

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Transport and Logistics Operations

registered by Organising Field 11, Services, publishes the following qualification and unit standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the qualification and unit standards. The full qualification and unit standards can be accessed via the SAQA web-site at www.saqqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the qualification and unit standards should reach SAQA at the address ***below and no later than 11 June 2007***. All correspondence should be marked **Standards Setting – Transport and Logistics Operations** and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:**National Certificate: Land Transport Planning**

SAQA QUAL ID	QUALIFICATION TITLE		
58600	National Certificate: Land Transport Planning		
SGB	PROVIDER		
SGB Transport and Logistics Operations			
ETQA			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	11 - Services	Transport, Operations and Logistics	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	125	Level 5	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION**Purpose:**

This qualification is aimed at bolstering the ability of transport planning practitioners to successfully implement the legislative requirements of land transport planning. This qualification enables the learner to develop towards becoming a transport planner which is achieved by strategising, planning, integrating, implementing and managing transport planning aspects using the appropriate processes and methods within the relevant contexts.

The occupations, jobs or areas of activity in which the qualifying learners will typically operate are the planning or transport functional areas of municipalities, provincial governments, national departments, and parastatals, as well as private sector consultants and elected officials operating in transport committees. The qualification has been designed to allow for the personal development of the land transport planner and forms part of a progression pathway towards more complex transport planning aspects. The typical learner at this level will be making specified contributions to the land transport planning process (in larger municipalities or other entities), or be responsible for preparing and implementing the entire Integrated Transport Plan (in small, local or district municipalities).

The scope of the land transport system that is dealt with includes all modes of passenger and freight transport, by all public transport, non-motorised, road or rail-based means. The qualification is relevant to both rural and urban contexts. The qualification covers the contextual aspects of planning for transport development, as well as technical knowledge needed to develop the plan itself. This includes project management skills in order to manage the project for the preparation of a transport plan, supplemented by the technical knowledge requirement to seek the assistance of a service provider to prepare more technically demanding components of the plan.

The transport management function, referring to the implementation of infrastructure, services and management systems, and operational or logistical planning, is not a primary focus area of this qualification, although aspects of operations and management are included for the sake of completeness.

Qualifying learners will be able to:

- Function within the process and institutional frameworks of transport planning.
- Demonstrate an understanding of land transport systems and reflect on the reciprocal relationship between transport and the external environment.

- Conduct elementary analysis and evaluation of information for transport planning.
- Manage self, physical and information resources through effective departmental relations and practices to achieve organisational objectives.

Rationale:

Managing and developing the transport system is a complex task requiring coordination among many roleplayers across the private and public sectors. Transport planners at the local, provincial, and national government spheres are involved in guiding and implementing transport in such a manner as to promote the achievement of government's policy intentions, and within the procedural frameworks provided by legislation.

Since 1994 the policy and institutional frameworks within which land transport is planned and provided have changed significantly. The Urban Transport Act (78 of 1977) provided for transport planning to be executed by core cities in Metropolitan Transport Areas (MTA's), which included only the large urban areas in South Africa. The White Paper on National Transport Policy (1996) identified the need to undertake more directed transport planning in all areas, including rural areas and small towns, in order for transport to play its proper developmental role. The White Paper further identified a key focus of transport as that of meeting customer needs, which implied the need for a changing set of objectives and skills, both within government and among transport providers. The National Land Transport Transition Act (NLTTA), Act 22 of 2000, provided the new framework and process for transport planning in South Africa. The principle of integrated transport planning, aimed at achieving integration across all land transport modes, between land use and transport, and between the delivery of infrastructure and the management and enforcement of transport services and operations, underpinned the spirit of the Act. Institutional options were identified for starting to address the endemic fragmentation in the planning and management of transport. The subsequent Regulations on Part 7 (Transport Planning) of the Act further specified what should be contained in the Integrated Transport Plans (ITPs) for any given area, whether rural or urban.

Since 2003, the first cycle in the preparation of ITPs by municipalities revealed a number of challenges. These challenges became evident by the timeframes that were required and the quality of the plans that were prepared. In general, the plans displayed a lack of implementability and responsiveness to the objectives set by the NLTTA and the National Land Transport Strategic Framework (NLTsf). One of the main reasons for these shortcomings appeared to be the lack of skills and capacity at local and district municipality level to prepare the plans according to the specifications and regulations.

A distinction should be made between the transport planning function required at municipal level to prepare transport plans, and the transport management and regulatory functions, shared between the three spheres of government. The transport planning process essentially involves the evidence-driven identification of issues and problems, the generation of goals and objectives, the generation, evaluation, and implementation of policies, strategies and projects, and the monitoring and review of the impacts of the process. Undertaking this process requires a diverse set of skills in working with both data and people, managing projects and processes within relevant governance frameworks, and understanding the complex interplay between transport and the wider economic, physical and social environments. The complexity of this task varies significantly by geographic area, with individual planners in local or district municipalities engaging with a relatively limited set of issues, while their counterparts in larger urban areas deal with more complex and, often, less well defined problems.

Officials in the provincial and national government spheres are to a lesser extent involved in transport planning - their focus is more on guiding (through legislation, policies and strategies), managing (e.g. bus and taxi services through subsidies and operating licenses), and regulating (through regulation and enforcement) the transport sector in consultation with municipalities. Due to the critical interaction and coordination required among the three spheres, planners and managers at all three levels need to understand how the transport planning process works and what it requires in order to become a successful driver of implementation.

Currently in South Africa several institutions of higher learning offer qualifications in transport planning which can fulfil these outcome requirements. However, all of these qualifications are provided at the postgraduate level (NQF level 7 or above), of which the entry level requirements are at a level that excludes most of the practitioners who are currently engaged in transport planning tasks in the country. There is thus a clear need for a local transport planning qualification that is accessible to practitioners in South Africa at a lower NQF level leading towards access to higher level qualifications.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

- Communication at Level 4.
- Mathematical literacy at Level 4.

Specific reference to:

- ID 7468, Use mathematics to investigate and monitor the financial aspect of personal, business, national and international issues, Level 4.
- ID 9015, Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems, Level 4.
- ID 9016, Represent, analyse and calculate shape and motion in 2-and 3- dimensional space in different contexts, Level 4.

Providers must ensure that learners meet the mathematics literacy requirements above as this is crucial to the learner's successful completion of the qualification. Providers are therefore expected to offer a bridging programme where necessary so as not to utilise the mathematical literacy requirements to deny access or a form of exclusion.

Recognition of Prior Learning:

The structure of this qualification makes the Recognition of Prior Learning possible through challenging the associate Exit Level Outcomes. This qualification may therefore be achieved in part or completely through the recognition of prior learning, which includes formal, informal and non-formal learning and work experience. The learner should be thoroughly briefed on the mechanism to be used and support and guidance should be provided. Care should be taken that the mechanism used provides the learner with an opportunity to demonstrate competence and is not so onerous as to prevent learners from taking up the RPL option towards gaining a qualification.

If the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this qualification the appropriate credits should be assigned to the learner. Recognition of Prior Learning will be done by means of Integrated Assessment as mentioned above.

This Recognition of Prior Learning may allow:

- Accelerated access to further learning at this or higher levels on the NQF.
- Gaining of credits towards the Exit Level Outcomes.
- Obtaining of this Qualification in part or in whole.

Access to the Qualification:

Open access.

QUALIFICATION RULES

- Learners must complete all 41 credits in the Fundamental Component.

- Learners must complete all 64 credits in the Core Component.
- Learners must complete at least 20 credits from the Elective Component of the qualification.

EXIT LEVEL OUTCOMES

1. Function within the process and institutional frameworks of transport planning.
2. Demonstrate an understanding of land transport systems and reflect on the reciprocal relationship between transport and the external environment.
 - Range: External environment includes but is not limited to political economic, social, technological, environmental contexts.
3. Conduct elementary analysis and evaluation of information for transport planning.
4. Manage self, physical and information resources through effective departmental relations and practices to achieve organisational objectives.

ASSOCIATED ASSESSMENT CRITERIA

1.
 - Land transport planning processes are designed to reflect the logical sequence of activities to produce the plan in accordance with legislative requirements.
 - Range: Activities include but are not limited to setting objectives, data collection, and analysis, evaluation and assessment, public consultation and decision making.
 - Project management tools are applied in order to implement transport planning processes and projects.
 - A terms of reference is drafted to inform various processes for a specific project.
 - Range: Various processes include but are not limited to brief a consultant, a legal expert or service providers.
 - An understanding of basic budgeting and financial processes is demonstrated to cost and control project expenditure.
 - Budgets related to land transport planning projects are motivated and acquired implemented and utilised in accordance with legal requirements.
2.
 - Basic concepts, components and organisation of land transport systems are described to reflect how it informs the functioning of settlement systems
 - Range: Concepts include but are not limited to congestion, accessibility, capacity and mobility.
 - Range: Components include but are not limited to vehicles, infrastructure, terminals and control systems of various freight and passenger modes.
 - Range: Organisation include but are not limited to how modes are organised reflecting inter-modalism, integration, co-ordination, private versus public.
 - Range: Settlement systems include but are not limited to rural areas, towns and cities.
 - The basic interaction between land use development and transport development is explained to anticipate possible systemic impacts in contemporary South African conditions.
 - The basic interaction between the bio-physical environment and transport systems is explained to anticipate possible systemic impacts in contemporary South African/global conditions:
 - Range: Possible systemic impacts include but are not limited to emissions, energy consumption, water quality, noise.
 - The basic interaction between the socio-economic environment and transport systems is explained to anticipate possible systemic impacts in contemporary South African conditions.
 - Range: Socio-economic impacts include but are not limited to economic growth, population growth, equity.
 - Contemporary mitigating strategies are described in relation to specific problems related to the functioning of transport systems and managing externalities.
 - Range: Problems include but are not limited to congestion, pollution, access, safety, special category needs.

o Range: Mitigating strategies include but are not limited to travel demand management, transport systems management, infrastructure investment, public transport provision.

3.

- Different types, key characteristics and sources of transport data are identified for use in various stages of the transport planning process.
- o Range: Transport data includes but not limited to spatial, network, travel demand, demographic.
- Different data collection methods and basic sampling concepts are identified and evaluated in relation to information requirements in the transport planning process.
- o Range: Different data collection methods include but not limited to traffic counts, user surveys, ridership counts, inventory.
- o Range: Basic sampling concepts include but not limited to size, frame, standard deviation, error, time periods.
- Data analysis methods are applied to identify patterns, problems and trends.
- o Range: Data analysis methods include but not limited to summary statistics, cross tabulation, knowledge of basic transport modelling methods.
- Basic methods used for presenting data are applied to illustrate patterns, problems and trends.
- o Range: Basic methods include tables, charts, histograms, maps.

4.

- Project management principles, tools and processes are utilised to measure team performance and deliver organisational objectives.
- Communication techniques are selected and applied in accordance with the needs of target audience.
- o Range: Communication techniques include written or oral techniques.
- Communication techniques are applied to optimise the impact and effectiveness of quality service delivery.
- Organisational information is researched to inform the transport planning process.
- Work processes are implemented to promote effective performance thereby achieving set goals and objectives and ensuring quality service delivery.

Integrated Assessment:

- Assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, so that an integrated approach to assessment is incorporated into the qualification.
- Learning, teaching and assessment are inextricably interwoven. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the unit standards should be integrated.
- Assessment of communication and mathematical literacy should be integrated as far as possible with other aspects and should use practical contexts wherever possible. A variety of methods must be used in assessment and tools and activities must be appropriate to the context in which the learner is working or will work. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.
- The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments, the assessor should make use of a range of formative and summative assessment tools methods and assess combinations of practical, applied, foundational and reflexive competencies.
- During the assessment of the practical components of this qualification the assessor must ensure that all underlying theoretical components are assessed in an integrated manner.
- Assessors must assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.
- Assessment should ensure that all specific outcomes, embedded knowledge and critical cross-field outcomes are evaluated in an integrated manner.

INTERNATIONAL COMPARABILITY

An extensive, but not comprehensive, internet search was conducted in February 2007 to compare the proposed NQF Level 5 qualification with international benchmarks, particularly within 'developing world' nations. The key phrases of this search included 'transport planning course' and 'transport studies course'. The names of 'developing world' countries, including Ghana, Nigeria, Tanzania, Kenya, Egypt, Senegal, Brazil, Chile, Colombia, Singapore and India were then suffixed to these keyword phrases in order to undertake a more targeted search.

The internet search undertaken indicates clearly that the majority of qualifications with a specific focus on transport planning are offered as a postgraduate PGDip and Master degree level (i.e. NQF levels 7 and 8). PGDip and PGCert qualifications are typically distinct from Master degrees in that they exclude a research project or dissertation component. The range of qualifications reviewed, and the institutions that offer them, are listed in the following table.

Asia:

Institution, Qualification, Assumed equivalence to NQF Level:

- Indian Institute of Technology Delhi, MTech in Transportation Engineering, Level 8.
- Indian Institute of Technology Madras, MTech in Transportation Engineering, Level 8.
- National Taiwan University, MSc in Transport Engineering, Level 8.
- National University of Singapore, MSc Transportation Systems and Management, Level 8.

Australasia:

Institution, Qualification, Assumed equivalence to NQF Level:

- Murdoch University, Master of Transport Studies, Level 8.
- University of Auckland, MSc in Transportation Engineering, Level 8.
- University of Queensland, Short courses, N/A.
- University of Sydney, Master of Transport Management, Level 8.
- University of Sydney, Graduate Diploma in Transport Management, Level 7.

North America:

Institution, Qualification, Assumed equivalence to NQF Level:

- Federal Highway Administration, Training workshops and seminars, N/A.
- Florida International University, Master of Science, Level 8.
- Iowa State University, MSc in Transportation, Level 8.
- Massachusetts Institute of Technology, MSc Transportation, Level 8.
- Ohio State University, MSc in Transportation Engineering, Level 8.
- University of California Irvine, MSc Transportation Systems Engineering, Level 8.

United Kingdom:

Institution, Qualification, Assumed equivalence to NQF Level:

- Cardiff University, MSc Transport and Planning, Level 8.
- Loughborough University, MSc Transport Policy and Business Management, Level 8.
- Napier University, MSc Transport Planning and Engineering, Level 8.
- Newcastle University, MSc Transportation Planning and Policy, Level 8.
- Newcastle University, Diploma Transportation Planning and Policy, Level 7.
- Oxford Brookes University, MSc Transport Planning, Level 8.
- Oxford Brookes University, PGDip Transport Planning, Level 7.

- Oxford Brookes University, PGCert Transport Planning, Level 7.
- Planning and Transport, Research and Computation, Custom-made training programmes, N/A.
- Sheffield Hallam University, MSc Transport Planning and Management, Level 8.
- Sheffield Hallam University, PGDip Transport Planning and Management, Level 7.
- Sheffield Hallam University, PGCert Transport Planning and Management, Level 7.
- University of Leeds, BA Economics with Transport Studies, Level 6.
- University of Leeds, BA Management with Transport Studies, Level 6.
- University of Leeds, BA Geography with Transport Planning, Level 6.
- University of Leeds, BA Environment with Transport, Level 6.
- University of Leeds, MA Transport Economics, Level 8.
- University of Leeds, MSc Transport Planning, Level 8.
- University of Leeds, MSc Transport Planning Practice, Level 8.
- University of Leeds, MSc(Eng) Transport Planning and Engineering, Level 8.
- University of Leeds, MSc Transport Planning and Environment, Level 8.
- University of Leeds, PGDip in Transport Planning, Level 7.
- University of Newcastle upon Tyne, MSc Transport Planning and Policy, Level 8.
- University of Salford, MSc Transport Engineering and Planning, Level 8.
- University of Southampton, MSc Transportation Planning and Engineering, Level 8.
- University of Southampton, PGDip Transportation Planning and Engineering, Level 7.
- University of West of England, BSc (Hons) Transport and Sustainability, Level 7.
- University of the West of England, BA (Hons) Planning with Transport, Level 7.
- University of the West of England, MSc Transport Planning, Level 8.
- University of Westminster, MSc Transport Planning and Management, Level 8.

Cross University Programmes:

Institution, Qualification, Assumed equivalence to NQF Level:

- Cornell University & Napier University, Seminar course, N/A.
- Planning and Transport Research Centre, Master of Transport Studies, Level 8.

Transport planning is typically taught at NQF levels 5 and 6 through individual courses within broader civil engineering undergraduate degrees. Undergraduate civil engineering courses in transportation tend to cover more than just transport planning however, incorporating geometric design, traffic engineering and pavement engineering as additional key components. For example, the undergraduate civil engineering curriculum at Cairo University in Egypt includes the following courses, which (perhaps with the exception of railway and airport engineering) are fairly typical of most undergraduate transport engineering courses:

• PBW 301 Transport Planning and Traffic Engineering (4+2):

Transport Planning: Introduction to transport sciences - Definitions - Time horizons of transport planning - Elements of urban transport planning procedures - Data base - Introduction to travel demand forecasting models - Introduction to traffic management and public transport improvements - Introduction to evaluation of strategic transport plans and traffic management schemes.

Traffic Engineering: Vehicle, User and road Characteristics - Studies of Traffic Stream Characteristic (Speed, Volume, Trip Time & Delay) - Fundamentals of Traffic Flow - Speed, Volume and Density Relationships - Highway Capacities - Traffic Control Devices.

• PBW 401 Highway and Airport Engineering (1) (4+2):

Introduction to Highway and Airport Planning - Classification of Highways - Design Controls and Criteria - Design of Elements in the Longitudinal Direction - Design of Cross Sections - Design of At-Grade Intersections, Grade Separations and Interchanges - Types of Pavements - Calculation of Stresses in Flexible and Rigid Pavements - Types and Characteristics of Paving Materials and Mixtures - Equivalent Axle Loads - Design of Flexible and Rigid Pavement Thickness - Introduction to Pavement Maintenance and Management Systems.

Source: National Learners' Records Database

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● PBW 404 Railway Engineering (1) (4+2):

Train resistance and tractive forces - Train trip-time estimation by graphical method - Elements of geometric alignment of railway lines - Design of different elements of railway track - Renewal and maintenance of railway lines - Geometric design of different types of turnouts & crossings - Design of railway stations and yards - Safety and types of railway signals.

Despite the targeted search undertaken, no qualifications in transport planning equivalent to NQF level 5 in 'developing countries', and African countries in particular, were found. The closest equivalent found were customised training programmes developed for transport planning officials in Algeria, Egypt and Kenya by Planning and Transport, Research and Computation (PTRC) in the United Kingdom. Unfortunately details on the curricula of these programmes were not available. Other agencies providing similar civil servant training include the University of Queensland in Australia, and the Federal Highway Administration in the United States.

Of interest is a 'seminar course' entitled 'Transportation and society - with special reference to Africa' offered by Cornell University's Institute for African Development in collaboration with Napier University. The 'seminar course' contains the following modules:

- Week 1: Introduction: the 'Transport and Society' approach.
- Week 2: Transport organisation and colonial order: provision for extraction.
- Week 3: Imported models, imposed skills: running the railways.
- Week 4: South Africa's Pass Laws.
- Week 5: Transport boycotts and popular resistance.
- Week 6: Motorisation, civil engineering and development aid.
- Week 7: Stranded mobility, accessibility and the decentralisation of services.
- Week 8: Jobs for the boys, loads for the girls: gender and transport in Africa.
- Week 9: Pedalling to progress: bicycle use patterns in Africa.
- Week 10: Maternal mortality and transport services.
- Week 11: Petty trading and transport in Africa: a complex distribution network.
- Week 12: Child labour and West African fostering practices: the traffic in children.
- Week 13: IT connectivity, tele-communication and the servicing of rural Africa.
- Week 14: Conclusion: IT and community participation in transport service design.

Of the qualifications listed in the table provided, four are equivalent to NQF level 6. All are offered at the University of Leeds in the United Kingdom. The compulsory curricula content of these qualifications are as follows (elective and optional courses are too numerous to list):

BA Economics with Transport Studies:

- Information Technology and Communication Skills I.
- Mathematics and Statistics for Business and Economics 1.
- Research Skills for Economists.
- Economic Theory and Applications 1.
- Academic and Career Development.
- Introduction to Transport Policy.
- Instruments of Transport Policy.
- Intermediate Microeconomics.
- Applied Economics.
- Intermediate Macroeconomics.
- Transport Economics.
- Project Appraisal.

BA Management with Transport:

- Information Technology and Communication Skills I.
- Introductory Modelling for Management Studies (I).

- Introductory Statistics for Management Studies (I).
- Organisational Behaviour.
- Economics for Management.
- Academic and Career Development.
- Introduction to Transport Policy.
- Instruments of Transport Policy.
- Introduction to Financial Accounting.
- Introduction to Management Accounting.
- Marketing.
- Operations Management.
- Transport Economics.
- Project Appraisal.
- Strategic Management.

BA Geography with Transport Planning:

- Hanging Worlds, Changing Places.
- Geographical Scholarship and Fieldwork.
- Geography of the UK.
- GIS for Human Geography.
- Introduction to Transport Policy.
- Instruments of Transport Policy.
- Approaching Human Geography.
- Transport Land Use and Development.
- Transport and the Environment.

BA Environment and Transport Planning:

- Environment and Economy.
- Environment and Society.
- Environmental Decision Making (Fieldwork).
- Learning, Communication and Data Analysis Skills (BA).
- Environmental Politics and Policy.
- Environmental Science for Environmental Management.
- Introduction to Transport Policy.
- Instruments of Transport Policy.
- Advanced Fieldwork (BA).
- Environmental Skills (BA).
- Applied Statistical Methods.
- Principles & Practice of Environmental Research.
- Transport Land Use and Development.
- Transport and the Environment.
- Environmental Research Project.
- Environmental Risk Management: Science and Perception.
- Environmental Risk Management: Decision making.
- Environmental Impact Assessment.
- Public Transport Policy and Practice.
- Topics in Transport.

Other qualifications, equivalent to NQF level 7, that are of interest are two BA (Hons) degree programmes offered at the University of the West of England in the United Kingdom:

- BA(Hons) Planning with Transport:

"In the first year of the course you will study modules that will introduce the major issues in planning and transport, with a particular emphasis on the social, environmental and organisational context of the planning system.

In years two and three you will begin to explore transport issues in depth, whilst continuing to study the core planning modules that will equip you to work in the planning field and give you an appreciation of how the planning system operates in practice.

In the final year of the course you will undertake a dissertation which is an individual piece of in-depth work on a transport topic chosen by you. This allows you to follow your own interests to investigate a matter that you feel a real enthusiasm for studying.

Throughout the course you will be expected to develop not only your knowledge of planning and transport, but also your own skills and competencies that will assist you to develop your capabilities, not just on a degree course, but on a lifetime basis. In the first year in particular, you will be discussing your skills development with the course leaders, undertaking skills development workshops and taking some responsibility for developing a personal programme to enhance your skills as you progress through the course.

The Faculty's inter-professional approach includes projects where you will work with students from other disciplines within the built environment, such as architects, civil engineers and property developers. This encourages mutual respect and understanding of the professions which you are likely to be working with during your career, and helps you to develop and practise the skills of presentation, negotiation, communication, and delegation."

- BA(Hons) Transport and Sustainability:

"In the first year you are introduced to the core sustainability modules: 'Concepts of Sustainability' and 'Sustainable Communities'. To give you a basis for understanding the most significant physical and human geographical processes, you take modules on 'Physical Geography' and 'Introduction to Human Geography'. The module 'Process of Urban Change' focuses on the decision-making processes and power relationships which shape urban environments, including the transport system. The 'Geographical Analysis' module will develop key cartographic, statistical and GIS skills.

In the second year the dimensions of sustainability are explored in greater depth with modules on 'Environmental Management: Policy and Implementation', 'Sustainability, Decision-Making and Society' and 'Natural Resource Economics'. You will thereby confront the difficulties involved in integrating environmental, social and economic decision-making in relation to sustainable transport. Transport-specific subjects are introduced with modules on 'Business Management in Transport' and 'Transport Planning and Modelling'. In addition, you select two electives from a package of Faculty-wide electives.

You may opt to spend your third year in a placement to gain practical experience, and to qualify for a 'sandwich' degree. The integration of a placement into courses is highly favoured by employers, and you will normally be paid by your placement employer. A placement connects university with work, allowing you to consolidate your knowledge and skills by applying them in a professional situation in the real world. This experience will also enrich and focus your final year studies. A year's income is also useful to many students. We offer support and guidance to help you find a placement, and you will be visited by a tutor who will also be available if you have any problems.

In the final year you will deepen your skills in applying sustainability through the 'Promoting Sustainability' and 'Environmental Assessment' modules. You will carry out original research in relation to transport and sustainability by preparing a dissertation. Transport-specific modules in this year are 'Transport Economics and Policy' and 'Transport Systems and Logistics'. You will select one module from a choice of three which consider sustainability in urban areas and the

tourism sector, which will further deepen and widen the range of knowledge and sustainability-linked tools and policies.

The Faculty's inter-professional approach includes projects where you will work with students from other disciplines within the built environment. This encourages mutual respect and understanding of the professions which you are likely to be working with during your career, and helps you to develop and practise the skills of presentation, negotiation, communication, and delegation."

The review of international transport planning qualifications and teaching undertaken suggests that in other parts of the world the normal basic qualification required for appointment to specialist transport planning jobs is either a general undergraduate civil engineering degree or a specialist postgraduate PGDip or Master degree. The South African civil service appears to be fairly unique in its appointment of officials to fulfil transport planning functions apparently without these qualifications. The initiative to develop a NQF level 5 qualification (with an outcome equivalent to the first year of an university degree) therefore appears to be unique, and consequently international benchmarking has proven difficult and problematic. Judgement will be required on the behalf of the Transport Planning SGB with respect to identifying the appropriate level, depth and complexity of subject matter conventionally dealt with in civil engineering bachelor degrees or at PGDip and Master degree level. International precedent is unlikely to be of great assistance in this regard.

ARTICULATION OPTIONS

This Qualification articulates horizontally with the following registered qualification(s):

- ID 22444: National Diploma: Freight Forwarding, NQF Level 5.
- Advanced Certificate: Road Transport Freight, NQF Level 5.
- Diploma: Transportation Management, NQF Level 5.
- Certificate Local Government Administration and Management, NQF Level 5.
- Certificate: Local Government, NQF Level 5.

This Qualification articulates vertically with the following registered learning programmes:

- National Diploma: Transportation Management, NQF Level 6.
- BSc Urban and Regional Planning, NQF Level 6.
- National Diploma: Town and Regional Planning, NQF Level 6.
- Diploma: Local Government, NQF Level 6.
- B Admin Local Government, NQF Level 6.

MODERATION OPTIONS

- Anyone assessing a learner or moderating the assessment of a learner against this qualification must be registered as an assessor with an appropriate Education, Training, and Quality Assurance (ETQA) Body or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.
- Any institution offering learning that will enable the achievement of this qualification must be accredited as a provider with the relevant ETQA or with an ETQA that has a Memorandum of Understanding with the relevant ETQA. Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.
- Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards as well as in the exit level outcomes described in the qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

For an applicant to register as an assessor, the applicant needs:

- Well-developed interpersonal skills, subject matter and assessment experience.
- To be competent in the planning and conducting assessment of learning outcomes as described in the unit standards Conduct Outcomes-based assessment at NQF level 5.
- Well-developed subject matter expertise within Land Transport Planning.
- Competent in the exit level outcomes of the National Certificate: Land Transport Planning Level 6.
- To be registered with the relevant Education and Training Quality Assurance Body.
- Detailed documentary proof of educational qualification, practical training undergone, and experience gained by the applicant must be provided (Portfolio of evidence). Assessment competencies and subject matter experience of the assessor can be established by recognition of prior learning.

NOTES

Definition: Land Transport:

- Encompasses the movement of people and goods by land-based public and private travel modes.

Definition: Transport Planning:

- The transport planning process essentially involves the evidence-driven identification of issues and problems, the generation of goals and objectives, the generation, evaluation, and implementation of policies, strategies and projects, and the monitoring and review of the impacts of the process.

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Core	244243	Manage the process of data collection for transport planning.	Level 5	8
Core	244249	Evaluate, analyse, interpret and communicate information for transport planning	Level 5	15
Core	244245	Produce a basic terms of reference for the process of completing contractual agreements to secure specialist transport planning skills	Level 5	6
Core	244253	Describe the components and the inter-relationship between the various stages of the transport planning process in a South African context	Level 5	15
Core	244244	Explain the role and impact of transport systems on their external environment	Level 5	10
Core	244242	Demonstrate a basic knowledge of components of transport systems	Level 5	10
Elective	120504	Determine the impact and policy implications of the concepts of 'integrated sustainable development' and 'sustainable human settlements' for a municipal area	Level 5	8
Elective	120507	Draw up a strategic development municipal agenda to address the key municipal development challenges in an integrated and sustainable manner	Level 6	8
Elective	120499	Design and implement a set of engagement and participation processes, systems and events in support of the integrated development planning process in a municipality	Level 5	8
Elective	230448	Contribute towards organisation policy development	Level 5	8
Elective	120388	Supervise a project team of a small project to deliver project objectives	Level 5	14
Elective	120385	Apply a range of project management tools and techniques	Level 4	7
Elective	120382	Plan, organise and support project meetings and workshops	Level 4	4
Elective	120384	Develop a simple schedule to facilitate effective project execution	Level 4	8

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Elective	120375	Participate in the estimation and preparation of cost budget for a project or sub project and monitor and control actual cost against budget	Level 4	6
Elective	120373	Contribute to project initiation, scope definition and scope change control	Level 4	9
Elective	120372	Explain fundamentals of project management	Level 4	5
Elective	116364	Plan a municipal budgeting and reporting cycle	Level 6	8
Fundamental	10055	Present data to stakeholders	Level 5	5
Fundamental	15237	Build teams to meet set goals and objectives	Level 5	3
Fundamental	15220	Set, monitor and measure the achievement of goals and objectives for a team, department or division within an organisation	Level 5	4
Fundamental	15230	Monitor team members and measure effectiveness of performance	Level 5	4
Fundamental	10147	Supervise a project team of a technical project to deliver project objectives	Level 5	14
Fundamental	242714	Apply elementary statistical methods	Level 5	5
Fundamental	8559	Plan and conduct research	Level 4	6



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate a basic knowledge of components of transport systems

SAQA US ID		UNIT STANDARD TITLE	
244242		Demonstrate a basic knowledge of components of transport systems	
SGB		PROVIDER	
SGB Transport and Logistics Operations			
FIELD		SUBFIELD	
11 - Services		Transport, Operations and Logistics	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	10

SPECIFIC OUTCOME 1

Describe the various modes of transport systems.

SPECIFIC OUTCOME 2

Describe the various transport infrastructure elements.

SPECIFIC OUTCOME 3

Describe the various transport control systems and information systems.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Manage the process of data collection for transport planning.***

SAQA US ID	UNIT STANDARD TITLE		
244243	Manage the process of data collection for transport planning.		
SGB	PROVIDER		
SGB Transport and Logistics Operations			
FIELD	SUBFIELD		
11 - Services	Transport, Operations and Logistics		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	8

SPECIFIC OUTCOME 1

Discuss the different types, key characteristics and sources of transport data.

SPECIFIC OUTCOME 2

Discuss the typical characteristics of the different data collection methods and their use, and apply a limited set of concepts related to sampling.

SPECIFIC OUTCOME 3

Identify and source other relevant transport information.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Explain the role and impact of transport systems on their external environment

SAQA US ID	UNIT STANDARD TITLE		
244244	Explain the role and impact of transport systems on their external environment		
SGB	PROVIDER		
SGB Transport and Logistics Operations			
FIELD	SUBFIELD		
11 - Services	Transport, Operations and Logistics		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	10

SPECIFIC OUTCOME 1

Identify the sectors and agencies comprising an economy and explain their relationships.

SPECIFIC OUTCOME 2

Conceptualise the impacts the provision or upgrade of transport infrastructure and services have on both communities and firms in urban and rural settings.

SPECIFIC OUTCOME 3

Explain the impact of transport systems on the bio-physical environment, and identify possible mitigating measures.

SPECIFIC OUTCOME 4

Identify settlement hierarchies and patterns, and their connecting transport infrastructure and services, in given geographical spaces.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Produce a basic terms of reference for the process of completing contractual agreements to secure specialist transport planning skills

SAQA US ID	UNIT STANDARD TITLE		
244245	Produce a basic terms of reference for the process of completing contractual agreements to secure specialist transport planning skills		
SGB		PROVIDER	
SGB Transport and Logistics Operations			
FIELD		SUBFIELD	
11 - Services		Transport, Operations and Logistics	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	6

SPECIFIC OUTCOME 1

Explain the critical elements of a tender process and a contractual agreement.

SPECIFIC OUTCOME 2

Produce a terms of reference (ToR) for the completion of a contractual agreement that meets the project and legal requirements.

SPECIFIC OUTCOME 3

Facilitate the tender award implementation of processes leading to the signing of a contractual agreement.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Evaluate, analyse, interpret and communicate information for transport planning***

SAQA US ID		UNIT STANDARD TITLE	
244249		Evaluate, analyse, interpret and communicate information for transport planning	
SGB		PROVIDER	
SGB Transport and Logistics Operations			
FIELD		SUBFIELD	
11 - Services		Transport, Operations and Logistics	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	15

SPECIFIC OUTCOME 1

Demonstrate knowledge and limited application of data analysis methods.

SPECIFIC OUTCOME 2

Demonstrate knowledge and limited application of basic transport modelling methods.

SPECIFIC OUTCOME 3

Demonstrate knowledge and limited application of basic methods used for presenting and communicating data and analysis results.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Describe the components and the inter-relationship between the various stages of the transport planning process in a South African context

SAQA US ID	UNIT STANDARD TITLE		
244253	Describe the components and the inter-relationship between the various stages of the transport planning process in a South African context		
SGB	PROVIDER		
SGB Transport and Logistics Operations			
FIELD	SUBFIELD		
11 - Services	Transport, Operations and Logistics		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 5	15

SPECIFIC OUTCOME 1

Describe the statutory plans, regulations and guidelines.

SPECIFIC OUTCOME 2

Describe the various roles and functions of the spheres of government in relation to transport planning, transport management and provision.

SPECIFIC OUTCOME 3

Explain the critical elements of developing a vision, mission and objectives within the regulatory environment.

SPECIFIC OUTCOME 4

Explain the critical elements of translating transport objectives into transport strategies, projects and budgets.