



Statens vegvesen

Norwegian Public Roads Administration

Cycle Path Inspections

Road safety - Accessibility - Experience of travel

GUIDELINES

Handbook 249



Cycle Path Inspections

Road safety - Accessibility - Experience of travel



Statens vegvesen

Norwegian Public Roads Administration

Norwegian Public Roads Administration (NPRA) Handbooks

This is a Level 2 handbook (guidelines) in the Norwegian Public Roads Administration's handbook series, a collection of consecutively numbered books primarily written for use within the NPRA.

The English version is a translation of the Norwegian one. In case of linguistic differences between the two versions, the Norwegian version is the valid version.

The books are for sale to interested parties outside the NPRA at published prices.

The Directorate of Public Roads is generally responsible for preparing and updating the books.

The Graphics Division at the Administration is responsible for designing and printing the books.

The handbooks are issued on two levels.

Level 1: a yellow band on the cover indicates regulations, standards and guidelines approved by the authority responsible or the Directorate of Public Roads with authorization.

Level 2: a blue band on the cover indicates instructions, teaching manuals and road data approved by individual departments authorized by the Directorate of Public Roads.

Cycle Path Inspections
Road safety - Accessibility - Experience of travel
No. 249 in the NPRA handbook series
Translations; Akasie Oslo, info@akasie.no

Front page photo: Bjørn Haakenaasen
Printed by: Dalby Grafisk, Hamar

ISBN 82-7207-557-1

This handbook is found at: www.vegvesen.no

Copying or reproducing the contents of this handbook is only allowed by permission of the publisher.

Foreword

Report no. 24 to the Storting/Norwegian Parliament (2003 – 2004), National Transport Plan 2006 – 2015 sets out guidelines for a national cycling strategy aimed at making it safer and more attractive to cycle. Part of the follow up to this will be a systematic improvement of the existing cycle facilities. The Directorate of Public Roads has issued this guide as a basis for this work. In the period 2006 – 2009, the Norwegian Public Roads Administration (NPRA) aims to inspect and improve 25% of the existing cycle facilities within its responsibility.

The guide for Cycle Path Inspection has been developed as one of several handbooks published in the Norwegian Public Roads Administration's scheme for road safety audits. Cycle Path Inspection has been organized so that the registration tools cover both road safety and other factors that are important for cyclists, such as accessibility, comfort and experience of travel. The guide can nevertheless be used where one wants to carry out a topic-related inspection outside the NPRA's system for road safety audit.

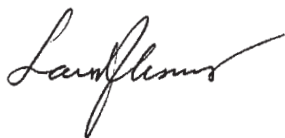
The guide has been developed primarily for use on the main highways, but the method described is also recommended for use on the municipal and county road networks.

The Norwegian Public Roads Administration should also be a leader in promulgating knowledge about cycling and cycling measures to other players and we hope that this guide will be a useful tool in the work to make cycling a safer and more attractive mode of transport in cities and towns.

The guide was created by a working group, consisting of the following:

Trond Berget	-	Norwegian Cyclists Federation
Kai Midtskogen	-	NPRA Region south
Jan Geir Fjogstad	-	NPRA Region west
Anders Dalen	-	Directorate of Public Roads
Arve Kirkevold	-	Directorate of Public Roads
Gyda Grendstad	-	Directorate of Public Roads – group leader

Bjørn Haakenaasen and Sigrun Dalen of Asplan Viak AS have been consultants for the work. The guide is part of a project in "Transport in Town" a four-year FOU programme in the NPRA. If, during inspection, any flaws are revealed in this guide, Handbook 233, the Cycling Handbook, Handbook 111, Standards for Operation and Maintenance or any other handbooks, please take this up with the Directorate of Public Roads so that these can be considered in later revisions.



Lars Aksnes
Director of Road Development Department
Norwegian Public Roads Administration Directorate of Public Roads
Oslo, September 2nd, 2004



Contents

Foreword	3
Contents	5
Part A General information	7
1 Background and purpose	9
1.1 Why cycle path inspection?	9
1.1.1 Challenges	9
1.1.2 The purpose of the guide and cycle path inspections	9
1.1.3 Definitions	10
1.2 About cycle path inspections	10
1.2.1 Introduction	10
1.2.2 Who carries out a cycle path inspection?	11
1.3 The design of the cycle facility	11
1.3.1 Handbook 233 The Cycling Handbook A guide to the physical design of the cycle facilities	11
1.3.2 Three solutions for dealing with cycle traffic	12
1.4 Correlation to other quality assurance systems in the NPRA	12
1.5 Standards, guides and guidelines relevant to cycle networks	13
Part B Methods	15
2 Methods for cycle path inspection	17
2.1 Choosing a section for inspection	17
2.2 About the tools	17
2.3 Preparatory work – sheet A	18
2.4 On-site inspection – sheet B	21
2.5 Inspection report	22
2.6 Checklists	22

Part A : General Information

1. Background and purpose

1.1 Why cycle path inspection?

1.1.1 Challenges

Despite many years of building, the cycle network in cities and towns still lacks a great deal in terms of continuity, structure and detailed design. Many of the cycle facilities that have been built do not conform to today's guidelines for design of cycle facilities according to Handbook 233, the Cycling Handbook. Some cycle routes are considered unattractive, unsafe or uncomfortable. Cycling is a healthy and environmentally friendly mode of transport, which should be encouraged both for work journeys and leisure time and the main aim is that it should be safe and attractive to cycle.

1.1.2 The purpose of the guide and cycle path inspections

The guide describes a method for inspection along the cycle network in cities and towns. The main aim is to record flaws or shortcomings that would then form a basis for immediate measures to the road network. Immediate measures are less extensive measures that do not require major procurement or plans that conform to the planning and building regulations. The measures shall be directed towards road safety and accessibility as well as enjoyment and experience of travel. A main concern has been to develop a tool that is easy to use.

The method has been developed as an integrated part of road safety audits and inspection, and is to be considered within the topic of road safety inspection. When the cycle path inspection is carried out as a road safety inspection, the procedure for road safety inspections shall be followed. We refer to Handbook 222, Road Safety Audits and Inspections 2005. In the NPRA a cycle path inspection will in general be part of a road safety inspection.

The method has been developed keeping in mind the NPRA's responsibilities but it will also be useful for municipal and county road networks. The inspection method will form a basis for dialogue between the planners and the users of the cycle networks.

Although the main focus will be on immediate measures, the inspections will also provide a basis for a discussion of measures with a more long-term perspective.

Aims of cycle path inspections

- To highlight deviations, faults and remarks to form a basis for carrying out immediate measures along existing cycle routes and to remedy inadequate operation.
- To provide common factual information and a professional basis for planning, development and maintenance of the cycle path network.
- To raise the level of competence among those involved in cycle traffic's function in the traffic system and its particular problems and requirements.
- To contribute to constructive dialogue between planners at different levels and between planners and users.
- To provide a better foundation for setting priorities, through greater consistency and comparability in the basis for decision-making.

1.1.3 Definitions

Immediate measures

Smaller operations that do not require major procurement or formal plans, conforming to the planning and building regulations. Examples of such small operations include; signposting, road marking, clearing line of vision, erection of barriers and improving intersections within current areas designated for roads.

Defects within the cycle facilities shall be divided into the following categories according to the road safety audit system.

Deviation

Deviation means failing to fulfil specified user requirements such as failing to meet road standard requirements or other statutory or adopted requirements that might have significant bearing on road safety.

Fault

Fault means lack of compliance with an intended user requirement or a reasonable expectation, including aspects of safety. Fault is lack of conformity with intended usage. This involves for example a road project which conforms to road standards and does not deviate from these, but which nevertheless can have faults if it does not fully satisfy the needs of the users. Choosing too low a standard in connection with adjoining roads or inadequate adaptation to the existing road network can be examples of faults that should be corrected.

Note/remark

Notes/remarks are used to describe conditions which experience indicates should be considered in further project work but which at that point can not be shown to lead to higher risk for traffic users.

1.2 About cycle path inspections

1.2.1 Introduction

The method has been developed for the main cycle network in cities and towns, but can also be used on roads and streets, sidewalks and cycle paths and public footpaths that supplement the main network. The choice and priority given to road sections can be based on available data, analyses and local knowledge. Several aspects can form the basis, such as the amount of cycle traffic and the accident risk. (See; description in point 2.1)

Cycle path inspections can also provide a method for investigating the causes of cycling accidents. Personal injury often involves a high degree of coincidence and thus such an analysis must be combined with knowledge of the local traffic patterns and cyclist behaviour. The faults, deviations and notes/remarks for one place can be symptomatic of a longer section or bigger area.

In some instances, inspection can be based on a particular issue and therefore not as part of a road safety inspection. An audit concerned with a particular topic can for example focus on aspects of:

- Maintenance (related to e.g. the surface or adjacent areas)
- Road lighting, visibility in darkness and general visibility
- Use of the networks and traffic user behaviour
- Road markings
- Junction solutions and transition between networks

Inadequate winter operation, spring clean up, cutting back of vegetation etc are possible breaches of contract and the contractors should be notified by the relevant road authorities.

A topic-based inspection will be less time consuming and formal than a full inspection. If a topic-based inspection is to be carried out, one must be certain that safety and accessibility are assured.

1.2.2 Who carries out a cycle path inspection?

The inspection group should consist of at least two persons

- As a general rule the inspection is carried out as a road safety inspection in accordance with the NPRA standards and led by an approved road safety auditor.
- A cycle path inspector with thorough knowledge of Handbook 233, the Cycling Handbook and with personal practical experience of being a regular cyclist.

As yet there are no formal requirements regarding a cycling inspector's competence. The two functions described above can be covered by one and the same person.

For topic-based inspection of operation and maintenance, the responsible contractor for operation and maintenance will be invited to participate in the inspection.

Many users have experience of how well the cycle path network functions. It is strongly recommended that representatives from the user group be invited to cycle path inspections. Representatives for the users will be decided upon on each occasion. It can for example be representatives from relevant schools or businesses. In some places, the Norwegian Cyclists Federation can send people from their local groups.

Connecting main roads to adjacent areas via municipal roads and sidewalks and cycle paths will play a part in achieving good solutions. It is also recommended that representatives from the local authorities be involved in the group. This can send out important signals and provide motivation for collective measures.

1.3 Design of the cycle facility

1.3.1 Handbook 233, the Cycling Handbook – A guide to the physical design of the cycle facilities

Handbook 233, the Cycling Handbook is available at www.vegvesen.no. Here you will also find guidelines for government responsibility for a continuous cycle network in cities and towns of over 5,000 inhabitants and other relevant topics about cycling measures. The publications are also available on www.sykkelby.no

The Cycling Handbook provides a basis for planning cycle facilities both at an overall level and at a detailed level. It gives guidance on which type of network to choose and how the measures should be designed, signposted, marked and operated.

The Handbook states that the cycle facilities should be:

- *Comprehensive*. Making provision for cycling is part of a comprehensive traffic plan. This means that all road user groups will have a place in the road network in order to achieve a level of road safety based on cooperation between road users.
- *Uniform and easy to read*. The same elements should reoccur so that the traffic picture is clear and understandable for all road users. Signposting and marking helps the cyclists to their destinations.
- *Attractive*. The design should give cyclists good accessibility and a feeling of safety. Good routines in operation and maintenance should ensure a standard as high as the parallel road.
- *Safe*. Arrangements for cycle paths should be designed with road safety in mind.

1.3.2 Three solutions for dealing with cycle traffic

One main principle to remember when planning cycle facilities is that in legal terms cyclists are treated as drivers in the same way as motorists. This provides strict criteria for which measures are to be recommended in cities and towns.

Three main principles apply to cycle facilities in accordance with the Cycling Handbook:

- *Cycling in mixed traffic* is an acceptable solution where there are speed limits of 30 or 40 km per hour and/or where the traffic is light.
- *Cycle lane*, marked and signposted on each side of the roadway is the main solution in cities and towns in streets with a speed limit of 40 – 50 km per hour and a moderate volume of traffic.
- *Cycle path or foot- and cycle path* segregated from the roadway by a reservation or barrier is recommended where there is a speed limit of 60 km per hour or higher on the adjacent road. Where there is the possibility of conflict between cyclists and pedestrians, there should be a separate cycle path with a sidewalk for pedestrians.

The sidewalk can be used by cyclists, but traffic regulations impose strict requirements when it comes to showing consideration for pedestrians.

Where motor vehicle and cycle traffic is light, an extended shoulder is considered part of the cycle network. Similarly, bus/taxi lanes in cities can be considered as part of the cycle network, as long as these are broad enough. For more on options, see pages 27 – 28 in the Cycling Handbook. The most important criteria in choosing options for cycle traffic are; speed limit, AADT (annual average daily traffic) and to what extent the situation designates it is a road or a street. One should also assess whether the chosen option satisfies safety considerations for all categories of cyclist on that section.

NA Circular 05/04 Speed Limit Policy provides criteria for which speed limits should be used on roads and streets in cities and towns. The document recommends using 30 and 40 km per hour speed limits near schools, including on main and feeder roads.

As part of the comprehensive cycling planning, provisions should be made for secure parking of cycles at important destinations.

1.4 Correlation to other quality assurance systems in the NPRA

As part of the quality system in the NPRA, it is important to develop consistent procedures for road safety audits and inspections:

- Handbook 222 Road Safety Audits and Inspections is concerned with quality assurance of road planning and of existing roads according to a process following the Norwegian Standard NS-ISO 10011

Cycle path inspection is a part of this system as a topic audit in relation to road safety for cyclists. In addition accessibility and experience of travel will be addressed by cycle path inspection.

1.5 Standards, guides and guidelines relevant to cycle facilities

The list below gives the most important standards, guides and guidelines relevant to working with cycle traffic and cycle facilities.

- Handbook 233 the Cycling Handbook – A guide to the physical design of the cycle facilities. 2003
- Handbook 017, Road and Street Design – guidelines for the physical design of road networks. 1992 (revision in progress)
- Handbook 048 Traffic lights – technical requirements and guidelines for use and design. 2001
- Handbook 046 Signposting renewal (provisional) 2004
- Handbook 049 Road marking – technical requirements and guidelines for use and design. 2001
- Handbook 050 Signposting – technical requirements and guidelines for use and design. 1998 (Sign standards)
- Handbook 082 Signpost guidelines. 2005
- Handbook 111 Standard for Operation and Maintenance. 2003
- Handbook 144 Quality Handbook for the NPRA. 2001
- Handbook 209 Municipal Road Safety Plans. 1998
- Handbook 222 Road Safety Audits and Inspections. 2005
- Handbook 231 Road Barrier Standards (replaces Handbook 166). 2003
- Handbook 232 Bus and other vehicle stops. 2002
- Handbook 237 Road and street lighting – planning and use of lighting, lampposts and armatures.
- NA Circular 05/04 Speed Limit Policy
- Handbook 115 Analysis of accident sites. 1984
- NA Circular 04/10 On contra-flow cycling. 2004
- Contracts for operation and maintenance

Some of the handbooks are available in electronic versions from the NPRA web site www.vegvesen.no and can be ordered in printed version from the Publications Office, telephone no. 02030

Part B: Methods

2. Methods for cycle path inspection

2.1 Choosing a section for inspection

Before beginning the cycle path inspection, choice and priorities must be made as to the relevant sections or cycle routes.

Priorities should be based on available data, analyses and local knowledge. The following can provide a foundation:

- The volume of cycle traffic in the current situation or presumed potential cycle traffic after better facilitation - a greater degree of cycle traffic will give a higher priority.
- Accident reports and risk analyses – many accidents or high risk will give a high priority.
- Response from the general public about restricted accessibility, traffic black spots etc. Many enquiries will give high priority.
- Foot- and cycle paths in conjunction with highways that come into road safety inspections should be included.

Where data and analyses cannot be found or are inadequate, you may consider collecting these. For example counting the number of cyclists and pedestrians, measuring speeds etc could be carried out. This could be doubly beneficial in providing a basis for priorities and particulars that could give a focus for inspections.

2.2 About the tools

The work begins with preparatory planning using maps and data in the office, based on Sheet A

The actual inspection will be done on-site and preferably on a bicycle.

Follow up work will consist of systematize the findings followed by a measure and cost evaluation. Sheets A and B will be edited and used as the final report from the inspection.

In general it is recommended that the inspections take a section and not individual points. One could for example take a cycle route from a housing estate into the centre of town. One will then see different sections and intersections from the same perspective, and it will be easy to see what contributes to harmony and predictability and what creates breaks, insecurity and potential conflict.

A cycle path inspection can also be carried out in a city area or suburb to get an overview of the conditions for cycle traffic in the area.

In the following section the tools used for evaluating will be described in more detail.

- Sheet A: preparatory work and planning the inspection
- Sheet B: Registration work on-site and final report
- Topic checklists concerned with different types of cycle facilities

2.3 Preparatory work – sheet A

When a cycle route has been chosen for inspection, the initial preparatory work related to sheet A can begin.

The preparatory work will contribute in the following ways:

- The task of inspection can be planned in a relevant way, including the composition of a competent inspection group.
- The inspector(s) can get some idea of the problems to be highlighted and whether it is necessary to carry out a more limited topic-based inspection.

To begin with, a map covering the whole cycle route and environs should be acquired. The extent of the inspection and any division into sections should be agreed upon.

Experience shows that it is not advisable to cover an area greater than 1-3 km for a single day's inspection.

Relevant information should be collected from registers and maps where this will give a good overview. It is recommended that accidents be plotted on a map in order to check whether there are any particular intersections or sections which stand out in relation to personal injury in general or where cyclists and pedestrians may be involved. As accident statistics are particularly inadequate for these road user groups, one should be careful not to let these statistics take too much of the focus during the inspection. In some municipalities where hospitals have registered traffic related injuries, this information should be used as a supplement to include those accidents not covered by police reports (including many single person accidents among cyclists and accidents where a cyclist and pedestrian are involved).

Sheet A does not have a separate item for operation and maintenance. It is recommended that information be gathered from the builder's representative concerning the entrepreneur's operational routines.

For inspections that focus on a particular topic (such as operation or signing) gathering of information can be limited.

A viewing of the NPRA's videotaping of the section is recommended as an addition to the preparatory work. This will provide information on signposting along the route. This assumes that the cycle route follows a cycle lane or is in mixed traffic, or is a separate network close to the road. Picture evidence can also be useful at the points where pedestrian and cycle ways cross a highway. One must of course ensure that the videotapes are up to date.

A quick run through of the route on a bicycle ahead of time is recommended to give a basic first impression of the situation.

An inspection group should be established in good time before the inspection is to take place and roles and responsibilities should be clarified. According to regulations an approved road safety auditor shall be appointed leader of the group for the inspection, unless there is to be a topic-related inspection where road safety is not the issue.

Sheet A: Preparatory work

Road no.	From	Sheet A1
Road or street name	To	
Cycle route name	Approx. distance (m)	
A1	Section's main function and characteristics	
A1.1	Type of built up area	<input type="checkbox"/> City <input type="checkbox"/> town <input type="checkbox"/> less built up
A1.2	Functions/destinations along the section (several choices possible)	<input type="checkbox"/> Private home <input type="checkbox"/> School <input type="checkbox"/> Convenience store <input type="checkbox"/> Public service <input type="checkbox"/> Central service <input type="checkbox"/> Shopping centre <input type="checkbox"/> College/university <input type="checkbox"/> Sport/recreation <input type="checkbox"/> Other function
A1.3	Cycle route's main functions (several choices possible)	<input type="checkbox"/> Work journey <input type="checkbox"/> School journey <input type="checkbox"/> Leisure
A2	Traffic data	
A2.1	Cars	AADT Annual average daily traffic
A2.2	Public transport (bus and/or tram)	Frequency – max per hour
A2.3	Cyclists and pedestrians per 6 hour day (7-9, 11-13, 15-17)	No. of cyclists No. of pedestrians
A2.5	Speed limit km per hour (several choices possible)	<input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 or higher
A3	Accident statistics (should also be plotted on the map)	
A3.1	No of persons injured last 4 years	Totalwith cyclist with pedestrian
A4	System – function today (several possible)	
A4.1	<input type="checkbox"/> cycling in mixed traffic <input type="checkbox"/> cycle lane <input type="checkbox"/> cycle path / foot- and cycle path	<input type="checkbox"/> public footpath <input type="checkbox"/> sidewalk <input type="checkbox"/> other (describe)
A4.2	Transition between systems (mark on map)	<input type="checkbox"/> none / <input type="checkbox"/> 1-2 / <input type="checkbox"/> 3 or more
A4.3	Grade separated crossings (mark on the map)	<input type="checkbox"/> none / <input type="checkbox"/> 1- 2 / <input type="checkbox"/> 3 or more
A5	Did you check VISBILDE before going out on-site?	
	<input type="checkbox"/> Yes / <input type="checkbox"/> No	
Any current plans which will affect cycle traffic Type of plan – status, expected implementation, Consequences		
Relevant views from others		
Summing up/ special focus for inspection		
Date/signature		

2.4 On-site inspection – Sheet B

The on-site inspection should be carried out on a bicycle so that the cycle facility and the traffic situation can be experienced first hand from the user's point of view. During the inspection it is important to take care not to be a danger to others or a hindrance to those using the network. It can be necessary to dismount and stand aside. It is recommended that you cycle the route in both directions.

Inspecting the site by car will not give the necessary information about the cycle network. An inspection by car may however be done as a supplement to the inspection. This will give an insight into how the car driver experiences the cycle facilities, especially where the cycle path intersects with another road.

The on-site work will need to be based on a minimum of aids, for example:

- Map and sheet A
- Camera
- A simple registration sheet (sheet B) A similar sheet is used for road safety inspection along existing roads.
- Clipboard
- Tape measure or measuring stick
- Possibly a cycle computer to help in describing exact locations.
- The inspectors must use identifiable reflective clothing and cycle helmets
- If desired the sheet can be loaded into PDA (handheld pc) with text, camera and GPS

In addition it is recommended that you have the checklists and a general overview map for notes and for plotting locations on the way.

The choice of time for inspection should be made with regard to the topic and the aim of the inspection. To take into account the working conditions for the inspection group, as far as possible, one should arrange the inspection for the middle of the day when the traffic is not too heavy.

In many cases it will be useful to see the networks in full use; that is to say in rush hour traffic and at the beginning and end of the school day. This indicates the necessity of supplementing the inspection by observations in the rush hour periods. When inspecting on the basis of special topics, e.g. operational conditions or lighting conditions, it will be obvious that one to a greater extent must adapt the inspection to particular times of the day or season.

All findings made on-site must be photographed and noted down on Sheet B. Use one sheet for each finding. These terms should be used for the findings (see also 1.1.3)

Description of the situation

- Deviation – about irregular design or signposting/markings in relation to the requirements and regulations in force (Handbook 233, Cycling Handbook, road standards etc.)
- Fault – used to describe a situation or condition which can be documented as unfortunate in relation to road safety, but which does not breach any current standards or guidelines. New knowledge or experience that has come to light since the standards were written should be taken into account. The requirements of these standards and recommendations are not necessarily optimal with regard to road safety. Similar assessments can be made with regard to accessibility and experience of travel.
- Notes/remarks – are connected to other things that can cause lower functionality or wrong usage of the networks (e.g. operation and maintenance)

Findings in the form of deviation, faults and notes/remarks shall form a basis for immediate measures. In addition more extensive measures, which can be relevant in the longer term, should be noted. In the section for summing up on the sheet, the cost estimates should be given for each measure.

Pictures can best be stored in personal databases on your PC, perhaps also on CD. To make the follow up work easier, it is recommended that you use a digital camera with date and time recorded on each picture.

2.5 Inspection report

The notes from the on-site work will provide the basis for the final report, based on Sheet A and Sheet B.

Pictures will often provide a good supplement to the description. On sheet B, there is space for 1-2 pictures. If more space is needed for further picture documentation, further appendices can be added or a reference can be made to where more pictures can be found.

There should be an assessment of appropriate immediate measures, together with a cost approximation for carrying out these measures. It must be possible to carry out the measures without the need of planning permission and with cost limits of 100,000 to 200,000 NOK per kilometre. For certain sections higher costs may necessarily be incurred. Examples of measures would be signposting and marking, fencing and barriers, lighting and other small-scale practical measures. In addition it could be a question of re-surfacing, cleaning, cutting back vegetation and other operational measures.

An assessment should also be made of more extensive and more costly measures recommended in the longer term, e.g. restructuring of intersections.

The report should be sent through the normal channels to the district manager and to the region, with a copy going to the Directorate of Public Roads. The report should indicate which recommendations should be followed up. The region will be asked to report on inspections carried out and improvements.

The inspection reports shall be stored on a national server for NPRA
O:\landsdekkende\rappporter\Ts-revisjon og inspeksjonsrapporter.

2.6 Checklists

Special checklists have been designed as an aid. They are linked to relevant questions surrounding these three situations:

- Cycling in mixed traffic
- Cycle lanes
- Cycle paths / foot- and cycle paths

In addition there is a checklist focusing on change over to a different network / transition situations and another for sites for cycle parking.

Using the checklists requires previous knowledge of the cycling Handbook and relevant standards.


Sheet B: Inspection on-site

The registration database for cycle path inspection is developed by Rambøll Norge AS in cooperation with the NPRA. The database is adapted for use on PDA with Sima Software.

NB!
Hvis du ikke får noen respons når du trykker på feltet "Klikk her for å få kopiert skjema for utfylling" skyldes det at makroene i regnearket ikke er installert.

Gjør følgende:

- Velg Tools/Macro/Security
- Sett Security til "Medium"
- Åpne T-ess på nytt
- Velg "Enable macros"



Registreringsbase for sykkeltraséinspeksjon
Utarbeidet av Rambøll Norge AS i samarbeid med Statens vegvesen. Tilrettelagt for PDA av Sima Software.

Bruk av T-ess S.1

Generelt

T-ess bygger på Microsoft Excel regneark, og består av :

- Denne forsiden, med orientering om bruken
- Skjema for utfylling
- Skjema for statistikk/oppsummering

Forsiden inneholder rubrikker for generelle oppdragsopplysninger:

- Vegnummer for aktuell vegstrekning
- Navn på vegparsellen/-strekningen, fra - til
- Hovedparsellnummer (Hp)
- Km-retning (med/mot)

Når disse feltene er fylt ut trykker du på knappen med teksten "Klikk her for å få kopiert skjema for utfylling" (NB du må stå med kursor utenfor de feltene du har fylt ut). Du får da et valg av hvor mange skjema du ønsker (ikke fler enn 40). **Skjemaene** kopieres inn i arbeidsboken med de oppdragstekstene du har oppgitt ferdig utfylt. Du kan velge å få flere skjema når alle skjema som er i arbeidsboken er gitt nytt navn/betegnelse.

Det anbefales å begrense antall skjema i hver arbeidsbok med tanke på oversikten. Prosjektet bør deles opp i flere arbeidsbøker (filer) i stedet for å lage en stor bok med mange skjema.

De ferdig kopierte skjemaene har generelle betegnelser ("Skjema(1)", "Skjema(2)" osv.). Dobbeltklikk på navnet nede på fanen dersom du vil endre navn på det enkelte skjema (eks. Pkt.nr : 1,2,3.. eller km).

Bruk av skjemaene

Du kan fylle ut alle hvite rubrikker i skjemaene manuelt. Du kan også benytte tekstautomatikken ved å trykke på knappen "Velg tekst". Du får da tilgjengelig standard tekstalternativ for rubrikkene "Situasjonsbeskrivelse", "Tiltak" og "Håndbok". Merk den teksten du ønsker og trykk OK, så limes teksten automatisk inn i den rubrikken du er i.

I **tekstbasen** er det lagt inn 3 grupper med standardiserte tekster knyttet til de ulike rubrikkene i skjemaet. Ser du behov for flere ferdig definerte standardtekster må du ta kontakt med ansvarlig i vegvesenet. Finner du ikke standardiserte tekster som passer, skriver du inn en beskrivelse med egne ord i rubrikken. Bruk gjerne standardteksten som utgangspunkt.

Ved hjelp av arket/fliken kalt "**Statistikk**" vil du få en oversikt over antallet utfyllinger som er gjort - eksempelvis summeres antall avvik du har krysset av for, antall strakstiltak og antall avkryssinger i risikomatrissa. NB statistikkarket vil ikke summere opp riktig hvis du har lagt til eller fjernet skjemaer.

Arket "**Oppsummering**" lister opp alle punktene fortløpende og kan benyttes til å gjøre kostnadsoverslag. Arket taes i bruk helt til slutt når du har fylt ut og nummerert alle skjemaene/punktene.


Innsetting av bilde og skisse:
Bilder eller kartskisser kan bli tunge når de settes inn. Hent ikke inn bilder i skjemaet direkte fra Vidkon, men lim inn billedfila (jpg, fila).

SYKKELTRASÉINSPEKSJON

Vegnummer	
Parsell/strekn. - navn	
Hp	
Km-retning (med/mot)	

[Klikk her for å få kopiert skjema for utfylling](#)

Eksport til Sima TSImport fra Sima TS



Statens vegvesen

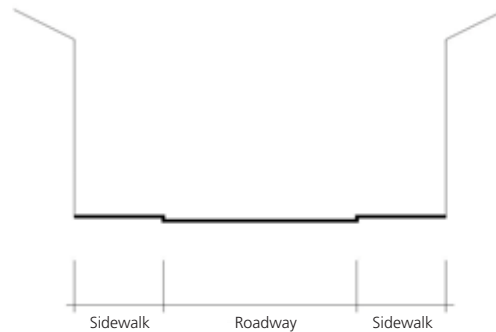
The excel sheet is on the net at:

<http://www.simasoftware.no/tinspeksjon.html>

In addition there is a Sima TS (PDA version) so the inspection can be done with the help of a PDA, see:

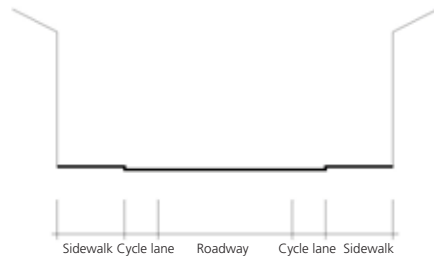
<http://mamut.com/simasoftware>

Checklist 1, section with cyclists in mixed traffic



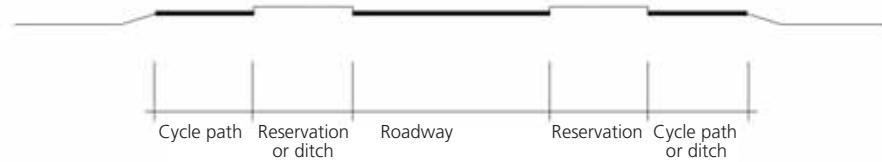
Topic	
Cross section	Is the cross section in accordance with recommendations in the Cycling Handbook? Is there a sidewalk on one or both sides of the road?
On the section	Are there parts of critical width (danger of being squeezed)? Is the speed limit compatible with the physical design?
Comfort, surface and roadway	Is the quality of the surface good? Look at evenness, holes and cracks. Does the road have good drainage? Look for puddles. Are the drain covers and manhole covers a hindrance/disadvantage to cyclists? Look at placement and visibility.
Intersections and access roads	Is it clear who has priority? Check signposting and road marking. Do the cars have a satisfactory speed approaching the intersection? Are the requirements for visibility met in intersections and access roads? If there is a detector at traffic lights, does it react to cyclists? Is the stop line marked further back at traffic lights?
Stops and parking	Is it legal to stop or park on one or both sides of the road? Are parked cars a danger or hindrance to cyclists? Check distances! Car doors can open! Do parked cars contribute to reduced visibility?
Signposting and road marking	Are road markings clear, so that cyclists easily find their way? Check route marking, destination signs etc. Does the signposting and road marking make motorists more aware of cyclists? Is the signposting and road marking at intersections in accordance with standards?
Operation	Is the road swept and cleaned including towards the shoulder? (spring/summer) Is the road cleared by snowplough and gritted, including towards the shoulder? (winter) Is visibility hindered by vegetation? Is there any graffiti on or damage to signs or other equipment?
Safety	Does there appear to be sufficient width with regard to cars and, where appropriate, busses? Does it appear safe to use the network? Visibility, overlooked by buildings, public access? Is the lighting good? Check placement of lampposts and height; where necessary make an evening inspection.
Attractiveness / experience of travel	Are there attractions, views or positive natural/countryside elements along the route? Do parts of the cycle route go through narrow/ constricted and unpleasant parts?
Use / behaviour	Do cyclists use the roadway or the sidewalk? Is cyclist behaviour at intersections in accordance with the rules of the road? Do conflicts arise between cyclists and motor vehicles? (car, bus) Do conflicts arise between cyclists and pedestrians?

Checklist 2 - Sections with cycle lane



<p>Cross section</p>	<p>Is the cross section in accordance with the recommendations in the Cycling Handbook? Is there a cycle lane on both sides of the road/street? Is there a sidewalk on one /both sides of the road/street?</p>
<p>On the section</p>	<p>Are there parts of critical width (danger of being squeezed)? Is the speed limit compatible with the physical design?</p>
<p>Comfort, surface and roadway</p>	<p>Is the quality of the surface good? Look at evenness, holes and cracks. Does the road have good drainage? Look for puddles or mud indicating puddles. Are the drain covers and manhole covers a hindrance/disadvantage to cyclists? Look at placement and visibility</p>
<p>Intersections and access roads</p>	<p>Is it clear who has priority? Check signposting and road marking. Do the cars have a satisfactory speed approaching the intersection? Are the requirements for visibility met in intersections and access roads? Is there a separate signal for cyclists at the traffic lights? Is the stop line marked further back at traffic lights? Is there an advanced cycle box/head start box at signalised intersections? If there is a detector at traffic lights, does it react to cyclists? Is priority clear when the traffic lights are not working? Check signposting. Is the geometry and marking at roundabouts in accordance with the Cycling Handbook? (separate cycle lane is not recommended)</p>
<p>Stops and parking</p>	<p>Is there parking or stopping on one or both sides of the road? Are indented parking spaces placed between the sidewalk and the cycle lane, with buffer zone towards the cycle lane? Is the cycle lane blocked by cars that have stopped/parked?</p>
<p>Signposting and road marking</p>	<p>Are road markings clear, so that cyclists easily find their way? Check route marking, destination signs etc. Is the cycle lane marked by a dividing line, cycle symbol and signpost no. 520? Does the marking for cycle lane end at an intersection where traffic from the right has priority? Does the marking continue through the intersection where it has priority? If there is an indented bus stop, is the cycle lane marked according to the Cycling Handbook? If there is a bus stop, is the marking in accordance with the Cycling Handbook? Is the signposting at the intersection in accordance with standards?</p>
<p>Operation</p>	<p>Is the cycle lane swept and cleaned to the same standard as the rest of the roadway? Is the cycle lane cleared by snowplough and gritted to the same standard as the rest of the roadway? Is visibility hindered by vegetation? Is there any graffiti on or damage to signs or other equipment?</p>
<p>Safety</p>	<p>Does there appear to be sufficient width with regard to cars and, where appropriate, busses? Does it appear safe to use the network? Visibility, overlooked by buildings, public access? Is the lighting good enough? Check placement of lighting (evening inspection)</p>
<p>Attractiveness / experience of travel</p>	<p>Are there attractions, views or positive natural/countryside elements along the route? Do parts of the cycle route go through narrow/ constricted and unpleasant parts?</p>
<p>Use / behaviour</p>	<p>Does the use correspond with its purpose? Is the cycling in the right direction, is there cycling on the sidewalk etc? Do conflicts arise between cyclists and motor vehicles? (car, bus) Do conflicts arise between cyclists and pedestrians?</p>

Checklist 3, sections with cycle path / foot- and cycle path



Cross section	Is the cross section in accordance with the recommendations in the Cycling Handbook?
On the section	<p>Is the gradient within the recommended maximum?</p> <p>Is there easy access to the cycle path on the section? (-opening in the verge etc)</p> <p>Is the cycle path continuous on one side of the road?</p> <p>Are the pedestrian and/or the cycle traffic so heavy that there should be a separate sidewalk?</p> <p>Is car traffic allowed access to property along the cycle path?</p> <p>Are there barriers to slow down traffic on the cycle path? Accessibility for cyclists and others?</p> <p>Is there fencing or barriers between the cycle path and the roadway? Type?</p>
Comfort, surface and roadway	<p>Is the quality of the surface good? Look at evenness, holes and cracks.</p> <p>Does the road have good drainage? Look for puddles.</p> <p>Are the drain covers and manhole covers a hindrance/disadvantage to cyclists?</p> <p>Look at placement and visibility.</p> <p>Are the kerbs at intersections and access roads a hindrance? (should be < 2 cm)</p>
Intersections and access roads	<p>Is the type of intersection in accordance with recommendations in the Cycling Handbook?</p> <p>Is it clear who has priority?</p> <p>Is motor vehicle speed in the intersection satisfactory?</p> <p>Is cycle speed in the intersection satisfactory?</p> <p>Is the geometry of the roundabout as recommended in the Cycling Handbook?</p> <p>Are requirements to visibility met in intersections and access roads?</p>
Bridges and underpasses	<p>Is the gradient satisfactory for crossing cyclists?</p> <p>Is the cycle path at grade with the roadway?</p> <p>Are requirements to width and height met?</p> <p>Are bridge barriers in accordance with requirements? (min. 1.2 m high)</p> <p>Is visibility in the intersection and approaches satisfactory?</p> <p>Is lighting in the underpass and approaches satisfactory?</p> <p>Is drainage in the underpass satisfactory? (drain/channel before underpass)</p>
Stops and parking	<p>Do cars stop or park on the cycle path?</p> <p>Is there parking or stopping which hinders visibility at or in the approach to the intersection?</p>
Signposting and road marking	<p>Are road markings clear, so that cyclists easily find their way?</p> <p>Check route marking, destination signs etc.</p> <p>Is marking in the intersection and major access roads in accordance with the Cycling Handbook?</p> <p>Is marking in the roundabout as described in the Cycling Handbook?</p>
Operation	<p>Is the cycle path swept and cleaned to the same standard as the rest of the roadway? (summer)</p> <p>Is the cycle path cleared by snowplough and gritted to the same standard as the rest of the roadway? (winter)</p> <p>Is visibility hindered by vegetation?</p> <p>Is there any graffiti on or damage to signs or other equipment?</p>
Safety	<p>Does it appear to be safe to use the network? Sight, overlooked by buildings, public access?</p> <p>Is the lighting good enough?</p> <p>Check placement of lampposts and height; where necessary make an evening inspection.</p>
Attractiveness / experience of travel	<p>Are there attractions, views or positive natural/countryside elements along the route?</p> <p>Do parts of the cycle route go through narrow/ constricted and unpleasant parts?</p>
Use / behaviour	<p>Does the use correspond with its purpose? Is there cycling on the roadway, is the sidewalk/cycle way bridge used etc?</p> <p>Do conflicts arise between cyclists and pedestrians or between cyclists from different directions?</p> <p>Do conflicts arise with motorists in intersections or access roads?</p>

Checklist 4 Transition between systems	
4.1 Transition from cycle path to cycling in mixed traffic	
Design	Is visibility sufficient? Is the transition designed as an intersection? Is it a raised intersection?
Signposting and marking	Is the transition well marked? Is the start and end of the cycle path signposted as described in the Cycling Handbook?
4.2 Transition from cycle lane to cycling in mixed traffic	
Design	Is visibility sufficient? Is there a danger of being squeezed? Check widths in the transition Are speeds appropriate to the design?
Signposting and marking	Is the transition well marked? Is the signposting and marking as described in the Cycling Handbook
4.3 Transition from cycle path to cycle lane	
Design	Is visibility sufficient? Grade separated intersections: is there a fence or barrier to prevent dangerous crossing of the roadway? Intersection at grade: Is the intersection raised?
Signposting and marking	Is the transition well marked? Is the signposting and marking as described in the Cycling Handbook?

Checklist 5, cycle parking	
Used at public transport terminals / nodes	
At designated places (if these exist)	Is the designated parking used? Or are cycles parked at other places? Are the cycle racks used as intended? Is it possible to lock the cycle frame to a fixed rack or object? Are the places easily visible and in view of passers by? Is there any lighting at the place? Are the places protected from weather and wind? Is there snow clearing and gritting in winter? Is the place swept and cleaned in the summer? Is the place affected by graffiti and damage? Is there enough capacity?
Outside designated places	Are parked cycles a hindrance to pedestrians? Are parked cycles an eyesore to the surroundings? Are there designated cycle parking spaces nearby?

