeting was in terms of meeting the objectives, agenda items, timing and decisions made, as well as any risks identified. The journal will also record how learners made an effective contribution to the meeting, and how they might do things differently in future, both individually and as a group.

To pass learning outcome 5, learners must be clear about what role they played in the meeting and what work products they produced. Over the time period of the journal they need to show they are able to prepare an invitation, agenda, chair a meeting and make decisions, take accurate minutes and follow up actions and decisions made.

Learners' evidence will be referenced in the journal and appended to it as supporting evidence.

Unit 10: Principles of Management of Projects, Tasks and Personal Development in Transport Planning

Level: 3

Guided learning: 60

Unit introduction

A project requires the careful planning, organisation and control of resources to achieve a successful outcome for the client or project sponsor. In transport planning, good planning, organisation and control of a project are essential in order to achieve a good quality, timely and satisfactorily completion and to ensure a financial profit. The efficient use of resources such as people, skills, equipment and software must be planned for early in the project and then monitored and controlled throughout the project life cycle.

In this unit, you will learn how to plan a project and prepare a programme for a project, the importance of understanding the resources available and the information you need to plan a project effectively. The identification and management of risk is key to project planning, and you will learn how to identify risk and record and manage it through the project life cycle.

Effective project management requires monitoring and review of the project's progress and an understanding of the potential impact of changes in the project. You will learn about the tools and techniques used to manage a project to its successful conclusion. One of the most important tools in project management is communication, and you will learn how to ensure that the level and timing of communication is appropriate to the project.

As a transport planner, you will be expected to manage your own time and work tasks successfully. As such, the principles of project management will be extended to encompass your accomplishment of tasks and the effective management of your time.

Success as a transport planner requires the development of professional and personal skills, which help you to perform your role and fulfil your responsibilities. If you develop your skills and knowledge continuously, you will be prepared to achieve goals or to approach changes in the workplace.

You will learn the importance of personal development planning and setting your own personal development plan, which should reflect your personal values and goals as well as those of your employer, identifying the resources needed to achieve objectives. You will also learn the importance of development planning to achieve professional qualifications and how to use professional networks and professional bodies to assist your development. You will go on to explore the value of constructive feedback and how to review and monitor your progress as you implement your personal professional development plan.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria	
1	Know how to prepare programmes for transport planning projects	1.1	Describe the key responsibilities of a project manager
		1.2	Describe the key stages of a project life cycle
		1.3	Describe project management tools and techniques commonly used in transport planning
		1.4	Describe what information and resources are needed for effective project planning
		1.5	Describe how to manage potential project risks at the planning stage
		1.6	Explain the importance of contingency planning
		1.7	Describe effective mechanisms for consulting on the development of a programme
2	Know how to implement and monitor progress on a programme for transport planning projects	2.1	Describe project management tools and techniques for reviewing the progress of a project
		2.2	Describe how to manage potential risks that arise during the project
		2.3	Describe the procedures to follow if it becomes necessary to make changes to the work plan
		2.4	Describe effective ways of communicating with project sponsors and other key stakeholders during a project
		2.5	Describe how to establish effective systems for evaluating the success of a project
3	Understand how to plan and use your work time effectively	3.1	Explain how to agree achievable work objectives
		3.2	Explain how to assess and plan the time required to meet agreed targets
		3.3	Explain how to monitor the progress of work against an agreed work schedule

Learning outcomes		Assessment criteria	
4	Understand how to identify personal goals and development objectives	4.1	Explain the purpose of having personal goals and development objectives
		4.2	Explain the difference between personal and professional development objectives
		4.3	Explain how to identify gaps in personal knowledge and skills
5	Understand how to manage personal and professional development	5.1	Explain what the purpose of a personal development plan is and what it contains
		5.2	Explain how to seek feedback on professional performance
		5.3	Explain how to measure professional performance against development objectives
		5.4	Explain the importance of taking ownership of professional development progression
		5.5	Describe how to keep up to date with changing legislation, guidance and practices

Content

What needs to be learned
Learning outcome 1: Know how to prepare programmes for transport planning projects
1.1 Roles and responsibilities of the parties involved in a transport planning project *Project:* range of scale and cost; short term, e.g. one task; long term, e.g. multi-stage, multi-disciplinary long-term project over five years. *Parties to a transport planning project*: project sponsor – funds, approvals; project manager, transport planners and engineers, e.g. designers; professional partners, e.g. architects, planning consultants; external stakeholder, e.g. local authority, Highways England, approvals. *Responsibilities of a project manager:* balances time, cost and quality on a project, manages resources, plans, implements, monitors, controls, delivers.
1.2 Key stages in a transport planning project *Stages of a project life cycle*: project initiation (by project sponsor), tender process (in most cases), planning, implementation, delivery. *Initiation:* project sponsor-led, brief, need, aims, scope. *Tender process:* address brief/scope of works, submit tender, e.g. scope of works, costs, programme, successful tender, award of project. *Planning:* define scope, tasks, objectives, outcomes, constraints/risks, programme, e.g. timescales, tasks, resources and key inputs, e.g. data. *Implementation:* management of key resources, monitoring, control, achieves objectives, follow programme. *Delivery:* outcomes, submission, e.g. reports.
1.3 Project management tools and techniques *Project plan:* identifies, for example scope of work, tasks, information required, resources required, quality of resources, risks and contingency. *Programme:* developed by project manager, agreed with project sponsor, plan for time and resources, software, e.g. GANTT chart, Microsoft Project®, critical path and tasks. *Quality management:* company procedures, project records, record of changes, decisions, ISO9001.

Learning outcome 1: Know how to prepare programmes for transport planning projects (continued)

Factors affecting planning process:

- resources: required to achieve project outcomes in proposed timescales, i.e. to programme, availability and cost, human resource, e.g. skills, within organisation, third party, materials, e.g. data from surveys; equipment, e.g. specialist software; quality, e.g. standards and specifications
- Information: whether and when resources are available, cost of resources, internal and external input, approvals required, e.g. when and how.

1.4 Project risk management

Identify potential problems/risks: review all stages of project, all tasks, any threats to the project, impact on time, cost, quality of a project, e.g. safety, environmental impact.

Risk management: start in planning stage, identify, likelihood, severity, quantify impact, reduce impact of the risk, manage residual risk, identify responsibility for/owner of each risk.

Risk management tools: risk assessments and risk register/log, e.g. document, spreadsheet or database, regular monitoring and review, risk workshops, risk management plan.

Contingency: identify how to manage problem/hazard, e.g. procedure, budget, time, all parties aware of risks from early stage.

1.5 Consultation during the project planning stage

Project manager consults with: finance staff, internal team, external team, project sponsor, third parties, to gain necessary information.

Communication: appropriate type for consultee/stakeholder, verbal, written, e.g. letter, email.

Plan for consultation during project: appropriate type for consultee/stakeholder, during specific task or time, regular or ad-hoc, verbal, written, e.g. letter, email; meetings, e.g. weekly, monthly, appropriate to influence on project.

Learning outcome 2: Know how to implement and monitor progress on a programme for transport planning projects

2.1 Tools and techniques for monitoring and review

Monitor project information: by project manager, time and costs to date, e.g. from timesheets and invoices, finance staff, compare against programme, identify issues.

Review cycle and meetings: appropriate to project length, e.g. weekly, monthly, with internal or external teams, review programme and risk register.

Forecasting: costs against budget, resources, impact of time extensions due to foreseen or unforeseen risks.

Presentation: reports, e.g. weekly, monthly; presentations, e.g. team, project sponsor, GANTT chart, other programme type.

2.2 Risk management and change control

Risk management: frequent review of risks with all stakeholders, e.g. amend, update, early warning of risk occurrence, management of risk arising as per the risk management plan, alert those responsible for risk, agree course of action, e.g. extension of time, additional budget, stop project; record all decisions.

Change control: risk occurrence or unforeseen issues, require change to time or budget, agree with client before proceeding, recording change and agreement of change, company quality procedures, risk of dispute if not recorded properly.

2.3 Communicating with project sponsors and stakeholders during a project

Plan for communication during project: reason for communication, e.g. information, consultation, identify stakeholders, type and influence.

Type of communication: appropriate type for consultee/stakeholder, during specific task or time, regular or ad-hoc, verbal, written, e.g. letter, email; meetings, e.g. weekly, monthly, appropriate to influence on project.

2.4 Effective systems for evaluating the success of a project

Feedback: e.g. project sponsor, third parties, internal team post-project review, organisational procedures.

Evaluation: to include key performance indicators, outturn cost versus budget, timescale to programme, what went well, what went wrong, lessons learned for next time.

Learning outcome 3: Understand how to plan and use your work time effectively

3.1 Setting and achieving work objectives

Understand task: discuss with person instructing your work, discuss task, method, outcomes, resources required, agree scope.

Assess and plan: identify tasks required, methodology, resources required, constraints or risks, timescales, budget, quality, e.g. company policies, standards, specifications.

Review: with person instructing, agree methodology, timescale and schedules, budget, ensure objectives for the task are SMART (Specific, Measurable, Achievable, Realistic, Time-bound).

3.2 Monitoring progress of work against objectives

Monitoring: timesheets, review of progress on tasks against timescales.

Review: appropriate to task complexity and timescale, e.g. daily, weekly, monthly, personal review, review with person instructing work, identify issues.

Review quality of work: to include company policies and standard, industry standards, specifications.

Learning outcome 4: Understand how to identify personal goals and development objectives

4.1 Personal and professional development planning

Development planning: process of planning personal and professional development, objectives setting, record, review, monitor, personal development plan.

Why do we need it: contributes to work performance, achieves personal values, e.g. job satisfaction, motivation; career goals, e.g. promotion; addresses industry change, e.g. technological change, new theories, techniques, software etc.; helps meet professional body code of conduct, e.g. need to maintain knowledge of profession; prove commitment for professional qualification.

4.2 Identifying objectives

Possible objectives: personal, role and skills, organisational; career, e.g. promotion within company or professional qualification.

Resources: personal reflection, appraisals, company job descriptions, professional qualification objectives, i.e. Engineering Council or professional institution.

Tools: SWOT (Strength, Weakness, Opportunity, Threat) analysis, peer review, appraisal or development review.

Learning outcome 5: Understand how to manage personal and professional development

5.1 Personal development plans

Personal development plan (PDP): purpose and content, for example reflect on personal goals, reflect on job role, e.g. through appraisal or progress review, define and prioritise objectives, how to achieve objectives (short, medium and long term), allocate resources, by when, use SMART (Specific, Measurable, Achievable, Realistic, Time-bound).

Resources: professional and organisation networks, professional bodies, – codes of practice, learning opportunities, tools, e.g. SWOT, skills audit.

5.2 Measuring progress

Implementing a personal development plan: develop written plan; share/agree with manager/mentor; schedule development activities; record details of development activity; evaluate the benefits of activity.

Seek feedback on plan: beneficial to development, encourages further development, ad hoc, e.g. following a completed task or planned feedback, e.g. appraisal or review; verbal or written feedback.

Measure progress: review objectives on a regular basis, review activity against objectives, reflect on learning experiences; modify planned activities as needed.

5.3 Monitoring and reviewing development

Monitoring: schedule time for monitoring development objectives, arrange manager or mentor support, collect feedback, consider and reflect on feedback, review activities undertaken, review progress against learning objectives, revise planned activities as needed, revise learning objectives as needed, evaluate benefits from achieving objectives, record decision.

Ownership: a personal plan, shows commitment, helps achieve your personal and organisational objectives, professional commitment, professional qualification.

5.5 Keeping up to date with changing legislation, guidance and best practice

Self-directed: reading the newspapers; looking for transport/policy changes, conversations with colleagues, reading transport publications, personal reflection, maintaining a continuing professional development (CPD) log, email update services, for example government-led guidance, e.g. WebTAG.

Organisation-led: attending (CPD) events both internally and externally, e.g. with the Transport Planning Society (TPS), reading organisational bulletins and updated procedures, development reviews and appraisals.

Further information for tutors and assessors

Essential resources

Access to computing facilities and planning software would give learners an appreciation of what can be achieved using non-manual programming techniques.

The use of live or completed transport planning projects as a basis for assessment tasks would enhance the learning experience by putting the planning and implementation of a transport planning project into context.

Suggested reading/resources

Textbook

Burke R – *Project Management: Planning and Control Techniques*
(John Wiley and Sons Ltd, 2003) ISBN 9781118561256

Websites

www.apm.org.uk	Association for Project Management, what is project management?
www.bbc.co.uk/schools/gcsebitesize/dida/managing_projects/	Managing projects
www.ciht.org.uk	Institution of Highways and Transport, professional qualification, code of conduct, professional development
www.ciltuk.org.uk	The Chartered Institute of Logistics and Transport, professional qualification, code of conduct, professional development
www.engc.org.uk/	Engineering Council, EngTech competence standard
www.tps.org.uk	Transport Planning Society, professional qualification, code of conduct, professional development
www.transportxtra.com/publications/local-transport-today/news/	Local Transport Today, news publication

Essential information for assessment

This unit is assessed internally by the centre and externally verified by Pearson.

Please read this guidance in conjunction with *Section 8 Assessment*.

The table below shows the recommended approach to assessment, detailing suitable forms of evidence for each learning outcome. Centres can use these forms of evidence or other suitable ones. Centres need to provide learners with an appropriate assignment brief to complement the recommended assessment approach.

Learning outcome	Assignment title	Recommended assessment approach
1 Know how to prepare programmes for transport planning projects	Planning and Managing a Project	Learners are given a scenario for a transport planning project and will produce a project plan, including roles and responsibilities of major factors, information and resources and consultation required, describing appropriate consultation techniques for the stakeholders identified. Learners will describe the key aspects of the plan and the reason for their inclusion. They will also prepare a programme based on the project plan and which identifies the critical elements. The assignment will look to ensure that the issues of risk identification and management and control of change are described by learners in the form of a risk register. Learners will describe a strategy for monitoring and review of the project, a strategy for managing any change on the project and the evaluation of the project once complete. Learners will reflect on the outputs prepared and what they would do differently next time.
2 Know how to implement and monitor progress on a programme for transport planning projects		

Learning outcome	Assignment title	Recommended assessment approach
3 Understand how to plan and use your work time effectively	Planning Work Time	Timed, open-book assignment. Learners will be given three scenarios for tasks for which they are required to prepare a plan, what they need to account for, how this is likely to be agreed with their line manager, the suggested process of review and monitoring as well as what would be considered a satisfactory outcome. The scenario will identify the timescale allowed for the task.
4 Understand how to identify personal goals and development objectives 5 Understand how to manage personal and professional development	Reflective Journal with Accompanying Explanatory Report	Learners will maintain a reflective journal kept during the process of learning about development planning, researching career pathways, carrying out a SWOT analysis, identifying objectives, and the preparation of a development action plan. The journal will encourage learners to explain the purpose of development planning, the differences between personal and professional goals, and how these might be achieved. Learners will explain the different techniques used to carry out goal setting and why the technique they have chosen will help them develop their personal development plan. Learners should explain their preferred approach to development planning and explain the inclusion of the goals they have identified, why they believe them to be achievable, and how they will measure progress and seek feedback.

Learning outcome	Assignment title	Recommended assessment approach
4 Understand how to identify personal goals and development objectives	Personal Development and Career Planning	Report with SWOT analysis. Learners will look at career pathways, research on roles within transport planning, research reflective practice, explain the benefits of goal setting and how best to do this. Learners will explain why the SWOT analysis helps them identify gaps in personal and professional knowledge, and explain the inclusion of a number of items in the SWOT analysis. They should explain the purpose of having goals and the difference between personal and development goals, as these should both be present in the SWOT analysis.
5 Understand how to manage personal and professional development	Personal Development Plan	Learners will develop their own personal development plan (PDP) and prepare an accompanying report. Learners will present their PDP and explain the inclusion of different sections of the plan and their importance to the development planning process. In the accompanying report, they will explain how they intend to review their plan, measure progress against the objectives and how to seek feedback. As part of this explanation, it is expected that learners will explain the importance of taking ownership of their own development. Learners will reflect on the objectives and explain whether any of the objectives are likely to be unachievable and why.

Learning outcomes 1 and 2: Planning and managing a project

To achieve a Pass, learners will firstly provide a table identifying the main roles within the project in the scenario, to include project sponsor/client, project manager, design team and significant external stakeholders. It would be best to present this information in a table but an organisational chart with space for explanatory text would also be appropriate and would show understanding of interrelationships between project roles. In the table, learners will identify the role and responsibilities of each of the main roles, the stages of a project in which they have an influence and when this influence might be important. For example, external stakeholders in a scenario based on achieving planning permission for a development might be the local authority. The local authority gives approval for the development and without it, construction cannot go ahead.

Learners will also submit a programme for the project, within the scenario provided to show the stages of the project, including project initiation and planning, and the stages in the implementation of the project appropriate for the scenario, for example option development, assessment, appraisal, feasibility of the design. These indicate that learners appreciate the methodology that would normally be followed in this type of typical project scenario. As a minimum, the programme will be a GANTT chart in Excel, and will indicate communication or review meetings with clients on a regular basis and also critical points in the process, for example approval of the scheme by the client. The need for these communications/meetings and the important points in the project will be explained in accompanying text, with reference to an appropriate means of communicating with the client (as a minimum). The information that will be required to monitor the project by the project manager and when will be suggested by learners and may be added to the programme provided.

Learners will refer to the information that is required in order to plan each stage of the project as well as the resources that are required to complete the project. These will cover people, skills, equipment and software and why they are important. The explanation will refer to cost, time and quality.

To accompany the programme, learners will submit a table that describes the risks that have been identified during the planning of the project by the group. The table will identify the risk, the severity of the impact on the project should this occur and how it would be dealt with. For two of these risks, learners will identify how the risks could be minimised during the planning stage of the project and what the impact of that risk occurring would be (referring to time and cost as a minimum). Learners will identify how this change to the project will be dealt with by their organisation, for example recording and agreeing the change to time and budget.

Learners will provide a statement to explain the role of the project manager across the whole project and, considering themselves as project manager, will identify the tools and techniques that they would use to plan, monitor and review the progress of the project. This will indicate that they are familiar with project management concepts.

Learners will identify how the project manager might evaluate the success of the project by designing a post-project review form and explaining it. The evaluation form will review the time taken against the programme, outturn cost against budget and a section for lessons learned. Learners will suggest on the form who takes part in the evaluation.

Learning outcome 3: Planning work time

To achieve a Pass, learners will prepare a plan for carrying out each given scenario. They should identify the objectives of the task, the outcomes required and the tasks and methodology that would help to achieve these outcomes. This could be completed as a statement or a process flow chart (preferable). Learners can identify against each stage the time and resources required to include people, skills, equipment and third-party input, and also risks to the plan and methodology that could be foreseen and importantly how these might be dealt with. The identification of resources and risks should be appropriate to the task. It is intended that the task will not be overly complex but that it will require input from resources other than learners themselves. Learners should not be judged on the time suggested to complete a task but it is important that they are aware that some tasks will take longer than others to complete.

Given the timescale, learners should comment on whether they believe the task to be achievable in the current time, for example SMART. Learners are not expected to produce a GANTT chart or similar.

Learners will explain how they will review and agree their work plan and suggest an appropriate monitoring and review strategy. The monitoring and review strategy will identify a time period over which monitoring takes place, and what is used to monitor progress, for example monitoring of time booked on timesheets every day on a short project, and monthly on longer projects. This will identify who carries out the review and why. Learners will also suggest a post-task review to help reflect on the work carried out and lessons learned.

Learning outcomes 4 and 5: Reflective Journal with Accompanying Explanatory Report

To achieve a Pass, learners will keep a reflective journal. It will cover the process of learning about development planning and reflective practice, researching career pathways, considering personal and professional goals, how to carry out a SWOT analysis and the development of a development action plan.

Entries in the journal will cover the important learning points, why they are important to learners, and how learners will use the information. The entries will be accompanied by referenced evidence from research as necessary.

Entries that satisfy learning outcome 4, regarding development planning, will identify the importance of development planning and reflecting on progress on a regular basis. They will identify types of objectives, for example personal, career, and organisation, and learners will identify ideas for goals for themselves based on this.

Learning outcome 4: Personal Development and Career Planning

To achieve a Pass, learners will prepare a report that focuses on the preparation of their own SWOT analysis and summarises the process they undertook to research career pathways and roles in transport planning, reflective practice and the benefits and process of goal setting.

The SWOT analysis will be introduced, presented as a table and will be populated with appropriate content. Learners are expected to identify both personal and professional SWOT content.

Learners will accompany the SWOT table with explanatory written work, and at all times explanations given should be reflected in the SWOT. The written element should explain the need for development planning (personal and professional) and reflective practice, covering the process of development planning to include plan, record, monitor and review. This could be shown as a diagram.

The written statement should identify the professional need for development and will discuss professional qualifications and the code of conduct simply.

As a final discussion, learners will give examples of the resources that are available in terms of development planning, again referencing any research and how this might help them to plan their development, to include appraisals, professional qualifications and colleagues/peers. This might take the form of a table that gives the resource and explains why it might be helpful to them.

In terms of career pathways and transport planning roles, learners will explain how they have researched this topic and what they have learned. They should refer to research material. The research should include professional institutions as a primary source of research. Learners will identify a career pathway or role that they wish to pursue, and the SWOT should show evidence that learners have thought about this role and researched how to achieve it.

The SWOT table will show that learners have considered personal strengths and weaknesses as well as those relating to their work experience and their organisation.

Learning outcome 5: Personal Development Plan

To achieve a Pass, learners will present their development action plan (DAP) as a table, which identifies three or more objectives. The table will cover the following: defining the objectives, how the objectives will be achieved, any resources needed, how a successful outcome will be measured, and when the outcome will be achieved.

Learners will also attempt to prioritise the objectives with an explanation of how they have done this. The explanation accompanying the DAP will discuss how the goals have been set and why learners think they are achievable. Learners will refer to SMART targets and how they have applied this concept in the development of their action plan.

Finally, learners will present a simple strategy for monitoring and review. It will discuss the importance of monitoring and review to the development planning cycle, when and how they will carry out monitoring and review, and with whom.

12 Further information and useful publications

To get in touch with us visit our 'Contact us' pages:

- Edexcel, BTEC and Pearson Work Based Learning contact details: qualifications.pearson.com/en/support/contact-us.html
- books, software and online resources for UK schools and colleges: www.pearsonschoolsandfecolleges.co.uk

Key publications:

- *Adjustments for candidates with disabilities and learning difficulties – Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Equality Policy* (Pearson)
- *Recognition of prior learning policy and process* (Pearson)
- *UK Information Manual* (Pearson)
- *UK Quality Vocational Assurance Handbook* (Pearson).

All of these publications are available on our website.

Publications on the quality assurance of BTEC qualifications are also available on our website.

Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please visit our website.

Additional resources

If you need further learning and teaching materials to support planning and delivery for your learners, there is a wide range of BTEC resources available.

Any publisher can seek endorsement for their resources, and, if they are successful, we will list their BTEC resources on our website.

13 Professional development and training

Pearson supports UK and international customers with training related to BTEC qualifications. This support is available through a choice of training options offered on our website.

The support we offer focuses on a range of issues, such as:

- planning for the delivery of a new programme
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Please visit, qualifications.pearson.com/en/support/contact-us.html

Annexe A

Qualification mapping to the Transport Planning Technician Apprenticeship Standard

Unit number	Transport Planning Technician Apprenticeship Standard
1	K1
2	K1, K8 (ethics), K9
3	K2
4	K3
5	K4
6	K5
7	K10,
8	K10
9	K7
10	K11, K6
Covered in Skills portfolio	K8

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