TRAFFIC SAFETY AROUND PRIMARY SCHOOLS

TIL5060 THESIS

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SAMENVATTING

Aanleiding

Verkeersveiligheid is een belangrijk onderdeel als over (basis)schoolomgevingen wordt gesproken. Vele mensen hebben ermee te maken en hebben er een mening over. Er zijn, mede daarom, al veel studies op het onderwerp verricht en daarnaast bestaan er al verschillende informele richtlijnen voor de verkeersveilige inrichting van schoolomgevingen. Bij gemeentes bestaat de wens voor formelere richtlijnen om zodoende de beleefde verkeersveiligheid te verbeteren. Gemeentes zijn namelijk als wegbeheerder verantwoordelijk voor de verkeersveiligheid in schoolzones. In dit onderzoek wordt voor het eerst het proces beschreven hoe gemeentes hun schoolomgevingen verkeersveiliger kunnen maken voor de gebruikers.

VVN (2015) beweert dat de verkeersveiligheid in schoolzones de laatste tijd steeds vaker in het nieuws is, omdat de ontwikkelingen in deze gebieden negatief zijn voor de verkeersveiligheid. Er is een toename te zien van het autogebruik door ouders, die hun kinderen naar school brengen. Verschillende redenen zijn hiervoor aan te wijzen:

- Steeds vaker bestaan gezinnen uit tweeverdieners en hebben daarom twee auto's in hun bezit. Kinderen worden in dat geval weggebracht naar school, op de weg naar het werk;
- De gemiddelde afstand naar de school wordt steeds groter, omdat steeds meer scholen fuseren en/of in ieder geval een groter gebied voorzien in onderwijs;
- Het autogebruik in Nederland is stijgende;
- Het is vaak ook simpelweg makkelijker om je kind met de auto naar school te brengen.

Het gepresenteerde roept de vraag op of de (beleefde) verkeersveiligheid in schoolomgevingen te verbeteren is. Om deze vraag te beantwoorden, zijn een aantal deelonderzoeksvragen opgesteld om uiteindelijk de hoofdvraag te beantwoorden. De onderzoeksvragen die in het onderzoek beantwoord zijn, zijn de leidraad voor de samenvatting.

Wat wordt tegenwoordig beschouwd als een verkeersveilige schoolomgeving?

SWOV (2012) stelt dat schoolzones meer subjectief dan objectief verkeersonveilig zijn. Bij objectieve verkeersveiligheid gaat over het aantal (geregistreerde) ongevallen. Schoolzones op zichzelf zijn, gebaseerd op beschikbare data, niet verkeersonveilig, . De ernst van de ongelukken die wel in schoolomgevingen plaatsvinden, is zo klein dat registratie ervan vaak uitblijft (van den Bos, 2013).

Subjectieve verkeersonveiligheid verwijst naar persoonlijke beleving van verkeersonveiligheid, of wat algemener, naar de zorg om verkeersonveiligheid voor zichzelf en/of anderen (SWOV, 2012). Subjectieve verkeersveiligheid gaat dus over het gevoel van mensen (over de verkeersveiligheid). In 2010 heeft de organisatie VVN (Veilig Verkeer Nederland) een enquête onder haar leden gehouden, om het gevoel van verkeersveiligheid, ervaren door gebruikers, in schoolomgevingen te meten. De drie belangrijkste verkeersonveilige kenmerken waarom mensen zich niet veilig voelen in de schoolomgeving zijn (Fietsberaad, 2010; Slinger, 2015; van den Bos, 2013):

- Te veel verkeer in de schoolomgeving;
- Fout geparkeerde auto's in de schoolomgeving;
- Te hard rijden in de schoolomgeving.

Omdat niet alle ongevallen worden geregistreerd, wijzen alleen de subjectieve gegevens erop dat er wel verkeersonveiligheid wordt ervaren in schoolzones (van den Bos, 2013). In het onderzoek zijn de klachten over de verkeersveiligheid in schoolomgevingen zowel objectief als subjectief onderzocht.

Om de genoemde klachten objectief te onderzoeken, zijn voor het onderzoek bij 8 scholen metingen verricht. Om te bepalen bij welke 8 scholen de metingen verricht worden, is een theoretisch kader opgesteld om de verkeersveiligheid van een school te toetsen. In dit theoretisch kader zijn 22 criteria opgesteld, waarmee getoetst kan worden of een schoolomgeving verkeerveilig

is. Deze 22 criteria zijn bepaald op basis van een literatuuronderzoek. De criteria zijn geclusterd op basis van de al genoemde (subjectieve) kenmerken. De criteria en de clustering ervan zijn te zien in Tabel A.

Tabel A: Criteria theoretisch kader

(subjectieve) kenmerken	Te druk in de schoolomgeving	Foutgeparkeerde auto's in de schoolomgeving	Te hard rijden in de schoolomgeving
Criteria	Het ontwerp van kruispunten	Stopverbod ter plaatse van de entree	Snelheidsregime in schoolomgeving
	Opstelruimte voor wachtende ouders	Binnen een straal van 25 meter van de entree geen parkeerplaatsen	Herkenbaarheid van de vormgeving van de weg
	Parkeerruimte voor fietsen van de kinderen	Locatie van de parkeerplaatsen	Inhaalverbod
	Wijze waarop aangegeven wordt dat men een schoolzone betreedt	"Kiss and ride" plaatsen	Lokaal snelheidsregime
	Afscheiding van de schooluitgang	Parkeerplaats voor schoolbus	Maatregelen om de snelheid te beperken
	Afwijkende bestrating ter plaatse van de schoolomgeving		
	1-richtingsverkeer		
	Afscheiding entree voor voetgangers en fietsers		
	Autoverbod		
	Aanwezigheid schoolzone		
	Verbod zwaar verkeer		
	Ingericht als woonerven		

De onderste vier criteria uit de kolom "te druk in de schoolomgeving", zijn niet gebruikt in de Multi Criteria Analyse (MCA) die opgezet is voor dit onderzoek. De scholen in het onderzoek verschillen namelijk niet op die vier genoemde criteria.

Welke scholen in het 'Land van Heusden en Altena' kunnen onderdeel uitmaken van de 8 scholen waar de nodige metingen verricht gaan worden?
Voor het onderzoek zijn 31 basisscholen in het gebied "Land van Heusden en Altena" gebruikt als case studie;

- De objectieve metingen zijn dus uitgevoerd bij 8 scholen. Deze 8 scholen maken onderdeel uit van de 31 basisscholen uit de case studie en zijn geselecteerd met behulp van een MCA;
- Het subjectieve verkeersveiligheidsgevoel is gemeten in alle 31 basisschoolomgevingen uit de case studie.

Hoe de data zijn verzameld, wordt later uitgelegd. Bij de MCA is gekeken naar hoe vaak de criteria uit het theoretische kader zijn genoemd in de geraadpleegde literatuur. Dit om te controleren of er bij de experts op het gebied voldoende consensus is over de criteria. Hoe meer consensus, hoe sterker het criterium mee weegt in de MCA.

Daarna is gekeken naar de scores van alle individuele scholen op de set van criteria, voor elk kenmerk. Hoe hoger de score, hoe verkeersveiliger de schoolomgeving (theoretisch) is. Op basis van die scores zijn 8 extreme scholen uit de populatie bepaald, waar de metingen verricht zijn. Getracht is om elke set van gekleurde cellen in Tabel B in ieder geval gevuld te krijgen met 1 school. De kleuren in de tabel zijn onderverdeeld in: gemeentes, hoge scores en lage scores.

Zodoende wordt de benodigde heterogeniteit, in de set scholen waar de metingen verricht worden bereikt. De 8 scholen die, door middel van de MCA, geselecteerd zijn, zijn afgebeeld in Tabel B.

Tabel B: 8 scholen waarbij de metingen verricht zijn

	Gemeente Werkendam	**Gemeente Woudrichem**	**Gemeente Aalburg**
Criteria groep			
Snelheidsindicator			
School met de hoogste scores	Burg. Sigmond, Werkendam		
School met de laagste scores	De Akker, Werkendam	Waardhuizen, Waardhuizen	De Hoeksteen, Aalburg
Aantal fout geparkeerde auto's indicator			
School met de hoogste scores	Het Baken, Werkendam		
School met de laagste scores			De Hoeksteen, Aalburg
Drukte in schoolomgeving indicator			
School met de hoogste scores	Burg. Sigmond, Werkendam	Ravelijn, Woudrichem	Oranje Nassau school, Veen
School met de laagste scores	De Akker, Werkendam CBS De Regenboog, Nieuwendijk	Waardhuizen, Waardhuizen	

De scholen, waar de metingen bij verricht zijn, zijn dus:

- Burg. Sigmond, Werkendam
- De Akker, Werkendam
- Het Baken, Werkendam
- CBS De Regenboog, Nieuwendijk
- Waardhuizen, Waardhuizen
- Ravelijn, Woudrichem
- De Hoeksteen, Aalburg
- Oranje Nassau School, Veen

Kan het subjectieve verkeersveiligheidsgevoel van ouders in schoolomgevingen uitgedrukt worden in meetbare elementen?

Er bestaan verschillende methoden om subjectieve verkeersgevoelens uit te drukken in meetbare elementen. Dit wordt uitgelegd in het principe 'Safety Performance Indicators' (Gitelmann, et al., 2014). Om meetgegevens te verkrijgen bij de 8 verkozen scholen, is gebruik gemaakt van telslangen. Op die manier is informatie verzameld over de verreden snelheid en het aantal auto's in de schoolomgeving. Fout geparkeerde auto's zijn gemeten door gebruik te maken van videobeelden.

Wat is het objectief meetbare gedrag van automobilisten in schoolomgevingen?

De gevonden data bij de 8 scholen past goed in het gecreëerde theoretische kader dat geformuleerd is:

- Er is een verband gevonden tussen de drukte in de schoolomgeving en de grootte van de school. Daarnaast is er ook een verband gevonden tussen de positie van de weg waar de school aan ligt, in het wegennetwerk van de gemeente en de drukte in de schoolomgeving. Het aantal auto's in de schoolomgevingen in het "Land van Heusden en Altena" is, in vergelijking met cijfers gebruikt in heel Nederland, niet schokkend te noemen;

- Op basis van het eigen gevoel, zou verwacht worden dat het aantal fout geparkeerde auto's geassocieerd kan worden met de grootte van de school. Dit blijkt echter niet het geval te zijn. Er zitten namelijk grote scholen tussen de geselecteerde 8 scholen waar gemeten wordt en er zijn daar weinig parkeerproblemen. De verwachtingen gecreëerd door het invullen van het theoretische kader worden ook in dit geval weer bevestigd;
- Tot slot kan de snelheidsindicator ook goed verklaard worden en matchen de verwachtingen met de gemeten realiteit.

Is het gemeten verkeersveiligheidsgevoel door de VVN in 2010 nog hetzelfde in 2015 bij mensen uit het 'Land van Heusden en Altena'?
De subjectieve data zijn verzameld door een enquête onder de ouders van de basisschoolleerlingen te houden en op die manier de subjectieve verkeersveiligheid te bepalen. De opgestelde enquête is opgezet conform de enquête die de VVN in 2010 gehouden heeft onder haar leden. Dit is gedaan om een vergelijking te kunnen maken tussen de gevonden data.

Aan de hand van de enquête die gehouden is voor dit onderzoek kan geconcludeerd worden dat bijna 39% van de ondervraagde ouders vindt dat de schoolomgeving in ieder geval niet verkeersveilig is. In 2010 vond 36% van de ondervraagde mensen de schoolomgeving niet verkeersveilig. Deze percentages zijn vergelijkbaar met elkaar. De 3 meest genoemde kenmerken die nu als verkeersonveilig worden bestempeld zijn:

- De manier waarop de mensen hun auto parkeren rond de school;
- De verkeersdrukte rond de school;
- De beschikbare parkeercapaciteit rond de school.

Wat opvalt in bovenstaand lijstje, is dat de snelheid van passerende auto's niet meer als belangrijkste verkeeronveilige kenmerk wordt genoemd, door de respondenten. In 2010 was dit nog wel het geval.

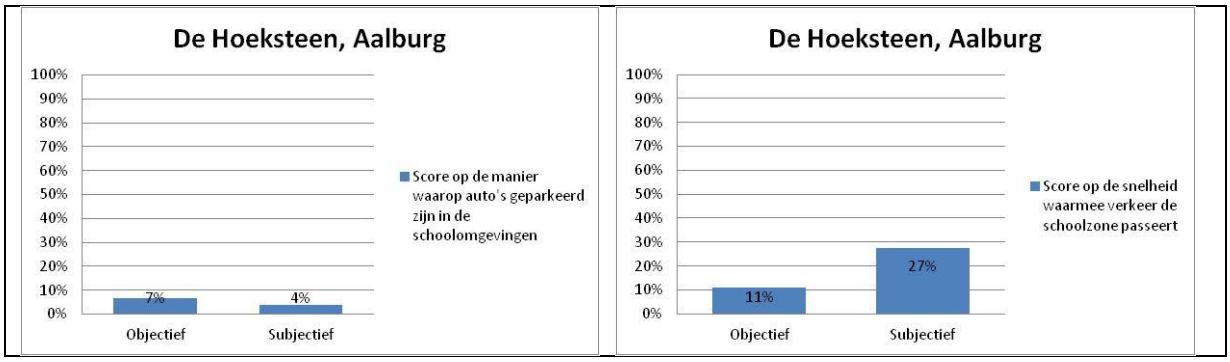
Vervolgens is gekeken in hoeverre de genoemde kenmerken een relatie hebben met het gevoel van verkeersveiligheid rond de school. Dit is gedaan door de antwoorden op de vraag hoe veilig de schoolomgeving gevonden wordt en de vraag naar de mening over het specifieke kenmerk, te confronteren met elkaar. Op deze manier kan, met behulp van de Chi Kwadraattoets, onderzocht worden in hoeverre een vraag over een kenmerk een relatie heeft met het verkeersveiligheidsgevoel. Met de Chi Kwadraat toets kan worden nagegaan of waargenomen aantallen systematisch afwijken van elkaar. Met behulp van de waarde van de Chi Kwadraattoets kan in een volgende stap de Cramérs V waarde worden bepaald. Cramérs V is een maat voor een samenhang tussen variabelen op nominaal niveau. De waarde ervan is een correlationele maat tussen nominale variabelen, met een minimum van 0 en een maximum van 1. Hoe hoger de maat, hoe sterker het verband. Door deze opzet toe te passen, komen andere kenmerken naar voren dan de 3 al genoemde kenmerken, namelijk:

- De algemene verkeerssituatie rond de school;
- De verkeersveilige inrichting van de straten rondom school;
- De manier waarop mensen hun auto parkeren rond de school.

Is het subjectieve verkeersveiligheidsgevoel te verklaren door de verrichte metingen?
Concluderend mag veronderstelt worden dat het subjectieve verkeersveiligheidsgevoel inderdaad een duidelijke relatie heeft met de verrichte metingen. Het gevoel wordt niet helemaal verklaard door de metingen, maar er is wel een duidelijke corrationele relatie gevonden tussen de twee. Het antwoord op deze vraag, heeft een sterk relatie met de beantwoording van de hoofdvraag en zal verderop inhoudelijker geanalyseerd worden.

In hoeverre bestaat er een objectieve basis om de beleefde verkeersveiligheid te verbeteren?
Om in te kunnen zien in hoeverre de objectieve en subjectieve data overeenkomen, is voor de genoemde geanalyseerde kenmerken het behaalde percentage van de maximale score uitgezet in grafieken. Dit is gedaan door voor elke school de minimale en maximale te behalen objectieve en

subjectieve score te bepalen. Vervolgens is gekeken hoe hoog de daadwerkelijke score voor elke school ligt. Door het bepaalde bereik van de score, is de daadwerkelijk behaalde score uit te drukken in een percentage. Hoe meer de geanalyseerde percentages overeenkomen met elkaar, hoe beter de beleefde verkeersveiligheid dus objectief vast te stellen valt. Hieronder is in Figuur A een voorbeeld weergegeven van de objectieve en subjectieve score op het gebied van aantal foutgeparkeerde auto's en de snelheid waarmee verkeer de school passeert voor de school De Hoeksteen in Aalburg.



Figuur A: Objectieve data en subjectieve data vergeleken met elkaar

Door deze analyse toe te passen op de 8 scholen waar metingen verricht zijn en vervolgens te kijken naar de totalen van de verschillen van de objectieve en subjectieve score, is een volgorde te bepalen van de kenmerken in hoeverre ze objectief aan te passen zijn:

1. Fout geparkeerde auto's in de schoolomgeving;
2. Te hard rijden in de schoolomgeving;
3. Te veel verkeer in de schoolomgeving.

Aan welke richtlijnen moeten schoolomgevingen voldoen om de beleefde verkeersveiligheid te verbeteren?

De resultaten van de verschillende metingen laten zien dat er aanleiding is te concluderen dat de juiste omgevingsaanpassingen inderdaad kunnen bijdragen aan het vergroten van de beleefde verkeersveiligheid. De grootste invloed op de beleefde verkeersveiligheid kunnen gemeentes uitoefenen door het onderdeel "fout geparkeerde auto's" aan te pakken. De invloed van de juiste aanpassingen op dat gebied dragen voor 37% bij aan de beleefde verkeersveiligheid. De invloed van het onderdeel te hard rijden in de schoolomgeving is 27%; al kan dat wel positief beïnvloed worden. De resterende 36% van de beleefde verkeersveiligheid wordt beïnvloed door het element te veel verkeer in de schoolomgeving. Het is lastig gebleken om daar maatregelen aan te koppelen voor gemeentes. De genoemde percentages zijn bepaald met de Chi Kwadraattoets en de Cramérs V waarde, waarmee de eerdere kenmerken zijn bepaald.

Conclusie

Met de gepresenteerde behaalde resultaten mag geconcludeerd worden dat er zeker mogelijkheden zijn om de beleefde verkeersveiligheid in schoolomgevingen te verbeteren. Dit betekent dus dat de gemeente als wegbeheerder met de juiste aanpassingen in de omgeving, een belangrijke bijdrage kan leveren aan de beleefde verkeersveiligheid door de ouders.

Beleidsadvies

Tot slot is er een beleidsadvies gekoppeld aan het gedane onderzoek. Daarin wordt een procesaanpak c.q. stappenplan gepresenteerd, dat geadviseerd wordt te gebruiken als gemeentes de beleefde verkeersveiligheid in schoolomgevingen willen vergroten. Het stappenplan moet op elke afzonderlijke school individueel toegepast worden, om de werking van het stappenplan te garanderen:

1. Voor het onderzoek is een theoretisch kader samengesteld om te onderzoeken welke meetbare omgevingskenmerken een verkeersveilige schoolomgeving moet hebben. Dit theoretisch kader kan gebruikt worden voor de school waar het onderzoek wordt gedaan.

In deze stap moet dit theoretisch kader ingevuld worden voor de school waar het doel is de beleefde verkeersveiligheid te verbeteren;

2. Het ingevulde theoretische kader moet beoordeeld worden door verkeersveiligheidsexperts. Op die manier kan aangegeven worden waar het in de onderzochte schoolomgeving nog aan ontbreekt en verbeteringen mogelijk zijn;
3. De huidige verkeersveiligheidsbeleving, door de ouders, moet worden achterhaald. Dit kan door middel van een enquête worden vastgesteld. Vragen uit de enquête gebruikt in het onderzoek kunnen hiervoor gebruikt worden. Met behulp van de resultaten uit de enquête kan vervolgens bepaald worden welke van de drie al genoemde kenmerken blijkbaar als het minst veilig wordt ervaren:
    a. Te veel verkeer in de schoolomgeving;
    b. Fout geparkeerde auto's in de schoolomgeving;
    c. Te hard rijden in de schoolomgeving.

    Dit geeft een prioritering voor de eventueel te nemen maatregelen en zal per individuele school bekeken moeten worden;
4. Als de resultaten uit de enquête en de resultaten uit het theoretisch kader naast elkaar worden gehouden, kan gekeken worden welke elementen mogelijk verbeterd kunnen worden om de beleefde verkeersveiligheid te vergroten. Als bijvoorbeeld zowel de objectieve score, als de subjectieve score laag is voor een bepaald kenmerk, dan kan het beste geld geïnvesteerd worden in elementen die dat kenmerk verbeteren.

Het is verstandiger voor gemeentes om hun geld te investeren in elementen die objectief laag scoren, omdat daar natuurlijk het meeste en makkelijkste winst valt te behalen. Als desondanks de subjectieve score voor dat element onverwacht hoog is, heeft het weinig zin om in dat element toch geld te investeren.

SUMMARY

Motive
Traffic safety is an important issue when (primary) school zones are at stake. The subject is very sensitive for people who have to deal with those zones. Therefore, different studies on the subject are formed in the past and many informal guidelines or requirements for school zones exist. Among municipalities exists the wish for stricter recommendations to increase the perceived traffic safety. Municipalities have the role of road authority. In this role they are responsible for the traffic safety in school zones. The process is explained, for the first time, how municipalities can make school zones more safe for traffic.

VVN (2015) claimed traffic safety in school zones nowadays is under the attention. This is because the developments in these areas point at a tendency to decrease the traffic safety. The car usage in bringing the children to school is increasing. Several reasons can be named for this situation:

- More and more families consist of dual earners and own two cars. Children are often brought to school on the way to work;
- Since the tendency in the Netherlands is to create bigger schools, the average distances towards the schools are increasing. Most of the time smaller schools merge with bigger schools in their environment and therefore, mostly, the smaller schools disappear;
- The car usage is increasing and this causes the traffic safety to lower;
- It is sometimes just easier to bring your child to school by car, especially with bad weather.

The former presented raises the question whether the experienced traffic safety in school environments can be increased. To answer this question in the presented research, a number of research questions has been set up. The research questions answered in the report are the guidance for this summary.

What is nowadays regarded a school environment safe for traffic?
Traffic safety in schools zones is more subjective in nature then objective (SWOV, 2012). Objective traffic safety indicates the (registered) number of accidents. School zones however, are not traffic unsafe based on the analysed known accident data. The seriousness of the accidents that do occur in school zones is too little and therefore registering them is not done often (van den Bos, 2013).

Subjective safety in traffic refers to personal feelings of safety of people, or, more general, the concern for road safety for themselves and / or others (SWOV, 2012). So subjective traffic safety is about the feeling of users. The organisation VVN (Veilig Verkeer Nederland/Safe Traffic in the Netherlands) surveyed its members in 2010 to measure the subjective traffic safety in school zones. The most important issues which are not perceived safe for traffic are (Fietsberaad, 2010; Slinger, 2015; van den Bos, 2013):

- Too crowded in the school zone;
- Wrongly parked cars by the parents;
- Not maintaining the speed limit in the environment.

Because not all occurring accidents are registered, the subjective data points in the direction of the perceived traffic unsafety in school zones (van den Bos, 2013). The named complaints are measured again for this study both objective and subjective. It will be explained further on how this is done.

To investigate the named complaints objective for the research, 8 schools are chosen to perform measurements at. A theoretical framework has been set up in the study, to determine the choice for the 8 schools. The current traffic safety at the school was assessed with the help of this theoretical framework. 22 criteria are listed to determine the traffic safety of a school zone in the theoretical framework. These 22 criteria are found by performing a literature study. The criteria are clustered based on the (subjective) issues named already. The criteria and the clustering of them are presented in Table A.

Table A: Criteria theoretical framework

(subjective) issues	Too crowded in the school zone	Wrongly parked cars	Not maintaining the speed limit in the environment
Criteria	Design of intersections	Stop-restriction near the entrance	Speed limit environment
	Waiting room for the parents	Within 25 metres of the entrance no parking spaces	Self-explaining road
	Parking room bicycles for the children	Location parking-spaces	Take-over restriction
	Marking school zone (+vertical elements)	“Kiss and ride” places	Local speed limit
	Seperation of school exit	Parking space for school bus	Speed measurement
	Other pavement in school zones then on connecting roads		
	One-way traffic		
	Seperation of entrance for bicycles and pedestrians		
	Car restriction		
	Schoolzone		
	Prohibit heavy traffic		
	Designed as woonerfs		

The final four criteria named in the column too crowded in the school zone have not been used in the Multi Criteria Analysis (MCA), set up for this research. This is done because the schools, in the population for this research, do not differ on those criteria.

Which schools in the area “Land van Heusden en Altena” are regarded enough safe for traffic or unsafe for traffic to act in the sample of eight schools?

The present informal recommendations are based on studies on the subjective feeling of traffic safety. These subjective “happenings” are measured in this research in school zones. These measurements can possibly explain the subjective feeling of users. The area “Land van Heusden en Altena” acts as a case study for the research. 31 primary schools lie in the mentioned area:

- The measurements are performed in 8 school zones. These 8 school zones belong to the 31 primary schools out of the case study and are selected with the help of an MCA;
- The subjective traffic safety is measured in all 31 school zones out of the case study.

The way the presented data is derived will be explained further on. How frequently the criteria are mentioned in the consulted literature is analysed for the MCA-method. This is done to check whether there exists consensus about the criteria by the experts. The more consensus there is, the heavier the criterion is weighted in the MCA.

How the individual schools score on the set of criteria belonging to the mentioned issues is determined after the judgement of every school. The higher the score, the more (theoretical) safe for traffic the school is. 8 Schools from the population are chosen, where the measurements took place. Every coloured pair of cells in Table B is tried to at least fill with 1 school. The indicated colours are divided amongst: the municipalities, high scores and low scores. This is done in order to obtain the needed heterogeneity in the sample. The 8 schools, selected to act in the sample, are shown in Table B.

Table B: 8 schools belonging to the sample frame

	Municipality of Werkendam	Municipality of Woudrichem	Municipality of Aalburg
Criteria group			
Speed indicator			
Highest scoring school	Burg. Sigmond, Werkendam		
Lowest scoring school	De Akker, Werkendam	Waardhuizen, Waardhuizen	De Hoeksteen, Aalburg
Numbers of wrongly parked cars indicator			
Highest scoring school	Het Baken, Werkendam		
Lowest scoring school			De Hoeksteen, Aalburg
Numbers of cars in area indicator			
Highest scoring school	Burg. Sigmond, Werkendam	Ravelijn, Woudrichem	Oranje Nassau school, Veen
Lowest scoring school	De Akker, Werkendam Regenboog, Nieuwendijk	Waardhuizen, Waardhuizen	

This table indicates, the school where the measurements took place are:

- Burg. Sigmond, Werkendam
- De Akker, Werkendam
- Het Baken, Werkendam
- CBS De Regenboog, Nieuwendijk
- Waardhuizen, Waardhuizen
- Ravelijn, Woudrichem
- De Hoeksteen, Aalburg
- Oranje Nassau School, Veen

Can subjective traffic safety in school environments be linked to measurable elements?
Different methods exist to measure subjective traffic safety. This principle is explained in the subject 'Safety Performance Indicators' (Gitelmann, et al., 2014). Road tube counters are used to perform the measurements. Information is gathered about the driven speed and the numbers of cars in the school environment in that way. The number of wrongly parked cars has been derived by videotaping the school environment.

What is the measured behaviour of car users in school zones?
The found data for the 8 schools shows expectations, developed by using the theoretical framework, matches reality:

- A relation is found between the crowdedness at the school zones and the size of the school. However, another very important explanation is the position of the road, where the school lies on, in the road network of the municipality. The number of cars found at the schools in the sample is not very high compared to general numbers used in the Netherlands;
- Based on an intuitive feeling it can be expected a relation, between the number of wrongly parked cars and the size of the school, is there. This is however not the case, because there are examples in the sample with big schools and little parking issues. Expectations created by the theoretical framework again are confirmed;
- Finally, a clear relation for the speed indicator is there. The data matches the expectations, created by making the theoretical framework.

Is the feeling of traffic safety surveyed by the VVN in 2010 still present among people living in the area "Land van Heusden en Altena"?
The subjective data has been determined by means of a survey amongst parents of the children. The way the VVN sets up its surveys in 2010 is used in order to evaluate the results and to create a comparison between gathered data.

Based on the survey spread out for this research can be concluded 39% of the questioned parents feel the school environment is not traffic safe. In 2010 36% of the questioned parents thought the school environments was not traffic safe. The found percentages are comparable. The three most aware relationships for this number now are:

- The way people park their car in the environment;
- Traffic chaos around school;
- Available parking capacity near the school.

It stands out the element of speed of passing vehicles apparently is not a good explanation anymore, compared to the analysed elements in 2010.

How much the mentioned elements can be linked with the perceived feeling of traffic safety in the school environment is investigated next. This is analysed by comparing the answers on how safe the school environment is and questions about specific elements. By using the Chi Squared value in the right way it can be investigated how much one element is related to the general feeling of traffic safety. Because with the help of the Chi Squared value it can be tested how much observed numbers differ systematically from each other. In a next step the Cramérs V value can be determined by using the value of the Chi Squared test. The Cramérs V value in its turn is a value which indicates the relationship between variables from nominal order. The value gives the correlational dimension between nominal variables, with a minimum score of 0 and a maximum score of 1. The higher the Cramérs V value is, the stronger the correlation between the variables. By using the derived values in the right way it can be investigated how much an element correlates with the perceived traffic safety. In this analysis other elements tend to be explanatory for the feeling of traffic safety. The elements namely are:

- Traffic situation around the school;
- Safe for traffic design of the streets around the school;
- The way people park their car in the environment.

How does the subjective feeling of traffic safety relates to the results obtained by evaluating the traffic safety in school environments?
Based on the former it may be concluded that the subjective feeling of the users indeed has a clear relationship with the measurements. The feeling cannot be totally explained, however, a clear correlational relationship between the two has been found. The answer on this question is very much interrelated with the answer on one of the main research questions. Therefore, the analysis needed to answer this question more precisely is followed further on by answering the main research question.

Is there an objective base for the perceived traffic unsafety in school zones?
The objective and subjective data in the next step is ordered and analysed in order to see in one overview how much they agree with each other, for every school out of the sample. For every school the maximum and minimum to obtain score has been determined, both for the objective and subjective score. Then is analysed how much every schools scores. This score, together with the analysed range of the scores, is expressed in percentages. The more the subjective and objective data corresponds with each other, the more the perceived traffic safety can objectively be "explained" apparently. One example of the comparison of the objective and subjective score is presented in Figure A. In this example the number of wrongly parked cars and the speed of passing traffic for the school De Hoeksteen in Aalburg are presented.

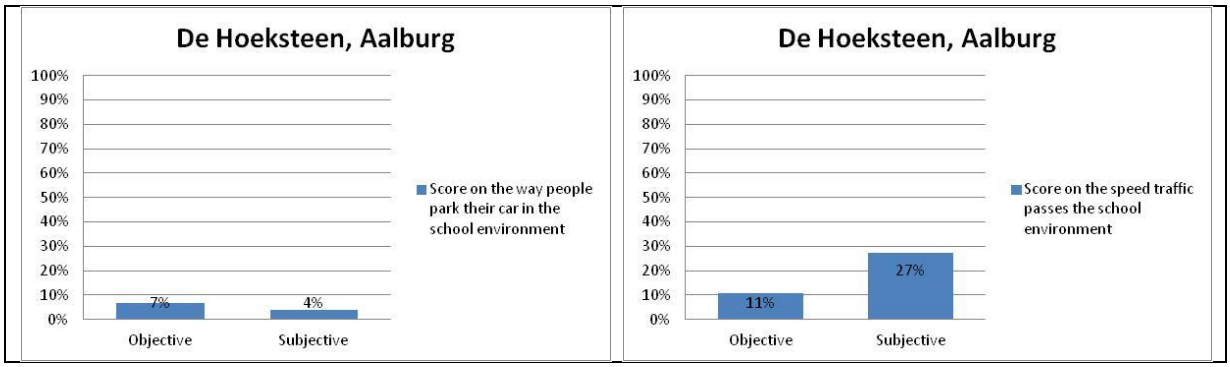


Figure A: Objective and subjective data compared with each other

If the mentioned steps are performed on all elements of the 8 schools, were the measurements took place, and then looking at the found differences in the percentages, the ordering how much they can objectively be influenced is:

1. Wrongly parked cars by the parents;
2. Not maintaining the speed limit in the environment;
3. Too crowded in the school zone.

What guidelines should school environments fulfil in order to improve the perceived traffic safety in the environments?

Results of the different measurements show us there is enough motive to conclude the right environmental adjustments can influence the perceived traffic safety. With the help of the found objective and subjective traffic safety data, the results are compared and recommendations are formed. Municipalities have the most influence by adjusting elements belonging to the element “wrongly parked cars by the parents”. This is because the influence of that element on the perceived traffic safety is 37%. The influence of the element “not maintaining the speed limit in the environment” is 27% of the perceived traffic safety. However, adjustments in the environment are possible for that element. The element “too crowded in the school zone” is responsible for 36% of the perceived traffic safety. However, making adjustments in the environment, based on that element, is difficult for municipalities. The mentioned percentages are analysed with help of the same Chi Squared Value and the Cramérs V Value.

Conclusion

Based on the presented results of the investigation can be concluded there most certainly exist the option to increase the perceived traffic safety in school zones by the road authority. This indicates municipalities can contribute in increasing the perceived traffic safety by the parents with the right environmental adjustments.

Policy Advice

Finally, a policy advice is made for municipalities based on the research performed. In this advice a process design c.q. step by step plan is presented which municipalities could follow when they want to increase the perceived traffic safety in school environments. The step by step plan needs to be followed on an individual school level, in order to assure the usability of the plan:

1. A theoretical framework has been set up for the research. Which adjustments in the environment a school zone must have to be regarded as safe for traffic, is analysed with the help of the framework. This framework can be filled in for the school, where the goal is to increase the perceived traffic safety;
2. Use the completed theoretical framework to judge the school environment. This judgement should be performed by traffic safety experts. Which environmental adjustments are missing in the school zone can be made clear in that way;
3. Determine the current perceived traffic safety by the parents. This can be done by surveying the involved parents. Questions out of the survey used for this research can be used in this

step. Which of the three issues are perceived the most traffic unsafe can be analysed in this step, using the results of the survey:

   a. Too crowded around school zones;
   b. Too many wrongly parked cars in the environment;
   c. Car drivers not maintaining the speed limit in the environment.

   This step is done in order to prioritize the possible adjustments and need to be judged for every individual school;

4. Analyse the possibilities to obtain the whished perceived traffic safety, using the results of the previous steps. Where the possibilities lie, to positively influence the perceived traffic safety, can be determined in that way. If, for example, both the objective as the subjective score is low for a school on an issue, than it is best to invest money in that issue.

It is more wise for municipalities to look for ways to invest their money on objective low scoring elements. But if the subjective score on that element is unexpected high, it has no use to invest more money on that element.

PREFACE

This Master thesis is the final assignment for the Master Transport, Infrastructure and Logistics at the TU Delft. The research has been performed at the municipality of Werkendam. From November 2014 until September 2015 I have been working on this assignment next to my normal work during the week. Working on the thesis has been very intense in both time consuming elements and mental aspects. Although the downsides of the long, hard working days, the results of it are very satisfying for me.

For all the work done, I owe a lot of people a big thank you. Without them, this thesis would not be possible. Some of the people where more involved and I would give them a special thank you. In the first place I want to thank my colleagues at the municipality of Werkendam. They all supported me during my research and were very helpful when I needed critics at my work from outsiders. For example, they helped me a lot when setting up the survey for the research. I want to name some people in person, because they deserve a personal position in this preface. For the research I also involved primary schools in the municipalities of Woudrichem and Aalburg. That is the reason I especially name Janneke Schoonen from the municipality of Woudrichem and Sjanie van Trigt from the municipality of Aalburg. Without these 2 people I could not expand my research area. Form the municipality of Werkendam I would like to name 2 people who are involved in traffic matters in that municipality, namely Renate van Schaijk and Arne Schouten. Renate supported me during the measurements outside and gave useful practical advices during the research. A very special thanks to Arne Schouten. Arne was my daily supervisor at the municipality and reviewed all of my work critically. Besides that and that is also important, we had the opportunity to laugh a lot during the research.

Also, I received a lot of feedback on the research from outsiders. Some of them I would like to thank especially. From the VVN I would like to thank Bastiaan Pigge and Margot Blaauw for their help during the formation of the survey. For the involvement of the schools I would like to thank Yvonne Baart, she was responsible of getting the schools enthusiastic for my research. For critical academically underpinned critics I would like to thank Geertje Hegeman from Royal HaskoningDHV. She has been working on the subject way longer than me and the way she was enthusiastic about my work and her useful comments supported me very much.

Finally I want to thank my family, because of all the support I received during the research. They are very proud of me and that is a feeling I very much liked to receive during my work. Finally I would like to thank my girlfriend Suus for her support along the way, because I recon in the end she must be very tired of subjective and objective traffic safety.

All of the people who gave me insight during the research and maybe only talked about the subject with me: If I didn't name you separately you must know I also thank you for your help.

Werkendam, September 21, 2015

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1. REPORT OUTLINE

This first chapter is used to present the outline of the report. The subjects handled in this chapter step by step are:

- A brief introduction on the subject and a reader for the report;
- The problem area and statement;
- Research and design questions;
- Goal of the report;
- A research design in which the report is modelled in one overview.

1.1. Introduction

Many parents consider the traffic chaos in school zones, where their children go to, an annoyance. Many parents, also because of that fact, drive their children to school by car. These cars block the street in front of the school and cause unclear situations to arise. Parked cars close to the entrance of the school deprive the sight for nearing cars on children. The same works the other way around, because the same cars deprive the sight for the children, who leave the school zone, on nearing cars. Furthermore, there are the bikes of waiting parents just in front of the school entrance and the chaos is complete (VVN, 2015). This happens during the start and ending of the school days. Among the reasons for bringing the children to school by car is the increasing traffic unsafety (van der Velde, et al., 2012; VVN, 2015). But it is just because of all the extra vehicles the school environment loses its overview for the users and sometimes the environment even becomes chaotic. This vicious circle is visualized in Figure 1.

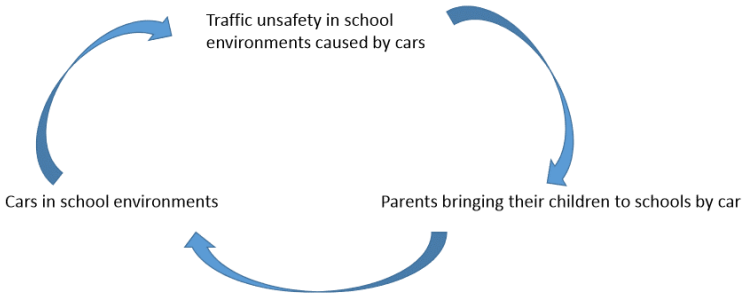


Figure 1: Vicious circle (XTNT, 2014)

Using the car when bringing the children to and picking them up from school is increasing (VVN, 2015). Many reasons for this, besides the already mentioned traffic unsafety in school zones, can be named:

- More and more dual earners exist, plus many families own two cars and then the children are brought to school on the way to work by the parents;
- The distance towards school is increasing and it becomes more crowded on the roads. These are two elements which cause the traffic unsafety to increase for the children on their way to school;
- Also the convenience for the parents cannot be neglected.

The age at which children are brought to school is increasing. This has a negative impact on the development of children. This means children are “traffic wise” at a later age, gain knowledge in social situations at a later age, their condition is becoming less and they stay depended on their parents longer (VVN, 2015). To become “traffic wise” at a younger age is beneficial for society since in that way the general traffic safety will improve. Furthermore, municipalities profit because walking and cycling are sustainable transport means and they tend to improve the liveability of regions (Metz, 2013). Besides that, inactivity during childhood has been associated with increased risk of obesity and related diseases (Carver, et al., 2008). Walking and cycling to school represents

an opportunity for children to achieve regular physical activity. This behaviour may be influenced by characteristics of the environment around homes and schools (Panter, et al., 2010).

On the other hand, only 12% of the parents bring their children to school by car every day. But another 49% of the parents sometimes bring their children to school by car (XTNT, 2014). This fact indicates the problems have an incidental character. However, many schools in the Netherlands exist where (parked) cars cause problems and decrease the traffic safety in the school environments. Municipalities should act pro-active when it comes to designing school environments safe for traffic (DHV, 2012). Therefore the wish for municipalities and schools is to make sure more children travel to school by bike and/or walk to school and in that way lower the presence of cars on the one hand. On the other hand it is needed to make sure to travel by car for the parents is still possible, when it is bad weather for example (XTNT, 2014).

The Fietsersbond and VVN organisations recently claimed the developments in schools are alarming when it comes to traveling of the children. They claim for the traffic wise development of children it is very important children cycle to school at a young age. However in the current perspective it is too crowded with cars in school environments, mostly because parents preferably bring their children to school by car (Voermans, 2015).

Also important to mention is according to statistics the number of accidents in school environments does not prove the school environments are traffic unsafe. However, the feeling of traffic unsafety is present. This means the school environment is not so much unsafe for traffic in terms of objective numbers, meaning number of (registered) accidents that occur. The environments are more unsafe for traffic in terms of subjective measurements, meaning the feeling of traffic unsafety is present (van den Bos, 2013). But as the former German scientist Albert Einstein already said:

“Facts are facts and perception is reality”

This statement implies that subjective traffic safety is the perceived reality for users and therefore is even of more importance than what numbers say about the traffic safety in school environments.

An important condition, when one wants more children at least not to be brought by car to school by the parents, is the traffic safety to improve. Right now both the traffic safety in the school zone and the traffic safety on the school route only score an average six on a scale from 1-10. To influence the way the children travel this score needs to increase (XTNT, 2014).

Objectively measurable neighbourhood and route factors are associated with walking and cycling to school (Panter, et al., 2010). A very important factor why people bring their child to school by car is the perceived traffic safety in the school zones (XTNT, 2014). Municipalities in their role as road authority have the ability to influence the perceived traffic safety by the parents by influencing the objectively measurable neighbourhood factors that influence the way children travel to school. Which factors influence this is not known and this knowledge gap is tried to analyse in this research. That is of course if this relationship indeed does exist. This last statement also will be investigated in the report. A short report outline is presented below to guide the reader through the report.

In this short introduction it is tried to place the subject in the current perspective and to show the relevance of the research. In the next chapters the reader will be guided through the presented research:

- In this first chapter the outline of the report will be presented. This indicates the problem statement, the research scope and question(s) and the goal of the report. Besides this the research design will be presented;
- The subject traffic safety in school zones will be explained in more detail in the second chapter. In order to evaluate the measurable components in school zones, which influence the perceived traffic safety, also the theoretical framework, which will be used throughout the research, will be presented in this chapter;

- In order to evaluate the assumption that the subjective traffic safety can be influenced by environmental adjustments, a sample of schools is determined in the third chapter;
- The results of the measurements performed in the research, at the schools acting in the sample, are presented in chapter four;
- In order to evaluate the perceived traffic safety in school zones, first needs to be determined what the subjective traffic safety feeling of the users is. How this is going to be measured and what the outcomes of the performed measurements are will be presented in the fifth chapter;
- In the former chapters both the objective and subjective traffic safety are evaluated. The results of both evaluations will be compared in the sixth chapter;
- Finally, as a last step in this study, a policy advice will be given on how to implement the gained knowledge into municipalities' policies. Belonging to this advice are two case studies, on schools out of the sample, where the perceived traffic safety has been measured. In the case study will be shown how the advice can be used by municipalities.
- Chapter eight concludes the research and will give recommendations for further research.

1.2. Problem area and problem statement

First the problem area of the research and after this the problem statement are presented.

1.2.1. Problem area

Careful design of areas with high exposure of children to traffic, such as school environments, has been the topic of many studies. In 2008 for example the Dutch knowledge institute CROW has given specific attention on this topic in their manual on traffic safety. They say primary schools most of the times are located in residential areas. Because these residential areas tend to be very crowded among the peak hours, when the school starts and ends, this can lead to traffic unsafe situations, mostly near the larger primary schools (CROW, 2008). Furthermore, the CROW has separated guidelines for other topics concerning traffic safety. Among these topics is also the design of school environments. The topic is even more investigated in the publication "Samen werken aan een Duurzame Veilige schoolomgeving/Working together towards a Sustainable Safe school environment" from 2003 (CROW, 2003). In the Netherlands, the manuals of the CROW are most of the time used as a guideline when designing new or adjusting existing residential areas. However, in the Netherlands no formal guidelines, or required fulfilments of school zones, exist (DHV, 2012). The gap in timing suggests the following: since approximately 2003 the idea was the guidelines presented by the CROW in 2003 would give enough support when designing (new) school environments. The lack of formal guidelines is again acknowledged in 2012, almost ten years later.

Many studies on traffic safety around school environments are formed by individual municipalities and not based on formal guidelines (Kreeft, et al., 2013; van den Bos, 2013). Among municipalities there exists the wish for stricter recommendations. The indicated knowledge gap can most of the times not be filled out of the own budget of the municipalities (Kreeft, et al., 2013).

Some municipalities already have their own set of requirements or guidelines when it comes to safe for traffic designing their school zones (DHV, 2012; RA Infra, 2013). On the other hand many municipalities do not have those requirements or guidelines. They most of the time use the guidelines of the CROW for safe for traffic designing of the school environment. However, these guidelines do not focus specific on school zones. Already explained there are no formal guidelines when it comes to designing school zones. However, school zones are in need of another approach since its surrounding is different (CROW, 2008).

Based on the exploratory literature study performed on the subject it would seem for now there is a need for municipalities for a more clearly formulated process design when it comes to safe for traffic designing of their school environments based on the subjective feeling of involved people. This knowledge gap is a chance for a useful and asked-for research.

The guidelines for different environments are preferably based on numbers and indicators which are available. The search for these numbers is presented in the research. Objective traffic safety has to do with the (registered) number of road casualties, while subjective traffic safety refers to people feeling unsafe in traffic or, more generally, to anxiety regarding being unsafe in traffic for oneself and/or others (SWOV, 2012). Both of the subjects are tried to capture in this research and are being handled in the problem statement.

1.2.2. Problem statement

The mentioned topics and knowledge gap in the problem area lead to the following problem statement which is the guidance for the remainder of the research:

"In the Netherlands designing school environments safe for traffic has had the attention for many years. Although, there are no guidelines for the municipalities when it comes to designing school environments safe for traffic based on a measured subjective feeling of traffic safety. Therefore, the related problem is two-folded. The first problem scope is to try to link the subjective feelings of traffic safety with environmental adjustments. The second problem scope is to give municipalities a more explicit approach to improve the perceived traffic safety in school environments."

Assumption

The assumption for the first problem scope is, that it is indeed possible to link the subjective feelings with objective measurable neighbourhood factors. This is however not a given fact and will be evaluated in the research. It is however assumed that this translation is possible and therefore the second problem scope is presented. This means the following assumption will be evaluated with the help of the presented research:

"It is possible to influence the perceived traffic safety in school environments by the parents by environmental adjustments."

1.3. Research scope

The problem statement presented in paragraph 1.2.2 is the starting point for the research. Furthermore, the area of opportunity for this research is outlined by the scope of this research. The mentioned area can be divided into four parts:

- A selected section in the possibly to be researched schools (CROW, 2003);
- Traffic safety issues should normally be tackled by the so-called three-way-approach human-vehicle-road (CROW, 2003). The selected path investigated in the research is also part of the scope for the project;
- The area in which the research is performed (DHV, 2012);
- What is regarded as traffic unsafe in school zones for this research is explained.

Firstly, the selection among the existing schools is made by choosing to research only the primary schools. This is realistic indeed because the problems introduced are partly caused by parents bringing their children to school. In the Netherlands the average age on which 80% of the children travel to school by themselves was 8,5 years in 1998 (CROW, 2003). Normally children of 8-9 years find themselves in group 5 or group 6. Meaning the occurring problems, as explained in the introduction and further analysed in the problem area, occur at primary schools.

The way traffic safety can be improved demands an integral approach. This means policy makers should focus on the three-way approach: human-vehicle-road (CROW, 2003). This three way approach means, adjustments focussing on only one of the elements will not be sufficient enough to improve traffic safety. Many measures have already been taken and therefore the goal of the research is to evaluate them on their usefulness. In that way an advice can be given on which measures are useful to introduce when for example new school zones need to be designed or existing school zones need to be re-designed. Meaning the primary focus is on the aspect road.

The human aspect is gathered via literature and will be captured by means of a survey. The testing of the suggested measures is not captured in the research. Therefore, in the research it will be evaluated what a municipality could do, in their role as a road authority, to improve the traffic safety in school environments.

The area for where research is performed is the area “Land van Heusden en Altena”. The area is visualized on Figure 2 and consists of three municipalities; Werkendam, Woudrichem and Aalburg. Furthermore, the three named municipalities cooperate on many aspects when it comes to their policies (Samenwerking AWW, 2015).

Figure 2: Map of the area "Land van Heusden en Altena" (Gemeente Werkendam, 2015)

The area in which the measures are taken matters. This means if the school is lying in an urban or rural area (DHV, 2012). The municipalities in the area ‘Land van Heusden en Altena’ lie in rural areas. The car ownership in rural areas, such as in “Land van Heusden en Altena’, is higher than in urban areas (Jeekel, 2010). Already stated in the introduction one cause of the perceived traffic unsafety around school zones is the increasing use of cars when bringing the children to school. This could imply the rising problems in school environments are maybe even bigger in towns and villages in the area “Land van Heusden en Altena” compared to other parts of the Netherlands. Interestingly enough the assumption is there that in rural areas the dependency on cars is larger than in urban areas, because of the distances towards the schools. In Table 1 is shown this dependency is not the case as much as expected investigated by the organisation KpVV in 2003 (KpVV, 2013). For 88.4% of the children in very rural areas the school lies within 2 kilometres of their home. This fact indicates the dependency is not as high as expected on the one hand. On the other hand the car ownership indeed is higher in rural areas. Performed research by XTNT, with the VVN as a client, concluded in 2014 the focus of the VVN needs to be in (heavy) urbanized regions when traffic safety in school zones is at stake (XTNT, 2014). The focus of the research is on rural areas, independent on previous research.

Table 1: Reachability of primary schools: percentage of the population per distance class, based on urbanization of the zip code

Distance towards primary school	Very urbanized region	Strong urbanized region	Moderate urbanized region	Low urbanized region	No urbanized region	Average value for the Netherlands
0-1 kilometre	99.1	96.8	92.6	86.7	71.8	89.7
1-2 kilometre	0.9	3.0	6.6	10.0	16.6	7.3

2-3 kilometre	0.0	0.1	0.6	2.4	7.8	2.1
3-4 kilometre	0.0	0.0	0.2	0.7	2.7	0.7
4-5 kilometre	0.0	0.0	0.0	0.1	0.8	0.2
>5 kilometre	0.0	0.0	0.0	0.1	0.3	0.1

Source: (KpVV, 2013)

The client for the research conducted is the municipality of Werkendam in the Dutch province of Noord-Brabant. Because in general municipalities in the Netherlands have to deal with traffic unsafety around school zones they are interested in this research. Furthermore, the municipality of Werkendam is increasing in its population until at least 2030 (CBS, 2012; Provincie Noord-Brabant, 2014). This could mean new schools are necessary in the future. These schools need to be designed traffic safe. Already in the very nearby future they even plan to develop new schools in their surroundings in a way that is safe for traffic (Werkendam.net, 2013). These schools will be a replacement for existing schools. Already explained the investigated area will be expanded into all three municipalities of the area “Land van Heusden en Altena”. This area consists of three different municipalities; Werkendam, Woudrichem and Aalburg. Werkendam is named separately because this municipality is the formal client for the research. Also the municipalities of Woudrichem and Aalburg will increase in its population until at least 2030 (Provincie Noord-Brabant, 2014). So in the end this will mean the population in the area “Land van Heusden en Altena” will increase until at least 2030. If this will mean the need for new schools is increasing, is a question which will not be answered in the research. What it will mean is the environments will become more crowded and the overlook, which is at stake already, will become worse. The possible translation of the concluding measurement list for the whole of the Netherlands will be evaluated at the end of the research.

In 2010 a number of organisations tried to find a way to quantify subjective traffic safety. The organisation Veilig Verkeer Nederland (VVN) surveyed its members and the CROW checked the outcomes. Both organisations quantified subjective traffic safety in the same way.

To summarize the research scope the most important scoping issues will be repeated:

- The conducted research will be performed in primary school zones;
- The research focuses on measures already taken elsewhere and they can be evaluated on their usefulness;
- The research is performed at schools in the area “Land van Heusden en Altena” where the client of the research lies in. The area “Land van Heusden en Altena” is a rural area and therefore the schools are comparable and the recommendations made can be general for the whole area;
- To generalize the obtained results for the whole of the Netherlands will be difficult. The obtained results will only be useful for schools lying in specific areas. However, the generalization of the results for the rest of the Netherlands will be performed in the conclusion;
- What is regarded as unsafe for traffic has already been quantified by research organisations in the past.

1.4. (Sub) research and (sub) design questions

Because the presented problem statement is two folded there is a set of two research questions, which will be answered at the end of this report.

First to evaluate if indeed there is a relation between the objective and subjective traffic safety in school zones, the first research question is formulated as:

- **Is there an objective base for the perceived traffic unsafety in school zones?**

Secondly, if the first research question is answered, the second main research question is about the application of the gained knowledge, by answering the first research question, and formulated as:

- **What guidelines should school environments fulfil in order to improve the perceived traffic safety in the environments?**

The research focuses on one aspect, the traffic safety in school environments. The way the research approaches this subject is two folded. One approach is that of the objective traffic safety. The other approach is that of the subjective traffic safety. In the end the two approaches will be analysed together in order to have a general way to approach traffic safety in school zones. This will be made more clearly in one overview later on.

- **What is nowadays regarded a safe for traffic school environment? (chapter 2)**
- **Which schools in the area "Land van Heusden en Altena" are regarded enough safe for traffic or unsafe for traffic to act in the sample of eight schools? (chapter 3)**
- **Can subjective traffic safety in school environments be linked to measurable elements? (chapter 4)**
- **What is the measured behaviour of car users in school zones? (chapter 4)**
- **Is the feeling of traffic safety surveyed by the VVN in 2010 still present among people living in the area "Land van Heusden en Altena"? (chapter 5)**
- **How does the subjective feeling of traffic safety relates to the results obtained by evaluating the traffic safety in school environments? (chapter 6)**

1.5. Goal

In the problem statement and the problem definition the problem is regarded to be present in the whole of the Netherlands. To make a start with the creation of a solution to the problem, a set of municipalities is chosen to act as a case study. With the help of measurements in a sample of schools from the case study it is tried to come up with recommendations, which can act as a set of requirements school environments could follow in order to create (or improve) a safe traffic environment around their schools.

The constraint lies in the fact schools in rural and schools in urban environments differ from each other. DHV have used this separation as well in their study performed in 2012 for the city region of Amsterdam (DHV, 2012). The mentioned schools differ in:

- The percentage of children brought to school by their parents (CROW, 2003);
- The average OD-distance for the children (CROW, 2003);
- Available parking space (Nedap N.V., 2014).

This list already shows the outcomes from the research cannot be translated into recommendations which can act as a decision support system for the whole of the Netherlands, without proper research. This research will not be performed in this study. At the end of the study this translation is tried to perform based on logical reasoning.

The decision support system will be set up in a way, when correctly implemented by municipalities, that the most important reasons for the feeling of traffic unsafety in school zones will be reduced. To conclude this paragraph the main goal for the research can be described as follows:

To come up with a decision support system for municipalities in the Netherlands when designing school environments safe for traffic is at stake

1.6. Research design

The former presented can be summarized into one research design which can be used when one wants to overlook the way the report is set up in one overview. This research design is presented in Figure 3.

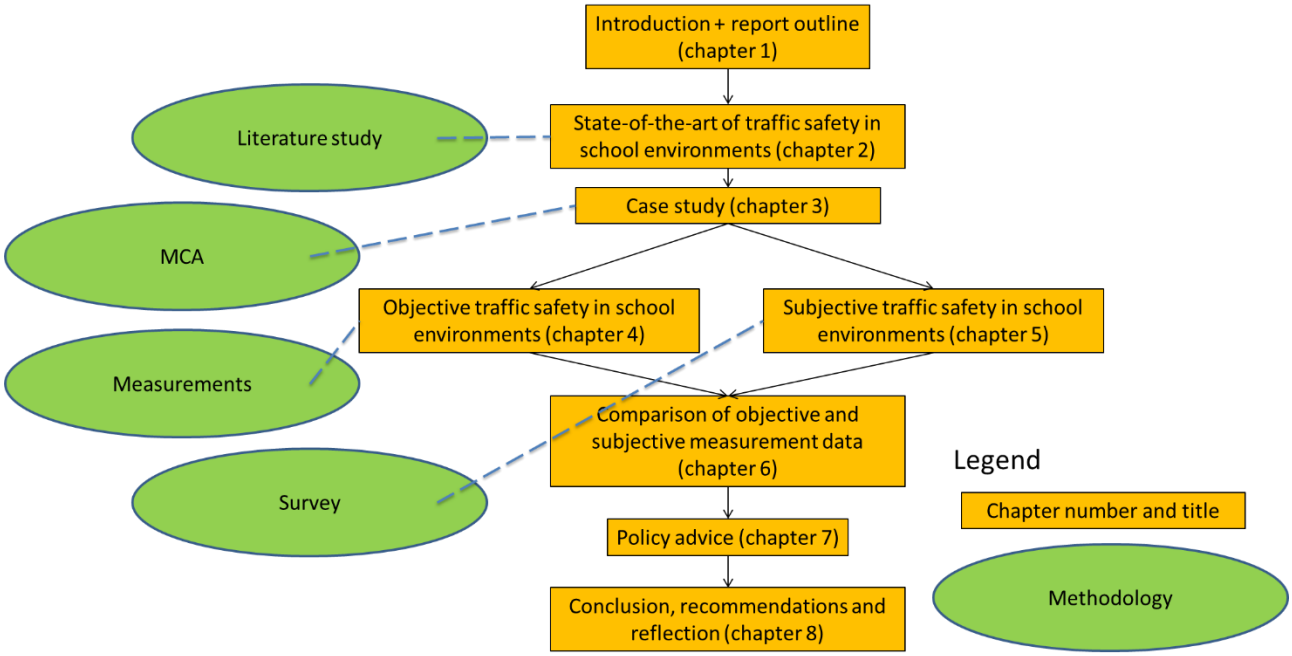


Figure 3: Research design

The chosen methodology is also presented in Figure 3. This will be further explained in the corresponding chapters.

2. STATE-OF-THE-ART OF TRAFFIC SAFETY IN SCHOOL ENVIRONMENTS

In this chapter will be explained what the state-of-the-art is with respect to traffic safety in school environments and what the users think of it. Users in this case are the parents of the children going to the schools. The definition of traffic safety is already mentioned in chapter 1 Report outline but in this chapter the definition is more precisely analysed. First the general problems when it comes to traffic safety in school zones are presented. Then the traffic safety will be presented both in an objective way and in a subjective way. This presented analysis will help to answer the first research question:

What is nowadays regarded a safe for traffic school environment?

Because the subject of describing the traffic safety in school zones is interrelated with the framework used in the research, this theoretical framework will be presented in the second paragraph.

2.1. Traffic safety in school environments

First, it is explained why traffic safety in school zones is sensitive for the involved parents. The chaos around the primary school entrance is a big annoyance for many parents. Parents feel the environment is not safe enough to let their children travel to school by themselves. This is an important reason for many parents to bring them to school by car. These cars block the street in front of the school and cause unclear traffic situations around the entrances. Parked cars near the entrance cause a reduction of the visibility of playing children. The children have less visibility on approaching traffic and traffic has less visibility on the playing children (VVN, 2015).

The paradox about the story above is that most parents are annoyed by the behaviour of…. the parents. The car usage in bringing the children to school is increasing. Several reasons can be mentioned for this situation:

- More and more families consist of dual earners and more families own two cars. Children are often brought to school on the way to work;
- The average distance to the schools are increasing, since the tendency in the Netherlands is to merge schools to bigger ones;
- Furthermore, the car usage is increasing and this causes the traffic safety to lower;
- Besides that, it is just easier to bring your child to school by car, especially in bad weather.

The tendency is children are brought to school even when they are older. This fact has a negative impact on the development of the children. This fact indicates children are becoming ‘traffic-wise’ at a later age, are less experienced in social situations, their condition is becoming worse and they are more dependable on their parents at a later age (VVN, 2015).

Traffic safety in school zones is proven to be a sensitive and much debated subject. Focussing only on the Netherlands nowadays many studies on this subject were carried out recently. This fact indicates the subject is relative and therefore an interesting study subject (KpVV, 2014; Voermans, 2015; VVN, 2015; XTNT, 2014).

Objective traffic safety has to do with the number of road accidents/casualties, while subjective traffic safety refers to people feeling unsafe in traffic or, more generally, to anxiety regarding being unsafe in traffic for oneself and/or others (SWOV, 2012). Both of the elements are analysed further in the next two paragraphs.

2.1.1. Objective traffic safety in school environments

Casualties

In (Veeger, 2009) the objective traffic unsafety among children at a young age is investigated. He states many accidents involving children occur at intersections. Heavy accidents always occur

when the crash involves motorized vehicles. 75% of the youth victims is walking or cycling; the other 25% are car passenger. The majority of the accidents occur in urban areas. In 2007, 36-39 deadly victims between the age of 0-15 were registered (CBS, 2014; Veeger, 2009). One third of the traffic movements of children at the age of 0-12 is school related (Veeger, 2009). These two facts imply around 13 deadly accidents among children travelling to and from school per year.

Whereas Veeger performed his research in 2009 the used statistics can also be used for more recent years. In (CBS, 2014) numbers are given for the year 2013. In 2013 9 deadly accidents occurred with children between the ages of 0-15. If you take the statistics from Veeger that traffic movements of children from the age of 0-12 one out of the three times are school related, this implies 3 deadly accidents among children travelling to and from school in 2013. The target in the Netherlands when it comes to deadly victims in traffic is 500 in the year 2020 (Weijermars, et al., 2008). In the year 2013 a total of 570 deadly victims in traffic occurred (Veeger, 2009).

In 2014 13 young children died cycling (Voermans, 2015). This fact indicates that in 2014 there were even more deadly accidents among cycling children, than in 2013 looking at the whole traffic system. This tendency is at least alarming. This implies there is some work to be done in the coming years to reach the target. Since a large part of deadly victims occur in school environments, or at least travelling to school, a start can be made to make sure school environments are designed traffic safe.

Injuries
Another important issue that needs to be discussed is the number of serious injuries. (SWOV, 2012) Concludes that in the current trend most of the goals set for the year 2020 will not be met. This concerns not only deadly victims in traffic, but also the number of serious injuries. In 2011 the SWOV even concluded nowadays the number of serious injuries because of traffic accidents is increasing (Wijlhuizen, et al., 2012). As an example of the negative tendency; in 2007, 2000 serious injuries occurred among children participating in the traffic system (Veeger, 2009).

If you compare the two reports the SWOV published one important cause of the increasing number is the accidents involving cyclists. The modal split in travelling to school by bicycle in the Netherlands of primary schools pupils is around 30% (CROW, 2003). This, in combination with the previous text, implies that accidents do occur at school zones. Objective traffic safety indicates the (registered) number of accidents. School zones however, are not traffic unsafe based on the analysed known accident data. The seriousness of the accidents that do occur in school zones is too little and therefore registering them is not done often (van den Bos, 2013).

2.1.2. Subjective traffic safety in school environments

In 2010 a number of organisations tried to find a way to quantify subjective traffic safety. The organisation Veilig Verkeer Nederland (VVN) surveyed its members and the CROW checked the outcomes. Both organisations quantified subjective traffic safety in the same way. The CROW used objective data from a database, from the organisation ‘SOAB advisers’, which has been collecting data since a couple of years. The VVN performed a survey among its members (Slinger, 2015). Since the perceived traffic safety will be investigated in this research, the outcomes of the survey of the VVN are useful. Both organisations investigated what the three most unsafe situations in school zones are (Fietsberaad, 2010; Slinger, 2015; van den Bos, 2013):

- Too crowded in the school zone;
- Wrongly parked cars;
- Not maintaining the speed limit in the environment.

The answer on the first sub question is a constraint for the rest of the report; because that is the way the subject will be handled. Because the subjects of developing the framework and analysing what is regarded as safe for traffic in school environments are very interrelated, the design of a theoretical framework, to be used for the judgement for the schools, is presented in the next paragraph.

2.2. Traffic safety framework

The framework is set up to pick the sample of schools where the measurements are to be performed. How the measurements precisely were carried out will be presented in chapter 4. The choice of selection criteria is supported by a literature review of the aims of the study and the lines of enquiry being pursued (Ritchie & Lewis, 2003). First a review of relevant literature of former research will identify characteristics that have an impact on the subject. In the end, the environmental adjustments from literature are translated into a theoretical framework. This can act as a comparison tool for the schools which can act in the sample.

2.2.1. Literature review

The main goal of the literature study is to come up with a list of environmental adjustments which help to improve the traffic safety around school zones. The literature study is divided into three categories:

1. Existing guidelines of renowned knowledge institutes;
2. Documents from (foreign) governmental institutes;
3. Academic papers.

To provide the reader with an overview of all consultant literature, a summary of this is presented in Table 2. In this table it is already indicated in which literature the measurable qualitative environmental adjustments are found. In the last column is indicated in how much articles the mentioned adjustment is found.

Table 2: Measurement list

	CROW (2003)	CROW (2008)	VVN (2009)	Visser, Hegeman & Bakker (2012)	Schouten (2011)	DHV (2012)	RA Infra (2013)	van den Bos (2013)	Kreeft, Tiggeloven & Hom (2013)	Spittje & Wansink (2004)	van der Velde, Mijnders & van de Lindeloof (2012)	De Mol, dHollander & Lauwens (2005)	Kerr et. al. (2006)	Bach and Zomervrucht (2009)	Fietserbond (2013)	Total
30km/h	x	x	x				x			x			x		x	7
safe-street crossing/Platform/no-parked cars/side curbs	x		x		x	x	x		x	x						7
Enough room for: waiting parents/biking parents/biking children			x		x		x		x	x					x	6
take-over restriction	x				x		x			x						5
stop-restriction near entrance	x				x		x			x						5
Inside 25 metres (or more) of the school exit no parked cars			x		x		x	x							x	5
Car restriction in school zones			x		x		x								x	4
self-explaining road	x	x							x		x					4
Marking school-zone + vertical element (start schoolzone discussion)				x	x	x	x									4
Avoid car movement by the location of for example parking spots					x		x	x	x							4
Location "Kiss and Ride", not to close to entrance and no crossing						x	x								x	3
Desing the school zone as "erven"														x	x	2
Parking spot for schoolbus without street crossing			x		x											2
Seperated entrance for pedestrians/cyclists					x		x									2
Local speed-restriction					x		x									2
Overview for the children								x	x							2
speed-restriction measurements distance		x														1
exit fences			x													1
Prohibit heavy traffic					x											1
Other materials in school zones then on connection roads							x									1
One-way restriction							x									1
Speed restriction in school zones (Belgian measure)												x				1
Solitary bicycle paths connecting the school with the environment															x	1

The three mentioned categories are all analysed in Appendix A; Literature Review.

2.2.2. Theoretical framework

The goal of the presented literature review is to come up with a theoretical framework that can act as a comparison tool when selecting the schools going to act in the sample. This framework will contain the elements on which the different schools can be judged.

Some elements named in Table 2 can be combined into one element in the theoretical framework. To show what this means two examples are given:

According to the measurement list the speed limit in the environment should be 30km/h. This fact can be combined with the environmental adjustment of a ‘separate speed limit in the school zone’. These two environmental adjustments together form the element ‘speed restriction environment’.

Another example is the same environmental adjustment ‘speed limit in the school zone’ and the adjustment ‘local speed restriction’. Those can be combined into the element ‘local speed restriction’.

For the translation into the theoretical framework sources that only name the specific measurement once are deleted. Since that specific source probably only is written for that specific measurement. The translation into the theoretical framework is presented in Figure 4. The theoretical framework

in this case says something like; a safe for traffic school environment should preferably have…. The measurements list presented has almost just as many elements as the theoretical framework. The main difference between the two lists is the naming of the elements and to make it easier to compare them and perform the judgement on the schools later on.

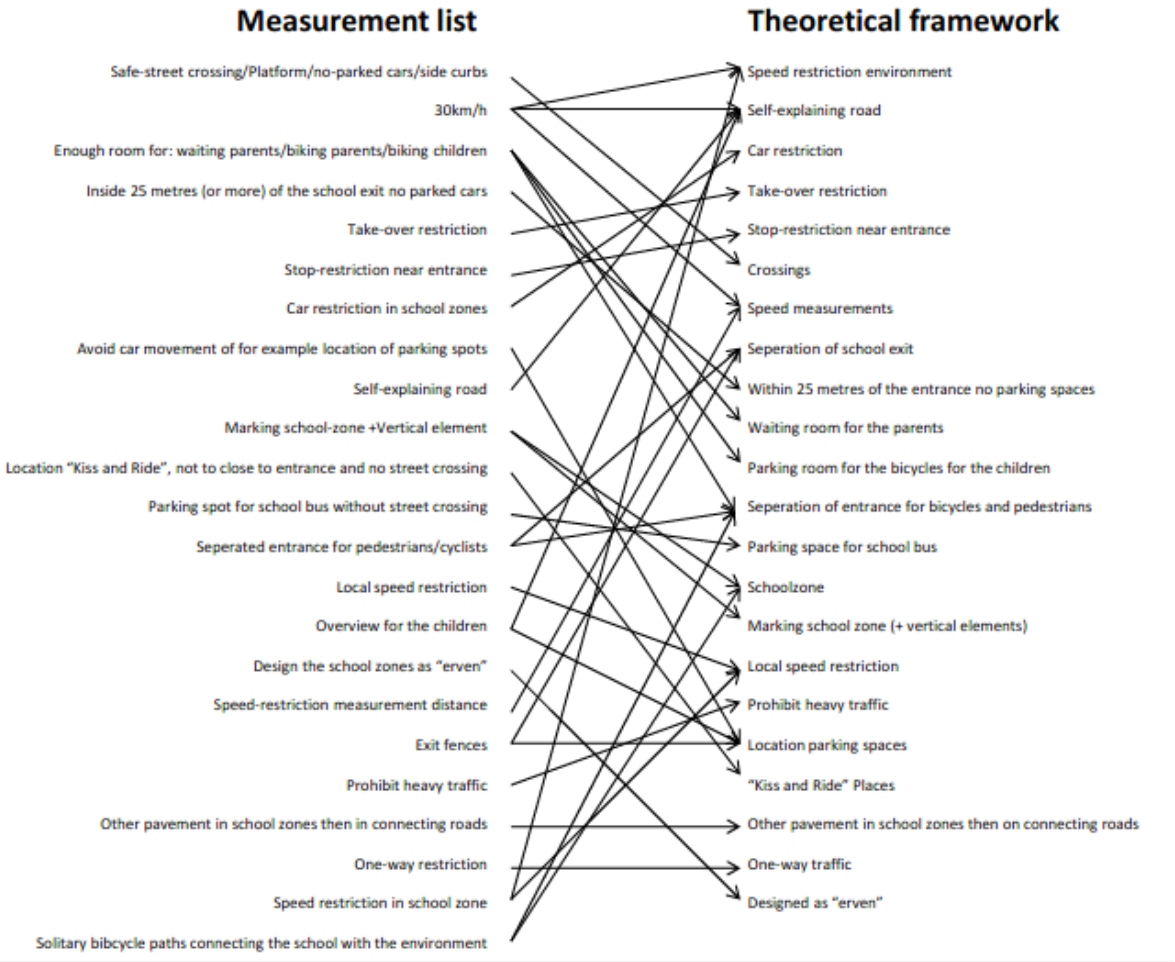


Figure 4: Translation of the measurement list into the theoretical framework

The elements can be categorized into the three causes for the perceived traffic unsafety in school zones, as mentioned in paragraph 2.1.2. This clustering is also presented in this paragraph below in Table 3. The clustering of all the elements is done mostly by logical reasoning of the writer of the report and discussion among involved experts.

The theoretical framework will be translated into a checklist that is used to analyse all the schools in the area "Land van Heusden en Altena". An example of such a checklist can be found in Appendix B; Example Check List. Analysing the schools, with the help of the checklist, is presented in the next chapter.

Table 3: Clustering of the elements in the theoretical framework

Too crowded in the school zone	Wrongly parked cars	Not maintaining the speed limit in the environment
Design of intersections	Stop-restriction near the entrance	Speed limit environment
Waiting room for the parents	Within 25 metres of the entrance no parking spaces	Self-explaining road
Parking room bicycles for the children	Location parking-spaces	Take-over restriction
Marking school zone (+vertical elements)	“Kiss and ride” places	Local speed limit
Seperation of school exit	Parking space for school bus	Speed measurement
Other pavement in school zones then on connecting roads		
One-way traffic		
Seperation of entrance for bicycles and pedestrians		
Car restriction		
Existence of schoolzone		
Prohibit heavy traffic		
Designed as woonerfs		

It is acknowledged the formation of the theoretical framework involves a degree of ingenuity and lateral thinking. However, in the end the elements named in the list are indeed the elements named in literature without hesitation. The same holds for the translation into the checklist.

Answer on research question
The presented theoretical framework is strongly interrelated with the current perspective on traffic safety in school zones. Therefore, the checklist as well as the analysis of both objective and subjective traffic safety, is the answer on the first sub research question. This indicates:

- Objective traffic safety indicates the (registered) number of accidents;
- Subjective safety in traffic refers to personal feelings of safety, or, more general, the concern for road safety for themselves and / or others.

These two definitions and the analysis performed in the chapter shows school zones are more subjective indicated as not being a safe for traffic environment then it is objective indicated. The complaints investigated for the research are:

- Too crowded in the school zone;
- Wrongly parked cars;
- Not maintaining the speed limit in the environment.

3. CASE STUDY

Already explained in the introduction is the creation of the sample of schools in which the measurements are performed, an intensive part of the research. Namely, the traffic safety in the school zones in the area “Land van Heusden en Altena” is also analysed subjectively by means of a survey among involved parents. The results of this survey will be analysed next to the measurements. Where the measurements are performed, meaning at which schools, is going to be explained in this chapter.

It is a general feature of social enquiry to design and select samples for study (Ritchie & Lewis, 2003). Even if a study involves very small populations or single case studies, decisions still need to be made about people, settings or actions (Burgess, 1982). Sampling is required simply because the researcher cannot observe or record everything that occurs (Hammersley & Atkinson, 1995; McCall & Simmons, 1969).

This chapter is devoted to the design and selecting the sample for the qualitative research performed. There are a number of different types of sampling strategies in qualitative research. The best suited for this research will be explained in the first paragraph. When the sampling strategy has been determined the sample size can be analysed. After the determination of the sample size, the sample frame for the design can be generated. The next step is to decide which criteria will be used for the selection of the sample. Then in the end of this chapter the purposive sample will be presented. This is the answer on the second sub research question:

Which schools in the area “Land van Heusden en Altena” are regarded enough safe for traffic or unsafe for traffic to act in the sample of eight schools?

3.1. Sampling strategy

When sampling strategies for social research are explained, a key distinction is made between probability and non-probability samples. Probability sampling is generally held to be the most rigorous approach to sampling for statistical research, but is largely inappropriate for qualitative research (Ritchie & Lewis, 2003).

Qualitative research uses non-probability samples for selecting the population for study. In a non-probability sample, units are deliberately selected to reflect particular features or groups, within the sampled population. The sample is not intended to be statistically representative. The chances of selection for each element are unknown but, instead, the characteristics of the population are used as the basis of selection. Therefore, the strategy used in creating the sample of primary schools is the non-probability sampling strategy.

The study population for the sample consist of the 31 primary schools in the area “Land van Heusden en Altena”. In the municipality of Werkendam there are 13 primary schools situated and in the municipality of Woudrichem 11 schools. Finally, in the municipality of Aalburg there are 7 primary schools situated. The study population is presented in Table 4.

Table 4: Alternatives primary schools in the area "Land van Heusden en Altena"

Municipality of Werkendam		**Municipality of Woudrichem**	
Name school	**Place**	**Name school**	**Place**
Ds. Joh. Groenewegenschool	Werkendam	obs Ravelijn	Woudrichem
Het Baken	Werkendam	nbs Oudendijk	Oudendijk
t Kompas	Werkendam	obs De Almgaard	Almkerk
Burg. Sigmond	Werkendam	gbs De Halm	Almkerk
De Akker	Werkendam	cbs d'Uylenborch	Almkerk
De Morgenster	Sleeuwijk	cbs De Zaaier	Andel
Burg. Verschoor	Sleeuwijk	Ds. G. Voetiusschool	Andel
cbs De Regenboog	Nieuwendijk	cbs Waardhuizen	Waardhuizen
De Bolderik	Hank	**Municipality of Aalburg**	
De Wilgenhoek	Hank	**Name school**	**Place**
De Peppel	Dussen	obs J.H. Dunant	Aalburg
De Sprankel	Dussen	cbs De Hoeksteen	Aalburg
obs De Regenboog	Dussen	cbs Het Fundament	Genderen
Municipality of Woudrichem		De Bogert	Eethen
Name school	**Place**	cbs De Ark	Meeuwen
De Parel	Giessen	obs Den Biekûrf	Babyloniënbroek
De Parel	Rijswijk	cbs Oranje Nassauschool	Veen
cbs Eben Haëzer	Woudrichem		

In this sampling strategy the selection of participants, settings or other sampling units is criterion based or in other words purposive. Purposive sampling is precisely what the name suggests. Members of a sample are chosen within a 'purpose' to represent a location or type, in relation to a key criterion. This has two principal aims. The first is to ensure that all the key constituencies of relevance to the subject matter, are covered. The second is to ensure that, within each of the key criteria, some diversity is included so that the impact of the characteristic concerned can be explored. To make sure the sample chosen reflects the elements needed to conduct the research the selection of sample schools indeed is intended to be performed by purposive sampling. This sampling strategy will be explained below and used in the sample frame set up.

There are a range of different approaches to purposive sampling, designed to yield different types of sample composition, depending on the study's aims and coverage. The approach best suited in this case is heterogeneous samples or in other words maximum variation sampling, where there is a deliberate strategy to include phenomena which vary widely from each other. The aim is to identify central themes that cut across the variety of cases. The central themes are chosen to represent the given definition in chapter 2. Already explained the three most mentioned unsafe happenings are:

- Too crowded in the school zone;
- Wrongly parked cars;
- Not maintaining the speed limit in the environment.

Now the sampling strategy has been determined the needed size of the sample can be analysed in the next paragraph.

3.2. Sample size

Some constraints for the sample size exist and these will be explained in this paragraph. In the end the size of the sample will be determined.

Qualitative samples are usually small in size. There are three main reasons for this (Ritchie & Lewis, 2003):

- First, if the data is properly analysed, there will be a point where very little new evidence is obtained from each additional fieldwork unit;
- Second, statements about incidents or prevalence are not the concern of qualitative research and;
- Third, the type of information that qualitative studies yields is rich in detail. Finally, and related to the third reason, is qualitative research is highly intensive in terms of the research it requires. It would therefore simply be unmanageable to conduct and analyse hundreds of observations.

A number of issues need to be taken into account that constraints the sample size:

- The heterogeneity of the population; the heterogeneity is tried to be taken into account by making sure the area, of which the population must be determined, is big and heterogeneous enough. The population is constrained by the area “Land van Heusden en Altena”. In this area lie three municipalities with different smaller villages. The heterogeneity of the population is derived by making sure all three municipalities are acting in the sample by more than one school;
- The number of selection criteria; the criteria on which the sample is going to be formed is shown in Table 6. The criteria will be divided into only three groups as already explained. The more criteria there are, the larger the sample and of course this works the other way around as well;
- Type of data collection methods; the elements which are going to be measured are very intense in terms of time. This will be explained further on when the subjective traffic safety is presented in chapter 5. The sample size is constraint by the method of data collection;
- The budget and resources available; each sample unit will need intensive resources from the municipalities for data collection and analysis. The scale of the budget available will therefore place limits on sample size. Furthermore, to make the measurements useful and easy comparable the influences on the measurements, such as the weather and the time of the year, should be made as little as possible. Therefore, the timing frame of the measurements should be put in a short time period, meaning the sample cannot be too big. This last fact also has to do with the resources, in terms of the personal, available.

The four mentioned issues lead to a sample size of eight to be investigated schools on traffic safety. The schools acting in the sample should fit in the sample frame explained in the next paragraph.

3.3. Sample frame

Now that the size of the sample is determined the sample frame can be designed. The sample size and frame are normally elements in the creation of the sample that influence each other. In the report it is chosen to handle the topics separate. In the sample frame a division between the elements is created in order to create a sufficient sample with the eight schools.

Some requirements for the sample frame exist. Samples can be generated in a range of different ways, although not all will be appropriate or feasible for all studies. However, there are some key criteria on which any potential sample frame will need to be judged (Ritchie & Lewis, 2003):

- Does the sample frame provide the details required to inform selection; since all schools are judged and compared among 18 different criteria, divided amongst 3 categories, this key criterion is sufficiently fulfilled. The categorization of the criteria is presented in Table 6. This requirement will be explained in the next subparagraph;

- Does the sample frame provide a comprehensive and inclusive basis from which the research sample can be selected? The 18 different criteria are bundled along the three mentioned aspects; furthermore, the sample can be selected out of 31 different primary schools. Therefore this key criterion also is fulfilled;
- Will the sample frame provide a sufficient number of potential participants to allow for high quality selection?; As a general rule of thumb, the sample frame will need to generate a group of eligible potential participants which is around three to four times the size of the required study sample, to allow scope for selection. Since there are 31 different schools, form which eight schools need to be sampled, this criteria is fulfilled.

The sample frame has six different elements on which the possible schools in the sample will be judged:

- To make sure the heterogeneity, for which the necessity is already explained in paragraph 3.2, is present in the sample the first division is made between the municipalities in the area "Land van Heusden en Altena". Meaning schools in the sample should be divided among the municipalities of Werkendam, Woudrichem and Aalburg;
- Secondly the schools will be divided among the scoring on the criteria groups speed indicators, number of wrongly parked cars and too crowded indicator. In order to fill the sample frame with enough schools from the different municipalities the three highest scoring schools and the three lowest scoring schools are placed in the sample frame. This is also done in order to make it possible to compare the different scoring schools on the criteria among each other.

The sample frame for the research is presented in Table 5. The constraints for the sample frame will be explained in paragraph 3.8 Purposive sample. In the next paragraph the criteria on which the schools are analysed and judged will be explained in the needed stepwise approach.

Table 5: Sample frame

	Municipality Werkendam	**Municipality Woudrichem**	**Municipality Aalburg**
Speed indicator			
Highest three scoring schools			
Lowest three scoring schools			
Number of wrongly parked cars indicator			
Highest three scoring schools			
Lowest three scoring schools			
Too crowded indicator			
Highest three scoring schools			
Lowest three scoring schools			

3.4. Selection criteria

The checklist used for the inventory of the schools is also used for the creation of the sample and presented in Appendix B; Example Check List. This is because the items in the checklist are used as criteria for the sample. The criteria and the bundling of them are presented in Table 6.

This comparison of the alternatives among each other on the different criteria and the stepwise approach in which it is tackled, is mostly copied from the Multi Criteria Analyses method. A Multi

Criteria Analyses (MCA) is a scientific method to support a decision making process. Hereby the possible choices will be assessed and compared on multi criteria (Wijnmalen, 2015). An MCA is a comparison tool created to select and/or compare different alternatives. If needed it is explained in the stepwise approach which of the elements are copied from that method.

In Table 6 some criteria are deleted compared to the theoretical framework presented in paragraph 2.2.2. This implies this criterion is not used when defining the sample because the schools in the set do not differ on that indicator. Meaning it is not possible to differ for that criteria among each other and therefore these indicators are neglected:

- Car restriction; There is no school zone in the area “Land van Heusden en Altena” where cars are totally restricted in the whole school environment;
- School zone; For every school in the area “Land van Heusden en Altena” a school zone is separated. This separation only differs in the way the separation is made clear for users of the environment;
- Prohibit heavy traffic; In no school zone heavy traffic is prohibited;
- Designed as woonerfs; No school zone is designed as woonerfs.

Already presented in Table 6 is the way the judgement of the criteria will take place, this will be further explained in the next paragraph. An example of the criteria used to evaluate the schools is shown on Figure 5.

Figure 5: Example of kiss and ride zone at the school De Almgaard in Almkerk

Table 6: The meaning and the judgement of the criteria used for the sample

Criterion	Meaning	Judgement
Speed limit		
Speed limit environment	How fast are people allowed to drive in the school environment	+; Speed limit is 30 km/h (or less) -; Speed limit is more than 30 km/h
Self-explaining road	Does the environment itself helps maintaining the speed limit	++; The road explains the intended behaviour +; The road explains the intended behaviour of the users, but not for all the roads in the school zone -; Roads in the school zone are of the material tarmac, however the speed limit is believable --; The environment doesn't deduce the speed limit
Take-over restriction	Are cars allowed to pass each other	+; There exist a take-over restriction in the school zone -; There is no take-over restriction
Local speed limit	Is the speed limit in the environment different/lower than in its surrounding (and believable)	+; There is a local speed limit in the school zone -; There is no local speed limit
Speed measurement	Are measures taken to maintain the speed limit if it is regarded needed	+; A believable speed measurement is taken 0; A speed measurement is taken, however it is not believable -; No specific speed measurements are taken
Number of wrongly parked cars		
Stop-restriction near entrance	Near the entrance it is not allowed to stop cars	+; It is not allowed to stop near the entrance 0; You cannot stop near the entrance, however it is not forbidden -; There is no stop restriction near the entrance
Within 25 metres of the entrance no parking spaces	No parking room is reserved within 25 metres of the school entrance	+; No parking spaces within 25 metres near the entrance 0; No parking spaces within around 10 meters of the entrance -; No parking restriction near the entrance
Location parking-spaces	This indicator grades the location of the parking spaces as well as the formation of them	++; Parking spaces alongside the road at the side of the school +; Parking spaces alongside the road but at the other side of the school entrance -; Parking spaces perpendicular on the road at the side of the school --; Parking spaces perpendicular on the road at the other side of the school entrance
"Kiss and Ride" places	Are there parking spots reserved for the so-called "Kiss and Ride" principle	+; "Kiss and Ride" places at the side of the school 0; "Kiss and Ride" places across the school -; No "Kiss and Ride" places

Parking space for school bus	The best parking space is reserved for the school bus/taxi	+; Best parking spot reserved for the school bus/taxis 0; Reserved parking spot, however not the best -; No parking space reserved for the school bus
Too crowded in the school zone		
Design of intersections	This indicator gives a grade for how intersections in the school environment are designed	++; Intersections marked clearly on a speed bump, with zebra crossing markers +; Intersections marked clearly, although one of the indicators is missing -; Intersections are there, however they are missing the indicators --; No intersections designed
Waiting room for the parents	Is room reserved for parents waiting for their children	+; Enough reserved waiting room for parents 0; Little waiting room reserved for parents -; No waiting room reserved for parents
Parking room bicycles for the children	Is room reserved for parking the bicycles of the children	+; Enough reserved parking room for children's bicycles 0; Little parking room reserved for children's bicycles -; No parking room reserved for children's bicycles
Marking school zone (+vertical elements)	How is the school zone indicated	+; Clear, notable and believable marking of the school zone 0; Marking of the school zone is there, however the school zones has a too big size -; The school zones has a too big size and some indicators are missing
Separation of school exit	Is the school exit really separated, so that children cannot run on the street directly	+; The school exit is separated 0; The school exit is separated, but this separation is very minimal -; The exit for the school is not separated
Other pavement in school zones then on connecting roads	The pavement in the school zone itself is different than the pavement used in the connection roads	+; Separation between materials 0; The separation is there, but it is not very visible/clear for the users -; No separation between materials
One-way traffic	In the school zone is one-way traffic obliged	+; There is one-way traffic 0; Not mandatory one-way traffic -; No one-way traffic
Separation of entrance for bicycles and pedestrians	Is there a diversion between entrances of the school	+; The entrances are separated -; The entrances are not separated

3.5. Judgement on criteria

This paragraph provides explanations to Table 6. All the schools are analysed using the checklist created. All the 31 checklists are presented in Appendix C; Inventory Schools. The judgement of the schools is done by looking outside at the schools.

The judgement on the criteria is based on the MCA method. Characteristic for the MCA method is there exist different criteria on which the alternatives are judged (Center for International Forestry Research, 1999; Commissie voor de milieueffectrapportage, 2002; van Herwijnen, 2012). This characteristic for the MCA method is used in the creation of the sample as well. In this case the scoring of the alternatives can easily be compared with each other.

The scoring of alternatives can be presented in different ways. This scoring is called units of measurement (Commissie voor de milieueffectrapportage, 2002). Because the criteria presented in Table 6 will not have a mathematical outcome, but a qualitative score, the units of measurement is chosen to be the plusses and minuses scale. The plusses and minuses scale is a specific example of the ordinal scale. Ordinal scales are used to compare the alternatives if they act better or worse on a criterion than the other alternatives. The plusses and minuses possible to obtain for a criterion are presented in Table 6. In the column judgement the separation of the scale is presented. What has to be taken into account is the diversion between the scores does not represent a linear relationship. Therefore normally it is not possible to create mathematical calculations on the results/scores.

When developing criteria used to analyse alternatives in a Multi Criteria Analysis all the criteria need to be exclusive normally (Commissie voor de milieueffectrapportage, 2002). Since the method used to create the sample is copied from the MCA method this also holds when selecting the sample is at stake. The objective of making sure the criteria measure different outcomes of the system is developed in order to make sure the different judgements do not mix, when in the end comparing the alternatives. It is not come up with to separate all the criteria. In this case the division is tried to make by bundling the criteria. Therefore, in this case this is indicated as sufficient. The results with the plusses and minuses scale for all 31 different alternatives are presented in Appendix D; MCA Plusses and Minuses.

3.6. Standardization

In order to make the scoring of the schools comparable, standardization is used. In this paragraph this method is explained. Criteria can be scored on different scales. In order to compare the scores with each other, the scores need to be displayed on a comparable scale. This is called standardisation (Commissie voor de milieueffectrapportage, 2002).

In order to standardise for the score different alternatives exist (Commissie voor de milieueffectrapportage, 2002). This type of problem of picking the most theoretical safe schools and the most theoretical unsafe schools out of a set of schools can be categorized into a probabilistic type of problem. Since traffic safety in this case can best be translated into a utility function of the system, that standardization method is best suited in this case.

The utility function approximation is a general theory. In this approximation it is about maximizing the utility (Commissie voor de milieueffectrapportage, 2002). In this specific case it is about maximizing the utility of traffic safety. Because it is a standardization method the scores must lie between 0 and 1. The maximum score is the most utilized function, in this case meaning traffic safety.

The differentiation between the scores is already explained in Table 6. This could maybe indicate it is possible to score 0 points on a criterion. But in this case the ‘0-line’ doesn’t exist/doesn’t have a real value. Therefore a linear scale is chosen between 0 and 1 for all criteria as visualized in

Table 7. On the other hand the score 1 is rather arbitrary; it doesn't indicate when that specific criterion is met the environment is safe for traffic for that subject. One has to bear in mind no mathematical relationship exists between what is compared. Therefore no mathematical value can be given on the numbers. It is just a comparison method.

With the help of the standardization it is now possible to compare the alternatives more easy with each other. This is because after the standardization method there are different numbers per alternative. With the help of the numbers some math can be formed for every alternative.

This mathematical transition which is going to be formed for the comparison can be given even more value, when the criteria are graded among each other. This grading of the criteria will be explained in the next paragraph.

3.7. Grading the criteria

The importance of the criteria is analysed based on the performed literature study. This literature study is summarized in paragraph 2.2.1 Literature review. This method is also copied from the method MCA. Two simple techniques that MCA utilises to identify and select relevant criteria are ranking and rating (Center for International Forestry Research, 1999). The division between the importance is chosen to obtain via the technique regular ranking. This technique is chosen because of different reasons:

- The method has the advantage it allows for 'ties'. Since many criteria are chosen and some criteria overlap in what they measure, it is needed to allow for 'ties' in the grading of the importance's;
- Also 'grading' the importance matters in a Multi Criteria Analyses, because in that way the criteria can be compared with each other. Meaning for example a criterion has the importance of four, meaning the indication is four times as important as a criterion which has the importance of one;
- Furthermore, it is needed to separate the criteria on the aspects they grade. This is as explained; speed limit indicators, wrongly parked cars indicators and too crowded in the school zone indicators. Because this separation needs to take place it is inevitable not to use 'ties';
- In order to analyse the importance of the criteria via the technique rating, it is needed to have access to large amount of relevant information. This is not the case in this situation.

The ranks are assigned to a 4 point scale. This is mainly based on an intuitive feeling since the feeling is the differences between the importances of the criteria cannot be too big. The ranking according to a 4 point scale means the grade on the criterion counts 1 time in the final score or 4 times. The importance is analysed based on the number of times the found literature names the specific criterion. For example speed limit of 30 km/h is named in 7 found literature examples and therefore graded with the maximum importance of 4. The one-way traffic circulation is only named once in the found literature and therefore the importance is only taken to be 1. The grading of the importance of the criteria is mostly based on the measurement lists presented in Table 2 in chapter 2. The grading is chosen to be:

- The importance of the criteria is chosen to be 4 if the criteria is named 6 or 7 times in the found literature;
- The importance of the criteria is chosen to be 3 if the criteria is named 5 or 4 times in the found literature;
- The importance of the criteria is chosen to be 2 if the criteria is named 3 times in the found literature;
- The importance of the criteria is chosen to be 1 if the criteria is named 1 or 2 times in the found literature.

There is however an exception for four of the criteria. This exception is explained below:

- The importance for the self-explaining road is rewarded the same as the speed limit, because the feeling is there those criteria are related and deserve the same importance;
- Waiting room for parents and parking room for bicycles of children could earn a criterion of 4, based on the times it is named in the literature. However, the feeling is there this is not as important as the speed limit and the design of the intersections. Therefore the importance is chosen to be 3;
- The location of the parking spaces could earn an importance of three. However the feeling says already there are enough “parking” criteria with an importance of three, so that subject is tackled. Therefore this criterion is given the importance of 2 instead of 3. Examples of the possible differences in the location of the parking spaces are shown in Figure 6 and Figure 7.

Figure 6: Parking space alongside the road at the school De Wilgenhoek in Hank

Figure 7: Example of parking perpendicular of the road at the school Morgenster in Sleeuwijk

The former presented lead to the grading of the criteria presented in Table 7.

Table 7: Standardized score for all criteria and the grade of the criteria

Criterion	Standardize scores between 0-1	Criteria grade
Speed limit environment	1; Speed limit is 30 km/h (or less) (+) 0,50; Speed limit is more than 30 km/h (-)	4
Self-explaining road	1; The road explains the intended behaviour (++) 0,75; The road explains the intended behaviour of the users, but not for all the roads in the school zone (+) 0,50; Roads in the school zone are of the material tarmac, however the limit is believable (-) 0,25; The environment doesn't deduce the speed limit (--)	4
Take-over restriction	1; There exist a take-over restriction in the school zone (+) 0,50; There is no take-over restriction (-)	3
Local speed restriction	1; There is a local speed restriction in the school zone (+) 0,50; There is no local speed restriction (-)	1
Speed measurement	1; A believable speed measurement is taken (+) (2/3); A speed measurement is taken, however it is not believable (0) (1/3); No specific speed measurements are taken (-)	1
Stop-restriction near entrance	1; It is not allowed to stop near the entrance (+) (2/3); You cannot stop near the entrance, however it is not forbidden (0) (1/3); There is not stop restriction near the entrance (-)	3
Within 25 metres of the entrance no parking spaces	1; No parking spaces within 25 metres near the entrance (+) (2/3); No parking spaces within around 10 meters of the entrance (0) (1/3); No parking restriction near the entrance (-)	3
Location parking spaces	1; Parking spaces alongside the road at the side of the school (++) 0,75; Parking spaces alongside the road but at the other side of the school entrance (+) 0,50; Parking spaces perpendicular on the road at the side of the school (-) 0,25; Parking spaces perpendicular on the road at the other side of the school entrance (--)	2
"Kiss and Ride" places	1; "Kiss and Ride" places at the side of the school (+) (2/3); "Kiss and Ride" places across the school (0) (1/3); No "Kiss and Ride" places (-)	2
Parking space for school bus	1; Best parking spot reserved for the school bus/taxis (+) (2/3); Reserved parking spot, however not the best (0) (1/3); No parking space reserved for the school bus (-)	1
Design of intersections	1; Intersections marked clearly on a speed bump, with zebra crossing markers (++) 0,75; Intersections marked clearly, although one of the indicators is missing (+) 0,50; Intersections are there, however they are missing the indicators (-) 0,25; No intersections designed (--)	4
Waiting room for the parents	1; Enough reserved waiting room for parents (+) (2/3); Little waiting room reserved for parents (0) (1/3); No waiting room reserved for parents (-)	3

Parking room bicycles for the children	1; Enough reserved parking room for children's bicycles (+) (2/3); Little parking room reserved for children's bicycles (0) (1/3); No parking room reserved for children's bicycles (-)	3
Marking school zone (+vertical elements)	1; Clear, notable and believable marking of the school zone (+) (2/3); Marking of the school zone is there, however the school zones has a too big size (0) (1/3); The school zones has a too big size and some indicators are missing (-)	2
Separation of school exit	1; The school exit is separated (+) (2/3); The school exit is separated, but this separation is very minimal (0) (1/3); The exit for the school is not separated (-)	1
Other materials in school zone then on connecting roads	1; Separation between materials (+) (2/3); The separation is there, but it is not very visible/clear for the users (0) (1/3); No separation between materials (-)	1
One-way traffic	1; There is one-way traffic (+) (2/3); Not mandatory one-way traffic (0) (1/3); No one-way traffic (-)	1
Separation of entrance for bicycles and pedestrians	1; The entrances are separated (+) 0,5; The entrances are not separated (-)	1

3.8. Purposive sample

The mathematical transitions presented in paragraph 3.7 are performed on all the alternatives and shown in Appendix E; Sample matrix. In that matrix the cells of the three highest scoring schools are coloured green and the three lowest scoring schools are coloured red. The position for every school among each other on the different groups of criteria is also shown in Table 8. In the table the highest scoring school is number 1 and the lowest scoring schools is number 31 in the list.

Table 8: Position schools on bundled criteria

Speed Indicators		Number of wrongly parked cars indicators		Number of cars in area/lack of overview indicators	
1	Oudendijk, Oudendijk	1	Eben Haezer, Woudrichem	1	Oudendijk, Oudendijk
2	De Peppel, Dussen	2	Het Baken, Werkendam	2	Burg. Sigmond, Werkendam
3	Burg. Sigmond, Werkendam		De Peppel, Dussen	3	Het Fundament, Genderen
	De Bogert, Eethen	4	Oudendijk, Oudendijk		Oranje Nassauschool, Veen
5	Kompas, Werkendam	5	De Regenboog, Dussen		Ravelijn, Woudrichem
	Het Baken, Werkendam	6	Kompas, Werkendam	6	De Bolderik, Hank
	Ravelijn, Woudrichem	7	d'Uylenbosch, Almkerk		De Bogert, Eethen
8	Morgenster, Sleeuwijk	8	De Wilgenhoek, Hank	8	Het Baken, Werkendam
	De Regenboog, Dussen	9	Oranje Nassauschool, Veen		J.H. Dunant, Aalburg
	De Wilgenhoek, Hank	10	De Bogert, Eethen		Den Biekurf, Babyloniënbroek
	Het Fundament, Genderen		Ravelijn, Woudrichem	11	De Wilgenhoek, Hank
	Oranje Nassauschool, Veen		De Almgaard, Almkerk	12	G. Voetiusschool, Andel
	G. Voetiusschool, Andel	13	De Akker, Werkendam		Eben Haezer, Woudrichem
	De Zaaier, Andel	14	Burg. Sigmond, Werkendam		De Ark, Meeuwen
	De Parel, Rijswijk	15	ds. Joh. Groenewegenschool, Werkendam	15	De Parel, Rijswijk
	De Parel, Giessen		De Regenboog, Nieuwendijk	16	De Parel, Giessen
	Eben Haezer, Woudrichem		De Bolderik, Hank	17	ds. Joh. Groenewegenschool, Werkendam
	De Almgaard, Almkerk		De Parel, Giessen	18	Morgenster, Sleeuwijk
	De Halm, Almkerk		Waardhuizen, Waardhuizen	19	De Regenboog, Dussen
20	J.H. Dunant, Aalburg	20	De Zaaier, Andel		De Zaaier, Andel
21	De Regenboog, Nieuwendijk	21	Burg. Verschoor, Sleeuwijk	21	d'Uylenbosch, Almkerk
22	De Sprankel, Dussen		De Sprankel, Dussen	22	Burg. Verschoor, Sleeuwijk
	Burg. Verschoor, Sleeuwijk		De Parel, Rijswijk		Kompas, Werkendam
	De Ark, Meeuwen	24	J.H. Dunant, Aalburg	24	De Peppel, Dussen
	d'Uylenbosch, Almkerk		De Hoeksteen, Aalburg		De Sprankel, Dussen
26	ds. Joh. Groenewegenschool, Werkendam		De Ark, Meeuwen		De Hoeksteen, Aalburg
	De Akker, Werkendam		Den Biekurf, Babyloniënbroek		De Almgaard, Almkerk
	De Bolderik, Hank		G. Voetiusschool, Andel		De Halm, Almkerk
	Den Biekurf, Babyloniënbroek		De Halm, Almkerk	29	De Regenboog, Nieuwendijk
	Waardhuizen, Waardhuizen	30	Morgenster, Sleeuwijk	30	De Akker, Werkendam
31	De Hoeksteen, Aalburg	31	Het Fundament, Genderen	31	Waardhuizen, Waardhuizen

With the help of the outcomes presented in Table 8 the sample frame is filled with the appropriate schools. The filled sample is shown in Table 9. If the third best or least scoring school has a score on that set of criterion which he shares with other schools the three highest scoring or lowest scoring are maybe more schools. This fact is indicated in Table 8 when there are more than 3 schools in the box of the matrix.

Table 9: Sample frame filled with appropriate schools

	Municipality of Werkendam	Municipality of Woudrichem	Municipality of Aalburg
Criteria group			
Speed indicator			
Highest three scoring schools	Burg. Sigmond, Werkendam	Oudendijk, Oudendijk	De Bogert, Eethen
	De Peppel, Dussen		
	ds. Joh. Groenewegenschool, Werkendam		De Hoeksteen, Aalburg
Lowest three scoring schools	De Akker, Werkendam	Waardhuizen, Waardhuizen	Den Biekurf, Babyloniënbroek
	De Bolderik, Hank		
Number of wrongly parked cars indicator			
Highest three scoring schools	Het Baken, Werkendam	Eben Haezer, Woudrichem	
	De Peppel, Dussen		
			Den Biekurf, Babyloniënbroek
		G. Voetiusschool, Andel	Het Fundament, Genderen
Lowest three scoring schools	Morgenster, Sleeuwijk	De Halm, Almkerk	De Ark, Meeuwen
			J.H. Dunant, Aalburg
			De Hoeksteen, Aalburg
Too crowded indicator			
Highest three scoring schools	Burg. Sigmond, Werkendam	Ravelijn, Woudrichem	Het Fundament, Genderen
		Oudendijk, Oudendijk	Oranje Nassauschool, Veen
Lowest three scoring schools	De Akker, Werkendam	Waardhuizen, Waardhuizen	
	De Regenboog, Nieuwendijk		

What can be seen in the sample frame in Table 9 there are 21 different schools which could possibly act in the sample. Therefore to finally choose the schools to act in the sample some constraints for the sample will be presented as already explained in paragraph 3.7:

- The schools in the sample are going to be divided between the involved municipalities because of the needed heterogeneity which is already explained in chapter 3.2 Sample size. This division is based on the ratio of the number of inhabitants in the municipalities which is 2:1:1 (Werkendam, Woudrichem, and Aalburg). This would indicate a separate division when creating a list of 8 schools of 4:2:2. This means 4 schools in the municipality of Werkendam and 2 schools both in the municipality of Woudrichem and the municipality of Aalburg;
- Since the research is set up to evaluate every complaint of the three mentioned aspects and therefore the bundling of the criteria took place it can be constrained it is needed for at least one school to act in the sample for every set of indicators out of highest scoring and lowest scoring schools. This also makes it possible in the end to compare the highest scoring and lowest scoring schools with each other.

Already is presented eight schools should act in the sample. Since some schools are named more than once in Table 9, it might be possible, when the sample is chosen handy enough, both of the constraints can be fulfilled in the sample. The purposive sample for the research is presented in Table 10. And this is of course the answer on the second research question presented at the beginning of this chapter.

Table 10: Purposive sample

	Municipality of Werkendam	Municipality of Woudrichem	Municipality of Aalburg	
Criteria group				
Speed indicator				
Highest three scoring schools	**Burg. Sigmond, Werkendam**	Oudendijk, Oudendijk	De Bogert, Eethen	1
	De Peppel, Dussen			
	ds. Joh. Groenewegenschool, Werkendam		**De Hoeksteen, Aalburg**	
Lowest three scoring schools	**De Akker, Werkendam**	**Waardhuizen, Waardhuizen**	Den Biekurf, Babyloniënbroek	1
	De Bolderik, Hank			
Number of wrongly parked cars indicator				
Highest three scoring schools	**Het Baken, Werkendam**	Eben Haezer, Woudrichem		1
	De Peppel, Dussen			
			Den Biekurf, Babyloniënbroek	
		G. Voetiusschool, Andel	Het Fundament, Genderen	
Lowest three scoring schools	Morgenster, Sleeuwijk	De Halm, Almkerk	De Ark, Meeuwen	1
			J.H. Dunant, Aalburg	
			De Hoeksteen, Aalburg	
Too crowded indicator				
Highest three scoring schools	**Burg. Sigmond, Werkendam**	**Ravelijn, Woudrichem**	Het Fundament, Genderen	1
		Oudendijk, Oudendijk	**Oranje Nassauschool, Veen**	
Lowest three scoring schools	**De Akker, Werkendam**	**Waardhuizen, Waardhuizen**		1
	De Regenboog, Nieuwendijk			
	4	2	2	Minimum required unique number of schools

Although qualitative research samples themselves are not designed to be statistically representative, it can be useful for the sample frame from which they are selected to be so. But ultimately, finding an appropriate sample frame often involves a degree of ingenuity and lateral thinking (Ritchie & Lewis, 2003). This ingenuity and lateral thinking is also involved in the purposive sample in Table 10. It is acknowledged the constraints can probably be fulfilled by picking other schools. However, this is indicated not to be relevant for the research. Therefore, the measurements needed in order to answer the research question are performed in the chosen sample. This is for example also the reason there is no sensitivity analysis involved for this sample. With the help of the analysing the second sub research question is answered. The measured driving behaviour is presented in chapter 5. First in the next chapter the subjective measurements performed for the research are presented.

Answer on research question

The former presented analysis in the form of an MCA to choose the sample of schools is the answer on the research question. The schools marked yellow in Table 10 are the schools which are regarded safe for traffic or unsafe for traffic enough to act in the sample.

4. OBJECTIVE TRAFFIC SAFETY IN SCHOOL ENVIRONMENTS

The subjective part of traffic safety needs to be measured objectively in order to evaluate the assumption. How this can be done will be explained in the first paragraph. Then in the second paragraph the results of the measurements will be presented. With the help of these results, the fourth and fifth sub research question can be answered:

Can subjective traffic safety in school environments be linked to measurable elements?

What is the measured behaviour of car users in school zones?

4.1. Measure objective traffic safety

It will be explained what indicators are used to measure traffic safety in the area of primary schools in this paragraph. In the surroundings of primary school environments it can be very crowded with children, moving cars, bicycles, parents and maybe even wrongly parked cars. Therefore the surrounding loses its overview. This occurs during the start and ending of the school days (van der Velde, et al., 2012).

This fact is a constraint for the measurements outside. The traffic unsafety is centered during the start and ending of school days. Therefore, the measurements outside only will take place during those time zones. Furthermore, the most crowded days in the week are Tuesday and Thursday (Baart, 2015). The morning peak is the most crowded peak for the schools between 07.45h and 09.00h depending on the exact time the school starts. This means the measurements will take place during the morning peak on Tuesday and Thursday (Baart, 2015).

Safety performance indicators
Safety performance indicators (SPIs) are measures reflecting the operational conditions of the road traffic system that influences the system's safety performance (Gitelmann, et al., 2014). SPIs were developed within the European project Safety NET for seven road safety-related areas. For each of the areas, indicators and their relation on levels of the road safety system, are developed. The SPIs were developed to create a robust way within Europe to measure and compare the road safety in all the countries in an easy and comparable way. The indicators of importance for this research are presented in Table 11.

Table 11: SPIs relevant for this research

Safety area	Developed indicators	Level of the road safety system
Speed	The mean speed, the 85th percentile speed, the percentage of speed limit offenders *by road type, vehicle type, period of day (daytime, night)*	Road safety problems
Roads	Road network SPI *percentage of appropriate actual road category length per theoretical road category* Road design SPI *Euro RAP Road Protection Scores per road category*	Road safety interventions

Source: (Gitelmann, et al., 2014)

Because not all the SPIs are relevant for the research a division among them is made. This division is based on the definition of subjective traffic safety used in this research. Meaning the indicators that are going to be measured need to have a link with either:

- Too crowded in the school zone;
- Wrongly parked cars;
- Not maintaining the speed limit in the environment.

Too crowded in the school zone
The indicator which is most suitable for this complaint is out of the safety area Road. The most suitable indicator out of that safety area is road design SPI. However, the development for this indicator is still going on (Hakkert & Gitelman, 2007). The idea behind this indicator is to compare the theoretical number of cars which should be in the area and the number of cars that actually are in the area. How this is going to be measured is explained further on.

Wrongly parked cars
For the wrongly parked cars there isn't an indicator among the list of developed SPIs which can say something about this complaint. Therefore, an own indicator is developed. This indicator says something about the number and time of wrongly parked cars in the area.

For this indication first the formal definition and the definition used in this research for wrongly parked cars need to be explained. The formal term of wrongly parked is when you park the car in a place where it is not allowed to park your car (Online Theorieles, 2015). It is not allowed to park your car:

- At a place where you are not allowed to park your car (for example a spot reserved for disabled people when you are not disabled);
- Within 5 meters of a junction;
- Next to a interrupted yellow marking stripe;
- Before an exit and/or entrance of a building or specific area;
- On the road outside urban areas;
- Next to an already parked vehicle;
- Inside woonerfs; beside reserved parking spots in that area;
- At some places you need to pay or must be specific allowed to park your car in certain areas.

What is meant by the users of the school zones, which explains the complaint best, is people parking within 5 metres of a junction, next to a broken yellow side curb or marking, before an exit and/or entrance of a building or specific area or next to an already parked vehicle. How the indicator is going to be measured will be explained further on.

Car drivers not restricting the speed limit in the environment
The 'not maintaining the speed limit' complaint can be measured with the speed indicator. The minimum set of speed indicators, for each road type, should include (Hakkert & Gitelman, 2007):

- Average speed for light vehicles during day;
- Average speed for light vehicles during night;
- Standard deviation of speed for light vehicles during day;
- Standard deviation of speed for light vehicles during night;
- 85^{th} percentile of speed for light vehicles during day;
- 85^{th} percentile of speed for light vehicles during night;
- Percentage of light vehicles over the speed limit during day;
- Percentage of light vehicles over the speed limit during night;
- Percentage of light vehicles 10 km/h over the speed limit during day;
- Percentage of light vehicles 10 km/h over the speed limit during night.

Since the study only focuses on the morning peak periods for schools, which is already explained in the introduction of this paragraph, some indicators are adjusted for the research and some of the indicators are totally deleted. This leads to the following list of indicators which are going to be measured. The standard deviation is not included, because the percentage of light vehicles more than 10 km/h already says enough about the deviation in the measurements:

- Average speed for light vehicles during opening of the school day
- 85th percentile of speed for light vehicles during opening of the school day
- Percentage of light vehicles over the speed limit during opening of the school day
- Percentage of light vehicles 10 km/h over the speed limit during opening of the school day

In order to compare the found numbers for this indicator, the same set of indicators is analysed for the whole day. In this way it can be compared if the measured speed differs during the opening of the school and the rest of the day. How these indicators are going to be measured will be explained further on.

Measure Road Safety Performance Indicators
In the former is explained which indicators should be measured at the sample schools in order to analyse the objective traffic safety in the school zones. The second step is presenting the way the indicators are measured outside since that can happen in different ways.

Number of cars in the surrounding
Different ways to obtain the number of cars in an area can be devised:

- When a camera is used to video tape the area the number of cars can be derived. The danger is the area, the camera tapes, is too small and when analysing the video cars in the area are missed by the observer;
- One can count all cars entering the area by hand with the use of a number of people which equals the number of entering roads for the area;
- One can use a device at the entering roads to count the cars in the area.

The benefit of the third option, which does not use human interventions, has the preference for this research. For different reasons road tube counters is the best option in this case.

Wrongly parked cars
Different ways to obtain the number of wrongly parked cars in an area can be devised:

- One can observe in an area and actually count the wrongly parked cars;
- One can videotape the area and analyse the wrongly parked cars afterwards.

The wrongly parked cars will be counted by using a camera. Because analysing the video can takes place afterwards. The danger of missing wrongly parked cars is less than manually counting the vehicles. After filming the morning peaks the video will be analysed and then the amount of actually, by definition, wrongly parked cars can be counted. The number of wrongly parked cars will be analysed by just counting the cars caught on camera.

Speed indicators
All of the indicators presented can be measured with the help of road tube counters. Normally road tube counters give numbers divided per hour. The newer type of road tube counters however can analyse the indicators even per fifteen minutes. Therefore, the obtained numbers, which are going to be measured a full week, can be analysed for the precise opening and ending of the school day.

For the schools which are going to act in the sample, already presented in chapter 3, a design research has been set up. In this design research the position of the road tube counters and the position where videotaping the wrongly parked cars occurred, is analysed. This design research is summarized in maps where the named positions are shown. The maps are presented in Appendix J; Measurement maps sample schools.

4.2. Measured Driving behaviour

In the former paragraph is presented which indicators are useful for this research and how the indicators are going to be measured. In this paragraph the results from those measurements outside will be presented. The different measured objectives will be handled separately and again

separately for every school in the sample. This indicates in the first subparagraph the measured number of cars in the school environments is presented. In the second paragraph the number of wrongly parked cars is presented. Then in the third paragraph the driving speed in school environments is presented. The second sub research question asked at the beginning of the chapter is answered by the content of the coming text.

4.2.1. Number of cars in school environment

Every road analysed for the schools is an access road (SOAB Adviseurs voor woning en leefomgeving, 2007). This categorisation also gives an indication of maximum 5.000-6.000 passing vehicles per day (CROW, 2004) with a peak hour percentage of 10%. Normally the peak hour percentage in the morning lies around 7.7% on a work day inside built-up areas in the Netherlands (CROW, 2012). The actual measured numbers are presented in Table 12 and Table 13 and can be found in more detail in Appendix L; Measurements sample schools.

Table 12: Maximum measured number of vehicles between 8-9am in the measured week

School	Measured number of vehicles per hour	Measured number of vehicles per day	Percentage of vehicles in the measured period of the entire day	Theoretical number of vehicles per day based on the percentage of 7,7% and the measured amount of vehicles in the peak hour
De Akker, Werkendam	249	4321	5.8%	3234
Regenboog, Nieuwendijk	117	1800	6.5%	1519
Burg. Sigmond, Werkendam	61	200	30.5%	792
Het Baken, Werkendam	71	548	13%	922
Waardhuizen, Waardhuizen	38	565	6.7%	494
Ravelijn, Woudrichem	72	305	23.6%	935
Oranje Nassau, Veen	36	228	15.8%	468
De Hoeksteen, Aalburg	21	320	6.6%	237

Table 13: Maximum measured number of vehicles between 8.15-8.45am in the measured week

School	Measured number of vehicles per half hour	Measured number of vehicles per day	Percentage of vehicles in the measured period per day	Theoretical number of vehicles per day based on the percentage of 7,7% and the measured amount of vehicles in the peak half hour
De Akker, Werkendam	135	4050	6.7%	3506
Regenboog, Nieuwendijk	64	1800	7.1%	1662
Burg. Sigmond, Werkendam	38	171	44.4%	987
Het Baken, Werkendam	60	548	21.9%	1558
Waardhuizen, Waardhuizen	17	565	6.0%	442
Ravelijn, Woudrichem	55	305	36.1%	1429
Oranje Nassau, Veen	20	228	17.5%	519
De Hoeksteen, Aalburg	13	320	8.1%	338

With the help of the road tube counters is analysed how many cars drive in the street in a week. The position of the road tube counters can be seen in Appendix J; Measurement maps sample schools.

Of course the position of the road tube counters can be discussed. It is always the question if every vehicle in the school zone needs to pass the road tube counter. But the numbers give a general representative number of cars in the school zones. Remarks about the measurements must be made for some schools. The remarks are shown below:

Akker, Werkendam
The school Akker has two entrances. If a person chooses one entrance, he will not pas the road tube counter. This might influence the number by making it a little bit lower than it actually is. On the other hand the entrance not counted is a parking area, where no traffic drives other than traffic with that particular destination. The number of extra cars lies between 20-40 cars per peak period, but this is not added to the number in Table 12 and Table 13.

Regenboog, Nieuwendijk
The road tube counter for the school Regenboog was placed in the Hasselmanstraat because the main entrance of the school lies in that street. However analysing the happenings at the opening of the school day, the entrance most used lies in the street Singel. The municipality of Werkendam counted passing vehicles in that street one year ago and those numbers are used for the comparison.

Het Baken, Werkendam
For the school Het Baken two road tube counters are placed at both sides of the school entrance. Therefore, the numbers of the two road tube counters are added and divided by two to generate the number placed in Table 12 and Table 13.

De Hoeksteen, Aalburg
For De Hoeksteen three road tube counters are place around the school zone. In order to generate the number of cars in the school zone the data from one road tube counter seems sufficient. To drive to the school entrance the road tube counter in Kerkverreweide needs to be passed by most of the cars. Therefore, the number generated by that road tube counter is used in Table 12 and Table 13.

4.2.2. Wrongly parked cars in school environment
There are no general numbers of when wrongly parked cars become an annoyance. Meaning this complaint is subjective anyhow and no numbers can be linked to the complaint. What can be done is to compare the number of wrongly parked cars in the school zones in the morning peak with each other. Already explained this is done by videotaping them. The observations are summarized in and fully explained in Appendix L; Measurements sample schools.

The number of students also says something about the numbers of cars in the area during the peak hour and therefore the chance for wrongly parked cars. That is why the number of students is also shown in Table 14. In Table 14 the number of wrongly parked cars is averaged over the two measurement days. This indicates for example if on Tuesday 2 cars parked wrongly during the measurement period and on Thursday 4 cars, the number visualized in Table 14 shown is 3. The same holds for the time of the wrongly parked cars. The time is added for every individual vehicle for the measurement day and then in the end the time of the two measurement days is averaged. The numbers only gives a rough indication.

Table 14: Number of wrongly parked cars in peak period averaged over 2 measurement days

School	Number of pupils	Number of wrongly parked cars	Length wrongly parked cars [h:min:s]
De Akker, Werkendam	100	13	00:11:00
Regenboog, Nieuwendijk	289	10	00:06:38
Burg. Sigmond, Werkendam	148	8	00:07:09
Het Baken, Werkendam	292	4	00:11:08
Waardhuizen, Waardhuizen	41	0	00:00:00
Ravelijn, Woudrichem	134	3	00:04:53
Oranje Nassau, Veen	249	1	00:03:16
De Hoeksteen, Aalburg	415	22	00:31:19

Remarks about the measurements must be made for some schools. The remarks are shown in below:

Akker, Werkendam
For the school De Akker when analysing the number of cars in the area already in the previous remarks was said the school has two entrances. For analysing the number of wrongly parked cars both of the entrances are analysed in Table 14.

Regenboog, Nieuwendijk
The school Regenboog has three different entrances and all three entrances were analysed counting the number of wrongly parked cars.

4.2.3. Driving speed in school environment

Already explained the driving speed is one of the Safety Performance Indicators. The speed indicators used for this report are:

- Average speed for light vehicles during opening of the school day and the whole day
- 85th percentile of speed for light vehicles during opening of the school day and the whole day
- Percentage of light vehicles over the speed limit during opening of the school day and the whole day
- Percentage of light vehicles 10 km/h over the speed limit during opening of the school day and the whole day

Results of the measurements are presented in Table 15, Figure 8, Figure 9, Figure 10 and Figure 11. The speed limit for all the roads where the measurements took place is 30 km/h.

Table 15: Measurements driving speed from Monday-Thursday

	Measured	De Akker	Regenboog	Burg. Sigmond	Het Baken	Waardhuizen	Ravelijn	Oranje Nassau	De Hoeksteen (Perzikstraat)	De Hoeksteen (Kerkverreweide)
Whole day	Average speed (km/h)	32	37	16	26	27	19	25	46	22
	85th percentile of speed (km/h)	39	46	23	34	43	30	30	56	24
	Percentage of light vehicles over the speed limit (%)	61	88	0	23	45	14	12	92	2
	Percentage of light vehicles 10 km/h over the speed limit (%)	21	31	0	0	22	1	1	74	1
08.00h-09.00h	Average speed (km/h)	30	37	16	25	29	17	25	45	22
	85th percentile of speed (km/h)	38	45	20	32	49	26	29	57	23
	Percentage of light vehicles over the speed limit (%)	49	88	0	18	49	4	8	84	4
	Percentage of light vehicles 10 km/h over the speed limit (%)	8	31	0	0	31	0	1	71	3
08.15h-08.45h	Average speed (km/h)	29	37	16	24	30	17	23	46	21
	85th percentile of speed (km/h)	38	46	20	31	48	24	28	58	23
	Percentage of light vehicles over the speed limit (%)	44	91	0	16	49	2	5	89	0
	Percentage of light vehicles 10 km/h over the speed limit (%)	6	33	0	0	29	0	0	76	0

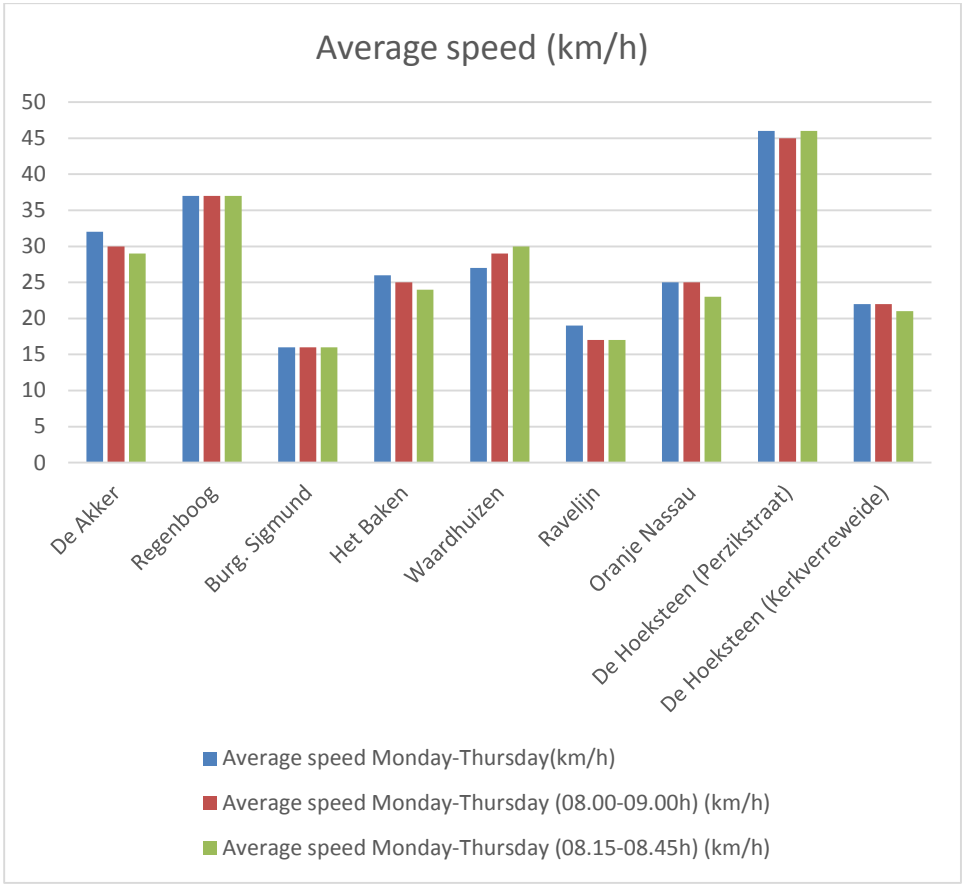


Figure 8: Graph of average driving speed

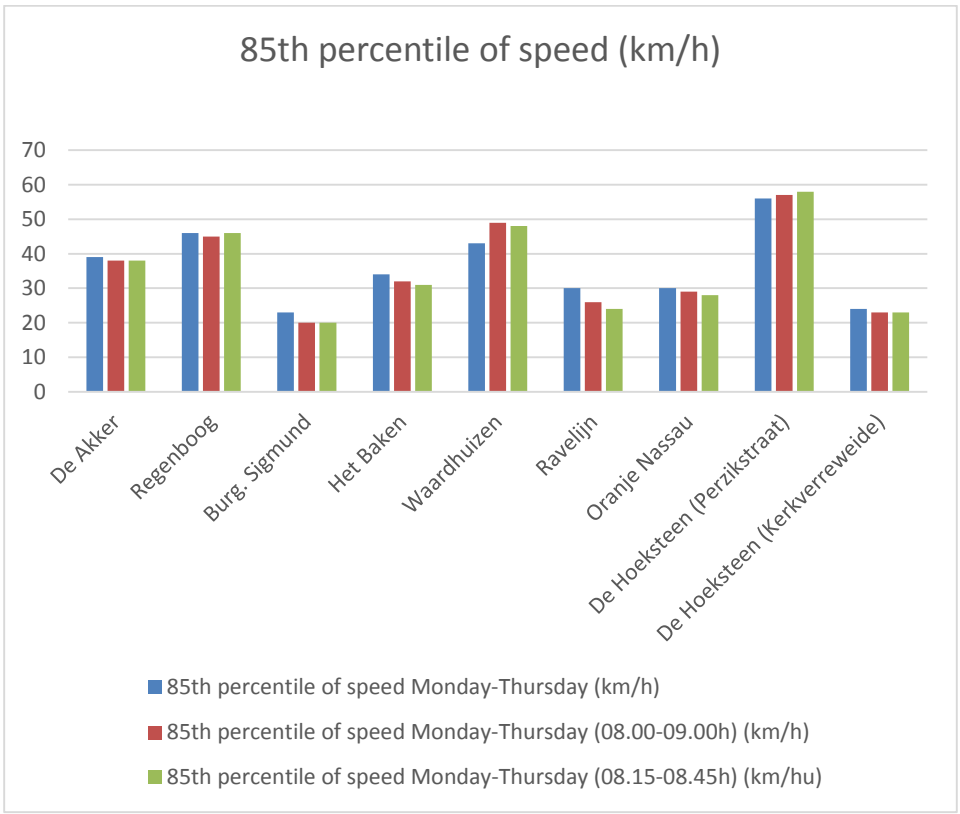


Figure 9: Graph of 85th percentile of speed

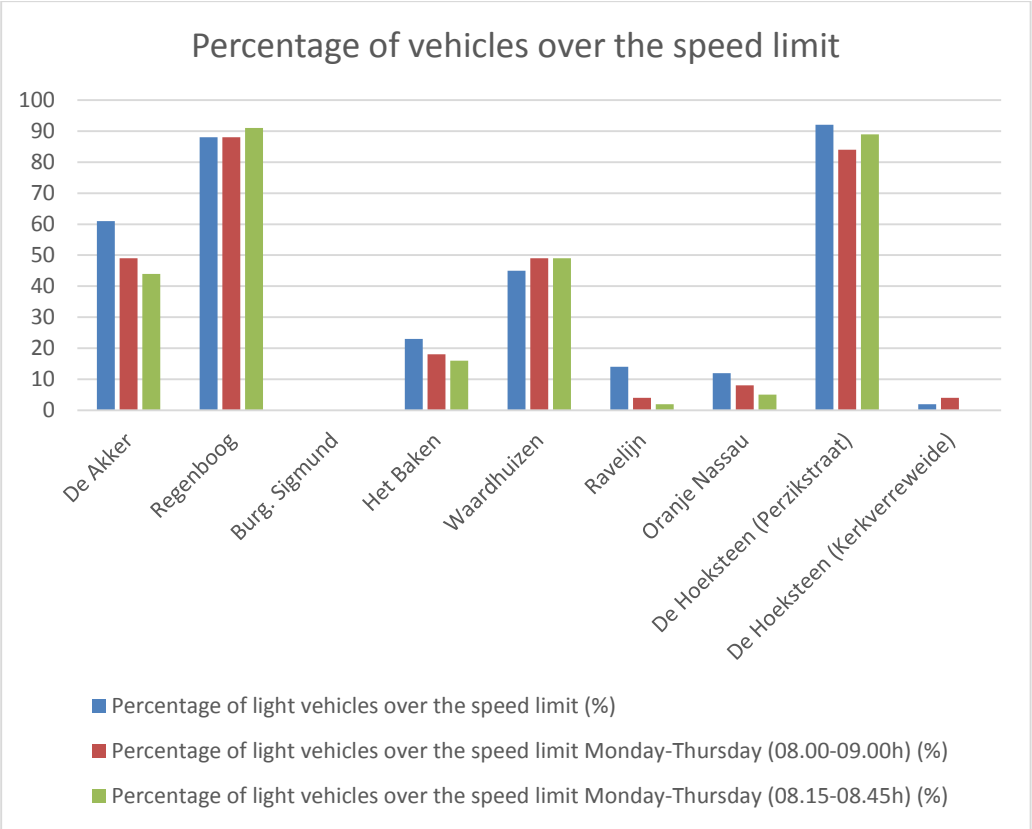


Figure 10: Graph of percentage of vehicles over the speed limit

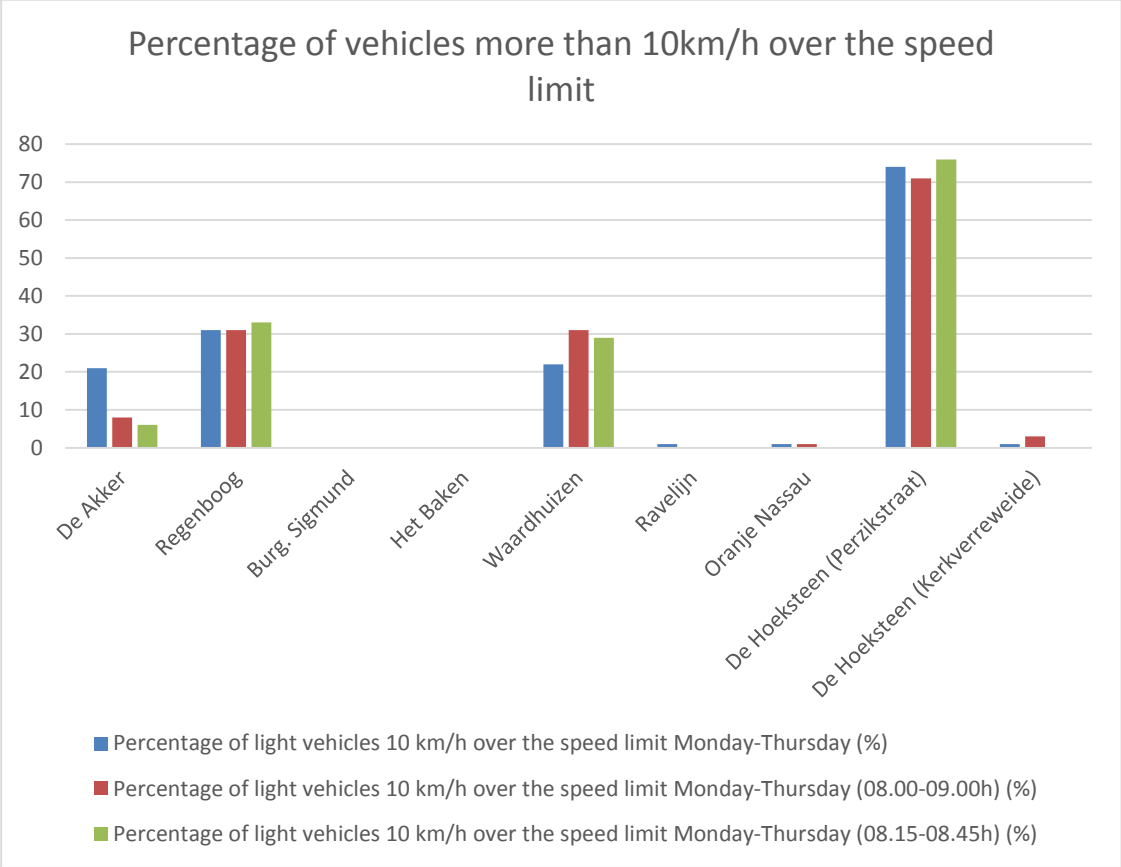


Figure 11: Graph of percentage of vehicles more than 10km/h over the speed limit

Remarks about the measurements must be made for some schools. The remarks are shown below:

Het Baken, Werkendam
As can be seen on the image in Appendix J; Measurement maps sample schools two road tube counters were placed in the school environment of Het Baken. The named numbers in Table 15 are of one road tube counter. The counter which gives the highest numbers is chosen.

Regenboog, Nieuwendijk
The road tube counter for the school Regenboog was placed in the Hasselmanstraat because the main entrance of the school lies in that street. Analysing the happenings at the opening of school day, the entrance most used lies in the street Singel. The municipality of Werkendam counted passing vehicles in that street one year ago and those numbers are used for the comparison.

De Hoeksteen, Aalburg
The reason the numbers generated by two road tube counters are presented in Table 15 is because the counter in Kerkverreweide generated the number of cars in the school zone better than the counter in the Perzikstraat. The driving speed in the Perzikstraat is analysed because it was expected the numbers would be very high.

Answer on research question
With the help of the measurements the presented sub research questions can be answered:

- Road safety can be made measurable with the help of Road Safety Performance Indicators and this fact is analysed in paragraph 4.1. The indicators are used to perform the measurements for this research;
- The performed measurements are divided into three categories. Also the presented measured driving behaviour is divided into the same three categories for that reason. The results of all of the performed measurements are presented in Appendix L; Measurements sample schools and summarized in paragraph 4.2. These numbers give the answer on the second sub research question answered in this chapter.

5. SUBJECTIVE TRAFFIC SAFETY IN SCHOOL ENVIRONMENTS

The way the subjective traffic safety in school environments will be evaluated for the research will be presented in this chapter. First different methods to evaluate subjective traffic safety are presented and the method chosen for this research is explained. Then in the second paragraph the survey, which is used for the research, is presented and followed by the analysis of the reliability of the sample. The final is in order to analyse which conclusions can be drawn based on the evaluated perceived subjective traffic safety. This analysis is followed by presenting the most exclusive findings of the survey with the help of straight counting and making use of cross tables. Also the most promising adjustments, based on the survey held, are presented in this chapter. To end the chapter the data, found with the help of the survey, is evaluated. With the help of the found numbers the third sub research question can be answered, which is:

Is the feeling of traffic safety surveyed by the VVN in 2010 still present among people living in the area "Land van Heusden en Altena"?

5.1. Subjective traffic safety measure methods

To measure the subjective traffic safety different method exist, according to the method 'Vlek en Stallen" (Hartman, 1985). The different methods are visualized in Table 16. The methods to measure subjective traffic safety are also divided into subjective risk and in 'traffic threat and traffic un-liveability'. For the category subjective risk the perceived risk at the moment is being tried to measure (Mesken, 2002) and for the category 'traffic threat and traffic un-liveability' different indicators in the environment are measured and in that way it should be possible to measure the subjective traffic safety (Güttinger, 1980). Indicators for example are the percentage of children between the ages of 0-4 that are allowed to play outside alone without guidance.

Table 16: Possible methodology measurements subjective traffic safety

	subjective risk	**traffic threat and traffic un-liveability**
physiological measurements	Skin, heart rate, brain activity, face muscles activity	X
behavioural measurements	Speaking patterns, facial expressions and body gestures Driving speed, breaking behaviour, following distance, lateral position	Degree of supervision, degree of children playing in the street, degree of children crossing the street alone
cognitive measurements	interviews, questionnaires, score measurements	Interviews, diaries and surveys

For this research the 'traffic threat and traffic un-liveability' is relevant. To evaluate the feeling of traffic safety in school zones in the area "Land van Heusden en Altena" the measured subjective traffic safety will be used. This indicates cognitive measurements are needed and therefore only interviews, diaries or surveys are relevant for the research. Because the population consists out of many parents, only surveys is a relevant tool for this research and this will be used to measure the perceived traffic safety in school environments.

In order to make the outcome of the subjective measurement useful, the survey needs to be set up in an academic acknowledged fashion (Valkeneers & Vanhoomissen, 2009). This indicates the following steps need to be taken;

- The objects need to be determined. The objects for the survey are school environments, because those are the objects researched in the report;
- The population, which is going to be investigated, needs to be determined. The theoretical population is all of the parents of children going to primary schools in the Netherlands. But

the operational population, used for the research, is the parents of children going to primary schools in the area "Land van Heusden en Altena";

- In order to capture all the relevant opinions of the population, as many participants as possible should be surveyed. On the other hand, it is not possible to oblige co-operation for the parents. A sample is taken in order to capture all the relevant opinions from the parents. The way the sample is set up also needs to be explained in order to capture academic acknowledged results. For this research the survey is set up by the investigator and spread out amongst the parents via e-mail and this is done indirectly. The direct connection of the investigator was via the schools. This way of picking the sample can best be compared with a stratified sample. In a stratified sample the population namely is divided into smaller sub groups. Because, already explained in a previous chapter, when the sample of schools was created where the measurements are performed, the schools are divided amongst the municipalities where the schools lie in. This division also is made for the survey. Then a sample is created amongst the parents in that particular municipality.

The chance to comply in the sample is equal for all the parents out of the population. This indicates it is a random sample, which indicates inductive statistics can be used to analyse the obtained data (te Grotenhuis & van der Weegen, 2011).

What needs to be kept in mind is that in reality the sample is not a stratified sample conform the definition. In fact the surveyed people decide if they want to act in the sample and therefore it is not just a random selection. The selection itself however is random and therefore it is indicated the methods of inductive statistics may be used in order to evaluate the outcomes. The way the survey is set up is presented in the next paragraph.

5.2. Design of survey

As already explained and presented in the second chapter there are three elements to be evaluated by the survey and these elements are:

- Too crowded in the school zone;
- Wrongly parked cars;
- Not maintaining the speed limit in the environment.

These elements were surveyed by the VVN in 2010. In order to evaluate them again the way the VVN sets up its surveys is used. It is needed to use the general set up of the surveys, because the particular survey asked in 2010 was not found. Not solely the VVN questioned involved people regarding the traffic safety in school zones. Also Mr Dessing is performing his PhD on the subject and in 2013 the company Companen used the tool survey in order to analyse the perceived traffic safety in school environments for the municipality of Ommen. With the help of the three mentioned sources, which already proved their usefulness, the survey has been set up for the research (Blauw, 2015; Dessing, 2015; Kreeft, 2014).

The methodology chosen is via an online tool to created surveys (Enquetelink, 2010). The programmed tool sometimes constraints the possible questions asked. This is however never indicated as a problem. The survey which is set up for this research is presented in Appendix F; Survey. In the coming text sometimes will be referred to the number of these questions.

Some elements out of the survey deserve some further explanation which is provided below:

- The questions asked by the VVN in 2010 are sometimes a little bit adjusted in order to ask directly to the three elements already presented. The feeling when looking at the general survey of the VVN was sometimes the questions are not directly related to the mentioned elements. Because the survey of 2010 is not found, the general questions are sometimes a little adjusted;

- When opinions are asked of the participants different scales in the answer can be used. Firstly, it is chosen to measure uneven. This has to do with the idea the participants have the option to answer neutrally and are not obliged to have an opinion;
- Then another question is if a 3-point scale or a 5-point scale is used. The 5-point scale is more wished by the respondents to have the option to answer more differentiated and therefore causes an improved variance in the answers and this lead to improved data when the statistical analysis is at stake (SONDZ, 2015);
- Furthermore, it is important for the performed analysis how the questioned variables can be categorized. This is explained below.

All of the questioned variables can be categorised into the same set of variables. A variable measures a certain characteristic of the analysed unit and can take up different values (te Grotenhuis & van der Weegen, 2011). Variables (in statistics) are divided into four different categories:

- Nominal; the differentiation is only separated by name. So the variables only differ in their content. An example is man or woman;
- Ordinal; the variables in this category differ in their ordering and/or ranking. However, the differentiation between the variables is not mathematical. This means the outcome is better but how much better is not known. An example is the training of a student, VWO is better than HAVO although it is not known how much better it is;
- Interval; for these variables it is known how much the difference is between the values. Temperature measured in degrees is such an example;
- Ratio: variables with a ranking, the same intervals and a normal 'zero-point' are called ratio variables. An example is the temperature measured in Kelvin.

The variables measured in the survey are nominal and/or ordinal. The way this constrains the performed analysis will be explained in the coming paragraphs, if necessary. The first step after the presentation of the survey is analysing the reliability of the sample and this will be analysed in the next paragraph.

5.3. Reliable sample

It is important the data obtained via the survey can be used to generate reliable statements. The question is however what can be valued as reliable. The needed sample size does not only depend on the population size and therefore it is not the case the sample size is just a percentage of the population in order to generate reliable statements (XTNT, 2014). The actual sample size is dependent on four factors:

- The accepted error, in other words how much error is allowed in the outcome of the sample? If for example the outcome from the sample is 90%, an accepted error of 5% indicates the answer in reality lies between 85-95%;
- The statistical reliability, in other words the assurance about the accepted error which is needed. This indicates the possibility that if another sample is chosen/picked the outcomes of the survey would be the same within the named accepted error margin;
- The expected dispersion between the answers;
- The size of the population is the fourth factor.

Then the formula to obtain the needed minimal sample size in order to generate the needed answers is the following (SurveyMonkey, 2015):

$$N = p\% * q\% * \left({}^{z}/_{e\%}\right)^2$$

With,

$$N = Minimal\ sample\ size$$
$$p\% = Percentage\ of\ specified\ category$$
$$q\% = Percentage\ of\ the\ non-specified\ category$$
$$z = number\ belonging\ to\ the\ statistical\ reliability$$
$$e = number\ beloning\ to\ the\ accepted\ error$$

The values used for the elements named in the formula will be explained below:

- The accepted error. Depending on the survey the accepter error can be between the values of 1% or 10% (SurveyMonkey, 2015). The size of the sample depends on this value. Because of the generated results from the survey the accepted error is chosen to be 6%.
- The statistical reliability. 95% is the most used number for the statistical reliability (SurveyMonkey, 2015). However if the sample size is less than 300, then the statistical reliability can be 90% (SONDZ, 2015). For the survey results first it will be tested if the statistical reliability can be 95%. If this is not possible the value of 90% will be used.
- The expected dispersion between the answers. When the sample is more divided, the sample should be bigger to say something about the expected answers with certain reliability. When for example 90% of the participants say yes and only 10% say no the accepted error can be bigger. In the most cases this value is chosen as 50% (Portal Alles over marktonderzoek, 2015)
- The size of the population is the fourth factor. As visualized in Table 17, 5670 kids go to school in the population. In average parents have 2 children at the same school (XTNT, 2014). This indicates 2835 parents/people in the population. However to assume 2 children per family is probably an underestimate of the real value since the area Land van Heusden en Altena is mostly a very religious environment (Brabants Dagblad, 2015). The birth number in strictly religious areas generally lies (a lot) higher compared to other parts in the Netherlands (van Middelkoop & de Jong, 2010). Nevertheless, the calculations performed will be made on the number of 2835 people in the population.

The number of pupils at the schools in the area Land van Heusden en Altena at the reference date October the first 2014 is visualized in Table 17. These numbers are needed in order to analyse the fourth factor in depending the sample size.

Table 17: Number of pupils at the schools in the area Land van Heusden en Altena (reference date October 1st 2014)

Municipality of Werkendam		**Municipality of Woudrichem**	
Name school	**#Pupils**	**Name school**	**#Pupils**
Ds. Joh. Groenewegenschool	608	nbs Oudendijk	107
Het Baken	292	obs De Almgaard	59
t Kompas	289	gbs De Halm	75
Burg. Sigmond	148	cbs d'Uylenborch	290
De Akker	100	cbs De Zaaier	233
De Morgenster	412	Ds. G. Voetiusschool	238
Burg. Verschoor	88	cbs Waardhuizen	41
cbs De Regenboog	289	**Total Woudrichem**	1739
De Bolderik	264	**Municipality of Aalburg**	
De Wilgenhoek	74	**Name school**	**#Pupils**
De Peppel	120	obs J.H. Dunant	133
De Sprankel	30	cbs De Hoeksteen	415
obs De Regenboog	69	cbs Het Fundament	175
Total Werkendam	2783	De Bogert	95
Municipality of Woudrichem		cbs De Ark	52
Name school	**#Pupils**	obs Den Biekûrf	29
De Parel, Giessen	130	cbs Oranje Nassauschool	249
De Parel, Rijswijk	160	**Total Aalburg**	1148
cbs Eben Haëzer	272		
obs Ravelijn	134	**Total number of pupils**	5670

Source: (Schouten, et al., 2015)

The value for the minimal sample size following the presented numbers is 267. This number is with statistical reliability of 95%. If the population consist out of less than 10000 participants it is allowed to correct the minimal sample size with the following formula, without losing the reliability:

$$N' = n/(1 + ({}^{n}/_{N}))$$

With,

$$N' = Corrected\ sample\ size$$
$$N = Minimal\ sample\ size$$
$$n = Population\ size$$

The corrected sample size for the performed survey indicates a minimum of 244 participants is needed, in order to generate sufficient results. 287 complete responses are generated in the survey. This indicates the corrected minimal sample size is fulfilled. If the accepted error is chosen to be 5%, the corrected minimal sample size is 338 participants. This number is not fulfilled and that is the reason the accepted error is chosen to be 6%.

For the general analysis the number of participants is sufficient. The next step in analysing the reliability of the sample is to investigate if the diversion among different aspects in the population is the same in the sample.

Division between municipalities

The most important division in the population is between the municipalities. The number of participants per municipality and the division of it is shown in Figure 12.

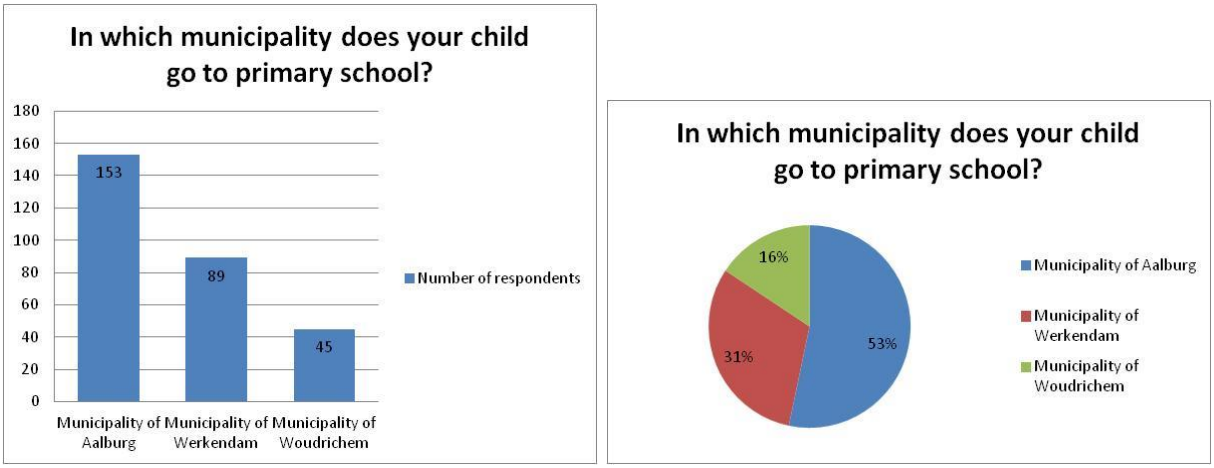


Figure 12: Graphs of the given answers in numbers on question 1

Division between the involved primary schools

Another diversion can be made between all the involved schools. This means the diversion between schools in the sample should be the same as the diversion between (the size of the) schools in reality. This would be a very relevant outcome, because all the schools are analysed during the selection of sample schools and therefore all the relevant factors regarding the school zones are known. In order to generate relevant results for all the schools out of the population is almost impossible by picking a sample. In general the percentage of participants in survey is only 10%-15% and more response would be needed in order to give some representative explanations (SurveyMonkey, 2015). It can be tested if this diversion is the case in the sample. The diversion is shown on Figure 13.

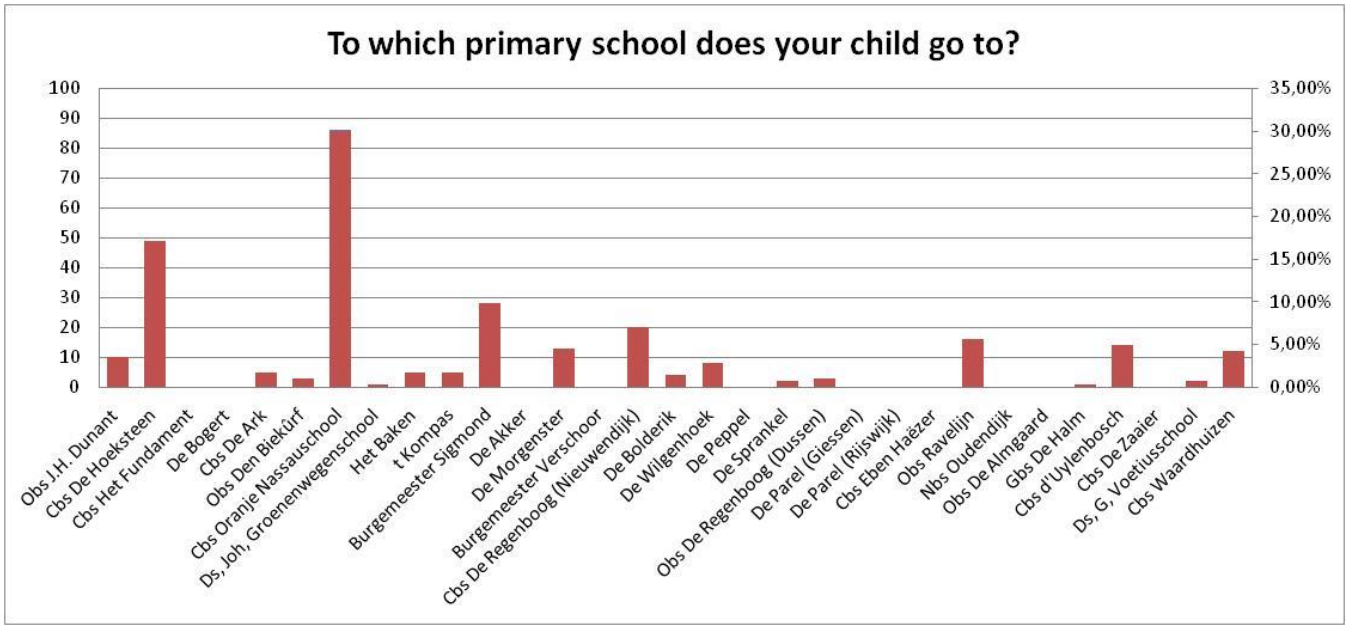


Figure 13: Graph of answers on which school the participants' child goes to

The number of useful respondents is 287. Therefore, the results can be analysed out of the sample. Some comments can be made on this number:

- The schools in the sample were divided between the involved municipalities. This division is based on the ratio of the number of inhabitants in the municipalities which is 2:1:1 (Werkendam, Woudrichem, and Aalburg). This diversion is not followed in the sample for the survey, where for example the number of participants of the municipality of Aalburg is the highest of the three numbers, as can be seen in Table 12;

- What can be seen in Table 17 and in Figure 13 is the division between the participants does not reflect the division between the sizes of the schools. Mostly the big number of participants from people out of the municipality of Aalburg is notable. To be more precise the big number of participants at the school De Hoeksteen in Aalburg and the school Oranje-Nassau in Veen is the cause of this. This has to do with the way the people were approached to cooperate in the survey. On the other hand it also says something about what the parents from the school think of the importance of traffic safety around the school where their child goes to. It can be investigated when analysing the data if the outliers are of influence on the results;
- The schools acting in the sample are represented sufficient in order to compare for those schools the objective and subjective data. However, the school De Akker did not cooperate with the survey and therefore it is not possible to make some scientific relevant conclusions for that school, comparing the objective and subjective data;
- Schools in the municipality of Woudrichem are not represented enough to make some relevant conclusions solely for that municipality. The same holds for conclusions based on school level;
- If a school doesn't have any participants it can mean different things. Because the school first is approached before the survey is handed out to the parents, the role the school plays, in order to generate responses, is very important. If a school didn't hand out the survey, maybe the traffic safety in school zones doesn't have that much attention. On the other hand it might be possible contacting the school went wrong or the contact person didn't have the time to hand out the survey towards the parents. So no relevant conclusions can be based on the assumptions given.

5.4. Straight counting

The first analysed subject is the percentage of people who think the school environment is not traffic safe. This is questioned in question 7 of the survey and the results can be seen in Figure 14.

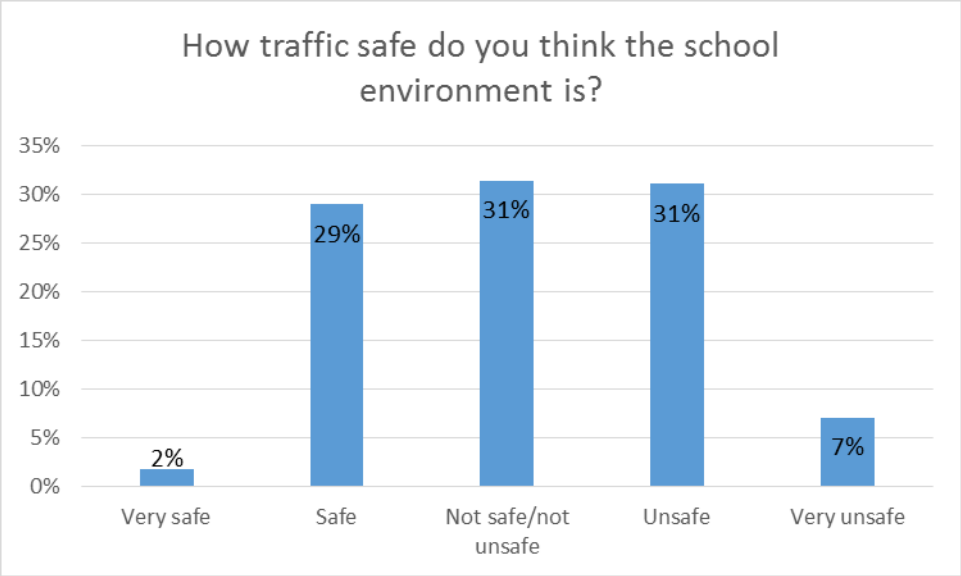


Figure 14: Graph of percentage on how participants feel about the traffic safety in the school environment

This implies still (31 + 7=) 39% of the parents feel the traffic safety in the school zone is at least insufficient. This indicates the feeling between 2010, the year the VVN conducted its survey, and the year 2015 did not change. Already presented in 2010 the percentage of people who think the school environment is not safe for traffic was 36% and this is almost the same as 39%. These numbers indicate the answer on the sub research question asked at the beginning of the chapter.

The graph in Figure 14 also shows not many extreme answers are given by the parents. This fact indicates it is allowed to recode the answers on that question toward a 3-point scale instead of a 5-point scale, which is common sense regularly (SONDZ, 2015).

This straight counting is also used to see whether the two mentioned outliers from the participants and to which school their child goes to, influences the outcomes of question 7. These schools are De Hoeksteen in Aalburg and Oranje-Nassau school in Veen. If the same straight counting is used without participants from both of the schools the graph looks like presented in Figure 15.

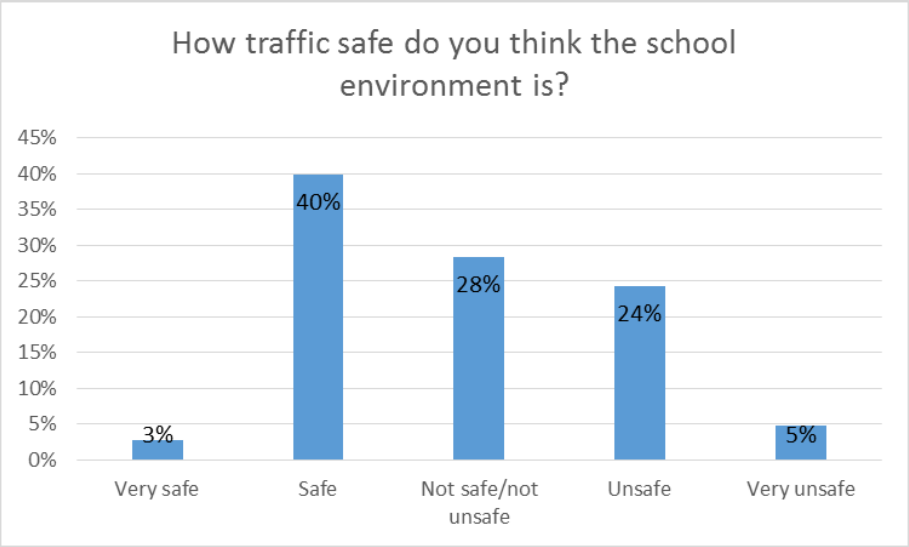


Figure 15: Graph of percentage on how participants feel about the traffic safety in the school environment without the outlying schools De Hoeksteen and Oranje Nassau

This implies still (24+5=) 29% of the parents feel the traffic safety in the school zone is at least insufficient. This means a difference of almost 10%. Based on the presented numbers it can be concluded the outlying schools have a big influence on the summarized perceived traffic safety in school environments. On the other hand if you should delete those schools entirely out of the sample the results are not representative as well, since the opinion of people going to that particular school also matters.

Straight counting is also used to investigate the diversion between the respondents on the question to which class their oldest child, going to primary school, sits in. The class the oldest child of the surveyed people goes to is shown in Table 18.

Table 18: Class oldest child

In which class does your oldest child participate in primary school?		
Answer	**Number**	**Percentage**
Group 1	36	13%
Group 2	39	14%
Group 3	28	9%
Group 4	22	8%
Group 5	28	9%
Group 6	38	13%
Group 7	54	19%
Group 8	42	15%
Total	287	100%

The expectation was the general tendency of the diversion in Table 18 was more towards the higher groups. This was expected because the question was about the oldest child. This is however not the case as can be seen in Table 18.

Furthermore, it is interesting to use straight counting in order to analyse the results of the question on how the child travel to school. This analysis is shown in Table 19.

Table 19: How do the children go to school in the area Land van Heusden en Altena?

How does your child travel to school usually?		
Answer	**Number**	**Percentage**
Walks with parent(s)	27	9%
Walks alone	50	17%
Bicycle itself next to parent(s)	48	17%
Bicycle alone	94	33%
Brought by parent with a bike	13	4%
Brought with car; park car and walks to school with child	39	14%
Brought with car; parks car and drives further	11	4%
Different	5	2%
Total	287	100%

One cause of the increased traffic unsafety in schools zones is the presence of cars in the environment (XTNT, 2014). Therefore, it is at least notable approximately 19% of the children are brought to school by car by the parents. This is a lot compared to the more general percentage of 12%, which XTNT analysed in the report about traffic safety in school environments in 2014. More general in this way indicates the survey of XTNT was held among all kind of different schools in the Netherlands and not only at schools lying in rural areas such as the region “Land van Heusden en Altena”.

This fact also indicates it is more crowded with moving cars in the school environments in the area “Land van Heusden en Altena”. This fact would indicate the element too crowded in the school environment element should score higher then what the VVN surveyed in 2010.

Straight counting is also used in order to analyse the outcomes of the survey questions 13, 14, 15 and 16.

Question 13

The questions in question 13 are of the form of a situation and participants are asked how they feel about that situation. Possible answers are very unhappy, unhappy, nor happy/nor unhappy, happy and very happy. All the graphs of the results of the question are shown in Appendix G; Straight Counting.

In order to evaluate which of the statements is of most importance for the users not to feel the school environment is traffic safe, the percentages of people answering (very) unhappy are added. This is shown in Table 20.

Table 20: Percentage of people answering (very) unhappy to the questions 13 in the survey

Percentage	Question number	Question/statement
38%	13-1	Traffic situation around the school
37%	13-2	Safe for traffic design of roads in the school environment
64%	13-3	The way people park around school
56%	13-4	Available parking capacity
44%	13-5	View at intersections
36%	13-6	The number of ‘traffic slowers’ around the school environment
52%	13-7	The way other road users pay attention to one another
62%	13-8	Traffic chaos around the school
41%	13-9	Locations around the school zones to cross the street
40%	13-10	The speed traffic passes the school

This fact indicates most people feel the parking chaos around schools is an annoyance. If this fact also is a good indication of how they feel about the traffic safety in the school zone, will be analysed in paragraph 5.5.

What also can be analysed from these numbers is the order of the questions is not of a big importance. If the order is of importance this would imply the percentages of the first question lies higher than the percentage of the later asked questions. This is however not the case as can be seen on the numbers.

The two most outstanding straight counts are visualized below in Figure 16. The two most outstanding questions are the questions about the way people park their car in the school zone and the question about the traffic chaos around the school.

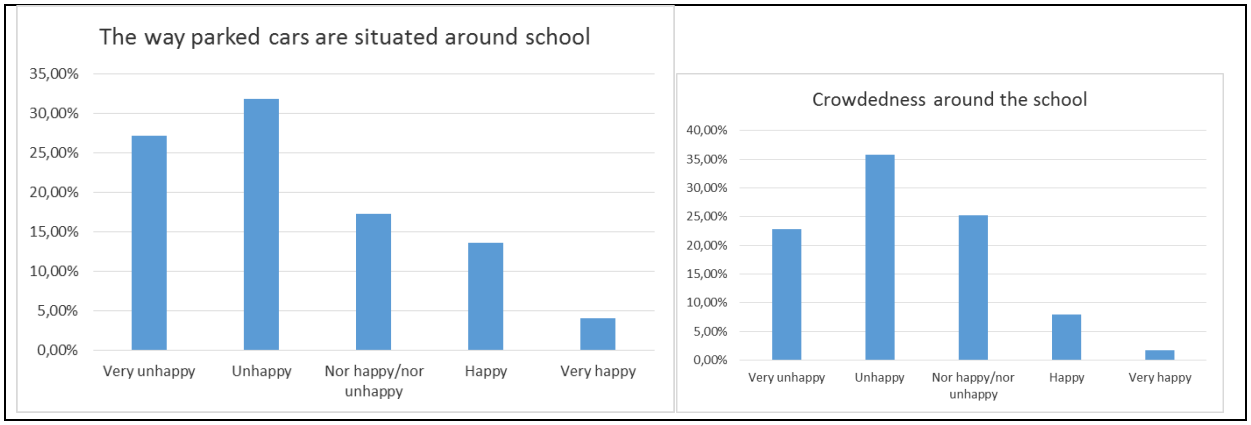


Figure 16: Two questions being answered as most unsatisfied by the participants

Question 14

The question asked in question 14 is if the participants feel the given situation will improve or has improved the traffic safety in school zones. They can answer with yes, no or don't know.

In order to evaluate which of the statements is of most importance for the users not to feel the school environment is safe for traffic he percentages of people answering yes are compared. This is shown in Table 21.

Table 21: Percentage of participants answering yes on the statements in question 14

Percentage	Question number	Question
55%	14-1	Parking restriction near the school entrance
55%	14-2	Make improve use of the available parking capacity
60%	14-3	Speed restricting elements on the roads in the school zone
57%	14-4	Car free school zone
29%	14-5	More and improve information on traffic safety from the municipality
36%	14-6	More and improve information on traffic safety from the schools
59%	14-7	One-way traffic in the school zone

The percentages presented in Table 21 shows speed restricting elements have the highest potential to improve the traffic safety. This fact is strange if you compare it with the results of question 13, where not many people indicate the speed of the passing vehicles is a big annoyance. This will be further analysed later on. Furthermore, it is stated one-way traffic will improve the traffic safety as almost 60% of the participants answer this question with yes. Both of the mentioned questions are translated into graphs in Figure 17.

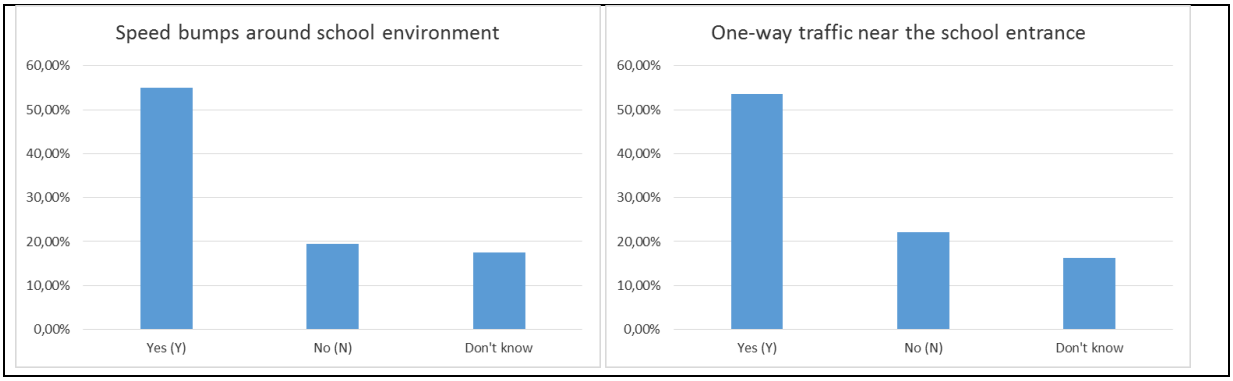


Figure 17: Two questions being answered as to have the most potential to improve the perceived traffic safety in school environments by the participants

Questions 15 and 16

The question asked in question 15 and 16 is if the participants agree with the statement. They have the option to answer that question with yes, no or don't know.

In order to evaluate which of the statements is of most importance for the users not to feel the school environment is traffic safe, the percentages of people answering yes are compared. This is shown in Table 22.

Table 22: Percentage of participants answering yes to the statements in question 15 and 16

Percentage	Question number	Statement
97%	15-1	The parents cause the traffic unsafety in the school zone
33%	15-2	Traffic safety around school zones should be managed by the school board
90%	15-3	Traffic safety around school zones should be managed by the municipality
54%	15-4	There is too many not allowed parking in the school zone.
63%	15-5	It is too crowded with cars, bicycles and mopeds for example in the school zone
80%	16-1	People bringing their children to school by car should avoid the school entrance when parking their car
87%	16-2	Most of the time it is improve to walk or cycle the children to school for the parents
71%	16-3	Usually the speed of passing vehicles is low (around 30km/h)
40%	16-4	The most car drivers drive too fast in the school zone
16%	16-5	In the current situation there are no problems regarding the traffic safety in school zones

So almost every respondent and therefore almost every parent among the population, feels in the current situation there are at least some problems regarding the traffic safety in school environments. The three most outstanding answers on the questions are shown in Figure 18.

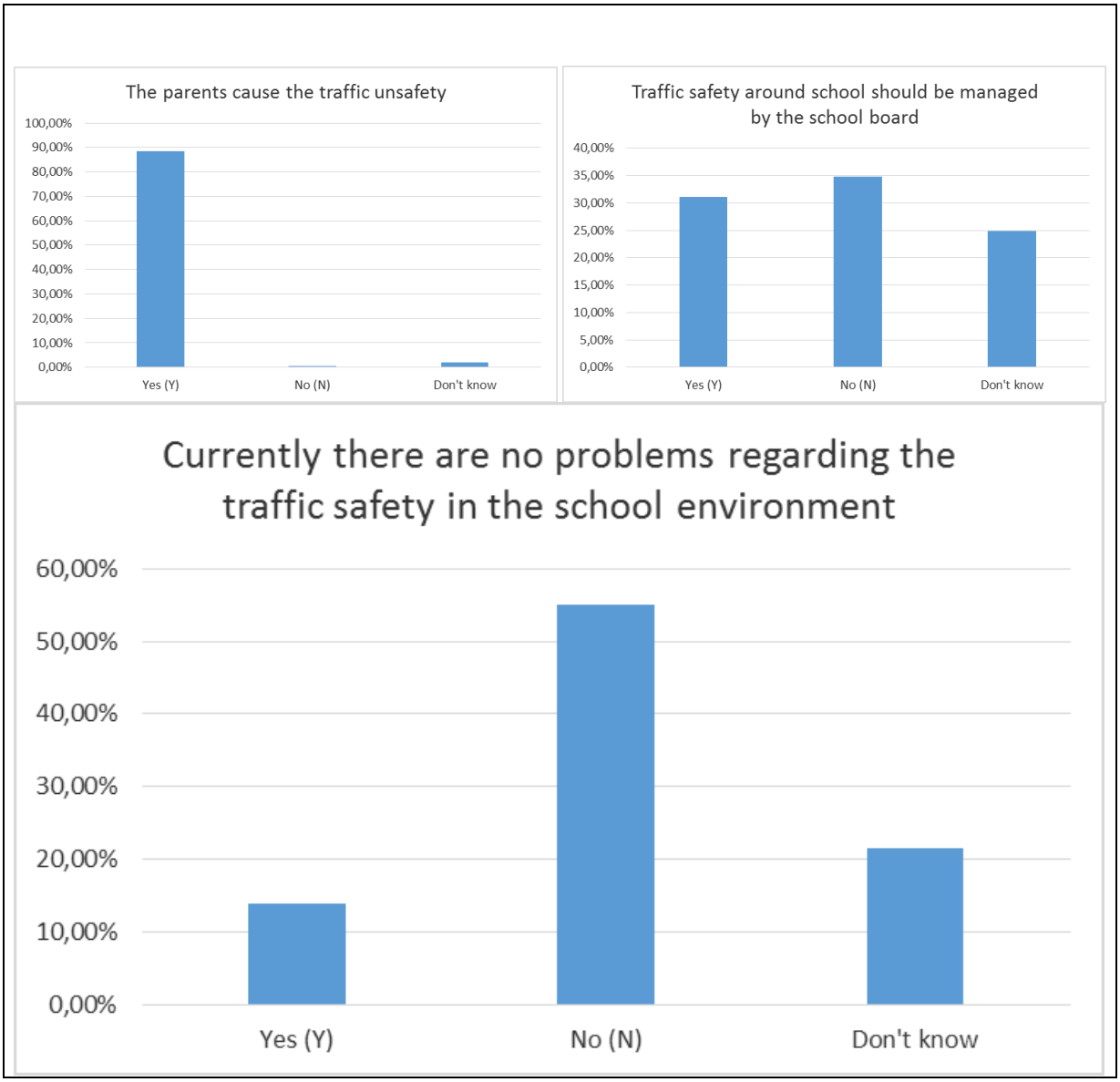


Figure 18: Two statements being answered with yes the most and one statement being answered with yes the least, which makes them outstanding

The last statement might be misleading. The questions asked implies no problems, if a respondent answer no on the question the given answer implies there are indeed problems. This has to be taken in account if this question is further analysed.

5.5. Cross tables

If investigators want to explain the cohesion between variables with relatively little categories, cross tables are a very common tool to use (te Grotenhuis & van der Weegen, 2011). A cross table alone cannot confirm the expected relation between variables. Other tools are used to confirm this relationship. Only examples of cross tables are presented in this chapter. All of the cross tables made for the research are shown in Appendix H; Cross tables.

In order to evaluate the cohesion between the perceived traffic safety asked in question 7 and the satisfaction on the statements asked in question 13 the Chi Squared value is calculated for every cross table created in analysing the survey. The Chi Squared value is a test in order to find out if the measured variables for two questions are related to each other (te Grotenhuis & van der Weegen, 2011). In a next step the Cramérs V value can be determined by using the value of the

Chi Squared test. The Cramérs V value in its turn is a value which indicates the relationship between variables from nominal order. The value gives the correlational dimension between nominal variables, with a minimum score of 0 and a maximum score of 1. The higher the Cramérs V value is, the stronger the correlation between the variables (te Grotenhuis & van der Weegen, 2011). Both the Chi Squared value and the Cramérs V value have been calculated for all of the mentioned relationships by the investigator using Excel.

First will be investigated if the way parents let their children travel to school is influenced by what they think about the traffic safety in the school zone. This cross table is shown in Table 23.

Table 23: Cross table of the perceived traffic safety and the way parents let their children travel to school

What do you think about the traffic safety in the school zone?	**How does your child travel to school?**			
	Walk	Bicycle	Car	
Very safe/safe	26	46	13	85
	33%	29%	25%	
Not safe/not un safe	29	40	21	90
	37%	25%	40%	
Un safe/very un safe	23	71	18	112
	29%	45%	35%	
Total	78	157	52	287
	100%	100%	100%	

Looking at the table no substantial differences can be found, with the idea of 1/3th in the head. The division between very safe/safe, not safe/not unsafe and unsafe/very unsafe lies around 1/3th of the participants. Only the percentage of people who let the children cycle to school and think the school environment is very unsafe or unsafe is substantial above the perceived 1/3th. A possible explanation could be this has to do with the accepted risk. This accepted risk is already presented and explained in Appendix A; Literature Review. The idea is parents have a higher accepted risk when their children are older. Weather this is indeed the case is of no importance for this research and therefore won't be investigated any further.

It was expected the percentage of people who bring their children to school by car who think the school environment is unsafe/very unsafe would be higher. Because already explained the perceived traffic safety in school zones would be an explanation for parents to bring their children to school by car. Looking at Table 23 this doesn't seem a reasonable explanation.

Cross tables used for question 7 and question 13

In order to evaluate how much the feeling of the parents on traffic safety in school zones and their satisfaction on the statements asked in question 13, cross tables are used to evaluate the answers. An example of such a cross table is shown in Table 24.

Table 24: Cross table of question 7 and question 13-3

What do you think about the traffic safety in the school zone?	How satisfied are you with the way people park their car in the school environment?					
	1	2	3	4	5	Total
Very safe/safe	4	27	24	26	7	88
	5%	27%	48%	63%	59%	
Not safe/not unsafe	16	41	16	13	2	88
	19%	41%	32%	32%	17%	
Unsafe/very unsafe	63	33	10	2	3	111
	76%	33%	20%	5%	25%	
Total	83	101	50	41	12	287
	100%	100%	100%	100%	100%	

The Cramérs V value has been derived for all statements of question 13, except the statement the way other road users pay attention among each other. This statement is of no influence of the municipality and therefore can be neglected in this analysis. The numbers are shown in Table 25. The Cramérs V value of question 13-1 of 0.85 is a very high value, looking at other performed research (te Grotenhuis & van der Weegen, 2011).

Table 25: Cramérs V value for the cohesion between question 7 and 13

Question number	Cramérs V value	Explanation perceived traffic safety
13-1	0.85	Traffic chaos in general around the school
13-2	0.63	Safe for traffic design of the streets surrounding the school
13-3	0.58	The way people park their car in the school environment
13-4	0.40	Available parking capacity
13-5	0.53	Overview near intersections near the school
13-6	0.34	The number of 'traffic slowers' around school
13-8	0.57	Traffic chaos around the school
13-9	0.48	Location of intersections near the school
13-10	0.42	The speed of traffic passing the school

Cross tables used for question 7 and question 14

In order to evaluate the idea people have which adjustments and measures have the possibility to improve the perceived traffic safety in school zones, cross tables are used to evaluate the answers. An example of such a cross table is shown in Table 24.

The Cramérs V value has been derived for all suggestions presented in question 14, except the suggestion about which organisation should present more information. These statements are of no importance in this analysis. The results are shown in Table 26.

Table 26: Cramérs V value for the cohesion between question 7 and 14

Question number	Cramérs V value	Suggestion to improve the traffic safety in school zones
14-1	0.07	Parking restriction near the school entrance
14-2	0.30	Make better use of the parking capacity near the school
14-3	0.14	Use more speed restriction elements
14-4	0.22	Create a car-free environment
14-7	0.35	Create a one-way traffic circulation in the school environment

The idea evolved analysing these numbers is; the Cramérs V Value of the suggestions presented in question 14 are generally lower than those of the explanations presented in question 13. This is a suspicion of the writer and cannot be confirmed by any sources. Therefore this statement is neglected for further research.

The presented numbers shows a one-way traffic circulation in the environment and to make better use of the parking capacity are the suggestions which have the highest potential to create a more safe for traffic school environment.

The reason these outcomes are different than the outcomes of the straight counting is with the Cramérs V value the cohesion between the general perceived traffic safety and the suggestions of question 14 are compared. This indicates another value than just straight counting.

The performed measurements are presented in an orderly fashion in the former. With the help of these measurements the presented sub research question can be answered in the conclusion. The measurements also can be used to identify which suggestions to improve the traffic safety have the most potential to improve the perceived traffic safety. This analysis is presented in the coming paragraph.

5.6. Analysing subjective data

When analysing the found data out of the survey a lot is already presented in the former. After the presentation of the general numbers the focus is going to be on the three already surveyed elements by the VVN in 2010. The focus is on the suggestions to improve the traffic safety asked in question 14 when analysing the data obtained via the survey. In question 14 is asked which adjustment could possibly improve the perceived traffic safety. For some schools the analysed measurement is already performed in the school zone in the past. If this is indeed the case it is interesting to analyse the difference between the schools where the measurement is already taken and schools where the measurement is not taken (yet). The data is analysed step by step. This indicates, first the surveyed numbers are presented. Secondly the results of the survey are analysed.

5.6.1. General perceived traffic safety

The general perceived traffic safety in school environments is already analysed in the former. The figure which reflects this best is shown in Figure 14

Already stated almost 39% of the surveyed people feel the traffic safety in the school zone is at least insufficient. Looking at the found percentage by the VVN in 2010 of 36% this is comparable.

The assumption which is presented in the introduction of the research is the perceived traffic safety can be linked to/there exist a cohesion between the three elements surveyed by the VVN in 2010. The assumption is municipalities, have the possibility to influence the perceived traffic safety by adjustments into the three named elements. The three elements are:

- Too crowded around school zones (element 1);
- Too many wrongly parked cars in the environment (element 2);
- Car drivers not maintaining the speed limit in the environment (element 3);

Almost all questioned elements in the survey in question 13 and 14 can be translated into the three mentioned elements. This translation is made in Table 27 and Table 28.

Table 27: Translation of question 13 into the three mentioned elements

Question number	Question/statement	Translation into element
13-1	Traffic situation around the school	element 1
13-2	Safe for traffic design of roads in the school environment	element 1
13-3	The way people park around school	element 2
13-4	Available parking capacity	element 2
13-5	View at intersections	element 1
13-6	The number of 'traffic slowers' around the school environment	element 3
13-7	The way other road users pay attention to one another	element 1
13-8	Traffic chaos around the school	element 1
13-9	Locations around the school zones to cross the street	element 1
13-10	The speed traffic passes the school	element 3

Table 28: Translation of question 14 into the three mentioned elements

Question number	Question/Possible adjustments or measurements	Translation into element
14-1	Parking restriction near the school entrance	element 2
14-2	Make improve use of the available parking capacity	element 2
14-3	Speed restricting elements on the roads in the school zone	element 3
14-4	Car free school zone	element 1
14-5	More and improve information on traffic safety from the municipality	none
14-6	More and improve information on traffic safety from the schools	none
14-7	One-way traffic circulation in the school zone	element 1

After the translations performed in Table 27 and Table 28 the focus can now be moved on the different elements one by one. Furthermore, analysing them is presented in different steps. First the surveyed numbers will be presented and after this general presentation the numbers are analysed.

5.6.2. Number of cars in school environment

Surveyed numbers

The most interesting graph to present is the graph of the results of the question 14-4 and question 14-7. Those questions were about creating a car-free school environment and creating a one-way traffic circulation in the school environment. The results are shown on Figure 19 and Figure 20.

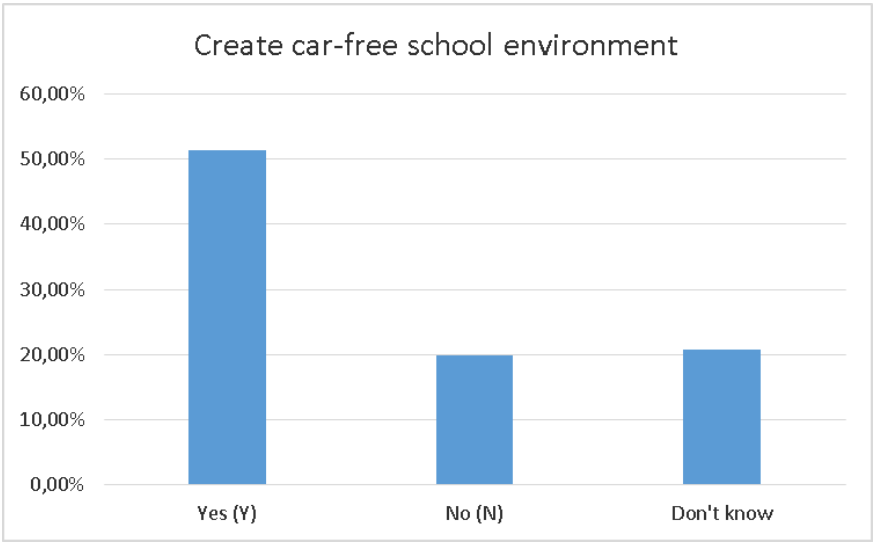


Figure 19: Response on the question if a car-free school environment would improve the perceived traffic safety

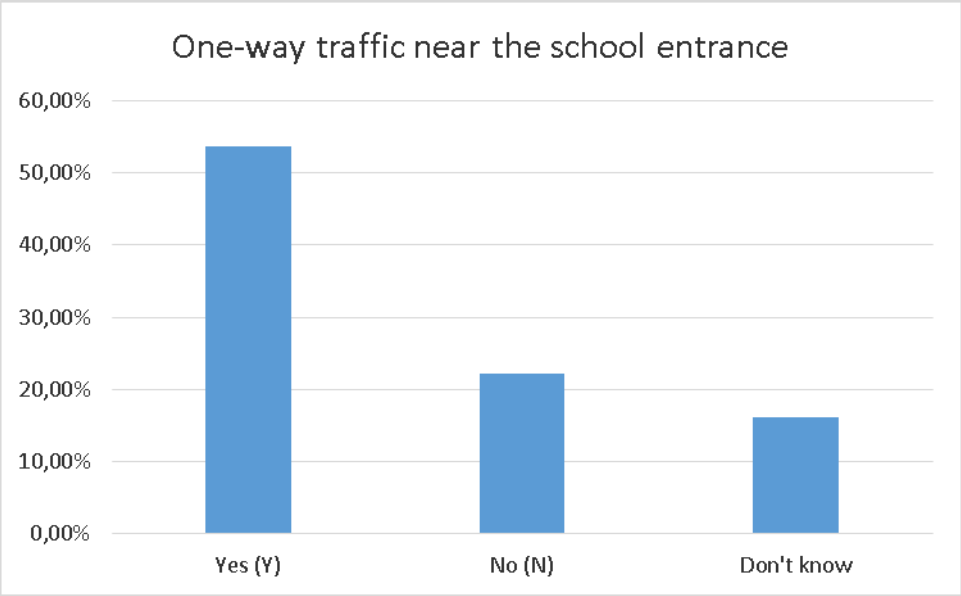


Figure 20: Response on the question if a one-way traffic circulation would improve the perceived traffic safety

Currently there is no school in the area "Land van Heusden en Altena" where a car-free zone is created, so no comparison can be made. There are however two schools with a one-way traffic circulation in the sample and enough response. If the numbers from those schools are compared, maybe something substantial can be concluded about this adjustment. This indicates, if the adjustment would improve the perceived traffic safety. The schools were a one-way traffic circulation is, are the school Burg. Sigmond in Werkendam and the school Oranje Nassau school in Veen. The analysed results are presented in Table 29.

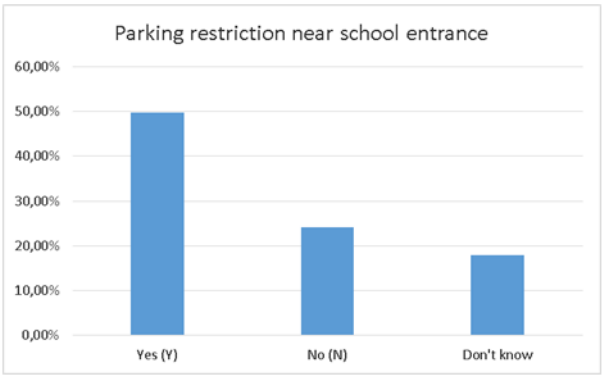
Table 29: Comparison between schools on the suggestion if a one-way traffic circulation would improve the traffic safety in the school zone

Would Creating a one-way traffic circulation improve the traffic safety in the school zone							
	Yes		No		Don't know		
School	#	Percentage	#	Percentage	#	Percentage	**Total**
All	162	58%	67	24%	49	18%	100%
Oranje Nassau	73	85%	3	4%	10	12%	100%
Burg. Sigmond	15	52%	10	34%	4	14%	100%

Analysis of the survey
Table 29 indicates that the one-way traffic circulation certainly has the potential to improve the perceived traffic safety in school zones. However, it is interesting to notice one school, where the one-way traffic circulation already is introduced, is scoring lower than all the schools together. Many responses which can be linked to the school Burg. Sigmond speak of people not maintaining the traffic rules. This may be the explanation the school scored bad analysing the objective data together with the subjective data which will be performed later on.

5.6.3. Wrongly parked cars in the school environment

Surveyed numbers
The most interesting graphs to show when the number of wrongly parked cars are analysed are shown in Figure 21.



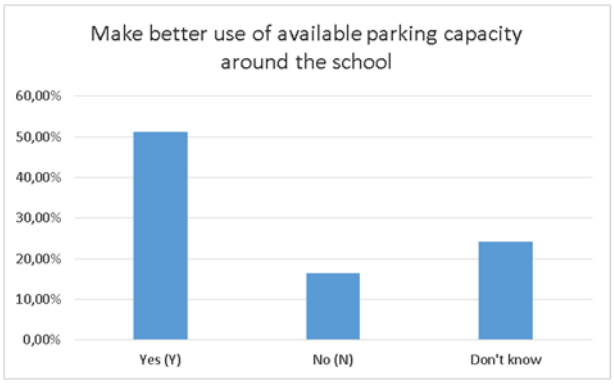


Figure 21: Answers on questions to improve the perceived numbers of wrongly parked cars

9 Schools indeed have a parking restriction near the entrance. The answers of the surveyed people for those 9 schools and the answers of the people who belong to schools without the parking restriction are compared in Table 30.

Table 30: Comparison between schools on the suggestion if a parking restriction near the entrance would improve the traffic safety in the school zone

Would a parking restriction near the school entrance improve the traffic safety in the school zone							
	Yes		No		Don't know		
Schools	#	Percentage	#	Percentage	#	Percentage	**Total**
All	150	54%	73	26%	54	20%	100%
With a parking restriction	95	59%	41	25%	26	16%	100%
Without a parking restriction	55	48%	32	28%	28	24%	100%

Analysis of the survey
Table 30 indicates that the parking restriction near the entrance of the school certainly has the potential to improve the perceived traffic safety in school zones. If you compare this with the tendency measured in paragraph 5.6.2 it is not that strong, but in the end the adjustment certainly has the potential to improve the perceived traffic safety.

Analysing the other graph in Figure 21 will only give straight forward outcomes. If a respondent feels the perceived traffic safety is at stake because there are too many wrongly parked cars in the environment, it is logical he or she feels the available parking capacity should be used better.

5.6.4. Driving speed in the school environment

Surveyed numbers
The statement made in 13-10 implies the direct connection between the perceived traffic safety in school zones with the speed of passing vehicles. This indeed was one out of the three relevant factors in 2010 (Fietsberaad, 2010; Slinger, 2015; van den Bos, 2013). However this connection doesn't seem very strong for the perceived traffic safety.

A very important element in road safety is the speed. Speed is one of the basic risk factors in traffic. Higher driven speed leads to higher collision speeds and therefore to more serious injuries. (SWOV, 2009). That is why it is very interesting to notice in Table 25 the speed of traffic passing the school is not a good explanation for the perceived traffic safety of the parents.

Analysis of the survey

Another interesting point which matters the speed of the traffic can be found in Table 21. There it can be found 60% of the questioned parents feel speed restricting elements will improve the traffic safety in school zone. It is common knowledge people always feel speed restricting elements will improve traffic safety (Hegeman, 2015) and therefore the found numbers are of no surprise.

5.7. Evaluation of found survey data

In this research it is found the elements which relates best to the perceived traffic safety are:

- The way people park their car in the environment;
- Traffic chaos around school;
- Available parking capacity near the school.

The measurements performed also measure the driven speed in the environment, since that element already is indicated to influence the perceived traffic safety in the past. In this research that element is also found as an explanation. On the other hand, two elements regarding parking in the school environment are in the presented list. These elements indicate more or less the same.

Therefore, explanation of the traffic safety is still found in the elements already questioned by the VVN in 2010 (Fietsberaad, 2010; van den Bos, 2013). The VVN only gave the percentages of the different elements. The assumption checked in this research is the perceived traffic safety can be linked to those different elements and environmental adjustments can improve it. This means it can be explained how much influence the different elements have on the perceived traffic safety. If you put this assumption into a formula, it looks like the formula presented:

$$PTSS \cong \propto_1 \#Cars + \propto_2 \#wrongly\ parked\ cars + \propto_3 \#Speed\ offenders$$

With

$$\cong = Can\ be\ explained\ by$$

$$PTSS = Perceived\ Traffic\ Safety\ in\ School\ environments$$

$$\#Cars = Perceived\ number\ of\ cars\ in\ the\ school\ zone\ during\ start\ ^{and}/_{or}\ ending\ of\ the\ school$$

$$\#wrongly\ parked\ cars = Perceived\ number\ of\ cars\ blocking\ other\ cars\ by\ the\ way\ the\ car\ is\ parked$$

$$\#\ speed\ offenders = Perceived\ number\ of\ cars\ not\ maintaining\ the\ speed\ restriction\ near\ the\ school$$

$$\propto_1, \propto_2, \propto_3 = factors\ determining\ the\ perceived\ traffic\ unsafety\ in\ school\ zones\ (per\ factor)(weights\ per\ element)$$

The different $\propto$'s will be given value with the help of the Cramérs V value already presented in Table 25. So the idea is with the help of the different values for the $\propto$'s a general advice can be given for municipalities on which element they should focus, when they want to improve the perceived traffic safety around school zones.

The presented numbers in Table 25 give a relation between the three mentioned elements of:

0.57 : 0.58 : 0.42 (too crowded ($\propto_1$) : parked cars ($\propto_2$): speed ($\propto_3$))

These numbers added should make 1 in the same proportion. In that way the numbers can be translated into percentages. If these values indeed are translated into percentages the contribution of the three elements for the perceived traffic safety in school environments is:

- Too crowded around school zones ($\propto_1$); the contribution is 36%.
- Too many wrongly parked cars in the environment ($\propto_2$); the contribution is 37%.
- Car drivers not maintaining the speed limit in the environment ($\propto_3$); the contribution is 27%.

This fact implies municipalities have the option to increase the perceived traffic safety for 36% by investments in the element too crowded around school zones. The same holds for 37% if they

invest their money into elements which should positively influence the element too many wrongly parked cars and for 27% in the element speed limit.

If you compare the found numbers with the presented percentages of the VVN in 2010 the comparison differ. The VVN found the most influence can be given on too many cars in the school zone (86%), then to wrongly parked cars (79%) and then to cars not maintaining the speed restriction (63%). If you normalize the numbers of the survey of the VVN the numbers are 0.37, 0.35 and 0.28. Translated into percentages the found influence by the VVN is:

- Too crowded around school zones; the contribution is 37%.
- Too many wrongly parked cars in the environment; the contribution is 35%.
- Car drivers not maintaining the speed restriction in the environment; 28%.

The VVN did not analyse these factors, so the comparison made is not completely sound. Nevertheless, it can be concluded the found numbers are almost identical.

How the analysed numbers in this chapter can be used by the municipalities, on a school level, will be explained in a next chapter, the policy advice.

Answer on research question

The answer on the sub research question for this chapter is already analysed in paragraph 5.4. In this analysis it is indicated the feeling of traffic safety in school environments is worse in 2015 than it was in 2010. Worse in this way indicates more people feel the school environments are not traffic safe. On the other hand the found percentages do not differ significantly and therefor the feeling can be regarded as the same.

6. COMPARISON OF OBJECTIVE AND SUBJECTIVE MEASUREMENT DATA

The objective and subjective measurement data presented in chapter 4 and 5 will be confronted in this chapter. First, the subjective data is analysed in relation with the objective data. Then the data are confronted to find out to what extent objective adjustments improve the perceived traffic safety. After that, the assumption presented in the introduction will be evaluated. By analysing and comparing both measured numbers the sixth sub research question can be answered:

How does the subjective feeling of traffic safety relates to the results obtained by evaluating the traffic safety in school environments?

6.1. Analysing measured data

The general perceived traffic safety feeling for the schools out of the sample is presented in the first paragraph and compared to the general numbers found from all the schools together. Then after the presentation of the average values the focus is directed on the three already named elements. In order to analyse the data step by step, the set-up of it is the same. First, average values will be given. After this, selected schools acting in the sample are compared. Then the results of the survey are taken into account and finally the data of the survey will be analysed next to the objective data. Only for the paragraph about the general perceived traffic safety not all elements are discussed in the analysis.

6.1.1. General perceived traffic safety

General

The first check of the sample schools will be if indeed the general feeling of traffic safety can be compared with the analysed perceived traffic safety of the entire population. The perceived traffic safety of the sample schools is shown in Table 31. Since the sample schools generated sufficient response in the survey, except the school De Akker, the numbers can be used to compare the feeling of traffic safety among each other. One needs to keep in mind that the number of participants are too low to draw relevant conclusions about the separate schools.

Survey comparison

The schools acting in the sample because of the expected traffic unsafe school environments are De Akker, Regenboog, Waardhuizen and De Hoeksteen. Some interesting values in Table 31 stand out:

- One school stands out in the score in a negative way and that school is De Hoeksteen in Aalburg. This school acts in the sample because of the elements passing speed of vehicles and wrongly parked cars;
- The school Burg. Sigmond acts in the sample because of its safe environment. However, almost half of the people feel the school environment is not traffic safe;
- The environment of the school Waarhuizen is indicated as safe for traffic by its users. The school acts in the sample because of the expected unsafety for traffic of the environment.

The average percentage of people who think the school environment is unsafe or very unsafe from schools acting in the sample is 42%. Looking at the general number of 39% people who think the school environment is unsafe or very unsafe, this value is comparable. However, bearing in mind that school The Akker was supposed to have an unsafe traffic environment, a survey would probably have increased the 42%

Table 31: General perceived traffic safety of participants belonging to the schools out of the sample

How do you feel about the traffic safety in the school environment? School	Very safe	Safe	Not safe/not unsafe	Unsafe	Very unsafe	Percentage unsafe/very unsafe
De Akker, Werkendam	0	0	0	0	0	No response
Regenboog, Nieuwendijk	0	7	7	9	1	42%
Burg. Sigmond, Werkendam	0	5	10	11	3	48%
Het Baken, Werkendam	0	2	3	0	0	0%
Waardhuizen, Waardhuizen	0	8	3	0	1	8%
Ravelijn, Woudrichem	1	12	5	1	1	10%
Oranje Nassau, Veen	1	22	36	27	0	31%
De Hoeksteen, Aalburg	0	1	11	25	15	77%

6.1.2. Number of cars in school environment

General

The numbers of cars in all the analysed areas are not exceptional compared with the general numbers in the Netherlands. Only the number of passing vehicles in the street of De Akker and Regenboog are high compared with the other schools. Also the numbers per peak hour are not alarming if these numbers are translated into numbers for the whole day and compared with the general numbers in the Netherlands.

Sample comparison

The schools which are in the sample because theoretically it was expected they score the best on the criteria of the number of cars in the school environment are Burg. Sigmond, Ravelijn and Oranje Nassau. It is at least remarkable these schools have the highest percentage of passing vehicles in the morning peak. This can be explained by the situation of the schools compared to its surrounding. The schools are situated on roads which have a very little volume of traffic passing by during the day. This fact indicates this indicator is implemented correctly into the sample.

The schools which are in the sample because theoretically it was expected they score the lowest on the criteria of the number of cars in the school environment are De Akker, Regenboog and Waardhuizen. For the schools De Akker and Regenboog the number of vehicles passing by during the day lies the highest in comparison with the other schools.

The results for Waardhuizen were a little overestimated. The position and the design of the road suggests many passing vehicles. It was underestimated how small the school and the village in reality are. Therefore, the position of the school Waardhuizen in the list is not correct based on the measurements.

Survey comparison

The question best suited to measure the perceived traffic safety on the number of cars in the school zone/lack of overview is the question; how satisfied are you with the crowdedness around the school. In Table 32 the responses of people belonging to the schools out of the sample are shown.

Table 32: Satisfaction on the crowdedness around the school of participants belonging to the schools out of the sample

How satisfied are you with the crowdedness of traffic around the school? / School	Very unhappy	Unhappy	Nor happy/ nor unhappy	Happy	Very Happy	Percentage below average	Percentage above average
De Akker, Werkendam	0	0	0	0	0	No response	No response
Regenboog, Nieuwendijk	4	11	4	4	1	63%	21%
Burg. Sigmond, Werkendam	7	16	5	1	0	76%	4%
Het Baken, Werkendam	0	5	0	0	0	100%	0%
Waardhuizen, Waardhuizen	2	0	7	2	1	17%	25%
Ravelijn, Woudrichem	1	8	7	3	1	45%	20%
Oranje Nassau, Veen	25	31	22	5	0	66%	6%
De Hoeksteen, Aalburg	26	15	9	1	0	80%	2%

Analysing survey data

No school scores higher than the average, than it scores on below the average, except the school Waardhuizen. Already concluded, the position of this school in the sample is questionable.

The score for the school Het Baken cannot be counted for as representative since the low number of participants. It is however notable all of the participants feel the crowdedness around the school scores below average. On the other hand people apparently tend to score below average on this subject because the objective numbers say something else.

The schools which are in the sample because theoretically it was expected they score the best on the criteria of the number of cars in the school environment are Burg. Sigmond, Ravelijn and Oranje Nassau. The schools Burg. Sigmond and Oranje Nassau score badly on the indicator however. Both of the schools do have one-way traffic circulation in their school environment. The fact both of the schools score bad maybe indicates that when one-way traffic circulation is implemented, the feeling of crowdedness grows among users.

Ravelijn scores as expected also if you look at the general tendency. This indicates the school environment of the school Ravelijn can be taken as a good example if one wants to design the school environment safe for traffic based on the indicator of crowdedness around the school. The school zone in front of the school Ravelijn is shown on Figure 22.

Figure 22: School zone in front of the school Ravelijn in Woudrichem

For the schools which act in the sample because theoretically it was expected they score the least on the criteria of the number of cars in the school environment are De Akker, Regenboog and Waardhuizen. As already concluded the position of the school Waardhuizen is not justified and the school De Akker doesn't have participants. The school De Regenboog scores below average as expected.

The scoring of the school De Hoeksteen is the most outstanding. This fact maybe also can be explained by the big number of students on the school as can be seen in Table 17. Although the indicator does not stands solely. It can possibly also be affected by for example the number of wrongly parked cars in the school environment and/or the passing speed of vehicles.

Looking at the general tendency of the numbers in Table 32 and then looking at the size of the schools in Table 17 it can be concluded the bigger the school the more the feeling of crowdedness in the area grows. If you look at those numbers the position of the school Burg. Sigmond is surprisingly. Based on objective happenings this cannot be explained, only maybe as already indicated by the one-way traffic circulation.

6.1.3. Wrongly parked cars in the school environment

General

First general comments are made on the measurement method chosen and the way it is presented: The time of the wrongly parked cars can be influenced by for example one car in the environment being wrongly parked the whole measured period and therefore makes that number high. That is why the feeling is there, the number of wrongly parked cars is of more meaning for this complaint. This can be checked by comparing the survey with the objective results.

Sample comparison

You can say something about the size of the school and compare this with the number of wrongly parked cars. This explains the high position of the big school De Hoeksteen in Table 14. On the other hand Het Baken and Oranje Nassau are bigger schools as well but don't have many wrongly parked cars in their environment. If this has to do with the way the school zone is set up can be investigated with help of the objective data, derived by creating the sample.

The schools acting in the sample because of the wrongly parked cars indicators are for the best scoring school Het Baken and for the least scoring school De Hoeksteen. Looking at the results of the measurements the results can be predicted.

Explanations can be found for the indicators in which the schools differ the most. These indicators are the parking spaces near the entrance and the location of the parking spaces in general.

Survey comparison

The question best suited to measure the perceived traffic safety on the number of cars in the school zone is the question how satisfied are you with the way people park their car in the school zone. In Table 33 the responses of people belonging to the schools out of the sample are shown.

Table 33: Satisfaction on the way people park their car in the school zone of participants belonging to the schools out of the sample

How satisfied are you with the way people park their car in the school environment? / School	Very unhappy	Unhappy	Nor happy/ nor unhappy	Happy	Very Happy	Percentage below average	Percentage above average
De Akker, Werkendam	0	0	0	0	0	No response	No response
Regenboog, Nieuwendijk	5	11	3	4	1	76%	10%
Burg. Sigmond, Werkendam	5	14	3	6	1	66%	24%
Het Baken, Werkendam	0	1	1	2	1	20%	60%
Waardhuizen, Waardhuizen	0	4	2	5	1	33%	50%
Ravelijn, Woudrichem	2	5	2	9	1	35%	50%
Oranje Nassau, Veen	27	27	21	6	2	65%	10%
De Hoeksteen, Aalburg	35	12	4	0	0	92%	0%

Analysing survey data

What stands out is if Table 33 is compared with Table 32 there are three schools for which the percentage above average is higher than the percentage below average, while in Table 32 there is only one school where that is the case.

The response rate for the school Het Baken is already indicated to be very low. This facts makes it impossible to draw some relevant conclusions on those numbers. However, the tendency is people making use of that environment are satisfied on the way the people park their car.

The school De Hoeksteen scores far the least out of the schools acting in the sample. This was already predicted and the objective numbers in this case supports the opinion of the users. How this can be explained has to do with the already mentioned indicators of the parking spaces near the entrance and the location of the parking spaces in general.

6.1.4. Driving speed in the school environment

General

Looking at Figure 8 it can be seen little difference in driving speed during the normal day and during the opening of the school zone exist. For the school Waardhuizen it even seems to work the other way around, meaning the passing speed of the vehicles is higher during the opening of the school day. De Akker is the only school where the differences are relevant. This raises the question whether the marking of school zones works for users. Looking at Figure 9 it can be concluded the difference between the schools looking at the driving speed for vehicles passing the school is very big. In the sample there are three schools which stand out negatively.

Looking at Figure 10 four schools where the general speed of passing vehicles lies high can be seen. If this is explainable by looking at the environments will be analysed in the sample comparison. Finally looking at Figure 11 the question rises if the position of Perzikstraat in the school zone is traffic safe. The explanation is the road Perzikstraat is a road were you are allowed to drive 50km/h in general. Only at the bicycle path intersection in front of the school De Hoeksteen the maximum speed is lowered to 30km/h. Apparently this lowering doesn't work and it does not result in vehicles drive less fast.

Sample comparison
The school which is in the sample because theoretically it was expected it scores the best on the criteria of driving speed in the school environment is Burg. Sigmond. Indeed the average driving speed in the environment of the school is the lowest of all the schools out of the sample. Given the position of the street the school lies on this is not surprising.

The schools which are in the sample because theoretically it was expected they score the least on the criteria of driving speed in the school environment are De Akker, Waardhuizen and De Hoeksteen. For two out of the three schools the speed of vehicles passing by during the day lies the highest, in the comparison with the other schools. This has to do with the position of the road the schools lies in, looking at the road network. The results for Waardhuizen were a little bit overestimated. Although indeed Waardhuizen is one of the schools out of the sample were the speed lies the highest, the measured speed is not as high as expected. This is the second time the school Waardhuizen was overestimated objectively. It must be analysed how the school results in the survey.

Survey comparison
The question best suited to measure the perceived traffic safety on the driving speed in the school environment is the question how satisfied are you with speed people drive in the school zone. In Table 34 the responses of people belonging to the schools out of the sample are shown.

Table 34: Satisfaction on the speed people drive in the school zone of participants belonging to the schools out of the sample

How satisfied are you with the speed of traffic passing the school environment? / School	Very unhappy	Unhappy	Nor happy/ nor unhappy	Happy	Very Happy	Percentage below average	Percentage above average
De Akker, Werkendam	0	0	0	0	0	No response	No response
Regenboog, Nieuwendijk	4	9	6	5	0	54%	21%
Burg. Sigmond, Werkendam	11	10	6	2	0	72%	7%
Het Baken, Werkendam	0	1	3	0	1	20%	20%
Waardhuizen, Waardhuizen	1	7	3	1	0	67%	8%
Ravelijn, Woudrichem	0	5	8	6	1	25%	35%
Oranje Nassau, Veen	3	14	33	31	2	20%	40%
De Hoeksteen, Aalburg	12	17	16	5	1	57%	12%

Analysing survey data

Two schools score a higher percentage above average than they score below average. These are the schools Oranje Nassau and Ravelijn. This fact indicates the driven speed in those school environments is low and is perceived low.

The school acting in the sample because it was expected the passing speed of the vehicles was low is the school Burg. Sigmond. As can be seen in Figure 8, indeed the passing speed of the vehicles is low. However, the results of the survey show the perceived passing speed of the vehicles is high. So in this case the perceived feeling and the reality do not match. Explanations maybe can be found in the one-way traffic circulation or in the street the school zone lies next to. This is namely the street the school zone of De Akker finds itself in and the speed in that street indeed lies high, as can be seen again in Figure 8.

The school acting in the sample because it was expected the passing speed of the vehicles was high are the schools De Akker, Waardhuizen and De Hoeksteen. For De Akker there is a lack of data as already explained. The position of Waardhuizen in the sample based on the speed indicators seems correct because indeed the perceived speed is high and the measured speed is also high, as can be seen in Figure 8. For the school De Hoeksteen the high numbers are correct looking at Perzikstraat in Figure 8. Looking at the street Kerkverreweide the data obtained via the survey doesn't seem correct. The idea is when people say the speed is too high, they actually look at streets where the speed indeed is high. A part of the Perzikstraat is part of the school zone, so this is indicated as correct.

6.2. Subjective data vs. objective data for the sample schools

In this paragraph will be analysed to what extent the objective and subjective data, measured in the research, match. In that way can be derived how much environmental adjustments influence the perceived traffic safety.

For both the objective score as for the subjective score a formula is presented below. After the formula it is explained in a stepwise approach how the numbers are found:

$$OP_a^b = ((OS_a^b - MiS_a) * 100)/(MaS_a - MiS_a)$$

With

$$OP_a^b = Objective\ percentage\ for\ school\ b\ for\ analysed\ category\ a$$
$$OS_a^b = Objective\ (weighted)\ score\ for\ school\ b\ for\ analysed\ category\ a\ in\ the\ MCA$$
$$MaS_a = Maximum\ possible\ to\ obtain\ score\ in\ the\ MCA\ for\ analysed\ category\ a$$
$$MiS_a = Minimum\ possible\ to\ obtain\ score\ in\ the\ MCA\ for\ analysed\ category\ a$$

and

$$SP_a^b = ((SSc_a^b - MiS_a) * 100)/(MaSc_a - MiSc_a)$$

With

$$SP_a^b = Subjective\ percentage\ for\ school\ b\ for\ analysed\ category\ a$$
$$SSc_a^b = Subjective\ (weighted)\ score\ for\ school\ b\ for\ analysed\ category\ a\ in\ the\ survey$$
$$MaSc_{a\ a}^b = Max.possible\ to\ obtain\ score\ in\ the\ survey\ for\ school\ b\ for\ analysed\ category\ a$$
$$MiSc_a^b = Min.possible\ to\ obtain\ score\ in\ the\ survey\ for\ school\ b\ for\ analysed\ category\ a$$

In the following stepwise approach is explained how the percentages are found and the formulas are filled in with the right values:

- Measured traffic safety; Based on the theoretical framework is analysed what the possible to obtain maximum score per analysed category is. The same holds for the possible to obtain minimum score. In the second step is looked up what the score for every school, out of the sample, is. Based on these numbers is analysed what the percentage of the maximum to obtain objective score is. An example is; for the element speed it is possible to score 13 points in the theoretical framework. The minimum score is 3.5 points. The school Burg. Sigmond scores 11 points for the element speed. This indicates an objective score of 74% (((11-3.5)*100)/(13-3.5));
- Subjective measurements; Then the results of the survey are ranked in values. This is done in order to make it possible to create a comparison between both analysed traffic safeties. For this analysis the answers on the needed questions are translated into three categories again. For the mathematical transition, the following is used:
    - If respondents answered with the satisfaction very unhappy/unhappy the answer is translated into a score of 1;
    - If respondents answered with the satisfaction nor unhappy/nor happy the answer is translated into a score of 2;
    - If respondents answered with the satisfaction nor happy/very happy the answer is translated into a score of 3.

  An example is; for the school Burg. Sigmond 29 people answered the survey. So a maximum of (3*29=) 87 points could be gathered in the survey. The minimum score is 29. The school scored 39 points on the element speed. This indicates a subjective score of 17% (((39-29)*100)/(87-29)).
- Graphs per school can be set up with the help of the found percentages. Six of the graphs are presented in Figure 23. The rest of the created graphs are presented in Appendix K; Comparison of objective and subjective data;
- The school De Akker didn't have any response on the survey. The previous steps are not made for that school therefore;

- Not all the rates of the responses per school are high enough to draw relevant conclusions on the found data. The schools with response however, are all analysed. How much response the school gathered is indicated to not be relevant for this analysis.

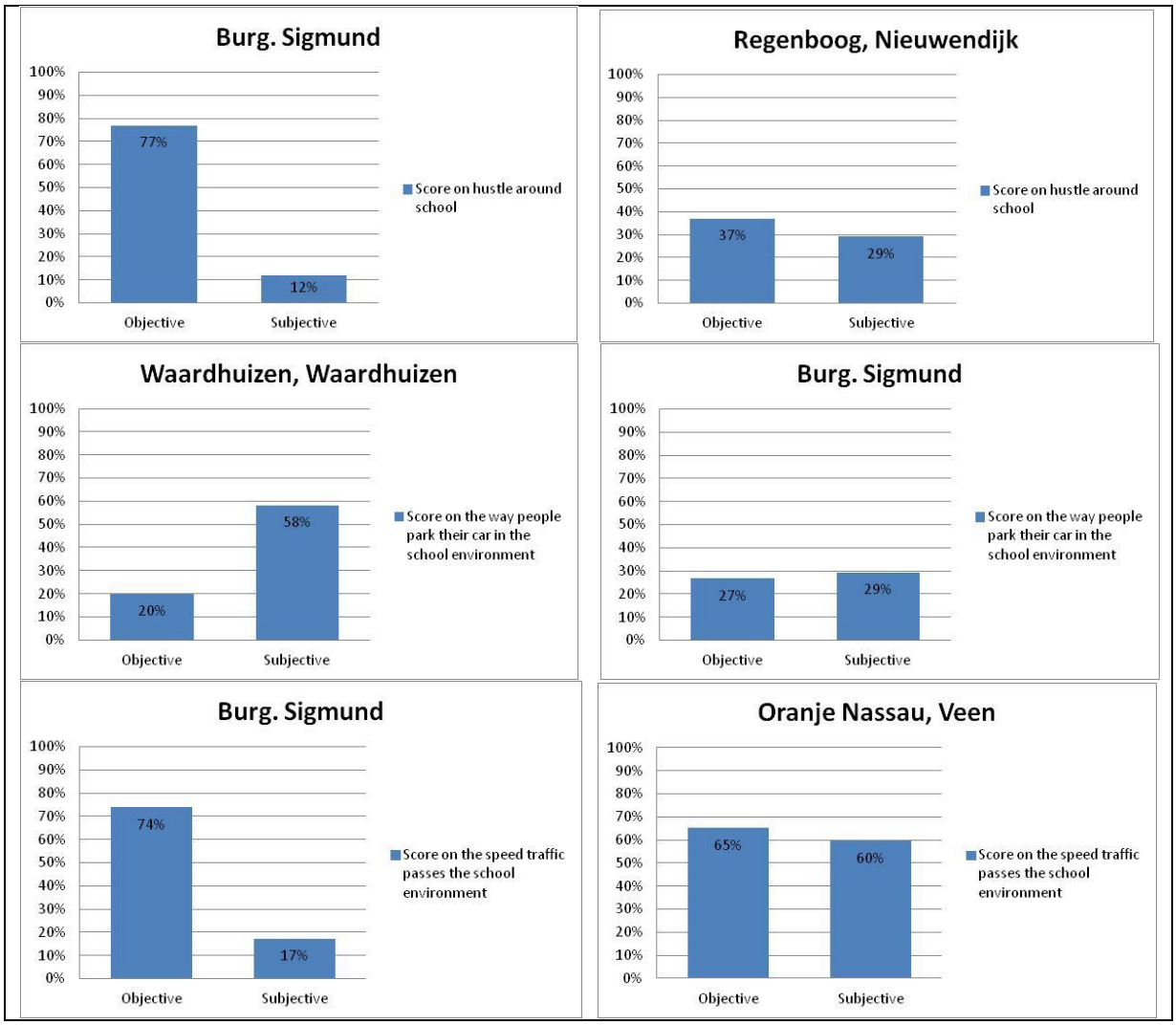


Figure 23: Graphs of the comparison between the subjective and objective data (left the largest difference and right the smallest)

The difference between the percentages of the subjective and the objective data indicates the objective explanation of the perceived traffic safety. The obtaining differences in percentages are added for all 7 analysed schools to compare this explanation for every category. The found differences are indicated with percentage point, in order to only show the differences. No mathematical transitions can be based on the presented numbers. The smallest difference in total is found for the category of wrongly parked cars. The found difference is 93%. in total. The found difference for the speed category is 145%. in total. The difference for the crowdedness around school category is 264%. These numbers indicate which category is best objectively explained.

Answer on research question

To answer the research question, asked in the beginning of this chapter, the division between the elements for the perceived traffic safety again is used.

Too crowded in school zones
Analysed in chapter 6, this subjective traffic safety complaint cannot be objectively evaluated. The results of the measurements outside and the results of the survey do not match. Explanations for the numbers may be found by logical reasoning, but in that way only the found numbers for one school can be explained.

Wrongly parked cars in the school environment
Evidence, by the performed measurements, points in the direction this element indeed can be objectively evaluated. The indicators, which have the strongest relationship with the perceived traffic safety for the wrongly parked cars in the school environment, are the parking spaces near the entrance and the location of the parking spaces in general. Parking spaces alongside the road at the side of the school is the best option for the location of the parking spaces.

Driving speed in the school environment
Also this element can be explained objectively. This also has to do with the position of the road, the school lies on, in the road network. On the other hand there is the school Burg. Sigmond where the measured speed is low, but the perceived speed is high. Although this one example points out in another direction, the general idea is this element can be objectively explained. The most important influential factors are the speed limit in the environment, together with the element of the self-explaining road.

The order of the elements is the answer on one of the main research question and will be answered in the conclusion.

7. POLICY ADVICE

The policy advice for municipalities is presented in this chapter. The policy advice consists of a step by step approach, which municipalities could follow when they want to improve the perceived traffic safety by parents in school zones. This so-called process design is presented in the first paragraph. Two case studies to show how the step by step approach in reality works, are presented in the second paragraph. The two example applications are performed at schools out of the case study performed for the research. The chapter of the policy advice is concluded by analysing if the step by step approach works (or not).

7.1. Process design

A step by step approach can be given to the municipalities, with help of the performed research. In the current situation municipalities do not have the option to improve school zones with such a step by step approach. Making school zones safer for traffic is a solely subject for municipalities and they don't have formal recommendations. The presented step by step approach is a process design. When a municipality wants to improve the perceived traffic safety in school zones, these steps could be followed;

1. A theoretical framework has been set up for the research. Which adjustments in the environment a school zone must have to be safe for traffic is analysed with the help of the framework. This framework must be filled in for the school, where the goal is to increase the perceived traffic safety;
2. Use the filled in theoretical framework to judge the school environment. This judgement should be performed by traffic safety experts. Which environmental adjustments are missing in the school zone can be made objective in that way;
3. Determine the current traffic safety perceived by the parents. This can be done by surveying the involved parents. Questions out of the survey, used for this research, can be used in this step. In order to find the shortcomings for the school zone the results of the survey can be used and an analysis can be performed on the aspects:
    1. Too crowded in the school zone;
    2. Wrongly parked cars;
    3. Not maintaining the speed limit in the environment.

    This step is done in order to prioritize the possible to be the possible adjustments.
4. Evaluate the possibilities to obtain the wished perceived traffic safety using the results of the previous steps. Where the possibilities lie to positively influence the perceived traffic safety can be determined in that way. The adjustments which can be done in order to improve the perceived traffic safety can best be located at the element(s) which score low on both of the objective as the subjective scores. In this way the prospect of improving the perceived traffic safety is higher.

This step by step approach is going to be tested in two case studies in the next paragraph.

7.2. Application

To give an example of how to make use of the presented knowledge a model has been set up for the involved municipalities. The working of this model is shown in two case studies for the schools:

- Oranje-Nassau School in Veen, shown on Figure 24;
- CBS De Regenboog in Nieuwendijk, shown on Figure 25.

Figure 24: School zone for the school Oranje-Nassau in Veen

Figure 25: School zone for the school CBS De Regenboog in Nieuwendijk

The presented step by step approach that needs to be followed in order to improve the perceived traffic safety by the parents for the school environments is shown below:

1. Fill in the theoretical framework;
2. Expert judgement of the school environment;
3. Determine the current perceived traffic safety and analyse the shortcomings for the school zone on the aspects:
    a. Too crowded around school zones;
    b. Too many wrongly parked cars in the environment;
    c. Car drivers not maintaining the speed limit in the environment.
4. Analyse the possibilities to obtain the whished perceived traffic safety.

Fill in the theoretical framework
The meant theoretical framework is already filled in with the help of the created check list for all the schools in the area “Land van Heusden en Altena”. The theoretical framework is presented in Appendix C; Inventory Schools. This is normally not the case and the checklist presented needs to be filled in for the schools.

Expert judgement of the school environment
How well or poorly the schools scores on the different criteria can be determined with the help of the filled in theoretical framework. This is shown in Table 35. The list of criteria gives enough support to make adjustments in the school zone where the goal is to increase the perceived traffic safety in the school environment.

Table 35: Judgement for the schools De Regenboog and Oranje Nassau based on the theoretical framework

Score Card	De Regenboog, Nieuwendijk	Oranje Nassauschool, Veen
Speed restriction in environment indicators		
Speed restriction in environment	+	+
Self-explaining road	+	++
Take-over restriction	-	-
Local speed restriction	-	-
Speed measurements	-	-
Number of worngly parked cars indicators		
Stop-restriction near entrance	-	+
Within 25 metres of the entrance no parking spaces	-	o
Location parking-spaces	++	--
"Kiss and Ride" places	-	-
Parking space for school bus	-	-
Number of cars in the area/lack of overview indicators		
Design of crossings	-	++
Waiting room for the parents	-	+
Parking room bicycles for the children	+	o
Marking school zone (+vertical elements)	o	o
Seperation of school exit	-	+
Other materials in school zones then on connecting roads	-	-
One-way traffic	o	+
Seperation of entrance for bicycles and pedestrians	-	-

Determine the current perceived traffic safety
The current perceived traffic safety is determined by the mean survey. To present the useful outcomes for the schools, a division between them is made.

Oranje-Nassau School
The question that first needs to be answered is; are there enough participants in the survey to make some relevant conclusions for the school Oranje-Nassau in Veen. In Table 17 can be seen the school has 249 pupils. This means 125 possible participants (XTNT, 2014). Filling in the presented formula in chapter 5.3 for the corrected minimal sample size with an error margin of 5%, the number of responses should be 94. If the error margin may be 6%, the minimal sample size becomes 85. The number of participants for the school Oranje-Nassau in the survey is 93. This is indicated as enough response for relevant conclusions.

Because the school Oranje-Nassau in Veen already was part of the performed case study in the report, the current perceived traffic safety for the school is known and shown in Figure 26.

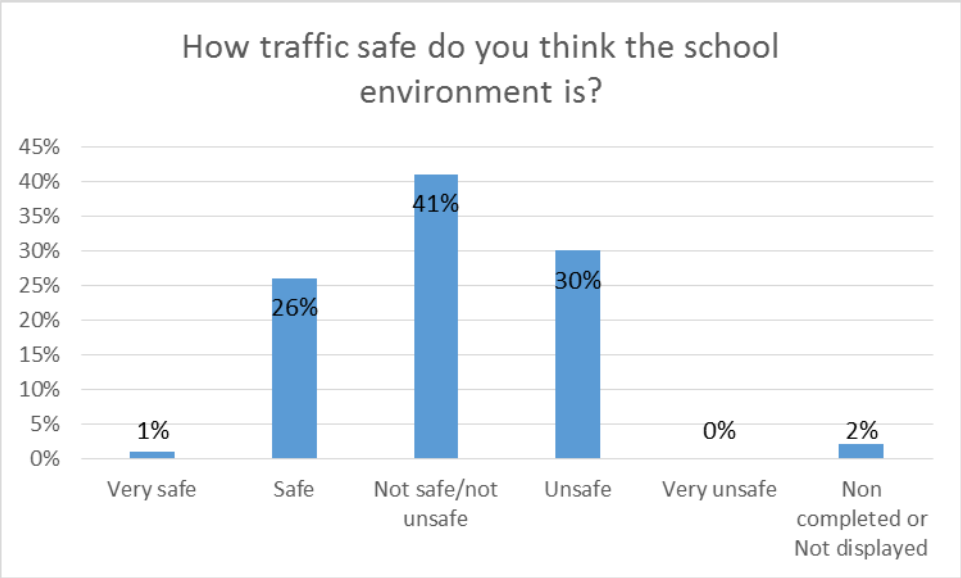


Figure 26: Graph of percentage of participants for the school Oranje-Nassau on how they feel about the traffic safety in the school environment

The general tendency of the graph shown in Figure 26 is more towards safe than the general graph shown in Figure 14. In the end also for this school almost 1 out of the 3 parents think the school environment, their child goes to, is traffic unsafe. If this is a reason to seek for ways to adjust the environment is a choice municipalities should make. For the case study this question is answered with yes. In that way can be shown what other steps should be taken to increase the perceived traffic safety by objectively measurable environmental adjustments.

It must be looked at the most explanatory questions individually in order to determine which of the named three elements is the most explanatory for the perceived traffic safety. Which of the questions are the most explanatory is already analysed in the report. For all three elements the results for the school Oranje-Nassau are presented below in Table 36, Table 37 and Table 38.

Table 36: Satisfaction on the crowdedness around the school of participants for the school Oranje-Nassau

How satisfied are you with the crowdedness of traffic around the school School	Very Happy	Happy	Nor happy/ nor unhappy	Unhappy	Very Unhappy	Percentage above middle	Percentage below middle
Oranje Nassau, Veen	0	5	22	31	25	6%	68%

Table 37: Satisfaction on the way people park their car in the school zone of participants for the school Oranje-Nassau

How satisfied are you with the way people park their car in the school environment?	Very Happy	Happy	Nor happy/ nor unhappy	Unhappy	Very Unhappy	Percentage above middle	Percentage below middle
School							
Oranje Nassau, Veen	2	6	21	27	27	10%	65%

Table 38: Satisfaction on the speed people drive in the school zone of participants for the school Oranje-Nassau

How satisfied are you with the speed other traffic passes the school?	Very Happy	Happy	Nor happy/ nor unhappy	Unhappy	Very Unhappy	Percentage above middle	Percentage below middle
School							
Oranje Nassau, Veen	2	31	33	14	3	40%	20%

The most striking element is the crowdedness around school. It is difficult to make adjustments in the environment which increase the perceived traffic safety on that aspect as analysed in the report. The focus therefore needs to be on the second most striking element. This indicates the perceived traffic safety in the environment is most influenced by the element; too many wrongly parked cars in the environment. Adjustments which aim to positively influence the parking in the environment are the most promising to increase the perceived traffic safety.

Looking at the graphs presented in chapter 6 Subjective data vs. objective data, the three named elements can be analysed again. The meant graphs are presented in Figure 27.

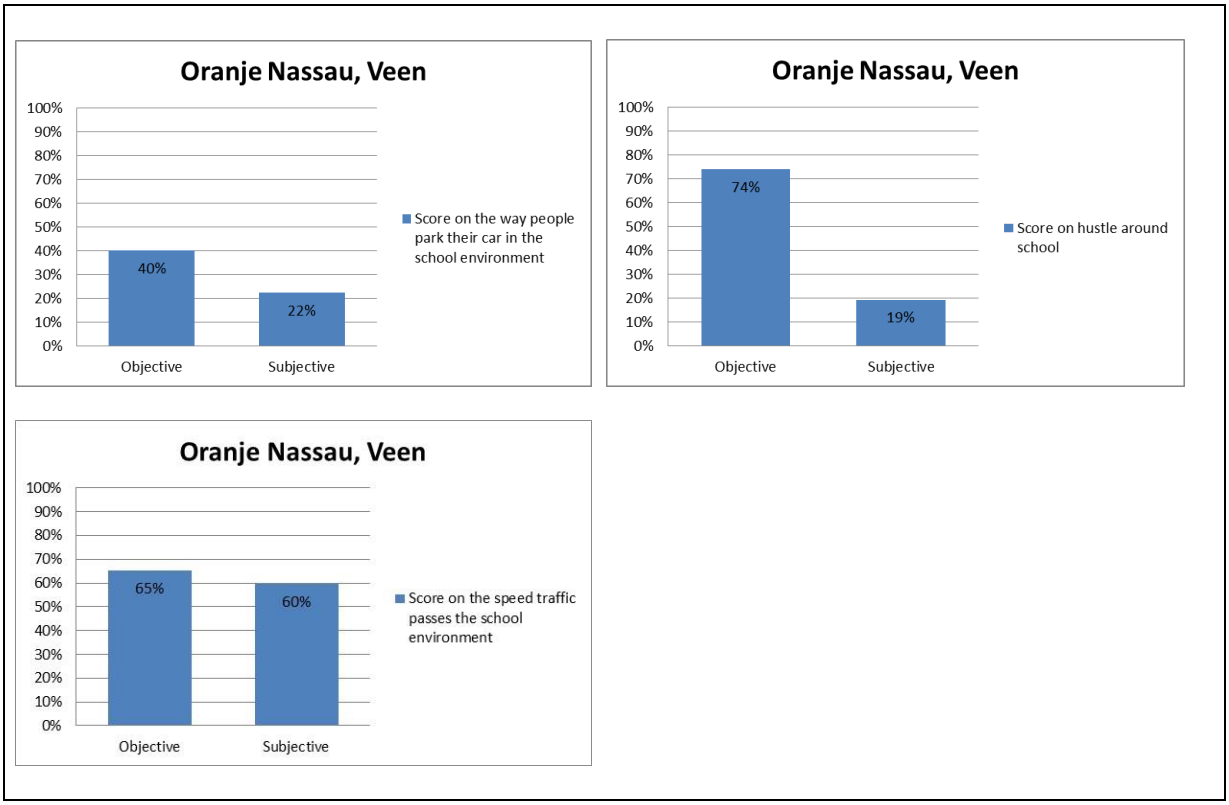


Figure 27: Comparison of subjective and objective data for the school Oranje Nassau in Veen

Looking at the graphs and knowing what they mean, the second analysed step also points in the direction of making adjustments in the environment which positively influence the parking element are the most promising, when the municipality wants to improve the perceived traffic safety in the school environment. This is concluded for two reasons:

- The subjective satisfaction about the parking element is not high with only 22%;
- The objective satisfaction about the parking element is the least of all three elements.

This makes it the most promising element to improve the objective traffic safety.

CBS De Regenboog

The question that first needs to be answered is; are there enough participants in the survey to make some relevant conclusions for the school CBS De Regenboog in Nieuwendijk. In Table 17 can be seen the school has 289 pupils. This means 145 possible participants (XTNT, 2014). Filling in the presented formula in chapter 5.3 for the corrected minimal sample size with an error margin of 5%, the number of responses should be 105. If the error margin may be 6%, the minimal sample size becomes 94. The number of participants for the school CBS De Regenboog in the survey is 24. This number is not enough to analyse relevant outcomes. To show the working of the model the response rate is indicated not to be enough.

Because the school CBS De Regenboog in Nieuwendijk already was part of the performed case study in the report, the current perceived traffic safety for the school is known and shown in Figure 28.

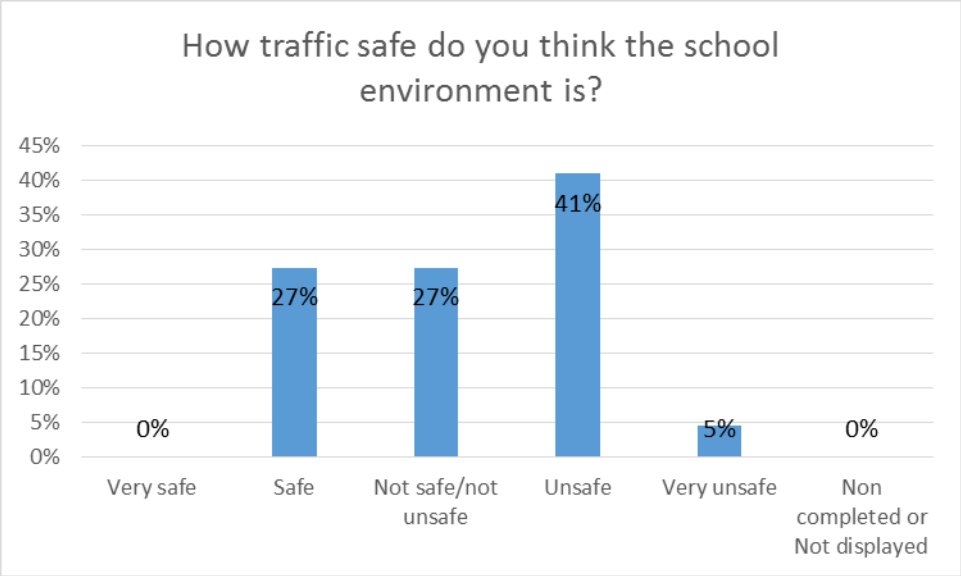


Figure 28: Graph of percentage of participants for the school Regenboog on how they feel about the traffic safety in the school environment

The general tendency of the graph shown in Figure 28 is more towards unsafe than the general graph shown in Figure 14. If this is a reason to seek for ways to adjust the environment is a choice municipalities should make. For the case study this question is answered with yes. In that way can be shown what other steps should be taken to increase the perceived traffic safety by objectively measurable environmental adjustments.

It must be looked at the most explanatory questions individually in order to determine which of the named three elements is the most explanatory for the perceived traffic safety. Which of the questions are the most explanatory is already analysed in the report. The results for all three elements for the school CBS De Regenboog are presented below in Table 39, Table 40 and Table 41.

Table 39: Satisfaction on the crowdedness around the school of participants for the school Regenboog

How satisfied are you with the crowdedness of traffic around the school?	Very Happy	Happy	Nor happy/ nor unhappy	Unhappy	Very Unhappy	Percentage above middle	Percentage below middle
School							
Regenboog, Nieuwendijk	1	4	4	11	4	21%	63%

Table 40: Satisfaction on the way people park their car in the school zone of participants for the school Regenboog

How satisfied are you with the way people park their car in the school environment?	Very Happy	Happy	Nor happy/ nor unhappy	Unhappy	Very Unhappy	Percentage above middle	Percentage below middle
School							
Regenboog, Nieuwendijk	1	4	3	11	5	10%	76%

Table 41: Satisfaction on the speed people drive in the school zone of participants for the school Regenboog

How satisfied are you with the speed other traffic passes the school?	Very Happy	Happy	Nor happy/ nor unhappy	Unhappy	Very Unhappy	Percentage below middle	Percentage above middle
School							
Regenboog, Nieuwendijk	3	9	5	4	0	57%	19%

The most striking element is the too many wrongly parked cars in the environment. Already stated is the number of participants in the survey for the school Regenboog too low to draw relevant conclusions. The idea in this analysis is to show how the model works. Therefore, the analysis will go on, even without the needed response. Analysed in the report, adjustments for the element too many wrongly parked cars in the environment, have the best prospect to increase the perceived traffic safety.

Secondly, adjustments which should improve the element too crowded in the school environment are the most promising elements, to improve the perceived traffic safety. Objective adjustments however are difficult to implement, is analysed in the report, and therefore this can be neglected.

Thirdly, adjustments which should improve the element the driven speed in the school zone also can be named in this analysis, since this factor apparently has some influence. However, one must bear in mind; adjustments for this element have the least contribution, of the three named elements, to improve the perceived traffic safety.

Looking at the graphs presented in chapter 6 Subjective data vs. objective data, the three named elements can be analysed again. The meant graphs are presented in Figure 29.

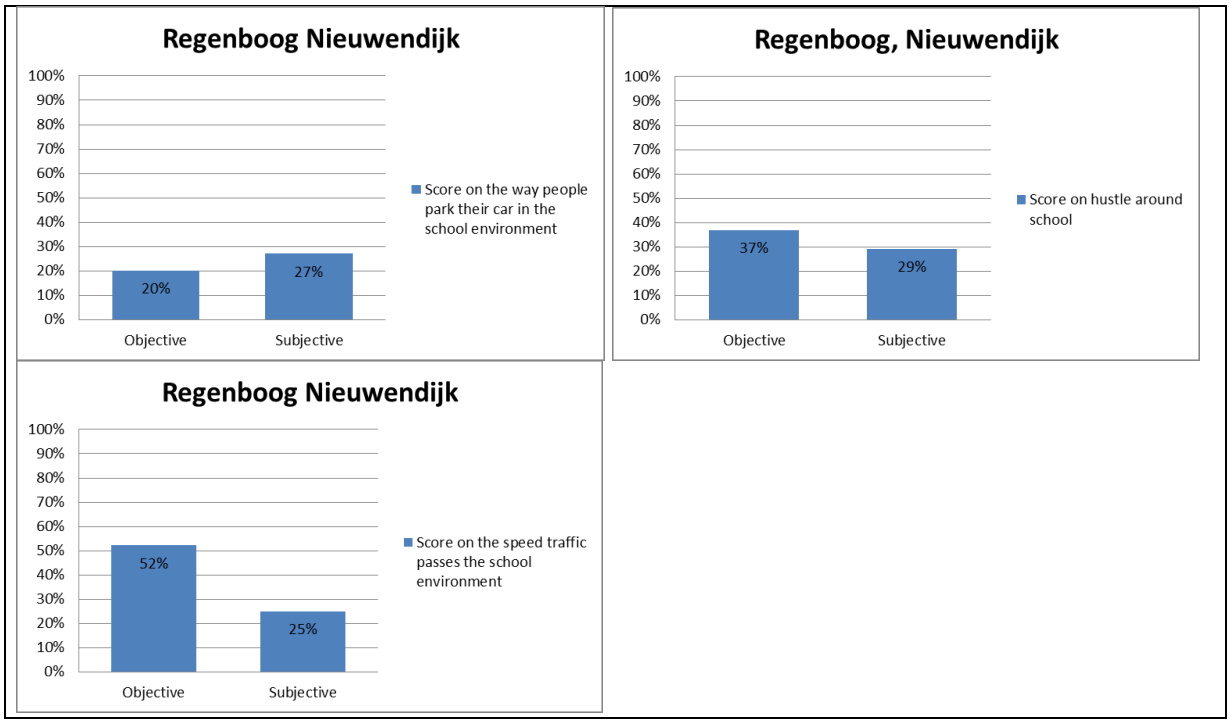


Figure 29: Comparison of subjective and objective data for the school CBS Regenboog in Nieuwendijk

Looking at the graphs and knowing what they mean, the second analysed step also points in the direction of making adjustments in the environment which positively influence the parking element are the most promising, when the municipality want to improve the perceived traffic safety in the school environment. This is analysed for two reasons:

- The subjective satisfaction about the parking element is not high with only 27%;
- The objective satisfaction about the parking element is the least of all three elements.

This makes it the most promising element to improve the objective traffic safety.

Annex
The subjective satisfaction about the speed element is only 25%. It is known adjustments based on that element only contribute for 27% in the perceived traffic safety. For the school Oranje-Nassau already adjustments which should positively influence the parking element are analysed in the next step. The possibilities analysed for the school CBS De Regenboog therefore are performed for the speed element.

Analyse the possibilities to obtain the whished perceived traffic safety
For the final step again the division between the two schools is made.

Oranje-Nassau School
Which group of adjustments are the most promising for the school Oranje-Nassau is analysed in the previous step. Different criteria are formed which grade the scoring for the element; too many wrongly parked cars in the environment during the literature study. The meant criteria are shown in Table 35 and repeated below:

- Stop-restriction near entrance
- Within 25 metres of the entrance no parking spaces
- Location parking-spaces
- “Kiss and Ride” places
- Parking space for school bus

The list in step 2 must be judged in this step normally by a traffic safety expert, but in this case this has already been done. The shortcomings for the school Oranje-Nassau can be found looking at

the matrix presented in Table 35. For the element too many wrongly parked cars, the options to increase the perceived traffic safety in the school environment of the Oranje-Nassau school are:

- Create a parking restriction near the school entrance of 25m, instead of the +/- 10m that it is right now;
- Create parking spaces alongside of the road instead of perpendicular at the road;
- Create “Kiss and Ride” places in the school environment;
- Reserve the best parking spot for the school bus/taxi.

CBS De Regenboog
In the previous step it is analysed which group of adjustments are the most promising for the school CBS De Regenboog. Different criteria are formed during the literature study, which grade the scoring for the element; speed restriction in the environment. The meant criteria are shown in Table 35 and repeated below:

- Speed restriction in environment
- Self-explaining road
- Take-over restriction
- Local speed restriction
- Speed measurements

Normally the list in step 2 must be judged in this step by a traffic safety expert, but in this case this has already been done. Looking at the matrix presented in Table 35, the shortcomings for the school CBS De Regenboog can be found. For the element speed restriction in the environment, the options to increase the perceived traffic safety of the school environment of the school CBS De Regenboog school are:

- The street in front of the school is a relatively long street without speed measurements. Therefore the speed restriction of 30km/h is not believable anymore. Some speed measurement can be placed at the road;
- Create at take-over restriction in the street in front of the school;
- Create a local speed restriction in front of the school. This should be a footpace restriction in order to make it lower than what it is right now.

7.3. General conclusions

Evaluation Policy Advice
There indeed is consensus in the Policy Advice, because the different presented analyses and steps taken all point in the same direction. This indicates the policy advice has a sound theoretical foundation. In the advice a comparison is made between objective and subjective traffic safety. An evaluation of possible measures is presented based on that comparison. So with the help of the presented process design the policy advice given, is a decision support system for experts.

Because the research presented does not focus on every possible adjustment solely, the advice for the municipalities is to consult the already available guidelines for the possible adjustments, with the help of traffic safety experts. These adjustments already proved their usefulness in the past. This indicates they can be implemented by municipalities. This research cannot be used as a solid base for this implementation must be kept in mind.

Annex for involved municipalities Werkendam, Woudrichem and Aalburg
Furthermore, in the survey it is asked of the participants to leave a general comment on the topic. This is done very much. The results of this question are added in Appendix I; Answers on the last question of the survey, the answers are in Dutch. The general messages of the comments are named below:

- The general feeling is that no cars should park near the school entrance, because they block the sight of the children and the sight on the children;

- Of course not only the school zone is important to grade as traffic safe. Also the school route is of big importance. This is however acknowledged already, but is not part of this research;
- Also can be seen in the comments, the parking problems are very annoying for the users;
- Staff from the school tends to pick the best parking spots since they are at school earlier. They should park further from the school in order to not block the nearest parking spots;
- One way traffic is named a lot as a good measure;
- Many responses, which can be linked to the school Burg. Sigmond, speak of people not maintaining the traffic rules. This may be the explanation the school scores bad analysing the objective data, together with the subjective data. Besides that explanation, the general tendency is there are not enough parking spaces near the school.

8. CONCLUSIONS, RECOMMENDATIONS AND REFLECTION

The sub research questions will be answered in the conclusion in the order they were asked in chapter 1. After answering the sub research questions, both main research questions can be answered. With the help of all answers the stated assumption can be evaluated. Then the generalization of the results of the research for the rest of the Netherlands is presented. At the end of this chapter, recommendations will be given for possible further research on the topic and a reflection on the performed research by the author is given.

8.1. Answer on research questions

First the sub research questions asked at the beginning of the chapters will be presented and answered:

- **What is nowadays regarded a safe for traffic school environment? (chapter 2)**

In chapter 2 is evaluated what is regarded as safe for traffic in school environments nowadays. The answer on this question is translated into two answers, because there is a difference between the objective and subjective traffic safety. Both of the elements are analysed in a way, to find out what the obtaining problems are. So this question is answered by analysing not wat is regarded traffic safe, but what is regarded as not traffic safe.

For the objective traffic safety it is analysed the current problems are relatively small. Hardly any (severe) accidents occur in school environments according to statistics. However, evidence points in the direction accidents do occur in school zones and every accident happening is one too many.

The subjective traffic safety is of more importance than the objective traffic safety, because “perception is reality”. Analysing the data has shown three aspects are regarded to have a big influence on the perceived traffic safety. These aspects are:

- Too crowded in the school zone;
- Wrongly parked cars;
- Not maintaining the speed limit in the environment.

- **Which schools in the area “Land van Heusden en Altena” are regarded enough safe for traffic or unsafe for traffic to act in the sample of eight schools? (chapter 3)**

All schools in the area “Land van Heusden en Altena” are analysed theoretically based on the established theoretical framework. The answer on the second sub research question is presented in Table 42. Some schools are named more than once in Table 42, this is because the schools score the most or the least on different groups of indicators.

Table 42: Schools acting in the sample

	Municipality of Werkendam	**Municipality of Woudrichem**	**Municipality of Aalburg**
Criteria group			
Speed indicator			
Most scoring schools	Burg. Sigmond, Werkendam		
Least scoring schools	De Akker, Werkendam	Waardhuizen, Waardhuizen	De Hoeksteen, Aalburg
Number of wrongly parked cars indicator			
Most scoring schools	Het Baken, Werkendam		
Least scoring schools			De Hoeksteen, Aalburg
Number of cars in area/lack of overview indicator			
Most scoring schools	Burg. Sigmond, Werkendam	Ravelijn, Woudrichem	Oranje Nassau school, Veen
Least scoring schools	De Akker, Werkendam Regenboog, Nieuwendijk	Waardhuizen, Waardhuizen	

- **Can subjective traffic safety in school environments be linked to measurable elements? (chapter 4)**

All of the subjective elements, which influence the perceived traffic safety, were measured outside for this research. Both of the elements too crowded in the school zone and not maintaining the speed limit in the environment, were measured using road tube counters. The element wrongly parked cars in the school environment, was analysed videotaping the school zone in the morning peak on Tuesday and/or Thursday, since those are the busiest days at schools. Now with the help of the SPIs the subjective traffic safety is made objective and the performed measurements were used to evaluate the assumption stated in the beginning of the research.

- **What is the measured behaviour of car users in school zones? (chapter 4)**

In order to answer the sub research question asked at the beginning of chapter 4, again it is needed to separate the answer in the three measured categories:

Too crowded in school zones
The number of cars in the area is analysed based on general numbers used in the Netherlands and presented by the CROW. If these numbers are used as a comparison tool, the found number of cars in school zones in the area “Land van Heusden en Altena” are not alarming. This fact indicates there apparently the objective base for this element is missing.

Wrongly parked cars in the school environment
The found number of wrongly parked cars in the school environment differ very much for the schools acting in the sample. Looking at the found numbers and comparing them with the size of the school shows the size of the school is not an explanatory factor.

Driving speed in the school environment
Two school out of the sample stand out negatively, because the driven speed at those schools is very high compared to the other schools. Apparently the driven speed can objectively be predicted, because the schools where the speed was high, were in the sample because the expectation was indeed the driven speed would be high.

- **Is the surveyed feeling of traffic safety by the VVN in 2010 still present among people living in the area "Land van Heusden en Altena"? (chapter 5)**

The survey, spread out amongst parents of children going to primary schools in the area "Land van Heusden en Altena", is analysed in the fifth chapter. The sub question can be answered, by analysing the question where the opinion of the participants is asked, on how they think of the traffic safety in the school environment. In 2010 the VVN surveyed 36% of the parents feel the traffic safety in school environments is not traffic safe. The results of the current research show 39% of the surveyed people do not think the school environment is traffic safe. This implies the surveyed feeling of traffic safety by the VVN in 2010 is still present among the involved people in the area "Land van Heusden en Altena".

Other conclusions based on analysing the performed survey, will be made, by answering the main research questions.

- **How does the subjective feeling of traffic safety relates to the results obtained by evaluating the traffic safety in school environments? (chapter 6)**

To answer this sub research question, analysed in chapter 6, the division between the elements for the perceived traffic safety again is used.

Too crowded in school zones
Analysed in chapter 6, this subjective traffic safety complaint cannot be objectively evaluated. The results of the measurements outside and the results of the survey do not match. Explanations for the numbers may be found by logical reasoning, but in that way only the found numbers for one school can be explained.

One general tendency which influences this element indeed is the position of the road on which the school is situated and the position of that road in the road network of the municipality. This should be evaluated carefully when locations for new schools are at stake. Another option which might influence this element is to re-categorize the roads in the road network.

Wrongly parked cars in the school environment
Evidence, by the performed measurements, points in the direction this element indeed can be objectively evaluated. The indicators, which have the strongest relationship with the perceived traffic safety for the wrongly parked cars in the school environment, are the parking spaces near the entrance and the location of the parking spaces in general. Parking spaces alongside the road at the side of the school is the best option for the location of the parking spaces.

An important element analysing this factor is the size of the school. The size of the school can be regarded as a constraint. Evidence of the survey shows this is not a constraint which makes it impossible to score good on this element. This can be seen at the schools Het Baken in Werkendam and Oranje Nassau in Veen. Because both of the schools belong to the bigger schools in the municipalities and have little parking related issues.

Driving speed in the school environment
Also this element can be explained objectively. This also has to do with the position of the road, the school lies on, in the road network. On the other hand there is the school Burg. Sigmond where the measured speed is low, but the perceived speed is high. Although this one example points out

in another direction, the general idea is this element can be objectively explained. The most important influential factors are the speed limit in the environment, together with the element of the self-explaining road.

With the help of the answers on the sub research questions, the main research questions will be answered. Because of the two folded problem statement and the two way approach to the research, also the main research questions are divided into two different questions. Both of the questions will be evaluated below:

- **Is there an objective base for the perceived traffic unsafety in school zones?**

If you look at the values presented in chapter 6, there most certainly is an objective base for the perceived traffic safety, when looking at the number of wrongly parked cars and at the driving speed in the school environment. However, one must bear in mind there might be exceptions and every school tends to be a sole subject, when one wants to adjust environments of schools. When new schools are built the objective base, which is formed by the research, indeed can be used to create a safe for traffic school environment.

Evaluating the perceived traffic safety is based on three elements. The order of the elements for which objective environmental adjustments are useful to increase the perceived traffic safety on that elements is:

- The environmental adjustments which should positively influence the element wrongly parked cars are the most promising ones when they are made to improve the perceived traffic safety;
- The second best objective relationship element is that of the passing speed of vehicles;
- The least objective relationship element is that of the crowdedness around school zones.

- **What guidelines should school environments fulfil in order to improve the perceived traffic safety in the environments?**

The contribution of the three elements for the perceived traffic safety in school environments is:

- Too crowded around school zones ($\propto_1$); the contribution is 36%.
- Too many wrongly parked cars in the environment ($\propto_2$); the contribution is 37%.
- Car drivers not maintaining the speed limit in the environment ($\propto_3$); 27%.

This fact implies municipalities have the option to increase the perceived traffic safety for 36% by investments in the element too crowded around school zones. The same holds for 37% if they invest their money into elements which should positively influence the element too many wrongly parked cars and for 27% in the element speed limit.

8.2. Assumption

The assumption checked in the research:

"It is possible to influence the perceived traffic safety in school environments by the parents by environmental adjustments."

In the research first is checked how much the element can be objectively evaluated and how much this determines the score on the subjective traffic safety. Based on this research can be concluded the order for the elements based on the possible objective adjustments which should increase the perceived traffic safety is:

- Too many wrongly parked cars in the environment;
- Car drivers not maintaining the speed limit in the environment;
- Too crowded around school zones.

This indicates for the element too many wrongly parked cars objective adjustments have a good chance to increase the perceived traffic safety. Objective adjustments for the element too crowded around school zones are very difficult, because the objective and subjective score differ very much. This indicates for example, objectively the school zone is safe for traffic (based on that element) but the perceived traffic safety is not traffic safe.

With the second research performed the assumption can be evaluated and this is done with the help of the already set up conclusions. Because the perceived subjective traffic safety is evaluated in the research with the help of three elements, the elements deserve a different approach. At the end the overall perceived traffic safety will be evaluated.

Number of cars in school environment
This element indeed has a big influence on the perceived traffic safety of 36%. Unfortunately, it is difficult for municipalities to influence factors determining the perceived traffic safety for this element.

Wrongly parked cars in the school environment
This element has the most influence on the perceived traffic safety of all three elements. It influences the perceived traffic safety with 37%. Furthermore, the suggestion is municipalities, in their role as road authority, can easily influence the element objectively. In the end, to influence this element seems to be the best option, when a municipality wants to improve the perceived traffic safety in school environment.

Driving speed in the school environment
This element only counts for 27% in the perceived traffic safety in school environments. However, it is also easy to adapt objectively adjustments in the environment for this element. Although the expected effect on the perceived traffic safety is low(er).

General perceived traffic safety
To finally evaluate the assumption, municipalities, in their role as road authority, have the chance of influencing the perceived traffic safety by the parents with 64%. The other 36% are not easily explainable and therefore this can be accounted for as the perception of the people, which is out of the influence of the municipalities.

These numbers give municipalities a direction of how wise it is to invest their money into certain adjustments, being made in school zones. Furthermore, it shows how much contribution their money invested in one element, is expected to influence the perceived traffic safety. On the other hand, it may not be forgotten the element too crowded in the school zone cannot be made objective and therefore it might be dangerous for municipalities to invest their money in adjustments which should improve the perceived traffic safety for that element.

The presented numbers can be used by municipalities when they want to influence the perceived traffic safety by the parents. How to make use of these numbers is already explained in chapter 7.

8.3. Concluding remarks

The research only focuses on rural areas, since the case study, on which the research is based, is in the area “Land van Heusden en Altena”. It is however the question if the area, in which the perceived traffic safety is investigated, matters. In the introducing text some important differences between rural and urban zones already were analysed. This means, it is not known if the same presented model can be used in urban areas. In the report is already presented the differences between the areas are most certainly there. It is tried to generalize the results of the performed research in this concluding paragraph by logical reasoning.

Already analysed in the beginning of the research the main differences between school zones in rural and urban areas are:

- The percentage of children brought to school by their parents;
- The average OD-distance for the children;
- Available parking space.

The percentage of children brought to school by their parents and the average OD-distance are very interrelated. The further the OD-distance is, the higher the percentage of children brought to school (in the car) by the parents. The average OD-distance for schools in rural areas is higher, than for schools in urban areas (CROW, 2003). The two facts imply at least the element too crowded in the school (with cars) for that reason is more present in rural areas.

On the other hand, it is more crowded in urban areas in general than in rural areas. So just by logical reasoning it can be concluded these two differences are not relevant for the analysis of the generalization of the results of the research. Since the crowdedness in school zones is rewarded the same.

Available parking space is more present in urban regions than in rural region (Nedap N.V., 2014). This fact indicates the element too many wrongly parked cars probably can be given even more value in rural areas.

The three mentioned issues can differ the outcomes of the research is the expectation. However, by just logical reasoning the presented model in chapter 7 will not look different if the research would be performed in rural areas. Also the numbers found in chapter 6 will not differ very much, although the expectation is the element too many wrongly parked cars will possibly be given more influence.

On the other hand, to make objective environmental adjustments on the element too many wrongly parked cars might be difficult in urban areas, since in those areas there is many times a lack of space. But the question if the advised environmental adjustments are possible in the first place, is not answered by this research.

The presented model shows on which element it is wisely to invest money of municipalities, when they want to improve the perceived traffic safety. The expectation is the model gives useful recommendations using it in both rural as in urban areas, since the differences between both of the types of areas are not very relevant for the model.

8.4. Recommendations

This research focuses on the travel behaviour of the adult people in school environments. What may be an interesting approach is to look at the matter from the child perspective. Children many times have a different approach/opinion on matters. Besides that, they indeed are the vulnerable people for whom the environment is adjusted.

To gain more knowledge about the elements which influence the perceived traffic safety, or in other words, which of the presented factors influence the perceived traffic safety the most in a cost-effective matter, can be explored in future research. In this research only elements which should help the perceived traffic safety to improve, are presented. This implies for example the policy advice is; it is more cost-effective to invest money of municipalities into adjustments which improve the element wrongly parked cars. But in this research it is not investigated how much an adjustment would improve the perceived traffic safety. For example how much does a parking restriction near the school entrance improves the perceived traffic safety is not known. To investigate the elements an idea would be to perform measurements at a school where there is no parking restriction first. Then adjust the environment, so there indeed is a parking restriction and perform the

measurements again. In that way it is known how much influence the adjustment has on the perceived traffic safety.

The investigation is only on elements where the experience is people tend to follow the traffic rules. This is however not just always the case, as for example can be seen measuring the element wrongly parked cars. If people always follow the traffic rules there wouldn't be any wrongly parked cars. Influencing the behaviour of people, and thereby improve the perceived traffic safety, is not investigated in this research.

Using the model in real-life is not investigated for this research. This research is only set-up in order to create the model. In future research, testing the model is an interesting approach and this might add the scientific value of the research.

The case study involved for this research possibly constraints the results. Already analysed in the previous paragraph 8.3 Concluding remarks the results of the research are expected to be the same in other regions. Another danger in analysing the results is the level of conclusions based on the performed research. Is it possible to make aggregated statements when focussing on specific measurements? The danger lies in the fact the sample of schools possibly isn't differentiated enough. On the other hand it is tried in the research to not make such aggregated statements focussing on specific subjects. The level of statements made in this research is indicated as sufficient.

Since a couple of years in the world of road designers, planners and urbanists seems there is a competition going on. One of the mentioned parties supports the shared space principle and the other party supports 'Sustainable Safety'. In this research the principle of 'Sustainable Safety' is followed when forming the theoretical framework. Also the judgement of the criteria is based on that principle. Shared Space is an environmental principle, where the goals and own responsibilities of all users of the environment are the most important elements. The public environment is not designed as traffic space but as a residential space. The functions the public space has, are combined instead of separated (CROW, 2011). Believers of this principle probably think different about the design of the school zones. It might be interesting to have a look on how those people think about the school environment.

8.5. Reflection

Looking back at the research, some comments can be given on what didn't work out as intended in the beginning. Lessons learned from this experience are:

- The order of measurements performed was, first the measurements outside and then the subjective measurements. Next time both of the elements can be switched with each other. This switching indicates the next time a start can be made with the subjective measurements and then can be started with the measurements outside. This is because the subjective measurements took longer time than expected and processing them didn't took much time. If the measurements would be switched the possible overlap with the measurements outside is indicated as manageable. This would decrease the time needed for the research;
- Design research for the measurements outside, and an analysis plan for the subjective measurements, are necessary in order to perform the measurements fast and robust. Both of the elements were not taken into account in the planning of the research. This fact again indicates a good start is half the battle;
- Selecting the schools acting in the sample also took a long time. With the gained knowledge during this research, forming the sample will not take that long the next time. Because finding an appropriate sample normally involves a degree of ingenuity and lateral thinking, the timing frame needed for forming the sample can be lesser next time.

- In the end working on the research was very intense, but it gave a lot of satisfaction to notice the enthusiasm among involved people. Many people work on the subject school environments and they all were enthusiastic about the way the subject was flown in for this research.

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APPENDIX A; LITERATURE REVIEW

Knowledge institutes
The consulted knowledge institutes are CROW, VVN, Fietsersbond, SWOV and Royal Haskoning/DHV.

- In 2003 CROW published a paper where it pays specific attention to school environments and how they should be fit in the sustainable safety approach (CROW, 2003). Interesting points of this document are:
    - A distinction must be made between district school and regional school, because that has a big influence on the modal split i.e. the way the children travel to school;
    - A road needs to be designed in a way it is self-explaining about the way the user should act on the road (speed, attitude and so on). This is one of the principles of sustainable safety and therefore also counts for school environments;
    - There should be as less as possible points in the environments where cars, pedestrians and cyclist meet each other;
    - CROW also gives recommendations based on their research:
        - Municipalities should take the initiative when it comes to traffic safe designing the school environment;
        - The speed limit near the school entrance should be 30 km/h;
        - There should be a take-over restriction;
        - There should be enough parking room for bicycles and cars and parking arrangements should be made among involved people;
        - A stop restriction near the entrance of the school should exist;
        - Safe intersections should be present near the school.

  Among the topics handled in the manual on traffic safety (CROW, 2008) is traffic safety in school zones. The most important discussed issue is that the speed limit of 30 km/h needs to be explained by the street itself. Meaning the roads need to be self-explaining. Another interesting point is when speed restricting elements are used; those elements should not be too far placed from each other. Guidelines exist for this specific topic. Also specific attention is paid to school environments. The traffic unsafety in school environments is mostly subjectively, meaning people have a feeling of unsafety in school zones. It is not objective; meaning the number of casualties is not necessarily high in number. In the manual the idea of a vicious circle is explained as well, this circle is already visualized in the main report. Also they speak of the necessary co-operation between all the involved parties.

- VVN; The VVN (Veilig Verkeer Nederland/Safe Traffic in the Netherlands) is a Dutch social organisation representing citizens' interest regarding traffic safety. This organisation published some interesting documents in its history. Among them is the list of 10 golden rules called 'the 10 golden rules of a safe school environment' (VVN, 2009). These rules are listed below, together with a brief explanation:
    - The route to the school has to be safe;
    - The road before the school should be safe; preferably the road needs to be car free, but this is not always an option. If this is not possible the road at least needs to be designed as a residential area;
    - Intersections before school needs to be safe; a zebra crossing placed on a higher level than the streets is the best option, preferably even with side curbs. Parked cars in the surrounding are not preferable, because the children need to have a good overview;
    - The exit of the school needs to be safe; make sure children cannot run on the street direct, with for example fences. An example is shown on Figure 30;
    - Children have to have a good overview; Inside 25 metres of the school exit no parked cars is the preference;

- Enough waiting room for parents; this needs to be situated at the school area or on the sidewalks. What is enough is related to the school size;
- Enough bicycle parking spots for the parents who bring their children by bike; when parents bring their children to school by bike they need to have the option to park their bicycle. How much area needs to be reserved also depends on the size of the school;
- Enough bicycle parking spots for the children who travel to school themselves by bike; when not enough room is available most of the time schools say children within a certain range may not travel by bike. The other option for them is to be brought by car, this is part of the problem of course;
- Best parking spot is reserved for the school bus and/or taxi bus; The parking spot must be reachable without crossing the street, meaning the location should be at the side of the school;
- The school has to have a “traffic parent” and a “traffic commission”; they need to act as responsible for the traffic safety in their school zone.

Figure 30: Fences and a hump near the entrance at the school De Regenboog in Dussen

- Fietsersbond; The organisation Fietsersbond (Cyclist union) in the Netherlands is an institute comparable to VVN, however they specifically represent the interests of cyclists. The Fietsersbond aims to increase the bike usage by children. In 2013 the Fietsersbond published a document containing recommendations to make a school environment more inviting for bicycles (Fietsersbond, 2013). Furthermore, in 2015 it has published an article in Dutch newspapers about the topic as well (Voermans, 2015). To make sure more children travel to school by bike of course the whole route from home to school needs to be traffic safe. Nevertheless, the trip ends (or starts) at the same place and this is the school or the school environment. In the paper they give some recommendations for the school environment to design it more traffic safe and to make it more interesting to travel by bike for the children:
  - Create a car-free zone around the school of 100 meter;
  - At the edge of a car-free zone create woonerfs and kiss&ride zones. What woonerfs differ from 30 km/h zones is explained in Table 43;
  - Create a speed limit of 30km/h 500 meter around the school;
  - Connect the primary school with the environment with the use of solitary bicycle paths;
  - Create enough and easy reachable bicycle parking spots near the school entrance;
  - Create enough waiting space for the parents at the edge of the school entrance.

Table 43: Differences between 30km/h and woonerfs (VVN, 2012)

30 km/h street and woonerfs, the main differences:	
Speed max. 30 km/h.	Speed at a footpace meaning 15km/h max.
Pedestrians on sidewalk. Many times the sidewalk is too narrow for a stroller or a walker.	Pedestrians may use the whole width of the entire street. A maximum of space for “meeting each other”.
Children play on the sidewalk, which is the only safe space to play in the street. Many times because of a lack of room children play on the street which can be dangerous.	Children can play everywhere while the speed limit of 15 km/h is maintained.
Cars and cyclists need to be aware of the childish behaviour of children.	Cars and cyclist are “guests” in the street.
Crossing the street needs awareness of the crosser. On crowded points a zebra crossing is an option to be designed.	Traffic movements ask for social behaviour of the “guests”.
Speed limit is made known at the entrance of the 30 km/h zone and possibly along the route as well.	Speed limit is made known at the entrance of the zone and possibly along the route as well.
Parking along the sidewalk or in designated parking spaces.	Parking only at designated parking spaces marked with a “P”.
By distinction in level and segregation no optimal use of the available space.	Everything is on the same level and therefore multifunctional use of the available space.
Distinction in level is difficult for strollers, walkers and scoot mobiles.	No distinction in level, which can be difficult for blind or visually impaired people.
Learning to drive a bicycle must be done on the sidewalks before one can drive (accompanied) on the street.	A complex but safe environment to learn how to ride a bicycle.
In crowded street a bicycle lane is possible.	A car-free lane most of the time is necessary.

- SWOV; The SWOV (Stichting Wetenschappelijk Onderzoek Verkeersveiligheid / Organisation for Academic Research on Traffic Safety) pays special attention to the topic school environments frequently in their publications on traffic safety. This study focuses on the infrastructure in the school environments. Therefore the used literature form the SWOV is summarized by:
    - In the report *Zelfstandig of begeleid naar school; Beleving van verkeersonveiligheid door ouders van basisschoolleerlingen*, Tamara Hoekstra, Jolieke Mesken and Willem Vlakveld search for explanations for the way parents bring their children to school (Hoekstra, et al., 2010). They conclude the following: Subjective information has a big influence on the feeling of traffic unsafety and the estimations of involvement in traffic accidents. Objective information about traffic safety and about measurements taken have a smaller effect on the feeling of traffic safety. Sometimes this information even works the other way around. For example if measurements are taken to improve traffic safety the feeling among users is that apparently the situation is not traffic safe. The way the feeling of traffic safety is measured needs improvement;

Documents from (foreign) governmental institutes

Besides information found from the knowledge institutes useful literature is also found at most of the time larger municipalities (or provinces). Sometimes those institutes have specific guidelines on the topic:

- The province of Utrecht has a specific organisation focussing on traffic safety in the whole environment of the province Utrecht. This organisation is called ROV Utrecht. In 2011 they have published a book about traffic safety in school environments (Schouten, 2011). The main elements interesting for this research passing by in the book are listed below:
    - One element is to make sure intersections in the school environment have to have elements which make them stand out even more for approaching cars. One can think

of using colours for the elements around the intersections or maybe flashing lights near the intersection;

- If the school is situated in an environment with little traffic one can think of making the street forbidden for cars for the entire day, or only when the school is opening and closing. When implementing such a measure a lot of constraints exist and a list of them is presented in the book. Furthermore, different examples are explained in the book;
- A good opportunity lies in creating a different entrance for pedestrians and cyclists, in other words slow traffic, and cars. In that way they are not influenced by the chaotic situations cars create;
- If the school lies in a residential area, one can create a 'schoolyard' where the maximum speed is 15 km/h, create wider sidewalk, create one-way-traffic or create a stop-restriction in front of the school;
- If the road in front of the school is a through road, the school has the problem of cars only passing by the school. Frequently their speed is higher than the speed of the cars near the schools in residential areas. If this is indeed the case the car drivers need to be made aware they enter a school area and the wish is they adapt their driving behaviour accordingly. In other words they need to be made aware they enter a school zone. Making people more aware of the situation can be done for example by showing the word "school" on the street with the help of markings and/or use environmental elements with outstanding colours. Another option is to create a traverse of approximately 100 to 200 meters where the speed limit is 30 km/h instead of the normal 50 km/h for a through road. Or create a dynamic 30 km/h zone, meaning the speed limit is 30 km/h in certain time zones. In the Netherlands this is done for the first time in Purmerend (de Haas, 2010). Another problem is heavy traffic. A solution is to prohibit heavy traffic on the road, or maybe only at certain time periods.
- Parking vehicles in the surrounding of school zones is another problem. Parking bikes, for children who travel to school by bike, needs to be made possible by the school. However, preferably the parking space is outside of the school. The amount of space available and needed is school specific and it is hard to come up with numbers for it. Their also needs to be room reserved for parents who bring their children to school by bike. The same holds for cars. Important guidelines for this are;
  - avoid parking cars and the entrance of the school at the same location;
  - avoid difficult movements by cars in the surrounding of the school;
  - avoid intersections between parked cars by children;
  - separate short and long parkers from each other.

  Another point that deserves attention is school busses. The busses need larger parking areas and the area needs to be close to school.

- In 2012 the city region of Amsterdam has given an assignment to the Dutch engineering company DHV, who made a start to come up with a manual which gives handy recommendations to design school environments traffic safe (DHV, 2012). DHV has analysed ten schools in different municipalities and below the most interesting conclusions with respect to this research are summarized:
  - An important 'no-regret' measurement is the text "schoolzone" marked on the road, possibly combined with a vertical element. This marking is the formal start of the school zone. An example of how this looks in the study area is shown on Figure 31. However the start of the school zone is also very important. Because if for example the school zone is not overcrowded in the morning because the actual start is somewhat later, the measure is not believable and users won't adapt their driving behaviour. Where the school zone must start can for example be discussed with people living in the environment;
  - For intersections two options exist:
    - Create a zebra crossing;
    - Use a so-called centre conductor to make it possible to cross the street in two actions.

The danger of a zebra crossing is it creates a feeling of safety that possibly isn't there. This has to do with the position of the zebra crossing and how well car drivers have an overview of the situation. The centre conductors also have an effect on the speed of the traffic. Therefore DHV first suggests use centre conductors before using a zebra crossing;

- To completely solve parking problems is a difficult task. To use railing on places where you don't want cars to park is a good option. When one wants signs which forbids parking a "traffic-decision" is needed and you need to maintain that decision. Furthermore "kiss-and-ride-zones" don't need to be placed too close to the school entrances and they need to be located in a place the children don't need to cross a street when walking from the car to school.

Figure 31: Marking the start of the school zone at the school Den Biekûrf in Babyloniënbroek

- Also abroad there is given attention on the topic traffic safety in school zones. For example in Belgium specific attention is given to school environments. The Flemish government gives, in a manual, all kinds of specific tips when one want to design a school environment traffic safe (Vlaamse overheid, 2010):
  - In Belgium they work with the so-called STOP-principle. In this principle an order is prescribed for the whished modalities. First the S is at stake and stands for "Stappers" (meaning pedestrians), then the T stands for Trappers (meaning cyclists), the O stands for Openbaar Vervoer (meaning Public Transport) and finally the P stands for Personenvervoer (meaning Private transport). This principle is formed for the policy of sustainable traffic. This principle is also used when designing school zones traffic safe.
  - The Flemish government also indicate 'speed' is one of the most important issues when safe school environments are at stake. The most important issue in that case is; the lower the driven speed in the environment, the more traffic safe the environment is. Preferably the speed limit in the school environment is 30 km/h. An exception is only possible when justified reasons are given.
  - Furthermore, the Flemish government has reserved room in their document to give specific recommendations for some problems. For example if wrongly parked cars is a problem in a school zone, a solution for example would be to create parking spaces even further away from the school and guide the parents to these places. Or make use of real obstacles to make sure parents cannot park their car on the curbs.

Beside the presented literature from the province Utrecht, the Flemish government and the municipality of Amsterdam, useful literature has been found from the municipality of Rhenen (RA Infra, 2013), the municipality of Ommen (Kreeft, et al., 2013) and the municipality of Velsen (van den Bos, 2013).

Academic papers

Some academic papers about the subject traffic safety in school environments exist:

- Internship report; in 2010 a student from the Dutch school NHTV did his internship with the municipality of Woudrichem as a client. For this internship he already researched the traffic safety in school zones in the municipality of Woudrichem (Nijland, 2010). He concluded his research with some interesting findings. In his paper Pim Nijland mentions the two primary schools in the municipality of Woudrichem are the least traffic safe. Noticeable is that the found two primary schools are the largest schools in the municipality. He concluded for that reason the size of a primary school is a key factor when it comes to traffic safety in school zones. The problems in the two areas are more or less the same, because the problems all occur when parents are bringing their children to school and when picking them up from school. Furthermore, the overview gets lost in those kinds of situations. A cause of the lost overview is road users do not know how to act in school environments. He concluded there is a need for infrastructural measurements and a need for education for the road users. In his analysis Pim Nijland also graded the way the schools give attention on the education part in their school. This is off course very important when it comes to traffic safety mostly among young children. However the analysis performed in this research is scoped by giving specific attention to the infrastructure.
- Summary “Samenwerken aan een veilige schoolomgeving”; In 2004 H.D. Spittje from the CROW and D. Wansink from SOAB participated on the Dutch Traffic Safety congress in ‘s-Hertogenbosch. SOAB is a Dutch company which investigates advices and supervises projects and developments in the area of living and mobility. They presented a summary of the already presented literature from the CROW. They come up with some interesting recommendations regarding school environments (Spittje & Wansink, 2004):
    - Involve parents when it comes to designing school zones;
    - Make appointments for bringing and picking up the children. It is however not precisely explained what these appointments should address;
    - Create safe school routes;
    - Near school entrances create a speed limit of 30 km/h;
    - A take-over restriction near the school entrance;
    - Create enough parking space for cars and bicycles;
    - Make parking appointments. Also it is not mentioned what these appointments should address;
    - Create a stop-restriction, or at least create a manageable parking regime;
    - Create safe intersections near the school;
    - Make sure schools, municipality and the police consult on a regular basis;
    - Give children practical traffic education.
- “Traffic safety in school environments”; In this paper, also presented on the traffic congress in ‘s Hertogenbosch, the company Grontmij tries to give an insight in what drives people to choose for the car as a transport mean when it comes to bringing their children to school (van der Velde, et al., 2012). They conclude there exists a negative spiral already presented in the main report. However they enlarge this vicious circle, visualized on Figure 32. What can be seen in the mode choice, three levels of decision play a role. Solutions are presented on all three levels:
    - Strategic: Make sure the school environments exist of self-explaining roads. Do not use a lot of extra information to inform the traveller, just make sure the road itself says what the traveller is supposed to do;
    - Tactical: Emphasize on the positive effect it has on a child to travel to school by itself on a young age;

- Operational: Emphasize the role pedestrians and cyclists play in designing the school environments. In that way the routine behaviour and the protected role the car driver thinks he/she has will be interrupted.

Interesting to see is different elements of risk play a role:

- Accepted risk: When decisions of the mode choice for the children are at stake, some choices must be made, where accepted risk play a role. It is never 100% safe to travel, so some risks need to be accepted. Accepted risk is part of the increased subjective unsafety;
- Real risk: The number of (near) accidents determine the real risk;
- Observed risk: Not all risk needs to be observed by parents who are making the decision for the way they let their children travel to school.

Figure 32: The negative spiral (van der Velde, et al., 2012)

APPENDIX B; EXAMPLE CHECK LIST

Name of school	Burg. Verschoor Sleeuwijk
Speed restriction environment	
Self-Explaining road	
Car restriction	
Take-over restriction	
Stop-restriction near entrance	
Crossings	
Speed measurements	
Seperation of school exit	
Within 25 metres of the entrance no parking spaces	
Waiting room for the parents	
Parking room bicycles for the children	
Seperation of entrance for bicycles and pedestrians	
Parking space for school bus	
Schoolzone:	
Marking school zone (+vertical elements)	
Local speed restriction	
Prohibit heavy traffic	
Location parking spaces	
"Kiss and Ride" places	
Other materials in school zones then on connection roads	
one-way traffic	
Designed as "erven"	

APPENDIX C; INVENTORY SCHOOLS

Schoolnaam	J.H. Dunant Wijk en Aalburg
Speed restriction environment 30 km/h and it is believable	
Self-explaining road Mostly, only a little lesser in the Tulpstraat itself	
Car restriction No	
Take-over restriction Ne	
Stop-restriction near entrance No	
Crossings: No, only a speed bump	
Speed measurements Speed bumps	
Separation of school exit Yes, they have placed gates	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes	
Parking room bicycles for the children At least not visiual	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Little places along the road, most of the parking spaces are perpendicular	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Hoeksteen Wijk en Aalburg
Speed restriction environment 30 km/h (just one part of the road is restricted at 30 km/h on for the remainder a 60km/h restriction)	
Self-explaining road No, at the cycle crossing it is a 30km/h restriction with seperated bicycle lanes	
Car restriction No	
Take-over restriction Ne	
Stop-restriction near entrance Yes	
Crossings: Only the named cycle crossing is designed	
Speed measurements Yes	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Not really	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction Yes, at the cycle crossing	
Prohibit heavy traffic No	
Location and type of parking spaces Perpendicular	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Het Fundament Genderen
Speed restriction environment 30km/h	
Self-explaining road Yes, the school lies in the middle of a residential area	
Car restriction No	
Take-over restriction Ne	
Stop-restriction near entrance No	
Crossings: The most crowded crossing is safed with fences	
Speed measurements No	
Separation of school exit Yes	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes, at th main entrance	
Parking room bicycles for the children No	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Both along and perpendicular on the street, but it possibly can be very crowded The parking area inside the school zone is not very logical placed	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Bogert Eethen
Speed restriction environment	30
Self-explaining road	Yes
Car restriction	No
Take-over restriction	No
Stop-restriction near entrance	No
Crossings:	No
Speed measurements	No
Separation of school exit	No
Within 25 metres of the entrance no parking spaces	No
Waiting room for the parents	Yes
Parking room bicycles for the children	Yes
Separation of entrance for bicycles and pedestrians	No
Parking space for school bus	No
Schoolzone:	Yes, but it is way too big
Marking school zone (+vertical elements)	Only vertical elements and way too big
Local speed restriction	No
Prohibit heavy traffic	No
Location and type of parking spaces	No
"Kiss and Ride" places	Yes
Other materials in schoolzones the on connection roads	Yes
One-way traffic	Yes
Designed as "erven"	No

Schoolnaam	De Ark Meeuwen
Speed restriction environment 30km/h	
Self-explaining road The road is tarmac, however the road is inside a village and very narrow	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: The speed bump seems too long, but there is a zebra crossing	
Speed measurements No	
Separation of school exit With fences	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes, but nog bicycles parking room	
Parking room bicycles for the children No	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along the road in a seperate street across the school. Perpendicular at the school meaning difficult manouevres	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads At the speed bums, the diversion is compared with tarmac which is not good	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Den Biekurf Babyloniënbroek
Speed restriction environment 30km/h	
Self-explaining road No not at all, it even is tarmac	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Across the school lies grass, so the usefulness is not clear	
Speed measurements No	
Separation of school exit Yes, but not useful	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes, but limited	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes on tarmac	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces 3 parking spaces along the road which seems very little	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Oranje Nassau school Veen
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance Yes, because of a narrowing at the entrance and becaus of vertical elements across the street	
Crossings: Well designed	
Speed measurements Non specific	
Separation of school exit Yes with the help of fences	
Within 25 metres of the entrance no parking spaces No, there are no parking spaces within 10 metres	
Waiting room for the parents Yes, enough	
Parking room bicycles for the children Yes, but it seems vey little	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes, it seems a bit too long however	
Marking school zone (+vertical elements) Yes, at one side ther is no marking however	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Only perpendicular at the entrance, so there will be	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic Yes	
Designed as "erven" No	

Schoolnaam	G. Voetiussschool Andel
Speed restriction environment 30km/h	
Self-explaining road Yes, it is a residential area	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Not designd	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Both along the street and perpendicular, there is a	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	de Zaaier Andel
Speed restriction environment 30km/h	
Self-explaining road Yes, it is a residential area	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Not designd	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Not specific	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces The entrance street is a dead-end street. There is parking room both along the street as perpendicular	
"Kiss and Ride" places Yes, but the location is not very handy because children need to cross a street before they can enter the school	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Parel Giessen
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Non specific designed	
Speed measurements No	
Separation of school exit Yes, with the help of a fence	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes, but not at first sight maybe because not many children cycle to school	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along the street at the side of the school	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Parel Rijswijk
Speed restriction environment	30
Self-explaining road	Yes
Car restriction	No
Take-over restriction	No
Stop-restriction near entrance	No
Crossings:	No
Speed measurements	No
Separation of school exit	Yes
Within 25 metres of the entrance no parking spaces	No
Waiting room for the parents	Yes
Parking room bicycles for the children	Yes
Separation of entrance for bicycles and pedestrians	Yes
Parking space for school bus	No
Schoolzone:	Yes, very good because of the smallness
Marking school zone (+vertical elements)	Yes
Local speed restriction	No
Prohibit heavy traffic	No
Location and type of parking spaces	Alogside the road, howevet not marked
"Kiss and Ride" places	No
Other materials in schoolzones the on connection roads	No
One-way traffic	No
Designed as "erven"	No

Schoolnaam	Eben Hazer Woudrichem
Speed restriction environment 30km/h	
Self-explaining road Good	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance Yes, but it is across the street and no offical vertical elements are used	
Crossings: Non specific designed	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No, only kiss and ride	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along the street at the schoolside the place are designed as kiss and ride. At the side of the school the spaces are perpendicular (shor and long term parking)	
"Kiss and Ride" places Yes	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Ravelijn Woudrichem
Speed restriction environment 30km/h	
Self-explaining road Yes, but the long street may be a bit too long just straight	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Non specific designed	
Speed measurements No	
Separation of school exit Yes, with fences	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes, but it seems very little	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes, maybe a bit too long	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces All along the street (kiss and ride) and there is a parking area near the school at the school side	
"Kiss and Ride" places Yes	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Oudendijk Oudendijk
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction At the entrance it is not possible to take over	
Stop-restriction near entrance Yes	
Crossings: Safe, however without zebra crossing, side bumps are there	
Speed measurements Yes, with specific speed bumps	
Separation of school exit Yes	
Within 25 metres of the entrance no parking spaces Yes, but it is the question where the parent can park their car at all	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No, the best space is reservered for disabled people (for the first time, why?)	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces There is some parking room but that's not very near the school	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Waardhuizen Waardhuizen
Speed restriction environment 30km/h	
Self-explaining road Most definitely not. The road is very wide with nog speed bumps or whatsoever	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Not designed	
Speed measurements No	
Separation of school exit Yes and it appears to be safe	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No	
Parking room bicycles for the children No	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces A long the street can be parked at the side of the school	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads Yes, but it doesn't stand out	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	de Almgaard Almkerk
Speed restriction environment 30km/h	
Self-explaining road Yes, it namely is a parking spot	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: No	
Speed measurements No	
Separation of school exit Not at all	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces A long the street can be parked at the side of the school which is kiss and ride. Other parking spots in the area are perpendicular	
"Kiss and Ride" places Yes	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Halm Almkerk
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Not designed	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces There are some parking spaces across the school, however they also seem to be located for residants and that is because they can probably be reserved during the day	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	d'Uylenbosch Almkerk
Speed restriction environment 30km/h	
Self-explaining road Not really, becaus the stretches seem too long	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance Yes, across the school	
Crossings: Not designed	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along the street in front of the school is a kiss and ride zone. Furhter away from the school the parking spaces are perpendicular	
"Kiss and Ride" places Yes	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	ds. Joh. Groenewegen Werkendam
Speed restriction environment 30km/h	
Self-explaining road No	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Yes, a zebra crossing on top of a speed bump	
Speed measurements No	
Separation of school exit Yes, but very minimal	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No, not for cars. But for cycling parents there is room on the other sided however	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians Yes	
Parking space for school bus No	
Schoolzone: Yes, but the zone is too long	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along the street at the side of the school	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Akker Werkendam
Speed restriction environment 30km/h	
Self-explaining road No, the road is too long straight ahead without interruptions	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Yes, a zebra crossing on top of a speed bump	
Speed measurements No	
Separation of school exit Yes, but very minimal	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No	
Parking room bicycles for the children Yes with the neighbours	
Separation of entrance for bicycles and pedestrians Yes with the neighbours	
Parking space for school bus Yes, for cabs	
Schoolzone: Yes, but the zone is too long	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along the street at the side of the school	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Kompas Werkendam
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance Yes, however very minimal with the help of 5 yellow side curbs	
Crossings: No	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along the street at the side of the school and	
"Kiss and Ride" places Yes ("zoen en zoef")	
Other materials in schoolzones the on connection roads No	
One-way traffic Not mandatory, but wished for according the side marks (why not mandatory however)	
Designed as "erven" No	

Schoolnaam	Het Baken Werkendam
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance Yes, simply because no car can drive there	
Crossings: No	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces A combination of both the types, but mostly perpendicular. Howerve at the school side the parking space is located along the street	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads Yes, because it is an acces road	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Burg. Sigmond Werkendam
Speed restriction environment 30 km/h	
Self-explaining road Yes	
Car Restriction Yes	
Take-over Restriction No	
Stop-restriction near entrance No	
Crossings No	
Speed Measurements No	
Seperation of school exit Yes, because it is just an acces road specific for the school	
Within 25 metres of the entrance no parking spaces Yes, you may not park your car at the school side ever (except for reserved spaces but they are further away)	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes	
Seperation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Perpendicular across the school	
"Kiss and Ride" places No	
Other materials in schoolzones then on connecting roads Yes	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Morgenster Sleeuwijk
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Not designed, only one paving stone	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians There are 3 entrances from which one is really the side entrance. However the diversion is not very clear	
Parking space for school bus No	
Schoolzone: Yes, but is too big	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces A lot of perpendicualer at the side of the school, however there will be parking problems because many people don't want to park perpendicular	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	Burg. Verschoor Sleeuwijk
Speed restriction environment 30km/h	
Self-explaining road No, on one side it is a too long road and on the other side it is a tarmac road	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: No	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Minimal	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along side the road at both sides of the school	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Regenboog Nieuwendijk
Speed restriction environment 30km/h	
Self-explaining road Yes, but is a very long stretch of road it seems	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: No, even not al all which is the first time	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents No	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes, it only seems too short	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Along side the road at the school side	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic In a side street it is one-way, mayb a possibility lies in the fact to change the entry side of the school	
Designed as "erven" No	

Schoolnaam	De Regenboog Dussen
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance There is a restriction at the whole entrance side	
Crossings: Designed with fences, but is seems very minimal	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces Yes	
Waiting room for the parents No	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Perpendicular across the school	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Peppel Dussen
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No, it is very narrow to pass eachother however	
Stop-restriction near entrance yes	
Crossings: No	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces Yes, there are no parking spaces	
Waiting room for the parents Yes	
Parking room bicycles for the children No	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces therefor e not in the street where the entrance is located which doesn't feel very logical because the room is available	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Sprankel Dussen
Speed restriction environment 30km/h	
Self-explaining road No, it seems a distributor road where the restriction would be 60 km/h	
Car restriction No	
Take-over restriction No, but is however very narrow	
Stop-restriction near entrance No	
Crossings: No, it can be dangerous because the school lies in a turn. The visibility seems to good however	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes, but there are no bicycle parking spaces however	
Parking room bicycles for the children Yes	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes, marking at one side is very far away however	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces Perpendicular, which will lead to dangerous manouvres	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Bolderik Hank
Speed restriction environment 30km/h	
Self-explaining road No, it is a very long road without interruptions whatsoever	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: Very minimal with a zebra crossing	
Speed measurements No	
Separation of school exit No	
Within 25 metres of the entrance no parking spaces No	
Waiting room for the parents Yes	
Parking room bicycles for the children Yes, plenty	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus No	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces A long side the road at the entry side	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

Schoolnaam	De Wilgenhoek Hank
Speed restriction environment 30km/h	
Self-explaining road Yes	
Car restriction No	
Take-over restriction No	
Stop-restriction near entrance No	
Crossings: At a speed bump, looks fine	
Speed measurements No	
Separation of school exit Reasonable	
Within 25 metres of the entrance no parking spaces Not within 25, but within 10 metres	
Waiting room for the parents Yes, no parking places for bikes however	
Parking room bicycles for the children Minimal	
Separation of entrance for bicycles and pedestrians No	
Parking space for school bus The best place is for a cab. Which is the first time seen	
Schoolzone: Yes	
Marking school zone (+vertical elements) Yes	
Local speed restriction No	
Prohibit heavy traffic No	
Location and type of parking spaces A long side the road at the entry side. Best example	
"Kiss and Ride" places No	
Other materials in schoolzones the on connection roads No	
One-way traffic No	
Designed as "erven" No	

APPENDIX D; MCA PLUSSES AND MINUSES

MCA Total		Speed restriction in environment	Self-explaining road	Take-over restriction	Local speed restriction	Speed measurements	**Number of wrongly parked cars indicators**	Stop-restriction near entrance	Within 25 metres of the entrance no parking spaces	Location parking-spaces	"Kiss and Ride" places	Parking space for school bus	**Number of cars in the area/lack of overview indicators**	Design of crossings	Waiting room for the parents	Parking room bicycles for the children	Marking school zone (+vertical elements)	Seperation of school exit	Other materials in school zones then on connecting roads	One-way traffic	Seperation of entrance for bicycles and pedestrians
Speed restriction in environment indicators																					
ds. Joh. Groenewegenschool, Werkendam		+	--	-	-	-		-	-	++	-	-		+	O	+	-	O	-	-	+
De Akker, Werkendam		+	--	-	-	-		-	-	++	-	+		-	-	O	+	-	-	-	+
Kompas, Werkendam		+	++	-	-	O		O	-	++	+	-		-	-	-	+	-	-	O	-
Het Baken, Werkendam		+	++	-	-	O		+	-	++	+	-		-	+	+	+	-	+	-	-
Burg. Sigmond, Werkendam		+	++	-	-	+		-	+	--	-	-		-	+	+	+	+	+	+	-
Morgenster, Sleeuwijk		+	++	-	-	-		-	-	--	-	-		-	+	+	+	-	-	-	-
Burg. Verschoor, Sleeuwijk		+	-	-	-	-		-	-	+	-	-		-	+	O	+	-	-	-	-
De Regenboog, Nieuwendijk		+	+	-	-	-		-	-	++	-	-		-	-	+	O	-	-	O	-
De Regenboog, Dussen		+	++	-	-	-		+	+	--	-	-		+	-	+	+	-	-	-	-
De Peppel, Dussen		+	++	+	-	-		+	+	-	-	-		-	+	+	+	-	-	-	-
De Sprankel, Dussen		+	--	+	-	-		O	+	--	-	-		--	O	+	+	-	-	-	-
De Bolderik, Hank		+	--	-	-	-		-	+	++	-	-		+	+	+	+	-	-	-	-
De Wilgenhoek, Hank		+	++	-	-	-		-	O	++	-	+		++	O	O	+	O	-	-	-
J.H. Dunant, Aalburg		+	+	-	-	+		-	-	-	-	-		+	+	O	+	-	-	-	-
De Hoeksteen, Aalburg		-	--	-	+	O		+	-	-	-	-		+	+	+	+	-	-	-	-
Het Fundament, Genderen		+	++	-	-	-		-	-	--	-	-		+	+	+	+	-	-	-	-
De Bogert, Eethen		+	++	-	-	+		-	-	++	+	-		+	O	+	O	+	+	+	-
De Ark, Meeuwen		+	-	-	-	-		-	-	--	-	-		-	O	+	+	+	O	-	-
Den Biekurf, Babyloniënbroek		+	--	-	-	-		-	-	-	-	-		+	+	+	+	-	-	-	-
Oranje Nassauschool, Veen		+	++	-	-	-		+	O	--	-	-		++	+	+	O	+	-	+	-
G. Voetiusschool, Andel		+	++	-	-	-		-	-	-	-	-		-	+	+	+	-	-	-	-
De Zaaier, Andel		+	++	-	-	-		-	-	-	O	-		-	O	+	+	-	-	-	-
De Parel, Rijswijk		+	++	-	-	-		-	-	+	-	-		--	+	+	+	O	-	-	+
De Parel, Giessen		+	++	-	-	-		-	-	++	-	-		-	+	O	+	+	-	-	-
Eben Haezer, Woudrichem		+	++	-	-	-		O	O	++	+	-		-	+	+	+	-	-	-	-
Ravelijn, Woudrichem		+	++	-	-	O		-	-	++	+	-		+	+	+	+	+	-	-	-
Oudendijk, Oudendijk		+	++	+	'	+		+	+	--	'	O		--	+	+	+	+	-	-	-
Waardhuizen, Waardhuizen		+	--	-	-	-		-	-	++	-	-		-	-	-	+	+	O	-	-
De Almgaard, Almkerk		+	++	-	-	-		-	-	++	+	-		-	-	+	+	+	-	-	-
De Halm, Almkerk		+	++	-	-	-		-	-	--	-	-		-	-	+	+	-	-	-	-
d'Uylenbosch, Almkerk		+	-	-	-	-		O	-	++	+	-		-	-	-	+	-	-	-	+

APPENDIX E; SAMPLE MATRIX

Sample Matrix		Grading	Importance	ds. Joh. Groenewegenschool, Werkendam	De Akker, Werkendam	Kompas, Werkendam	Het Baken, Werkendam	Burg. Sigmond, Werkendam	Morgenster, Sleeuwijk	Burg. Verschoor, Sleeuwijk	De Regenboog, Nieuwendijk	De Regenboog, Dussen	De Peppel, Dussen	De Sprankel, Dussen	De Bolderik, Hank	De Wilgenhoek, Hank	J.H. Dunant, Aalburg	De Hoeksteen, Aalburg	Het Fundament, Genderen	De Bogert, Eethen	De Ark, Meeuwen	Den Biekurf, Babyloniënbroek	Oranje Nassauschool, Veen	G. Voetiusschool, Andel	De Zaaier, Andel	De Parel, Rijswijk	De Parel, Giessen	Eben Haezer, Woudrichem	Ravelijn, Woudrichem	Oudendijk, Oudendijk	Waardhuizen, Waardhuizen	De Almgaard, Almkerk	De Halm, Almkerk	d'Uylenbosch, Almkerk
Speed indicators																																	
Speed restriction in environment		1/2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Self-explaining road		1-4	4	0,25	0,25	1	1	1	1	0,5	0,75	1	1	0,25	0,25	1	0,75	0,25	1	1	0,5	0,25	1	1	1	1	1	1	1	0,25	1	1	1	0,5
Take-over restriction		1/2	3	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	1	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Local speed restriction		1/2	1	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	1	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Speed measurements		1-3	1	0,333	0,333	0,667	0,667	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	1	0,667	0,333	1	0,333	0,333	0,333	0,333	0,333	0,333	0,667	1	0,333	0,333	0,333	0,333	0,333
Total speed indicators				7,333	7,333	10,67	10,67	11	10,33	8,333	9,333	10,33	11,83	8,833	7,333	10,33	10	6,167	10,33	11	8,333	7,333	10,33	10,33	10,33	10,33	10,33	10,33	10,67	12,5	7,333	10,33	10,33	8,333
Number of wrongly parked cars indicators																																	
Stop-restriction near entrance		1-3	3	0,333	0,333	0,667	1	0,333	0,333	0,333	0,333	1	1	0,667	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,667
Within 25 metres of the entrance no parking spaces		1-3	3	0,333	0,333	0,333	0,667	1	0,333	0,333	0,333	1	1	0,333	0,333	0,667	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,667	0,333	1	0,333	0,333	0,333	0,333
Location parking-spaces		1-4	2	1	1	1	1	0,25	0,25	0,75	1	0,25	0,5	0,25	1	1	0,5	0,5	0,25	1	0,5	0,5	0,25	1	1	1	1	1	1	0,25	1	0,5	1	0,5
"Kiss and Ride" places		1-3	2	0,333	0,333	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	1	0,333	0,333	1
Parking space for school bus		1-3	1	0,333	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,667	0,333	0,333	0,333	0,333	0,333
Total number of wrongly parked cars indicators				5	5,667	7,333	8	5,5	3,5	4,5	5	7,5	8	4,5	5	6,667	4	4	3,5	6,333	4	4	6,5	4	4,667	4,5	5	8,333	6,333	7,833	5	6,333	4	7,333
Number of cars in area/lack of overview indicators																																		
Design of crossings		1-4	4	0,75	0,5	0,5	0,5	0,5	0,5	0,5	0,75	0,5	0,25	0,75	1	0,75	0,5	0,75	0,5	0,5	0,75	0,5	1	0,5	0,5	0,25	0,5	0,5	0,75	1	0,5	0,5	0,5	0,5
Waiting room for the parents		1-3	3	0,667	0,333	0,333	1	1	1	0,667	0,333	0,333	1	0,667	1	0,667	1	0,333	1	1	0,667	0,667	1	1	1	1	1	1	1	1	1	0,333	0,333	0,333
Parking room bicycles for the children		1-3	3	1	0,667	1	1	1	1	1	1	1	0,333	1	1	0,667	0,667	1	1	1	1	1	0,667	1	1	1	1	1	1	1	1	0,333	1	1
Marking school zone (+vertical elements)		1-3	2	0,333	1	1	1	1	0,667	0,667	0,667	1	1	1	1	1	1	1	1	1	1	1	0,667	1	1	1	1	1	1	1	1	1	1	1
Seperation of school exit		1-3	1	0,667	0,333	0,333	0,333	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,667	1	0,333	1	0,667	1	1	1	0,333	0,333	0,667	1	0,333	0,333	1	1	0,333	0,333	0,333
Other materials in school zones then on connecting roads		1-3	1	0,333	0,333	0,333	1	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	1	0,667	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,667	0,333
One-way traffic		1-3	1	0,333	0,333	0,667	0,333	1	0,333	0,333	0,667	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	1	0,333	0,333	1	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333	0,333
Seperation of entrance for bicycles and pedestrians		1/2	1	1	1	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	1	0,5	0,5	0,5	0,5	0,5	0,5	0,5	1
Total number of cars in area indicators				11	9	9,833	12,17	13,5	10,83	9,833	9,167	10,5	9,5	9,5	12,5	11,83	12,17	9,5	13,17	12,5	11,5	12,17	13,17	11,5	10,5	11,33	11,17	11,5	13,17	14,17	8,5	9,5	9,5	10

APPENDIX F; SURVEY

Verkeersveiligheid in de omgeving van basisscholen

Vragenlijst over verkeersveiligheid rondom basisscholen.
Mijn naam is **Bart Geerts** en op dit moment doe ik mijn afstudeeronderzoek aan de TU Delft naar ***Verkeersveiligheid in de omgeving van basisscholen***. Het afstudeeronderzoek voer ik uit bij de gemeente Werkendam naar de schoolomgevingen van alle basisscholen in het **Land van Heusden en Altena**. Vandaar dat u een uitnodiging hebt ontvangen voor het invullen van de vragenlijst.

Voor mijn afstudeeronderzoek is het belangrijk te weten te komen hoe de ouders van de kinderen op de basisschool denken over de ***verkeersveiligheid in de schoolomgeving***. Daarom is uw deelname aan de enquête van groot belang. Het is van belang dat u de vragenlijst helemaal afrondt.

Het invullen van de vragenlijst kost ongeveer **5 à 10 minuten**. Onder de inzenders worden drie VVV-bonnen t.w.v. €25,- verloot. Bij voorbaat hartelijk dank voor uw deelname.

Er zijn 18 vragen in deze vragenlijst

Algemene vragen

1 In welke gemeente gaat uw kind naar school? *

Kies a.u.b. een van de volgende mogelijkheden:

- ○ Gemeente Aalburg
- ○ Gemeente Werkendam
- ○ Gemeente Woudrichem

2 Naar welke basisschool gaat uw kind/gaan uw kinderen? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Gemeente Aalburg' op vraag '1 [001]' (In welke gemeente gaat uw kind naar school?)

Kies a.u.b. een van de volgende mogelijkheden:

- ○ Obs J.H. Dunant
- ○ Cbs De Hoeksteen
- ○ Cbs Het Fundament
- ○ De Bogert
- ○ Cbs De Ark
- ○ Obs Den Biekûrf
- ○ Cbs Oranje Nassauschool

Als uw kinderen naar verschillende basisscholen gaan graag de basisschool aanvinken van uw oudste kind

3 Naar welke basisschool gaat uw kind/gaan uw kinderen? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Gemeente Werkendam' op vraag '1 [001]' (In welke gemeente gaat uw kind naar school?)

Kies a.u.b. een van de volgende mogelijkheden:

- ○ Ds. Joh. Groenenwegenschool
- ○ Het Baken
- ○ 't Kompas
- ○ Burgemeester Sigmond
- ○ De Akker
- ○ De Morgenster
- ○ Burgemeester Verschoor
- ○ Cbs De Regenboog (Nieuwendijk)
- ○ De Bolderik
- ○ De Wilgenhoek
- ○ De Peppel
- ○ De Sprankel
- ○ Obs De Regenboog (Dussen)

Als uw kinderen naar verschillende basisscholen gaan graag de basisschool aanvinken van uw oudste kind

4 Naar welke basisschool gaat uw kind/gaan uw kinderen? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Gemeente Woudrichem' op vraag '1 [001]' (In welke gemeente gaat uw kind naar school?)

Kies a.u.b. een van de volgende mogelijkheden:

- ○ De Parel (Giessen)
- ○ De Parel (Rijswijk)
- ○ Cbs Eben Haëzer
- ○ Obs Ravelijn
- ○ Nbs Oudendijk
- ○ Obs De Almgaard
- ○ Gbs De Halm
- ○ Cbs d'Uylenbosch
- ○ Cbs De Zaaier
- ○ Ds. G. Voetiusschool
- ○ Cbs Waardhuizen

Als uw kinderen naar verschillende basisscholen gaan graag de basisschool aanvinken van uw oudste kind

5 In welke groep zit uw oudste kind dat naar de basisschool gaat? *

Kies a.u.b. een van de volgende mogelijkheden:

- ○ Groep 1
- ○ Groep 2
- ○ Groep 3
- ○ Groep 4
- ○ Groep 5
- ○ Groep 6
- ○ Groep 7
- ○ Groep 8

6 Hoe gaat uw kind meestal naar school? *

Kies a.u.b. een van de volgende mogelijkheden:

- ○ Lopend met ouder
- ○ Lopend zelfstandig
- ○ Fietst zelf met ouder
- ○ Fietst zelfstandig
- ○ Achter- of voorop bij ouder op de fiets
- ○ Gebracht en gehaald met de auto: parkeren en mee naar school
- ○ Gebracht en gehaald met de auto: uitstappen en doorrijden
- ○ Gebracht en gehaald door taxibus/BSO-bus
- ○ Anders, namelijk... [ ]

Kies het antwoord dat het meest in de richting komt bij twijfel

7 Hoe vindt u de verkeerssituatie in de directe omgeving van de school? *

Kies a.u.b. een van de volgende mogelijkheden:

- ○ Heel veilig
- ○ Veilig
- ○ Niet veilig / niet onveilig
- ○ Onveilig
- ○ Zeer onveilig

Specifieke vragen

Deze vragen worden alleen gesteld als aan bepaalde voorwaarden is voldaan

8 Wat is de reden om uw kind te brengen en te halen met de auto? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Gebracht en gehaald met de auto: parkeren en mee naar school' of 'Gebracht en gehaald met de auto: uitstappen en doorrijden' op vraag '6 [004]' (Hoe gaat uw kind meestal naar school?)

Please choose **at most** 3 answers:

- ☐ De afstand naar school
- ☐ Het feit dat u als ouder doorrijdt naar een andere bestemming
- ☐ De (te) gevaarlijke schoolroute
- ☐ De gevaarlijke situatie rondom school
- ☐ Gewoonte
- ☐ De auto gaat sneller dan lopen of fietsen
- ☐ De auto is comfortabeler dan lopen of fietsen
- ☐ Anders, namelijk...: _____

9 Kunt u goed parkeren bij de school? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Gebracht en gehaald met de auto: parkeren en mee naar school' of 'Gebracht en gehaald met de auto: uitstappen en doorrijden' op vraag '6 [004]' (Hoe gaat uw kind meestal naar school?)

Selecteer alles wat voldoet

- ☐ Ja
- ☐ Niet goed, de parkeerplaasten zijn te ver van school
- ☐ Niet goed, er is te veel verkeer tussen de school en de parkeerplaats
- ☐ Niet goed, verkeer houdt te weinig rekening met elkaar bij de parkeerplaats
- ☐ Niet goed, want...: _____

10 U hebt aangegeven dat uw kind(eren) altijd of soms fietst/fietsen of loopt/lopen. Waarom kiest u ervoor uw kind(eren) op die manier naar school te laten gaan?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Lopend met ouder' of 'Lopend zelfstandig' of 'Fietst zelf met ouder' of 'Fietst zelfstandig' of 'Achter- of voorop bij ouder op de fiets' op vraag '6 [004]' (Hoe gaat uw kind meestal naar school?)

Please choose **at most** 3 answers:

- ☐ Gezond
- ☐ Veilig
- ☐ Goede voorbeeld
- ☐ Goed voor het milieu
- ☐ Leuk
- ☐ Vermijd parkeerproblemen
- ☐ Dit kost het minste tijd
- ☐ Ik fiets of loop altijd
- ☐ Ik heb geen auto dus ik moet wel fietsen/lopen
- ☐ Goedkoop, scheelt me benzinekosten
- ☐ Mijn kind(eren) wil(len) dit graag
- ☐ Ik wil dit graag
- ☐ Op deze manier doet mijn kind meer ervaring op in het verkeer
- ☐ Anders, namelijk...:

11 Wat vindt u van de fietsenstallingen bij de school? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Fietst zelf met ouder' of 'Fietst zelfstandig' of 'Achter- of voorop bij ouder op de fiets' op vraag '6 [004]' (Hoe gaat uw kind meestal naar school?)

Selecteer alles wat voldoet

- ☐ Het aantal plaatsen in de fietsenstalling is voldoende
- ☐ Er is te weinig ruimte om de fietsen te stallen
- ☐ De kwaliteit van de fietsenstalling is goed
- ☐ De kwaliteit van de fietsenstalling is onvoldoende
- ☐ De fietsen staan veilig
- ☐ De fietsen staan niet veilig
- ☐ Anders, namelijk...:

12 Wat vindt u van de opstapplaats van de taxibus of BSO-bus *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
° Is 'Gebracht en gehaald door taxibus/BSO-bus' op vraag '6 [004]' (Hoe gaat uw kind meestal naar school?)

Selecteer alles wat voldoet

- ☐ Voldoende dichtbij de school
- ☐ Te ver van de school
- ☐ Ik weet niet precies waar de taxibus of BSO-bus geparkeerd staat

Meningsvragen

13 Hoe tevreden bent u over de 10 hieronder beschreven situaties? *

Kies het toepasselijk antwoord voor elk onderdeel:

	1	2	3	4	5
De verkeerssituatie in het algemeen rondom school	○	○	○	○	○
De verkeersveilige inrichting van de straten/wegen rondom de school	○	○	○	○	○
De wijze waarop auto's geparkeerd worden bij de school	○	○	○	○	○
De beschikbare parkeercapaciteit bij de school	○	○	○	○	○
Het overzicht bij kruispunten/oversteekplaatsen	○	○	○	○	○
Het aantal verkeersremmers voor ander verkeer (drempels, etc.)	○	○	○	○	○
De mate waarin andere weggebruikers opletten/rekening houden met anderen	○	○	○	○	○
De verkeersdrukte rondom de school	○	○	○	○	○
De locatie van oversteekplaatsen rondom de school	○	○	○	○	○
De snelheid waarmee het verkeer de school passeert	○	○	○	○	○

1=zeer ontevreden, 2=ontevreden, 3=noch tevreden/noch ontevreden, 4=tevreden, 5=zeer tevreden

14 Denkt u dat onderstaande aanpassingen en maatregelen bijdragen of in het verleden hebben bijgedragen aan de verkeersveiligheid rondom de school? *

Kies het toepasselijk antwoord voor elk onderdeel:

	Ja	Weet niet	Nee
Parkeerverbod bij de in-/uitgang van de school	○	○	○
Parkeercapaciteit bij de school beter benutten	○	○	○
Snelheidsremmende maatregelen op de weg voor de school	○	○	○
Niet noodzakelijk autogebruik bij school weren; autoluwe schoolomgeving	○	○	○
Meer en betere informatievoorziening vanuit de gemeente	○	○	○
Meer en betere informatievoorziening vanuit de school via bijvoorbeeld de digitiale nieuwsbrief	○	○	○
Instellen 1-richting verkeer voor de school	○	○	○

15 Tot slot volgen hierna in totaal 10 stellingen, onderverdeeld in 2 pagina's. Bent u het eens met de onderstaande eerste 5 stellingen?

Kies het toepasselijk antwoord voor elk onderdeel:

	Ja	Weet niet	Nee
Ouders kunnen met verkeersveilig gedrag in belangrijke mate bijdragen aan de verkeersveiligheid rondom de school	○	○	○
Verkeersveiligheid in de omgeving van basisscholen hoort geregeld te worden binnen het schoolbeleid	○	○	○
Verkeersveiligheid in de omgeving van basisscholen hoort geregeld te worden binnen het gemeentebeleid	○	○	○
Er wordt te veel foutgeparkeerd in de schoolomgeving	○	○	○
Het is te druk met auto's, fietsers, scooters e.d. in de schoolomgeving	○	○	○

16 Tot slot nog de laatste 5 stellingen. Bent u het eens met de onderstaande stellingen?

Kies het toepasselijk antwoord voor elk onderdeel:

	Ja	Weet niet	Nee
Ouders die met de auto komen zouden de schoolin-/uitgang zoveel mogelijk moeten mijden	○	○	○
Ouders kunnen beter vaker lopend of fietsend de kinderen brengen en halen	○	○	○
De snelheid van het verkeer in de straten rondom school is meestal laag (max 30 km/u)	○	○	○
De meeste bestuurders rijden harder dan de toegestane snelheid in de straten rondom school	○	○	○
Er zijn in de huidige situatie geen problemen met de verkeersveiligheid rond de schoolomgeving	○	○	○

Afsluitende vragen

Tot slot heeft u hierna nog de mogelijkheid eventuele opmerkingen te plaatsen over zaken die u wellicht nog kwijt zou willen.

17 Heeft u naar aanleiding van de enquête nog verdere opmerkingen met betrekking tot de verkeersveiligheid in de schoolomgeving van uw kind?

Vul uw antwoord hier in:

18 Om kans te maken op de VVV-bon wordt tenslotte uw e-mailadres gevraagd. Indien u dit wenst kunt u hieronder uw e-mail adres opgeven.

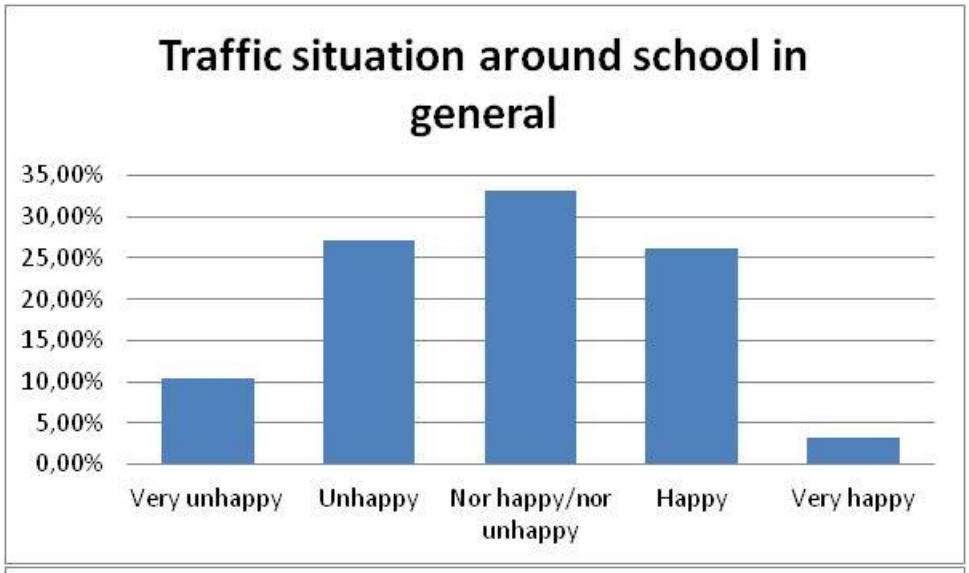
Vul uw antwoord hier in:

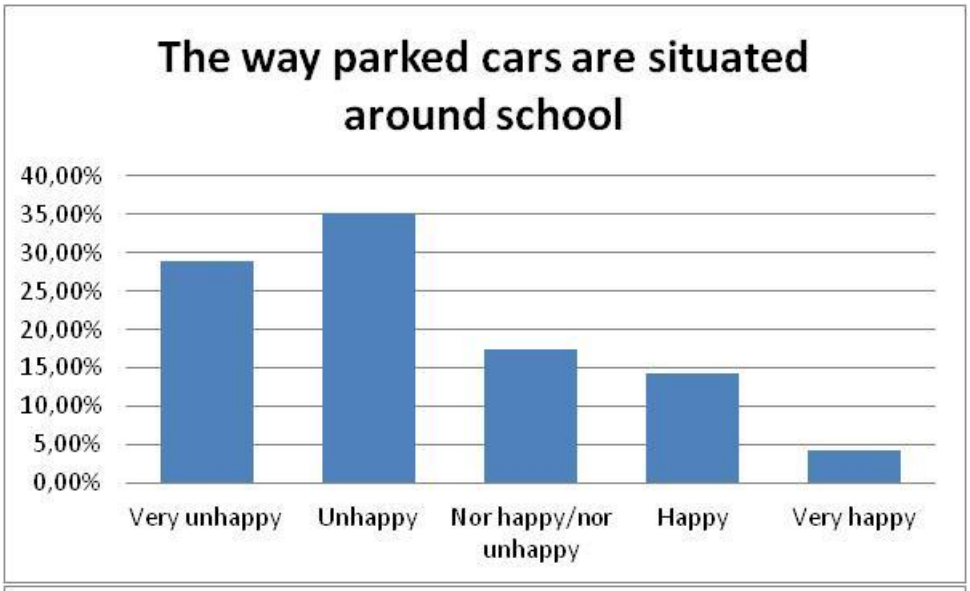
01.01.1970 – 01:00

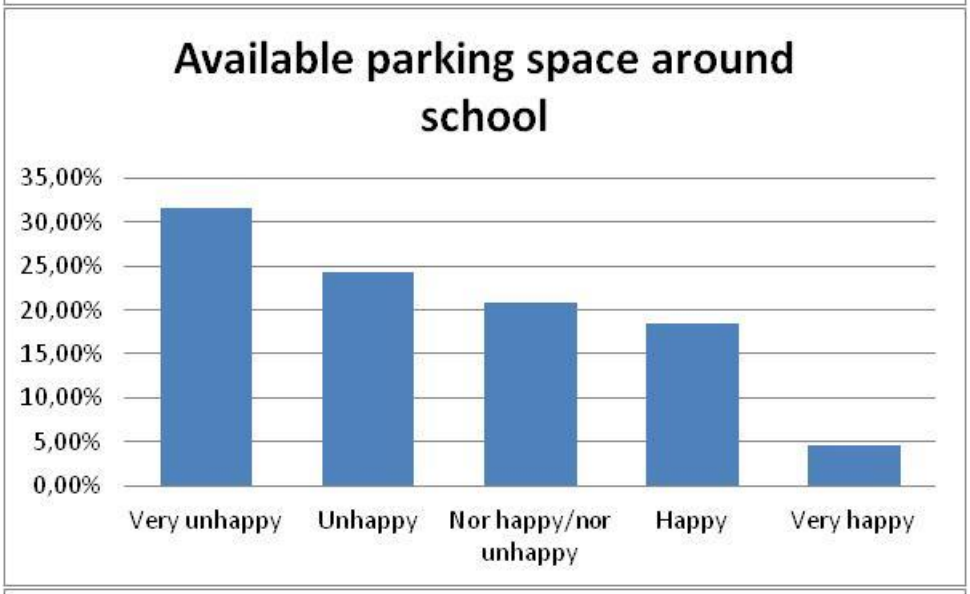
Verstuur uw vragenlijst
Bedankt voor uw deelname aan deze vragenlijst.

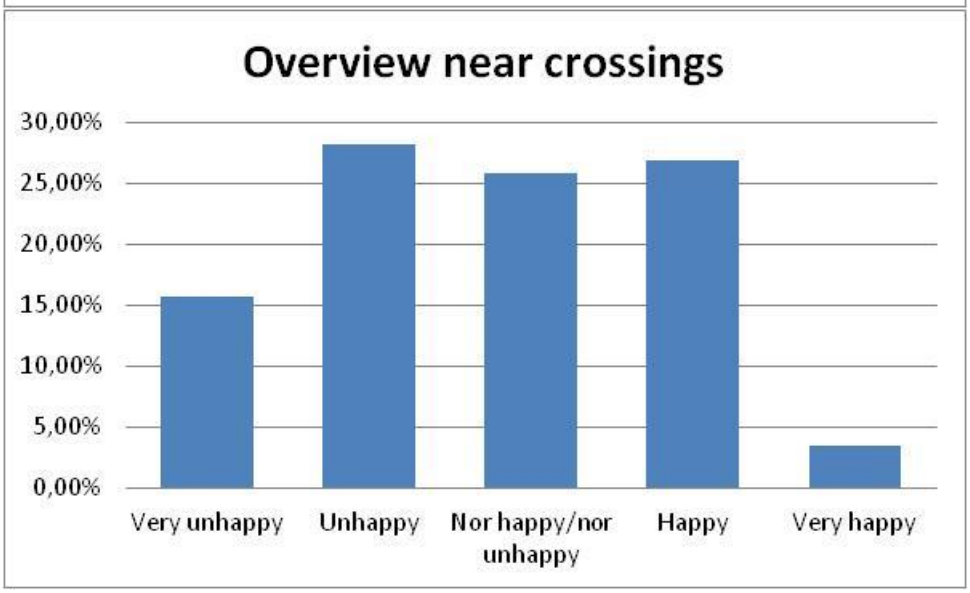
APPENDIX G; STRAIGHT COUNTING

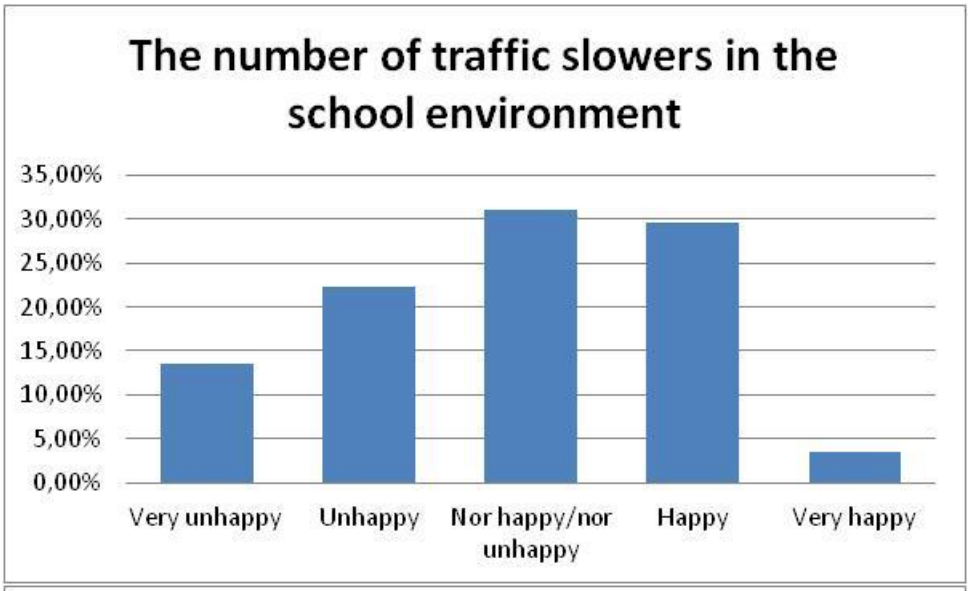
Straight counting question 13. In question 13 is asked how satisfied the participants are about the statements. They can answer on a 5-point scale. 1 indicates not satisfied at all, 2 indicates unsatisfied, 3 indicates nor satisfied, nor unsatisfied, 4 indicates satisfied and 5 indicates very satisfied.

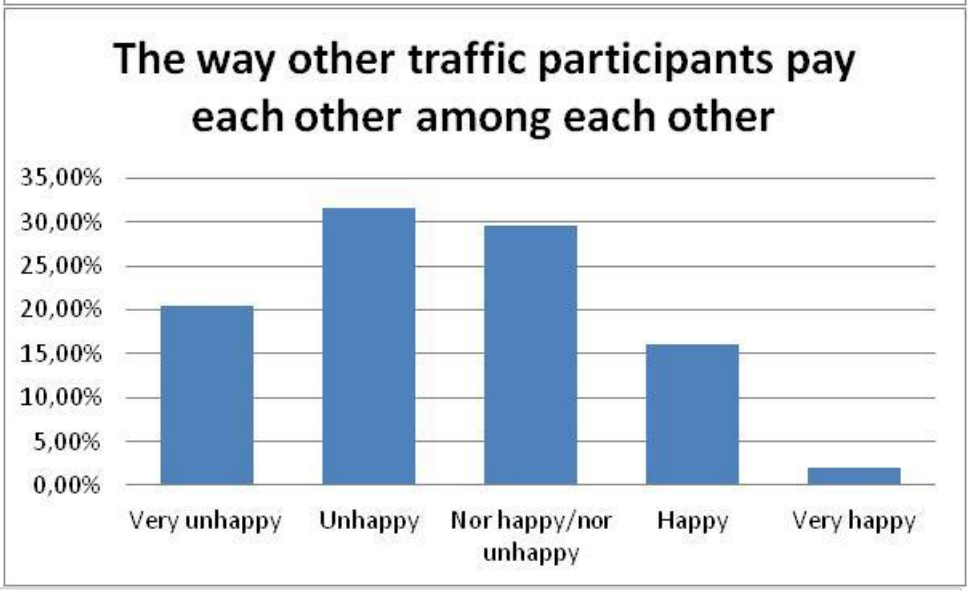


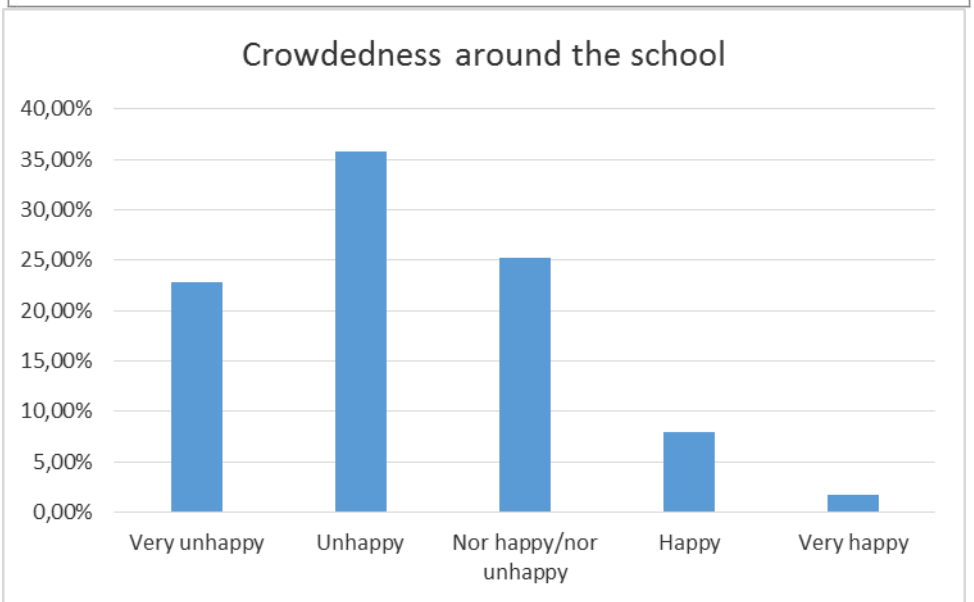

The way parked cars are situated around school
40,00%
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy

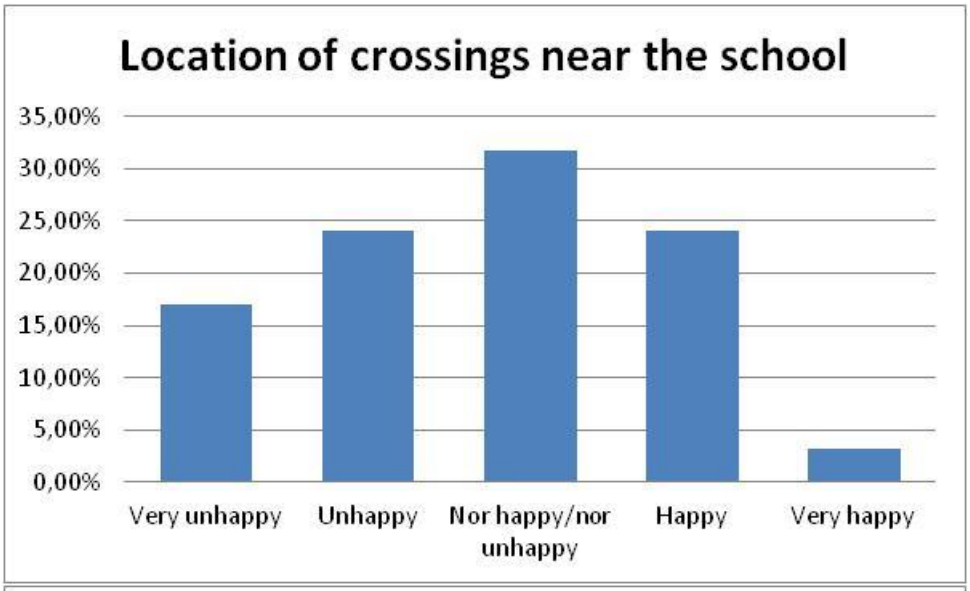

Available parking space around school
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy

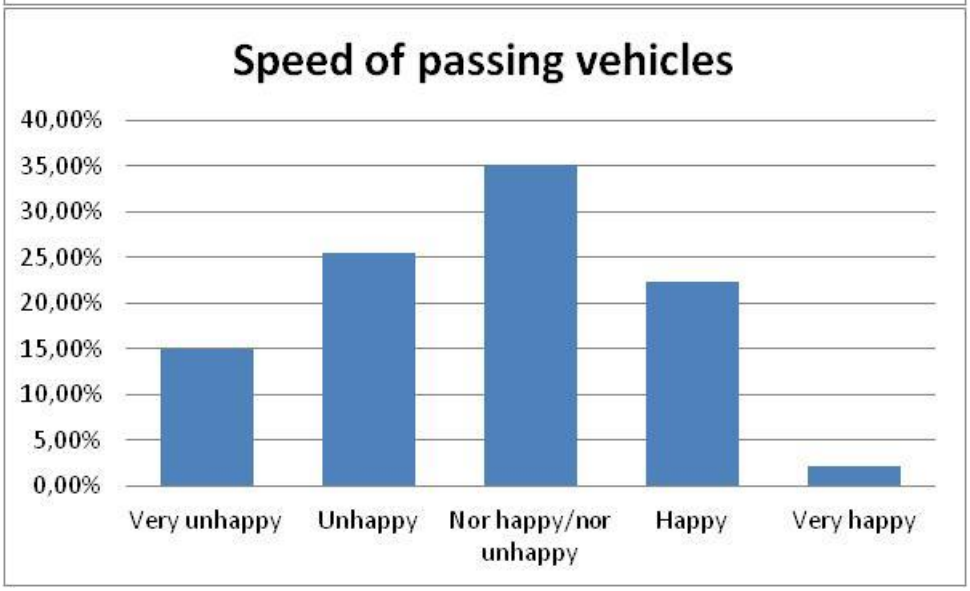

Overview near crossings
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy


The number of traffic slowers in the school environment
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy

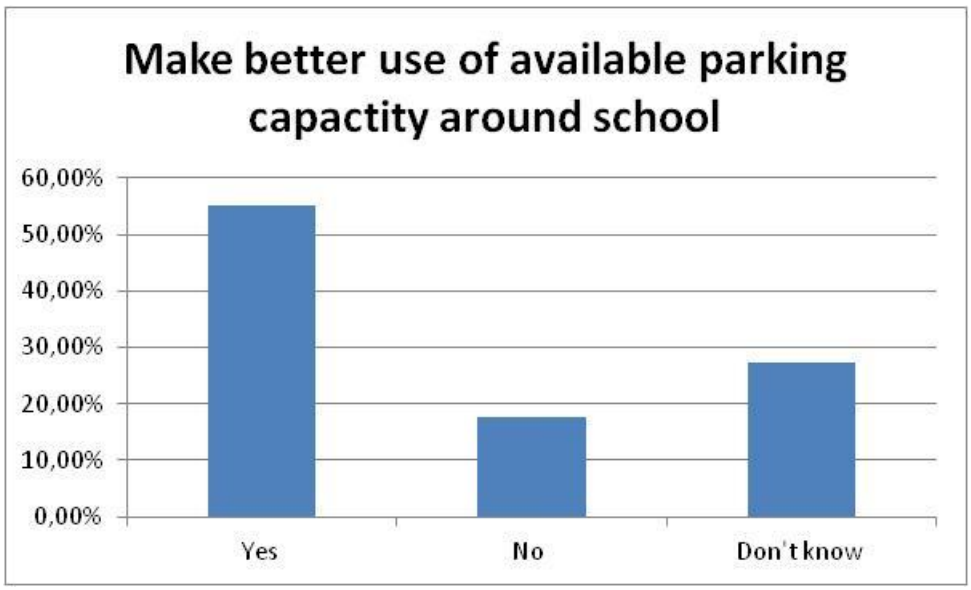

The way other traffic participants pay each other among each other
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy

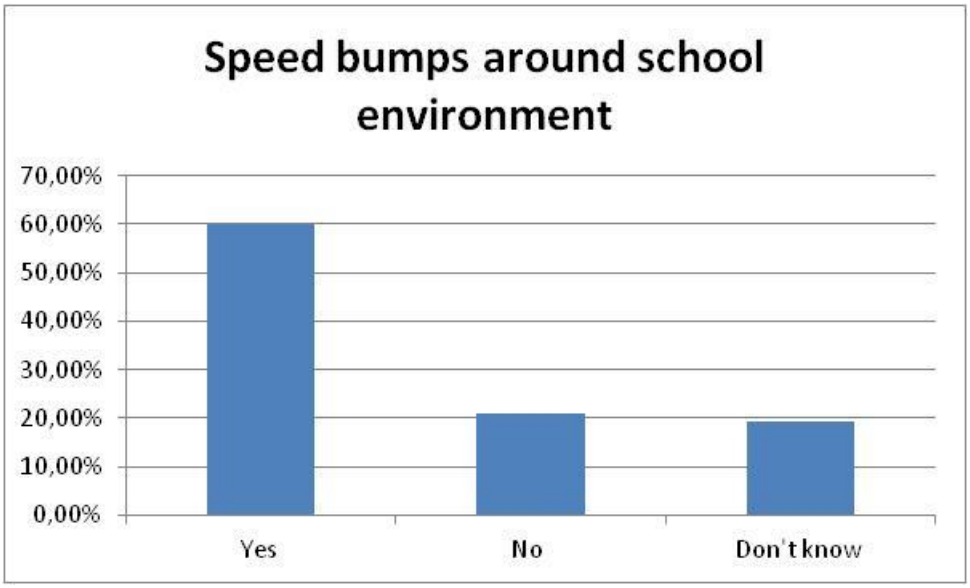

Crowdedness around the school
40,00%
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy

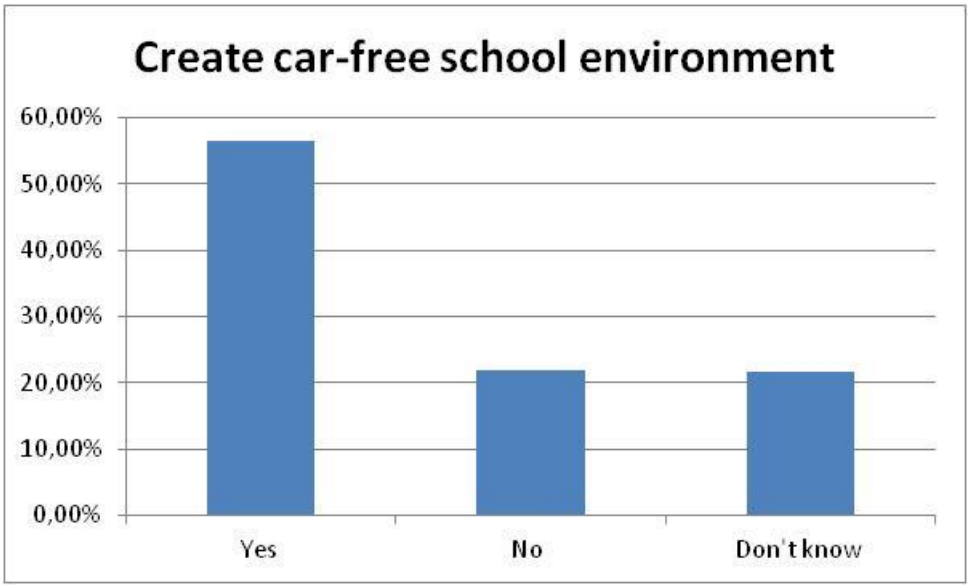

Location of crossings near the school
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy

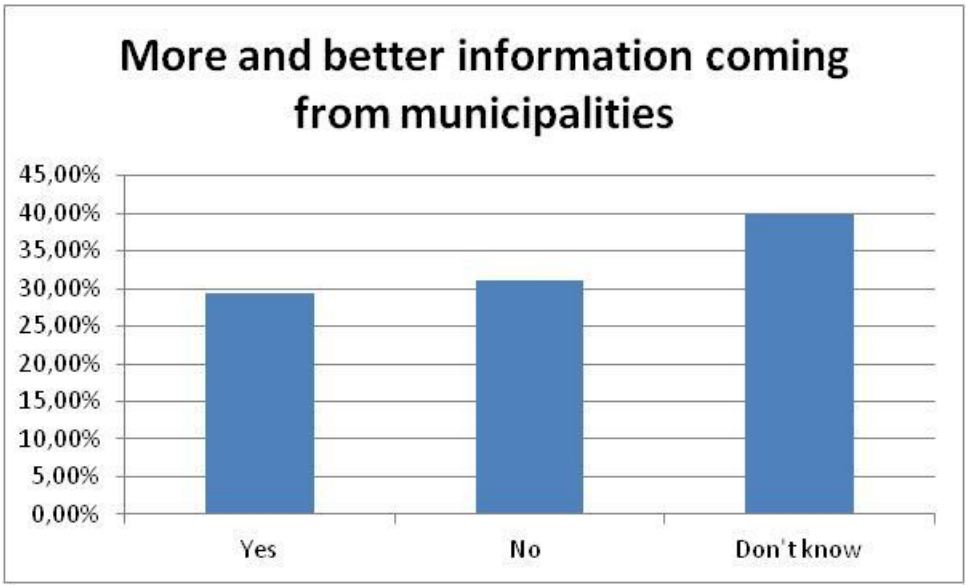

Speed of passing vehicles
40,00%
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Very unhappy
Unhappy
Nor happy/nor unhappy
Happy
Very happy

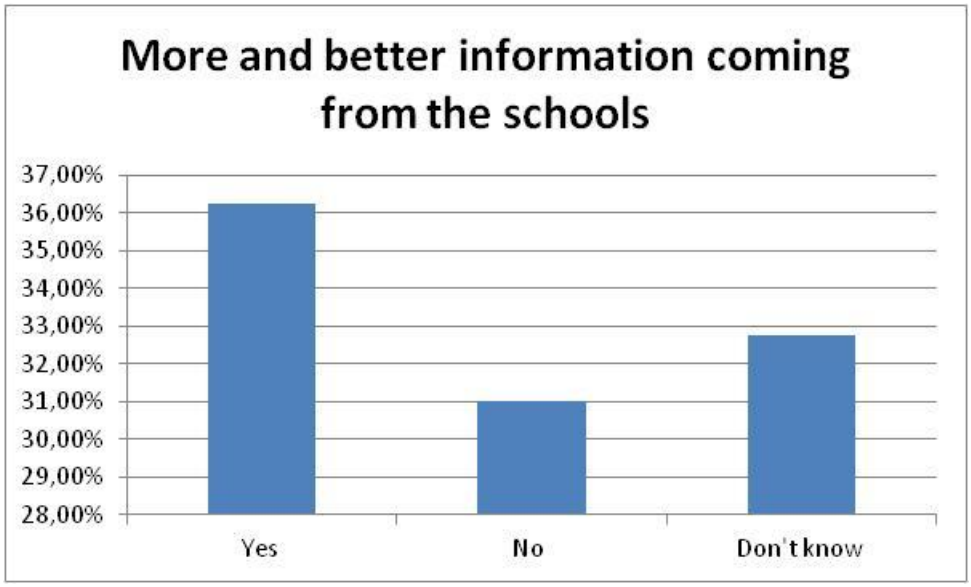
Straight counting question 14. In question 14 is asked if the participants think the mentioned happening would improve the traffic safety in the school environment or has improved it.

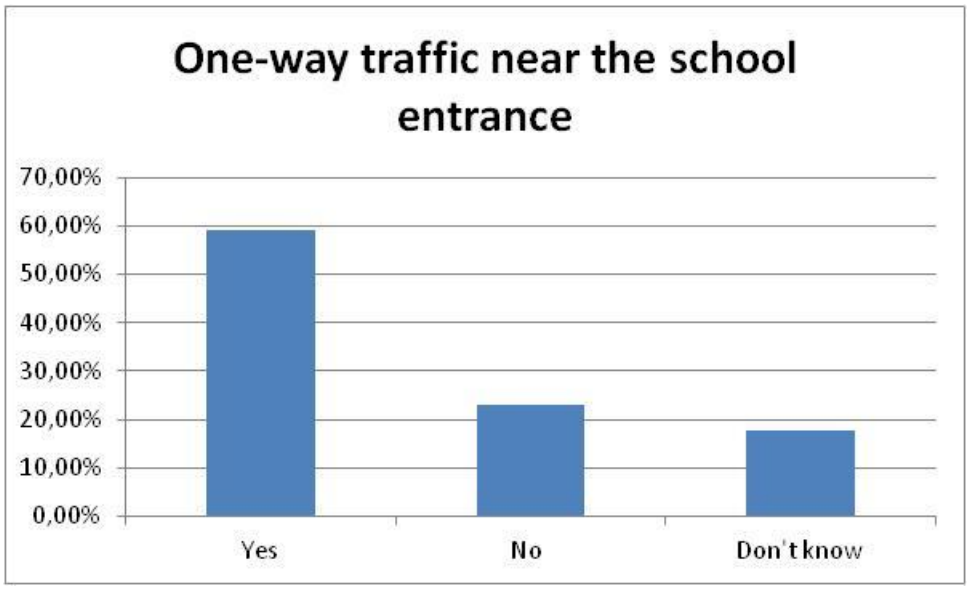



Speed bumps around school environment
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know

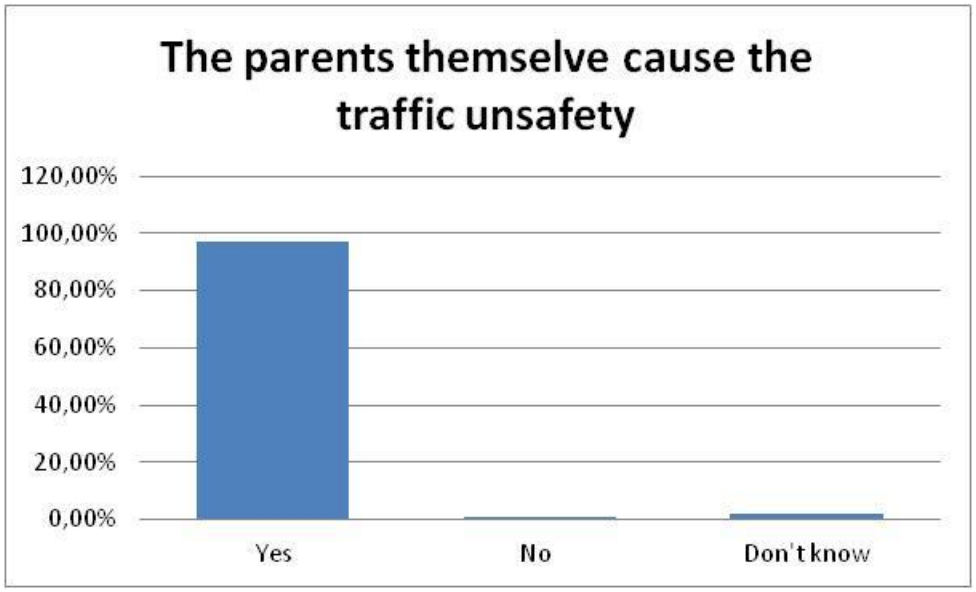

Create car-free school environment
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know


More and better information coming from municipalities
45,00%
40,00%
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Yes
No
Don't know

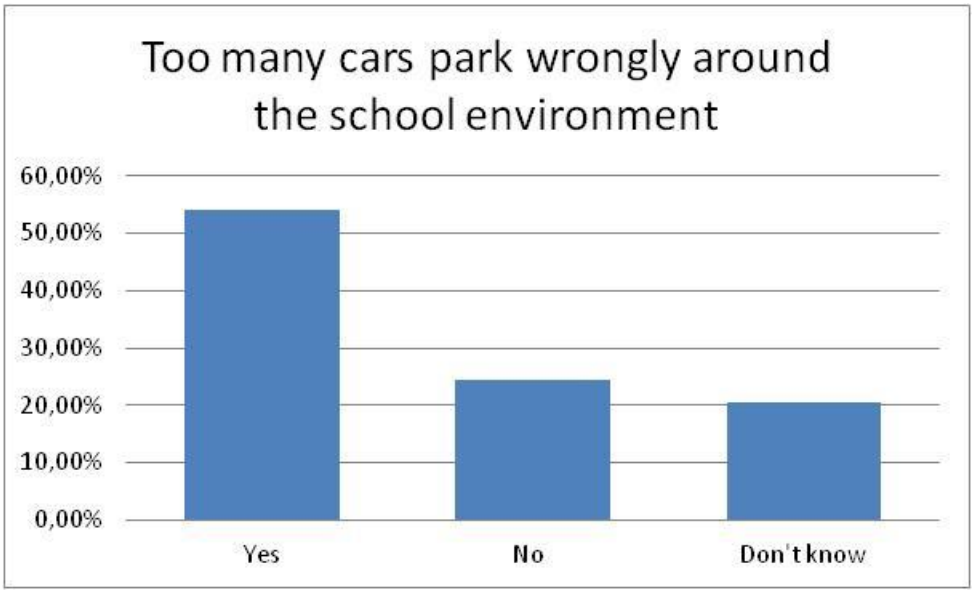

More and better information coming from the schools
37,00%
36,00%
35,00%
34,00%
33,00%
32,00%
31,00%
30,00%
29,00%
28,00%
Yes
No
Don't know

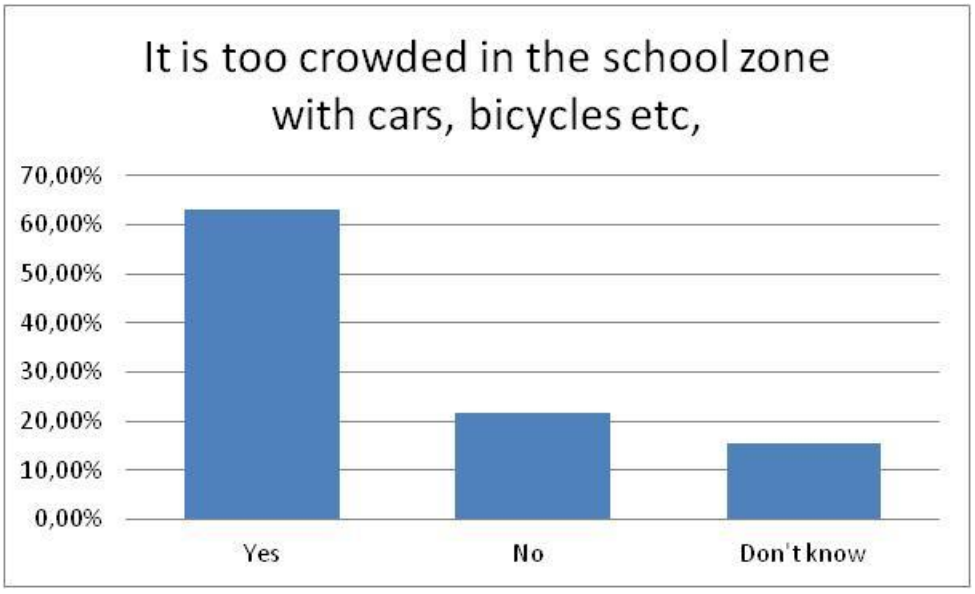

One-way traffic near the school entrance
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know

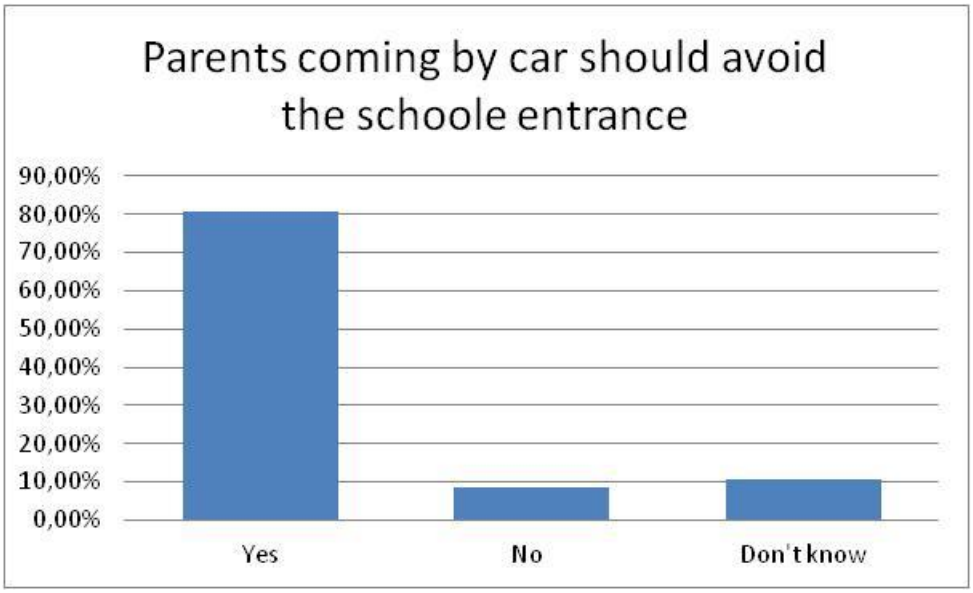
Straight counting question 15 and 16. In question 15 and 16 is asked if the participants agree with the statement made.

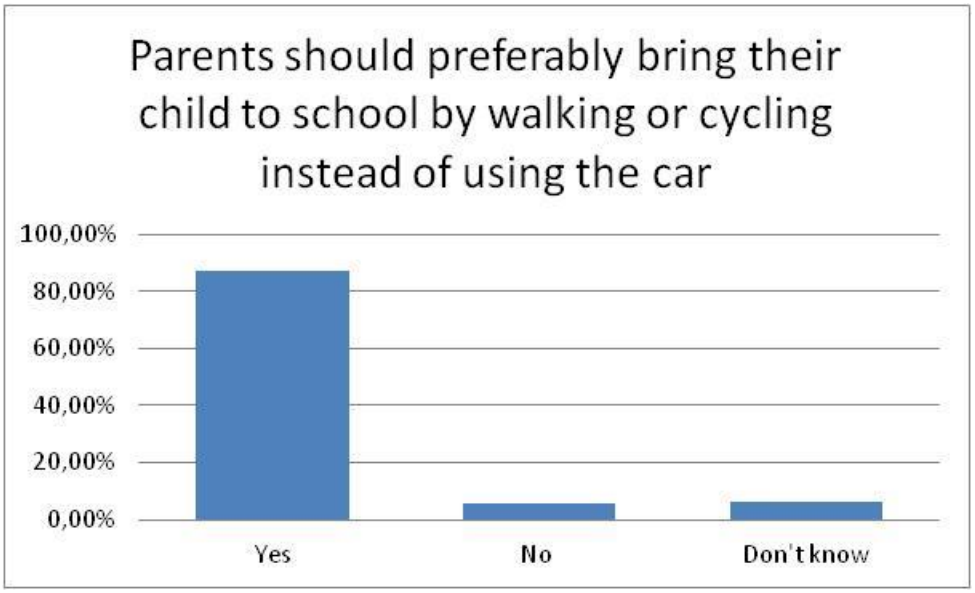


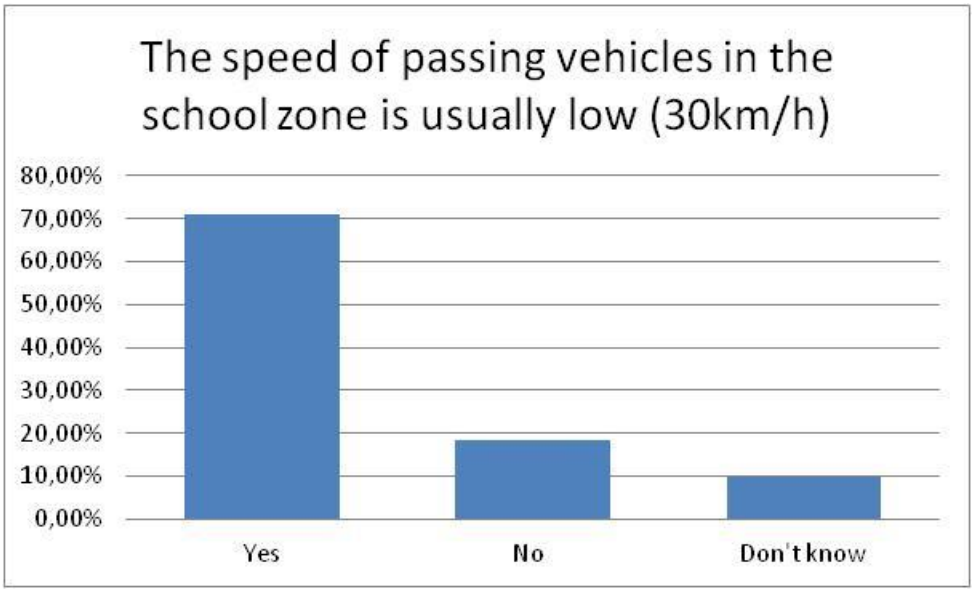

The traffic safety around the school should be managed by the municipality
100,00%
80,00%
60,00%
40,00%
20,00%
0,00%
Yes
No
Don't know

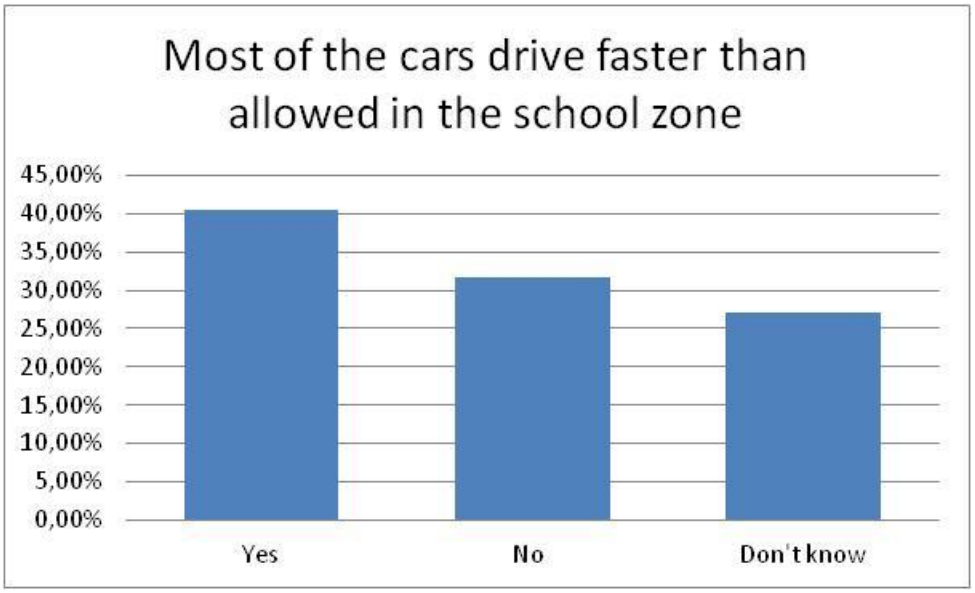

Too many cars park wrongly around the school environment
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know

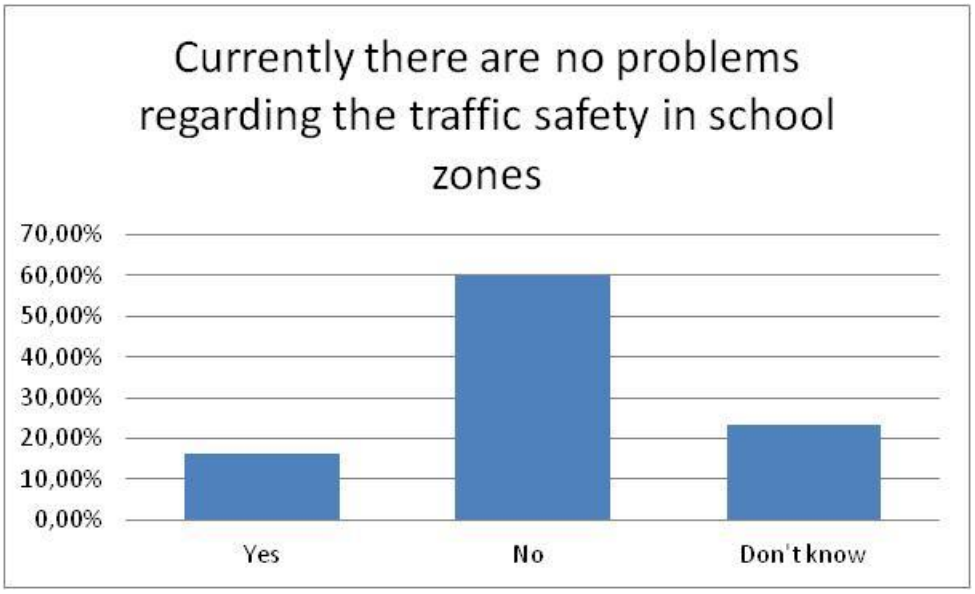

It is too crowded in the school zone with cars, bicycles etc,
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know


Parents coming by car should avoid the schoole entrance
90,00%
80,00%
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know


Parents should preferably bring their child to school by walking or cycling instead of using the car
100,00%
80,00%
60,00%
40,00%
20,00%
0,00%
Yes
No
Don't know


The speed of passing vehicles in the school zone is usually low (30km/h)
80,00%
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know


Most of the cars drive faster than allowed in the school zone
45,00%
40,00%
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
Yes
No
Don't know


Currently there are no problems regarding the traffic safety in school zones
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Yes
No
Don't know

APPENDIX H; CROSS TABLES

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the traffic situation around school in general? (question 13-1)					
	1	2	3	4	5	Total
Very safe/safe	1	2	22	54	9	88
	3%	3%	23%	72%	100%	
Not safe/not unsafe	1	16	54	17	0	88
	3%	21%	57%	23%	0%	
Unsafe/very unsafe	28	60	19	4	0	111
	93%	77%	20%	5%	0%	
Total	30	78	95	75	9	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the traffic safe design of the street in the school environment? (question 13-2)					
	1	2	3	4	5	
Very safe/safe	1	7	23	50	7	88
	3%	9%	25%	62%	100%	
Not safe/not unsafe	4	23	37	24	0	88
	13%	30%	40%	30%	0%	
Unsafe/very unsafe	26	46	32	7	0	111
	84%	61%	35%	9%	0%	
Total	31	76	92	81	7	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the way people park their car in the school environment? (question 13-3)					
	1	2	3	4	5	Total
Very safe/safe	4	27	24	26	7	88
	5%	27%	48%	64%	58%	
Not safe/not unsafe	16	41	16	13	2	88
	19%	41%	32%	32%	17%	
Unsafe/very unsafe	63	33	10	2	3	111
	76%	33%	20%	5%	25%	
Total	83	101	50	41	12	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the available parking capacity near the school? (question 13-4)					
	1	2	3	4	5	Total
Very safe/safe	14	15	22	29	8	88
	15%	21%	37%	55%	62%	
Not safe/not unsafe	26	23	25	13	1	88
	29%	33%	42%	25%	8%	
Unsafe/very unsafe	51	32	13	11	4	111
	56%	46%	22%	21%	31%	
Total	91	70	60	53	13	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the overview near intersections? (question 13-5)					
	1	2	3	4	5	Total
Very safe/safe	4	10	24	44	6	88
	9%	12%	32%	57%	60%	
Not safe/not unsafe	5	32	31	18	2	88
	11%	40%	42%	23%	20%	
Unsafe/very unsafe	36	39	19	15	2	111
	80%	48%	26%	19%	20%	
Total	45	81	74	77	10	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the number of “traffic-slowers” in the school environment? (question 13-6)					
	1	2	3	4	5	Total
Very safe/safe	3	14	32	35	4	88
	8%	22%	36%	41%	40%	
Not safe/not unsafe	9	20	27	31	1	88
	23%	31%	30%	37%	10%	
Unsafe/very unsafe	27	30	30	19	5	111
	69%	47%	34%	22%	50%	
Total	39	64	89	85	10	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the crowdedness around school? (question 13-8)					
	1	2	3	4	5	Total
Very safe/safe	3	29	35	17	4	88
	4%	27%	44%	68%	80%	
Not safe/not unsafe	12	36	32	7	1	88
	17%	33%	41%	28%	20%	
Unsafe/very unsafe	54	44	12	1	0	111
	78%	40%	15%	4%	0%	
Total	69	109	79	25	5	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the location of intersections near the school? (question 13-9)					
	1	2	3	4	5	Total
Very safe/safe	5	13	24	39	7	88
	10%	19%	26%	57%	78%	
Not safe/not unsafe	9	23	39	17	0	88
	18%	33%	43%	25%	0%	
Unsafe/very unsafe	35	33	28	13	2	111
	71%	48%	31%	19%	22%	
Total	49	69	91	69	9	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	How satisfied are you with the speed other traffic passes the school? (question 13-10)					
	1	2	3	4	5	Total
Very safe/safe	1	20	33	32	2	88
	2%	28%	33%	50%	33%	
Not safe/not unsafe	7	24	35	19	3	88
	16%	33%	35%	30%	50%	
Unsafe/very unsafe	35	29	33	13	1	111
	81%	40%	33%	20%	17%	
Total	43	73	101	64	6	287
	100%	100%	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	Do you think a parking restriction near the school entrance would improve the traffic safety in school environments (question 14-1)			
	Yes	No	Don't know	Total
Very safe/safe	43	22	23	88
	27%	40%	31%	
Not safe/not unsafe	48	17	23	88
	30%	31%	31%	
Unsafe/very unsafe	67	16	28	111
	42%	29%	38%	
Total	158	55	74	287
	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	Do you think to make better use of the available parking capacity around school would improve the traffic safety in school environments (question 14-2)			
	Yes	No	Don't know	Total
Very safe/safe	49	26	13	88
	31%	33%	26%	
Not safe/not unsafe	48	29	11	88
	30%	37%	22%	
Unsafe/very unsafe	61	23	27	111
	39%	29%	53%	
Total	158	78	51	287
	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	Do you think to create more speed restriction elements would improve the traffic safety in school environments (question 14-3)			
	Yes	No	Don't know	Total
Very safe/safe	54	20	14	88
	31%	37%	23%	
Not safe/not unsafe	51	16	21	88
	30%	29%	35%	
Unsafe/very unsafe	67	19	25	111
	39%	35%	42%	
Total	172	55	60	287
	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	Do you think to create a car-free environment would improve the traffic safety in school environments (question 14-4)			
	Yes	No	Don't know	Total
Very safe/safe	45	20	23	88
	28%	33%	37%	
Not safe/not unsafe	46	27	15	88
	28%	44%	24%	
Unsafe/very unsafe	71	15	25	111
	44%	24%	40%	
Total	162	62	63	287
	100%	100%	100%	

What do think about the traffic safety in the school zone? (question 7)	Do you think to create a one-way traffic circulation in the school environment would improve the traffic safety in school environments (question 14-7)			
	Yes	No	Don't know	Total
Very safe/safe	35	19	34	88
	21%	37%	52%	
Not safe/not unsafe	53	18	17	88
	31%	35%	26%	
Unsafe/very unsafe	82	14	15	111
	48%	27%	23%	
Total	170	51	66	287
	100%	100%	100%	

APPENDIX I; ANSWERS ON THE LAST QUESTION OF THE SURVEY

1	Nee
6	Ja ik had tot 4 maanden geleden een oppaskind dat naar school ging. Woon zelf 0ngeveer 160 meter van school vind het daar gevaarlijk. Auto,s staan op rare punten geparkeerd. Kinderen fietsen op de stoep. Ik rijd meestal een straatje om. Vanwege al het verkeer als de school uitgaat en ingaat. Geen veilige situatie.
7	in de gemeente lopen regelmatig BOA's gebruik die om te snel verkeer of verkeer wat niet stopt voor zebrapad, aan te pakken (boete)
10	Het oversteken van de provinciale weg (omdat we in Uitwijk wonen en in Waardhuizen naar school gaan) blijft erg gevaarlijk, dit is een reden waarom we ook regelmatig met de auto gaan: een zelf fietsende kleuter en twee kinderen op de fiets is niet veilig. Het verkeer is te snel, te veel verkeer en omdat er toch regelmatig bestuurders zijn die fietsers toch voorrang geven is het voor kleine kinderen een zeer onoverzichtelijke situatie.
12	Mijn dochter gaat via de ingang aan de singel op het plein waar ook het dienstencentrum staat. In het verleden lagen er twee bruggen over de singel, een brede voor de auto's, scooters en fietsers en een smalle voor de voetgangers. Helaas is de smalle brug weggehaald en nooit meer teruggekomen waardoor iedereen over één brug moet (wandelend, fietsend, in de auto etc.) waardoor er vaak gevaarlijke verkeerssituaties ontstaan. Erg jammer.
16	Het gaat niet alleen om verkeersveiligheid direct bij de school maar ook de omgeving. Kinderen lopen en fietsen immers naar school. Papa's en mama's met haast rijden te hard naar school of naar hun werk. Bij een plotseling overstekend kind kunnen ze niet tijdig remmen met een aanrijding tot gevolg. Degene die meestal te hard rijden zijn bekend maar het is vaak lastig voor andere ouders of docenten om ze daar op aan te spreken. Als hier goede tools voor komen zal het verkeersgedrag beter worden lijkt me.
17	ik vind het prima als er verkeer beperkende maatregelen komen voor auto's maar houdt ook rekening met kinderen die van veraf moeten komen (buitendijk/rijksweg/midgraaf/zandweg etc) voor die kinderen en ouders is het niet altijd haalbaar om met de fiets of lopend te komen. verder moet er dan voldoende plaats zijn om te parkeren. Ik vind dat de maatregelen aan de kant van het hoofdgebouw tot nu toe positieve situatie heeft opgeleverd. Ik ben geen voorstander van verdere beperking. de eenrichtingsverkeersituatie in de Vijverstraat heeft voldoende veiligheid voor de kinderen opgeleverd. De rijksweg zelf is veel gevaarlijker en daar maak ik me meer zorgen over, bij het oversteken gaat he vaak maar net goed met de kinderen, daar wordt hard gereden of nog gauw even ingehaald door een automobilist.
19	Ik breng jongste kind van irisstraat via hasselmanstraat dan langs iris sporthal en naar t avenu en dan daar de poort van school in lopend, maar op voetpad rijden ook fietsers, er is ook geen fietspad dat zou er wel moeten komen vind ik. Dat je voetpad en fietspad naast elkaar hebt.
22	Misschien een idee om een stoep aan te leggen vanaf het JOP richting de hasselmanstraat/anjerlaan. Zo gaan de kinderen/ouders voor de auto's langs die geparkeerd staan aan de zijde van de sporthal. Nu moeten de kinderen achter de auto's lopen, dit is echt levens gevaarlijk, zeker als de auto's niet achteruit ingeparkeerd staan

23	Allereerst veel succes met het afronden van je studie..! Waardhuizen heeft een zeer kleine basisschool, gelukkig maken wij deel uit van een grotere organisatie. De verkeersveiligheid is in zijn algemeenheid goed te noemen. Helaas zijn er altijd wel auto's die te hard rijden en ook ouders die hun auto niet juist parkeren. Het personeel van de school is altijd zeer oplettend bij het aanvangen en uitgaan van de school, echter zie ik het primair niet als hun taak om de openbare weg veiliger te maken. Dit is echt een taak van de ouders zelf en van de gemeente. De scholen moeten al genoeg "ballonnen" in de lucht houden, om alles te organiseren. Met regelmaat de ouders wijzen op hun eigen verantwoordelijkheid is de enige manier om de omgeving bij de school veilig te houden.
24	De schoolomgeving is goed ingericht. Het zijn echter de mensen die de parkeerverboden negeren, dubbel parkeren. Als iedere bestuurder zich gedraagt zoals 't zou moeten is er niets aan de hand.
25	De verantwoordelijkheid ligt voornamelijk bij de ouders zelf, vind ik. Helaas zijn er nog te veel ouders die denken dat ieder ander rekening met hen en hun schoolgaande kinderen moet houden, maar daar door vergeten niet alleen de ouders maar dus ook de kinderen respect voor andere weggebruikers te hebben. Lijkt me een wijze les door school om te geven, aan zowel de kinderen als de ouders!
26	geen anvullinge
27	De verkeersveiligheid in de directe omgeving is in orde, maar een ring verder wordt het al een probleem. Denk aan verkeerssituatie 't Rond. Blijft een drukke weg. Ligt gelukkig al 1 zebrapad (westkant), maar wat mij betreft mogen er nog 2 zebrapaden bij (Noordkant en Zuidkant). Kinderen moeten daar voorrang krijgen boven alles!
28	Ouds zouden inderdaad mee lopend of met de fiets moeten komen of elders laten uitstapen
30	De zoen en zoef zone zou helemaal weg moeten bij Ravelijn. Hierdoor is er voor de overige kinderen op de fiets bijna geen overzicht.
33	Over het algemeen kan mijn kind veilig naar school, enkel bij de ingang bij het Tavenu is het erg onveilig/onoverzichtelijk. Er zijn te weinig parkeerplaatsen, leerlingen/kleuters kunnen niet veilig wachten op hun ouders en voor jonge voetgangers en fietser is het niet veilig om samen met de auto's over de brug te rijden. Regelmatig komt het voor dat er bezoekers van het Tavenu voor onveilige situaties zorgen. Niet doelbewust, maar door geen rekening te houden met de schooltijden en de leerlingen. Er is geen veilig plek voor ouders en leerlingen om opgehaald te worden aan deze kant. Ook het lopen vanaf deze ingang is veel moeilijker sinds dat de loopbrug weg is gehaald. Deze brug was zowel voor de school als voor het gezondheidscentrum een uitkomst en zorgde ervoor dat vele voetgangers op een veilige manier naar de overkant konden komen. De algemene ingang is redelijk veilig, behalve dat de leerlingen op de fiets direct de straat op kunnen fietsen en niet altijd goed uitkijken of er auto's aankomen.
35	De omgeving rond de school kan nog zo verkeersveilig ingericht zijn, als het gedrag van gebruiker niet veranderd, zal het nooit verkeersveilig worden. Parkeren in de parkeervakken of bij het gemeentehuis stimuleren. En tegendraads verkeer (zoals bijvoorbeeld een taxi of de TNT) bij het kompas weren. Deze voertuigen rijden namelijk tegen de verkeersstroom in en blokkeren al het bij de school wegrijdende verkeer. Voorstel: instellen van een formeel 1 richtingsverkeer en hier op handhaven
36	Betere oversteek punten voor de kinderen op de van randwijklaan. Naar t kompas en richting sigmondschool en groene wegen school.

37	Het zou fijn zijn als bijv. tussen 8.00 en 9.00 en tussen 14.30 en 15.30 eenrichtingsverkeer in de straten rond de school dmv borden aangegeven is. en dat hier in beginstadium ook streng toezicht op is. School geeft dit met grote regelmaat aan op de nieuwsbrieven, maar mensen vertikken het gewoon om de aangegeven route te rijden. Het overige verkeer wat niet bij de school behoort weet hier natuurlijk niet van waardoor je vooral in de Albert Schweitzerstraat vast komt te staan, omdat daar de bussen veilig geparkeerd staan om een grote stroom kinderen op het voetpad uit te kunnen laten stappen. Dit geld ook voor het parkeren. Ik schaam me voor ouders die steeds maar weer voor parkeervakken van o.a. de fysio parkeren om maar dicht bij de uitgang van de school te staan. (terwijl school herhaaldelijk aangeeft dit niet te doen) Benut eerst de parkeervakken die er zijn. EN achteruit parkeren, zodat je vooruit weg kunt rijden is ook het meest veilig vooral als de school uitgaat. Voor buitenstaanders van de school zou wat meer verdraagzaamheid ook wel op zijn plaats zijn. Het is twee keer een half uur per dag. En het zijn veelal kinderen. Verdraag ze als kind het zijn nog geen volwassenen. Kun je hier niet tegen, dan niet bij een school gaan wonen. De school stond er als eerste.....
39	het zijn altijd dezelfde mensen die fout geparkeerd staan of gaan keren waar het niet veilig is. Misschien help een forse bekeuring
40	Een smalle straat, met tweerichtingsverkeer en veel taxi's en busjes die kinderen komen brengen/halen. Het zou heel goed helpen wanneer er meer parkeerruimte in de buurt van de school komt en het eenrichtingsverkeer wordt.
41	Voor de school is een zoef zone, veel ouders houden zich hier niet aan vooral met wat slechter weer. Hier zou meer toezicht op mogen zijn.
43	wat vooral erg hinderlijk is zijn de buurtbussen die erg hard langs de school rijden. ook betere doorstroom van ouders die met de auto naar school komen zou fijn zijn.kinderen die in het dorp vlak bij school wonen niet met de auto brengen.
45	Het grootste probleem is nu nog dat het doorgaand verkeer te hard rijdt, en dat de ouders te dicht bij de bochten hun auto's parkeren, waardoor het voor de fietsers erg onoverzichtelijk wordt op de kruispunten. Dit met de snelheid van het doorgaand verkeer, leidt op den duur met alle waarschijnlijkheid tot een ernstig ongeval. Ik vind het onbegrijpelijk dat ouders hun auto in de bocht parkeren, en ik vind het een verantwoordelijkheid van school (via nieuwsbrief) en gemeente (door controle en waarschuwingen/bekeuringen) om hier tegen op te treden. Een heuvel (drempel) op de kruising van de clevestraat/rozenlaan/blokstraat haalt misschien de snelheid eruit bij het verkeer, en een zebrapad/paden zijn ook wenselijk.
47	De verkeerssituatie rondom de school is de afgelopen jaren goed verbeterd. Door verkeersouders worden de regels regelmatig gecontroleerd. Handhaven van de verkeersregels (zoen en zoefzone + parkeerverbod en parkeren in bochten) door politie 1 á 2 keer per jaar zou een toegevoegde waarde hebben.
48	Ik heb onder andere meegeholpen met het regelen van het verkeer rondom de school, je merkt als iemand er staat te controleren om de manier en plek waar mensen auto's en fietsen parkeren rekening wordt gehouden met de schoolregels. Zodra er niemand staat is het meteen anders, het meeste met slecht weer. Dan wordt de verkeersveiligheid heel onveilig voor kinderen. Ik vind dat erg zonde, zeker voor in een klein dorp. Succes met je onderzoek!

50	er zijn nauwelijks verkeersveilige maatregelen op de toegangswegen naar school. op de drukste kruisingen zijn geen zebra's, de max.snelheid van 30km/uur wordt niet herhaald in het dorp (alleen bij ingangen bebouwde kom), borden ontbreken veelvuldig bij diverse verkeerssituaties, parkeerverboden worden constant overtreden, automobilisten houden zich niet aan regels (snelheid, rechts gaat voor, etc) er wordt nooit gecontroleerd of gehandhaafd door politie, oftewel er veranderd niks en elke dag zie van alles nét goed gaan, maar maatregelen volgen meestal pas als het goed mis is gegaan
51	Klaar-overs, zebrapaden, ouders actief aanspreken op wangedrag, meer controle door politie
53	Beste Bart, Fijn dat je dit onderzoek doet! Naam van de CBS is d'Uylenborch, maar denk dat de meeste ouders daar wel uit komen. Een tip: Als de buurtbus een iets andere route zou nemen naar de centrale stopplaats (nabij Altenahove) zou dit al een bijdrage leveren aan de verkeersveiligheid. Daarbij zou een iets ander tijdsschema ook helpen dat dit niet gelijk valt met de schooltijden. Deze bussen rijden op een tijdschema en dat gaat ten koste van de situatie rond de school. Hartelijke groet, Jolanda Burghart
54	Het zou mooi zijn als er bijvoorbeeld ipv het grasveld to de school wat extra parkeerplaatsen zouden komen. Verder zou het helpen als de leraren en leraressen hun auto elders zouden parkeren en een stukje lopen.mop die manier zijn er zeker 6 parkeerplaatsen die veilig zijn extra beschikbaar.
55	Er is de laatste 2 jaar veel verbeterd in de verkeerssituatie rond school. Maar vooral bij slecht weer zie je dat het toch weer mis gaat, dan willen mensen schijnbaar minder ver lopen. De oversteeksituatie bij de kleuterpoort is een stuk veiliger/ beter. Je kunt goed beide kanten opkijken en de straat is veel rustiger. Maar bij de grote poort is het onveilig. Het ligt aan een doorgaande (drukke)straat en vlak bij een onoverzichtelijke bocht. Ook moeten de kinderen oversteken tussen de wachtende ouders.
56	Alleen het oversteekpunt vanaf het ronddeel is onoverzichtelijk omdat kinderen daar moeten oversteken tussen geparkeerde auto's en daardoor het zicht slecht is. Deze parkeervakken kunnen beter weggehaald worden.
58	Het grootste probleem en wat wij heEel erg zorgwekkend vinden is hoe hard men in het dorp rijd, niemand houdt aan de snelheid van 30km/u aan, zelfs niet aan 50....Wat drempels en vaker aanwezigheid van politie zou fijn zijn.....
60	Buslijn via andere straten laten lopen (openbaar vervoer)
61	Bij De Regenboog is sprake van verschillende in- en uitgangen. De verkeerssituatie bij elke in- en uitgang anders, maar op elke plaats kan het veel veiliger. Dit heeft met name te maken met parkeren van ouders van de auto en onoverzichtelijke verkeerssituaties. Vroeger was er een fietsbrug bij de school waardoor kinderen veilig de school konden bereiken. Helaas wil de gemeente Werkendam niet meewerken aan het opnieuw plaatsen van een fietsbrug.
63	het zou fijn zijn als er een parkeervrije strook voor de ingang van de schoolgemaakt kan worden.
65	Ik denk dat de gemeente onterecht verschil maakt in mate van verkeersveiligheid. Uiteraard moeten eerst de plekken opgelost worden waar het echt niet veilig is. Maar ook de plaatsen die misschien 'iets veiliger' zijn moeten daardoor niet naar achteren geschoven worden. Want 'iets veiliger'is nog steeds niet veilig!

66	de ingang van de peutergroepen ligt gelijk aan het parkeerterrein, zodra de school uitgaat wordt het een drukke bedoeling omdat er maar 1 weg is om weg te rijden. via een bruggetje. Voor kleine kinderen op de fiets is dit een gevaarlijk situatie. is dan erg onoverzichteljk. bij de andere ingangen is er bijna geen parkeergelegenheid, wat er voor zorgt dat veel ouders voor de ingang stoppen om hun kind te laten uitstappen. wat ook weer voor een chaos zorgt!!
67	Met name kruising bij hoofdingang is niet overzichtelijk. Er zijn geen kiss+ride plaatsen voor ouders die op weg naar werk hun kind bij school afzetten. Deze kinderen lopen vaak langs rijbaan. Baseer conclusies niet alleen obv enquete maar ook op periodieke waarnemingen. Scholen hebben zelf geen tijd hiervoor, maar evt. oudercommissies. Benoem gevaarlijk gedrag uit periodieke waarnemingen.
69	Het zou de veiligheid ten goede komen als er duidelijke oversteekplaatsen komen, zoals zebrapaden en verkeersdrempels en/of borden met 30km vanuit de gemeente rondom de school. Voor de auto's die met regelmaat toch nog te hard door de straten scheuren.
71	Onze school is actief bezig met het verkeer om de school heen. Ouders komen ook vaak op de fiets ipv met de auto. Onze school staat aan een polder weg. Daar wort vaak heel hard gereden. Ons schoolplein ligt aan die weg. Daar heeft de school een vak op gemaakt voor het ophalen van de kids. Zodat ze dan niet gelijk aan de drukke straat staan.
72	In de periode oktober t/m maart (hangt voor een groot deel af van de weersomstandigheden) zijn langs bijna de gehele route van 2,5 km die onze dochter fietst, de kanten langs de weg door tractors en vrachtwagens, sporen in gereden, dus een stuk lager als het wegdek. Wanneer je dus van de weg raakt is de kans groot dat je valt.
73	op de route naar school wordt 't Rond gepasseerd door veel kinderen, hier ligt voor de gemeente nog wel een taak om dit veiliger te maken omdat hier vaak te hard wordt gereden en geen voorrang wordt verleend aan verkeer van rechts. De directe omgeving van de school is wel veilig.
76	De oversteek op het knooppunt bij de Richter is erg onveilig met de fiets. Onoverzichtelijk en er zit een dode hoek voor auto's die vanaf de richter komen en naar rechts kijken(straat richting kinderboerderij) het zou voor fietsers naar school erg helpen als hier wat aan gedaan zou worden!
77	Kruispunt Richter / Vloedanker vind ik een gevaarlijke / onduidelijke kruising zo vlak bij Het Baken.
80	het zou fijn zijn als er een apart fietspad en of fietsbruggetje komt! Nu moet de auto's en fietsers/voetgangers over 1 brug en dat is veel te gevaarlijk
81	De fietsoversteek in de Perzikstraat is uitermate onveilig. Zeer regelmatig rijden auto's door, met een hogere snelheid dan de toegestane 30 km/u, terwijl ze voorrang moeten verlenen aan fietsers.
83	Over het algemeen is het bij ons wel veilig. De schooluitgang zit aan een verkeersluwe straat, alleen komt deze al snel uit op een kruising. Hier moeten de kinderen goed uitkijken. De meeste automobilisten houden hier wel rekening mee.
84	De beste oplossing zou m.i.z. om een inrij verbod te bewerkstelligen rond de tijden dat de school in gaat en wanneer de school uitgaat, omdat ouders zelfs na meerdere dringende oproepen vanuit school, niet parkeren in de daarvoor bestemde vakken. Ook zou het beter zijn als het personeel de auto's bij 'd Alburcht zouden parkeren, i.v.m. ruimte gebrek. succes met je opleiding!

86	Er is zeker een parkeerprobleem en zeker wanneer het slecht weer is. De school schrijft hier dikwijls iets over in de nieuwsbrief maar ik vind ook dat ze zelf het voorbeeld moeten geven. De leraren/leraressen parkeren zelf voor de deur van de school, zij willen niet parkeren op de parkeerplaats van bijvoorbeeld d'alburcht, want dan moeten ze omlopen. Daar begint dus al het probleem. Parkeren zij daar wel hun auto, dan is er weer meer parkeergelegenheid voor de ouders.Het parkeerverbod tegenover de zijingang van de school moet opgeheven worden, zo'n probleem is dat niet als daar een paar auto's staan. SCHOOL MOET VOORBEELD GEVEN, DAAR BEGINT HET MEE!!
87	De school moet het naar school gaan met de fiets motiveren
88	het ligt in negen van de tien gevallen meestal aan de ouders zelf. te hard rijden, niet goed geparkeerd, parkeren waar kinderen het schoolplein afkomen enz.
91	Tegenover de school ligt een prachtig parkeer terrein, maar omdat er geen goede verbinding is naar de school wordt daar geen gebruik van gemaakt. Als ik daar de auto tussen de middag zou parkeren kost het me teveel tijd voordat mijn kind bij de auto is. Een brug maken tegen over de ingang van de school met daarvoor een zebra pad zou een prima oplossing zijn, maar zelf mijn kinderen zeggen er moet waarschijnlijk eerst een ernstig ongeluk gebeuren voordat de gemeente iets gaat doen. Helaas!!!! Nu ga ik gewoon laat van huis weg zodat mijn dochter voor de ingang van de school op mij wacht en dan is het instappen en wegwezen. En als het regenachtig weer is dan is het helemaal drama bij de school.
92	We wonen in het buitengebied, het gevaarlijkste deel zijn de overige weggebruikers die op hun telefoon kijken. Met name ook de tractorchauffeurs. Ik zou het fijn vinden als de gemeente daar aandacht aan besteed
93	in het belang van onze kinderen vind ik de situatie rondom de school zorgwekkend en zeer onveilig! rondom de school zouden auto's niet geparkeerd moeten mogen worden maar verwezen worden naar een groter parkeer terein bv. bij de aalburgt. omdat ik wel snap dat dit vrij ver lopen is, vind ik persoonlijk dat de gemeente een loopbrug kan verzorgen over de sloot aan de kant van de school de hoeksteen en de parkeerplaats evt. kan uitbreiden. ouders parkeren (vooral bij slecht weer)vaak hun auto zo dicht mogelijk bij school ook op stoepen e.d. en zien in hun 'haast' kinderen echt over het hoofd! dit leid met regelmaat tot bijna ongelukken! ouders zouden zich meer bewust moeten zijn van het feit dat fietsen, zeer gezond, beter voor het milleu en zeker voor een veiligere verkeerssituatie rondom de school zouden zorgen! (ook bij slecht weer, we smelten niet!!) de gemeente daarin tegen zou ervoor kunnen zorgen dat er veiliger en meer geparkeerd kunnen worden zonder dat ouders erg ver moeten lopen met nog evt. kleine kinderen! alleen de boa er boven op zetten om boetes uit te schrijven helpt niet want dan verplaats het probleem zich naar de omliggende straten!
96	Nee
97	Ouders zouden het goede voorbeeld moeten geven aan hun kinderen. Zeker als dit hun veiligheid betreft. Er is een parkeerverbod bij school maar dit wordt volledig genegeeerd. Waarschijnlijk is dit gedrag alleen nog maar te corrigeren als men dit in de portemonnee voelt. Ik zeg: iedere ochtend cotrole en bonnen blijven schrijven!!
98	de wijk agent moet meer komen het zijn altijd dezelfde die de auto het liefst op het schoolplein voor de deur zouden willen zetten. eenrichting zou ook schelen het personeel de auto bij de alburgt pakeren zij hoeven maar twee keer te lopen wij vier keer zeker bij regen is het een chaos

99	Het blijft een terugkerend probleem, ouders/leraren en parkeren bij de hoeksteen te wijk en aalburg, dit kan alleen aangepakt worden door de gemeente maar helaas liggen school en gemeente waarschijnlijk niet op een lijn anders had dit allang opgelost moeten zijn(mijn mening). Dat hier nog geen aanrijdingen/ongelukken zijn gebeurd mag een wonder heten. Situatie hier is vrij kansloos en bovenal gevaarlijk.
100	nee
102	Voor de school is het veiliger geworden nadat er voor de schooluitgang een parkeerverbod is ingesteld. Nu parkeert men echter de auto's in de straat van de school. (waar ik woon)Wat leidt tot minder overzicht bij het oversteken voor mijn kind voor ons huis. En tot grote ergernis wordt er vaak voor mijn oprit geparkeerd waardoor ik zelf mijn oprit niet op of af kan. Ik heb al vaker aangedragen dat er een bruggetje aangelegd zou kunnen worden van het parkeerterein van D'Alburght naar de school. Ouders kunnen dan verzocht worden hun auto's daar te parkeren. Ook zouden leerkrachten hun auto daar kunnen parkeren zodat er bij de school meer vakken vrij zijn voor ouders. Eenrichtingsverkeer tijdens de schooltijden zou ook helpen.
104	Wat een groot parkeerprobleem! ik vind het zo zorgwekkend dat ik mijn kind die de leeftijd heeft om alleen naar school te gaan, nog steeds 'controleer' en 'attendeer' op gevaarlijke medeweggebruikers. Mij valt op dat brengende opa's/oma's de grootste boosdoener zijn. Zij parkeren hun auto's op de stoep, op plaatsen waar moeders met fietsen wachten. Waarom:; waarom; waarom: IS ER NOG STEEDS GEEN EENRICHTINGSVERKEER????!!!!! De veiligheid is al hopeloos.... maar wordt door het 2-richtingsverkeer nog eens versterkt. Na 4 jaar wachten bij de school, heb ik de moed op hoop en verbetering opgegeven.
105	Vooral met grijs/regenachtig of koud weer is het hopeloos bij de school! Ouders die het dichtste bij wonen kome met de auto! Hebben dit al een keer aangekaart bij de BOA maar deze mevr. zei dat we ons maar niet moesten bemoeien met haar werk! Zij komt nl. als het goed weer is en niet als het regent! Sluit gewoon heel de Vroonhoeve af, geef de omwonende een sleutel voor de paaltjes en klaar is kees! Simpeler kan niet.
106	Regelmatig staat in de nieuwsbrief of ouders rekening willen houden met parkeren etc. Helaas wordt hier mijn inziens niets van aangetrokken! Nu zijn er zeker te weinig parkeerplaatsen en iedereen wil zijn kind snel afzetten of ophalen. Zeker als kinderen met de fiets of lopend komen rijden ouders gewoon door en kunnen zijn niet overzichtelijk oversteken. Het blijft denk ik altijd een dilemma. Bij 1 richtingsr verkeer krijg je weer last van opstoppingen elders in de straat waardoor het overige verkeer belemmerd wordt.
108	Met name is de oversteekplaats in de perzikstraat erg gevaarlijk. En er is te weinig parkeerruimte zodat het chaos wordt als er veel mensen met de auto komen
109	Veel mensen rijden met de auto tussen de(onvoorspelbare) fietsende en lopende kinderen door. Geregeld gaat het maar net goed als kinderen plotseling oversteken. De straten richting school zijn niet erg breed. Inhalen is hier moeilijk. Maar daar storen genoeg automobilisten zich niet aan. Het zou beter zijn als (gehaaste) ouders met hun auto de Vroonhoeve niet in zouden rijden, maar alleen de Kerkverreweide als aanrijroute gebruiken. Dan hoeven ze ook niet te "bumperkleven" achter een fietsende moeder met een kleuter op een klein fietsje ernaast of een groepje lolmakende kinderen uit groep 8. Kinderen blijven kinderen, kwetsbaar in het verkeer.
110	Het zijn veelal de ouders die de verkeersonveiligheid veroorzaken; op de stoep parkeren/ stilstaan, voor de ingang stil staan om kinderen uit te laten stappen, gehaaste ouders/ daardoor onoplettend op overstekende kinderen. Totale autovrije zone op tijden waarop de school aanvangt en uitgaat.

112	Ik vind zoals blijkt uit mijn antwoorden dat de verkeerssituatie rondom de Morgenster Sleeuwijk erg gevaarlijk is en verbaas me erover dat er niet vaker ongelukken gebeuren. Er zijn vele ouders die hun kind voor de ingang van de school uit de auto laten gaan. Hierdoor ontstaan erg gevaarlijke situaties voor de kinderen (ook kleuters!)die er voorbij moeten fietsen. De kinderen, zeker de kleinere kinderen zie je makkelijk over het hoofd vanuit de auto en kunnen in alle spitsdrukte zo maar het slachtoffer worden van een aanrijding. Ik heb ooit gepoogd dit in een mail aan het schoolhoofd mee te delen. Met als suggestie: 1 richtingsverkeer, een zebra, een verbod om metde auto te stoppen voor de ingang. Echter hier werd ontwijkend op gereageerd en men vond het niet noodzakelijk: een zebra zou schijnveiligheid scheppen... De Morgenster krijgt steeds een certificaat van Verkeersveiligheid maar ik snap werkelijk niet dat men de bovengenoemde situatie hierin negeert. Ik hoop echt dat hier nog een keer serieus naar gekeken wordt. Veel succes met je onderzoek! Met vriendelijke groet, Gerda de Heus mdeheus@ziggo.nl (voor evt vragen mag je mij altijd mailen)
113	Vooral als kinderen gehaald en gebracht worden is de situatie rondom school onoverzichtelijk. Door ouders die hun kind vlak voor de school willen afzetten met de auto en daarbij nergens op lijken te letten, maar ook door ouders en kinderen die de toegang tot de school (fietsers/ voetgangers) blokkeren door juist op de plaats waar iedereen langs moet afscheid te nemen of dingen te bespreken....
114	Nee
115	Jammer dat er een aantal ouders erg hardleers zijn, mbt parkeren. Ondanks parkeerverbod en regelmatig aandacht in de nieuwsbrief van school, blijven ze parkeren tegenover de school. Iets verder lopen, blijkt toch te moeilijk. Door dit fout parkeren ontstaan gevaarlijke situaties. Meer boetes uitdelen is jammer genoeg de enige oplossing.
118	Ik vind het storend en gevaarlijk dat er veel en door oudere kinderen en ouders hard over de trottoirs wordt gefietst. Vorige week bij het oversteken een botsing tussen mijn kleuter en oudere kinderen. Gevaarlijk om recht voor de hoofdingang kinderen uit de auto te zetten. Slecht overzicht en drukke plek. Tevens vind ik dat er op de parkeerplaats bij de kleutergroep ingang vaak hard wordt gereden met de auto. Ook het achteruit rijden is gevaarlijk vanwege de vele kindjes die er lopen. Er zijn geen zebrapaden in de omgeving van de school!!
119	De verkeersveiligheid rondom de hoeksteen is erg slecht. Het is een chaos en iedereen is te bang om een stukje te lopen en wil zo dicht mogelijk bij de school parkeren. De veiligheid van de kinderen staat absoluut niet voorop!, Er zouden zebrapaden moeten komen om de kinderen veilig over te laten steken ! Parkeerverbod bij de ingang van de school waar de kinderen opgehaald worden. Nu staan alle auto's op de stoep geparkeerd en moet ik met mijn kinderen eerst een stuk over straat lopen om vervolgens een stuk verderop de stoep op te kunnen. Als mensen zich niet aan de regels moetenhier ook direct consequenties aan zitten.
120	Ik heb de enquete ingevuld naar de huidige situatie van De Morgenster. Hopelijk wordt bij de nieuw te bouwen school meer aandacht aan verkeersveiligheid en parkeerproblematiek besteed door de gemeente. Succes met het onderzoek.
122	DE groepen 1 en 2 bij de Morgenster hebben een andere ingang dan de overige groepen, de situatie voor de groepen 1 en 2 is veel beter dan bij de andere groepen. Dus dit vertekend misschien wel een beetje het beeld.

124	Ik heb de vragen beantwoord uitgaande van mijn oudste kind. Mijn jongste dochter breng ik wel met de auto naar school. Daar vandaan ga ik door naar mijn werk. Er is bij de school te weinig parkeergelegenheid en ook geen goede plaats waar je de kinderen even kan laten uitstappen. Zeker bij slecht weer is het een grote chaos bij de school.
126	De ouders die met de auto komen om de kids te brengen, zorgen vaak voor het gevaar. Door toch uit de laten stappen bij de gele streep. En bij wegrijden beter op de fietsers letten en vooral op de kinderen.
127	Bij ons gaan we regelmatig met de fiets, maar bij slechter weer, is dit niet haalbaar gezien de afstand. Maar ook de oversteekplaats voor de fietsers is erg onveilig. Auto's letten erop wie er eerst mag maar zien de fietsers totaal over het hoofd of denken nog net te kunnen. Hierdoor ontstaan er zeer gevaarlijke situaties. Dan hebben we het over de oversteekplaats in de perzikstraat vanaf de fietspaden.
128	Vooral bij regendagen willen de ouders hun kinderen het liefst met de auto tot binnen de hekken brengen. Ze stoppen dan vlak voor de poort, waardoor kinderen die met de fiets komen in een gevaarlijke situatie terecht (kunnen) komen. Kinderen smelten heus niet van wat water. Misschien dat tijdens breng en haal tijden 1 richtingsverkeer voor de auto's nog niet zo'n slecht idee is eigenlijk.
129	nee ben alleen heel erg benieuwd naar de uitkomst.
130	onveilige situatie doordat ouders niet parkeren maar voor de school op de weg stoppen en hun kind dan uit laten stappen. parkeren op de stoep door ouders en/of bedrijven die op school bezig zijn waardoor kinderen achter de auto vandaan de weg op moeten.
131	Ik zou graag zien dat er tijdens naar school gaan en wanneer de school uitgaat niet geparkeerd mag worden aan beide zijden van de weg. Hierdoor wordt het overzicht voor kinderen (met name op de fiets) groter. Tevens stimuleer je meer dat kinderen lopend en/of met de auto gebracht gaan worden.
132	Het is rond de bolderik erg druk met verkeer op het moment van halen en brengen van kinderen. Dit komt onder andere doordat er twee scholen zitten. Er is met de begin en eind tijd van de scholen wel iets rekening gehouden maar niet veel. Veel kinderen worden onnodig met de auto naar school gebracht, wij komen zelf niet uit Hank en gaan alleen bij extreem slecht weer (veel regen/sneeuw, storm en ijzel) met de auto, het is niet haalbaar om lopend naar school te komen. Ook vind ik het feit dat er niet rondom het schoolplein een hek staat en de kinderen dus zo de straat op kunnen niet veilig. Het kruispunt bij de uitgang van de school is groot met verkeer van vierkanten. De kinderen die wel op de fiets komen steken vaak schuin het kruispunt over en fietsen zo het schoolplein op. Ik vind het wel zaak van de school ook hier op te letten, zowel het schuin oversteken als het fietsen op de stoep en schoolplein. De ouders die op de kinderen staan te wachten staan op de hoek waar dus ook de uitgang van het plein is, de kinderen kunnen er niet normaal langs met hun fiets. Kinderen komen dus ook altijd schuin op de kruising terecht, door de ligging van de kruising en de uitgang van het schoolplein. De is vooral aan de kant van het grote schoolplein, maar ik denk ook deels aan de andere kant (kruising met Pastoor Lipsplantsoen).

137	U gaat de volgende proef doen: U fietst, natuurlijk op een oerhollandse regendag (komend vanaf de kruising Bergstraat/Veldstraat) door de Perzikstraat met een kindje voorop de fiets, een kind achterop in het stoeltje en een kind wat net geleerd heeft zonder zijwieltjes te fietsen over het fietspad naar de Hoeksteen. U heeft wat jongelui geregeld van het Willem die u links èn rechts passeren. U gaat naar de oversteekplaats en er komen ook nog wat tegenliggers op de fiets aan die van dezelfde oversteekplek gebruik gaan maken. Omdat het regent zijn veel automobilisten toch wat gehaast. Als u geluk heeft stoppen ze allebei voor u (en worden ze niet alsnog door een motor voorbijgereden). Zo niet dan zorgt u dat uw kind op zijn/haar fietsje stopt. Dan draait u met een keurig bochtje het bruggetje op (Met 2 kindjes op uw fiets een aardig bochtje) en onderwijl let u op dat uw kind niet met fietsje en al in de sloot belandt en niet in botsing komt met de tegenliggers en andere schoolkinderen die al wat harder fietsen dan uw kind. En natuurlijk doet u dit niet één keer, maar zo'n 8x per dag. (4x met uw kind op het fietsje en 4x zonder, want dan zit het kind op school). Blijft spannend hoor! Succes!
138	De leerkrachten hun auto laten parkeren bij 'd Alburcht en bruggetje over sloot Verbod op stoppen van auto's op de weg om kinderen uit te laten, dit alleen doen op parkeerplaatsen 1-richtingsverkeer De weg langs school (perzikstraat) waar de versmallingen in zitten, weer een bord bij te plaatsen wie er voorrang heeft
139	De link in de digitale schoolkrant werkte niet, moest toch worden overgetypt. Ik voel me schuldig dat we zelf de kinderen vaak met de auto brengen, maar de verkeersveiligheid vind ik wel extreem belangrijk. Bij de Henri Dunant is het wachten op het eerste ongeluk en ik hoop dat het niet ernstig zal zijn! Ik denk dat het ook belangrijk is dat er betere fietsenstallingen komen en beloningen voor kinderen die vaak fietsend of lopend komen. Kinderen "bekeuringen" uit laten delen aan foutparkeerders. En meer politiecontrole met echte, vette!, boetes!
140	Het is niet alleen de school die voor veiligheid moet zorgen ook de ouders kunnen daar beter mee omgaan. De gemeente moet ook eens goed gaan kijken wat ze er aan kunnen doen. Vooral het stukje straat vroomhoeve, ze moeten daar die lage randjes weg halen. Hoeveel kinderen er daar al niet zijn gaan liggen vallen!! In De Bergstraat mogen ze van mij wel een paar bomen rooien zodat de kruisingen overzichtelijker worden en wij niet half op de weg hoeven te gaan staan.
142	De uitgang van de middenbouw en bovenbouw ligt precies bij een druk kruispunt. Hier duiken kinderen te voet of op de fiets (schuin) het kruispunt over terwijl er ook van 4 kanten auto's komen. Dit is levensgevaarlijk. Verder zijn er wel maatregelen rondom de school om het veiliger te maken. Veel ouders hebben echter lak aan deze gedragsregels.
144	Advies: - Kinderen niet voor de ingang/uitgang van school laten in/uitstappen, auto blokkeert hiermee een rijstrook. - Uitbreiden van parkeerplaatsen om pieken tijdens ophalen/brengen van kinderen beter op te kunnen vangen. - Zoals vermeldt in de enquete, lijkt mij dat invoering van 1-richtingsweg + snelheidsvertragende maatregelen een nuttige bijdrage zullen leveren aan de verkeersveiligheid + doorstroming van het verkeer.
145	maak eenrichtingverkeer van de straten en een stopverbod bij de ingang van de school. Nu stoppen er auto's midden op de verkeersdrempel bij de ingang van de school, waar de fietsers langs moeten. Erg gevaarlijk. Zowel bij de kleuter ingang als de hoofdingang. Anders een kiss and ride plek maken, op een veilige afstand van de ingang.

146	Kijk in een ideale situatie zou er minder verkeer in de straat zijn rondom school maar aangezien waarduizen praktisch maar een straat is zou ik me geen oplossing kunnen in denken om dit te bewerkstelligen. Er wonen en werken nu eenmaal ook mensen in waardhuizen. Het grootste en gevaarlijkste struikel blok is naar mijn mening de rotonde waardhuizen uitwijk. Wat je hier vaak ziet gebeuren is dat veel automobilisten remmen om wachtende fietskinderen over te laten steken, hierdoor gaan kinderen denken dat alle auto's voor ze stoppen... Verder zie je heel vaak gebeuren dat bv. Auto A ineens remt voor de wachtende kinderen maar even vergeet achteruit te kijken wat er achter hem of haar zit... Idealer zou zijn als auto's op de rotonde gewoon altijd door rijden, zo leren de kinderen te wachten tot de weg vrij is, mijn ervaring is echter dat automobilisten gewoon boos worden als je ze dat duidelijk probeert te maken. Succes met je studie!
147	Het verkeer bij school is maar 2 keer per dag, niet zo moeilijk doen en gewoon elkaar waarderen en de ruimte geven. We zitten toch op een refo school daar moet het zeker te zien zijn! succes met je studie! krijgen we de resultaten van dit onderzoek nog te zien? dank je wel!
149	Recent is de bestrating opnieuw uitgevoerd met mooie schoolvakken is zeer duidelijk. Misschien nog wat controle op foutparkeren tijdens in/uitgaan van de school.
150	ik heb de vragenlijst ingevuld aan de hand van de dingen die ik als BOA zie en aantref. Ik werk in alle drie de gemeenten. Ik woon niet in een van deze gemeenten Met vriendelijke groet, Marleen Goedhart
151	V.w.b. het parkeerverbod voor de in/uitgang van de school. Daar heb ik vaak weet niet ingevuld, omdat je er soms niet aan ontkomt. Vaak laten ouders hun kinderen uit de auto, maar gaan dan precies voor een leeg parkeervak staan. Parkeer je auto er dan even in, of ga achter een geparkeerde auto staan, denk ik dan en dan ben je dus geneigd je kind maar bij de in/uitgang uit te laten.
152	Zou er een keer een bekeuring kunnen volgen voor ouders die steeds toch parkeren op verboden plaatsen? Dit brengt namelijk onze kinderen in gevaar.... Een fikse bekeuring helpt altijd weer een tijdje..
153	Helaas kijken de taxibussen van de buurtschool niet altijd uit
154	Dat de ouders ook aan de verkeersveiligheid hou en de regels
155	Bij de nieuwe brede school zouden de auto's niet meer zo dicht op de ingang van het schoolplein moeten kunnen rijden. In een straal van 30 meter vanaf het hek van het schoolplein zouden geen auto's mogen rijden of parkeren.
156	Als er net als vroeger ouders zich zouden inzetten als klaarover bij de school had ik mijn kinderen al jonger alleen naar school laten lopen. Oversteken is een groot probleem door drukte en hardrijders.
158	Zebrapad bij de school Probleem met de hoeveelheid busjes enz bij de naast gelegen school aanpakken, zijn (beroeps)chauffeurs en kijken nergens naar, nemen gewoon voorrang.
160	taxi en parkeren van leraren van andere school vind ik storend en niet nodig er is bij hun school plaats genoeg (aan de andere kant) van de school .
163	meestal heb ik last van de fietsen,staat meestal in de weg bij de opening van de poort

164	Geen fietsenstalling bij de school, de fietsen staan onbeheerd op straat in de regen. Dit ontmoedigt fietsen (vroeger was er een overdekte stalling binnen het hek, maar dat is wegbezuinigd). Vooral de busjes die kinderen van andere plaatsen naar school brengen veroorzaken onveilige situaties, houden zich vaak niet aan regels, foutparkeren.
167	Ik vind dat er meer gestraft moet worden aan ouders die zich niet houden aan de regels. Er is een duidelijk zoen en zoef zone aangegeven en dan zijn er toch nog diverse ouders die deze strook gebruiken als parkeerplaats. Deel boetes uit.
168	-
170	Ik ben zeer ontevreden over de automobilisten die gaan ongeacht hoe druk het is altijd op het punt waar je niet zou moeten inhalen toch inhalen vooral op het punt bij de kwinter de dijk over dat is ook de reden dat ik mee naar school blijf fietsen omdat het daar gewoon totaal niet veilig is. Ik ben zelf namelijk daar al eerder van de weg af gereden
172	Ik hoop dat er voor de nieuwe school voldoende parkeer gelegen heid komt en de verkeersveiligheid maak de weg desnoods doodlopend.
177	wij wonen in de jacoba van beierenstraat en onze dochters moeten door een slechte verkeerssituatie blind oversteken of midden op straat gaan staan om zicht te hebben op het verkeer komende uit de burg van der lelystraat. Gemeente functionarissen vinden dat ze voorrang hebben en dus " moeten ze maar oversteken" hiervoor zijn we al in overleg geweest maar als u hier wat in kunt betekenen dan graag met vriendelijke groet Anneke brouwer van sas
178	Drempels plaatsen in Sportlaan of Sportlaan 1 richting maken. Mensen die langdurig willen parkeren weren van de parkeerplaatsen rondom de school ten tijde van begin en eind schooltijd (wellicht dmv borden en boacontrole, of een blauwe parkeerstreep of tijdzone) deze moeten vrij blijven voor ouders ivm halen/brengen. Er zijn genoeg parkeerplaatsen hierbuiten.
179	Bij de Burg. Sigmondschool is al jaar en dag de discussie over het tegen het verkeer inrijden van de taxi-busjes voor de naastgelegen school. Hierdoor kunnen gevaarlijke situaties ontstaan. Ook zijn ouder die op de zoen- en zoefzone parkeren geregeld aangesproken om dit niet meer te doen, is er een parkeerverbod geplaatst aan de linkerzijde bij de uitrit richting Wilgenlaan.... Maar ouders zijn wars van alles en creëren blijkbaar lievere een gevaarlijke situatie voor alle leerlingen, dan dat ze 10 meter extra moeten lopen om hun auto in de Wilgenlaan te parkeren, waar vrijwel altijd ruimte is.
180	Straat van rechts vanaf Lidle richting school (bij Citadel) vind ik heel erg onoverzichtelijk en verkeersregels rondom het rond zijn voor veel mensen onduidelijk. Verkeer is daar drukker geworden en er zijn heel veel schoolkinderen die bij deze punten over steken.
181	Door te weinig parkeergelegenheid rondom de burg. Sigmondschool én het niet naleven van de parkeer regels door sommige ouders....geeft dit zeer vaak gevaarlijke situaties bij het in-en uitgaan van de school. Daar komt nog bij dat verschillende parkeerplaatsen gebruikt worden door leraren van een andere aangrenzende school!!
182	de oversteek naar de school toe vind ik levens gevaarlijk de auto rijden gewoon door en rijden ook vaak tehard ik vind dat daar klaarovers moeten staan als de kinderen naar school gaan en uit school komen en de taxibussen van de groenewegen keren bij de sigmond school en rijden dan tegen het verkeer terug dat vind ik ook gevaarlijk omdat het 1 richting is en je niet terug mag

186	Het is jammer, aangezien deze school binnenkort gaat verdwijnen. Hopelijk heb je wel iets aan deze antwoorden, zowel voor je studie als eventueel voor de gemeente om bij andere scholen mee te nemen.
187	Dag Bart, mooi dat je dit onderzoek doet. Hoe communiceer je de uitkomsten naar de ouders? Daarnaast weet je wellicht dat verschillende scholen in het land van heusden en altena bezig zijn met het ontwikkelen van een Multi Functionele Accomodatie (nieuwbouw, waarin meerdere scholen worden gehuisvest, soms met nog andere functionaliteiten. Deze plannen liggen nu in ontwerpfase klaar bij de gemeenten. Verkeer is hierin een belangrijk punt!!! Het zou juist mooi zijn als je dit kunt meenemen in je onderzoek! veel succes, Dianne van Gammeren
190	Het onveilige gevoel op weg van en naar school wordt m.i. grotendeels bepaald door de drukte in de landbouw en enkele weggebruikers in auto's die te hard rijden. Wat de landbouw betreft, dat moet ook gebeuren en dat zijn de dagen dat ik graag mee fiets met de kids om ze zo nodig te begeleiden. wat de automobilisten betreft... extra verkeersdrempels zou wellicht een deel van de oplossing kunnen zijn en regelmatige controle's door de camera's e.d.
191	Je kunt niet vermijden dat ouders hun kind met de auto naar school brengen. Een stop-zone om de kinderen in-en uit te laten stappen bij de hoofdingang is misschien een idee? Personeel van school zou kunnen parkeren bij de alburcht, voor ouders met kleiner kinderen is dit te ver weg. Of meer parkeerplaatsen aanleggen.
192	school ligt nu éénmaal aan een doorlopende weg. Eenrichting is dus niet mogelijk ook minder verkeer is geen optie.
193	situatie word heel erg met regendagen , dan is echt veel te weinig plek voor auto's . ouders gaan dubbel parkeren zo dat verkeer kan niet in beide kanten doorstromen dan is echt gekkenhuis. ben blij dat mijn dochter in groep 6 zit en later naar buiten komt, dan zijn metaal ouders van kindjes gr 0,1,2 al weg. dat is grootste groep want oudere kinderen gaan toch vaker alleen naar school
195	Meer controle op het parkeren. Er word bij het parkeren geen rekening gehouden met de bewoners die hun eigen pad op willen rijden.
197	Er is een parkeerverbod langs stoep ,maar deze heeft totaal geen nut. Ook is er 1 richtingsverkeer ingevoerd ,maar ook hier wordt slecht rekening mee gehouden. Er is weinig parkeergelegenheid omdat er van de andere school ook veel mensen parkeren ie er de hele dag staan, zodat er voor de ouders die hun kinderen halen,bijna /tot geen ruimte is Ook is de peuterspeelzaal gevestigd en dienen ouders ook op dezelfde plaats te parkeren, dit is vooral 's ochtends een knelpunt en na 15.00 u Ook is er te weinig ruimte om de fietsen te stallen,al gevraagd om aan de overkant tussen de parkeervakken een stuk groen in te leveren en daar voor de kinderen een extra fietsenstalling te creeeren! Dit past niet in t groenplan!! Waardoor er vaak fietsen voor het hek(ingang) staan.
202	nee

204	Regelmatig merk ik dat er met name als de andere school begint, chaotische situaties ontstaan doordat mensen hoe dan ook dicht bij school willen parkeren. Hierdoor krijg je de situatie dat er fout geparkeerd wordt, wat de doorstroming van verkeer belemmert, en fietsers moeten uitwijken. Daarnaast gebruiken veel mensen de stoep als fietspad, waardoor de verkeerssituatie onoverzichtelijk wordt. Fietsers passeren de auto's aan beide zijden, waardoor de kans bestaat dat je iemand over het hoofd ziet. Als iedereen alleen in de parkeervakken zou parkeren zou het mijns inziens een stuk veiliger zijn. En ook als de toegestane snelheid gehandhaafd wordt, met name in de straten in de buurt van de scholen. Wij komen van de Buitendijk, en daar wordt 's ochtends zo hard gereden, dat het gewoonweg levensgevaarlijk is om ons kind op de fiets naar school te laten gaan.
205	Omgeving school veilig. Het ligt aan gedrag ouders die kinderen brengen. Midden op de weg stoppen en kind uit laten stappen en zelf weer weg rijden. De bolderik gaat een kwartier later uit dan wilgenhoek. Ouders die wachten bij de bolderik belemmeren het zicht op het zebrapad. Kinderen banen zich een weg tussen de wachtende ouders door en steken over. Als automobilist zie je de kinderen niet aankomen. Kinderen uit hogere groepen die over stoep fietsen met vaart. Broertje en zusjes die met ouder nssr school lopen worden dan bijna van de voeten gereden. Hier moeten ouders de kinderen op aanspreken of school. Het is geen onwil maar de grote kinderen hebben daar geen oog voor.
206	Enige verkeersmaatregel regel die ik zou toepassen is één richtingsverkeer tijdens breng- en haaltijden, bij de ingang voor groepen 1 t/m 3. (één richtingsverkeer dan toepassen vanaf Kerkverweide de Vroonhoeve in en weg rijden via de Vlasakker) En hier dan tijdens deze breng- en haaltijden de parkeervakken aan de overkant van de school wel gebruiken (tijdens deze tijden is het juist nu verboden te parkeren) .
208	Omdat we te ver weg wonen om de kinderen op deze leeftijd te laten fietsen, ga ik met de auto. Zelf zet ik de auto ver van school en we lopen een stukje, voor de veiligheid van onszelf en andere kinderen. Verderop is parkeergelegenheid genoeg! Mensen gebruiken dit echter niet omdat het te ver lopen is, met de gekste verkeersopstoppingen van dien. Ouders dringen om zo dicht mogelijk bij de ingang te parkeren, met alle gevaren van dien. Ik zal om die reden de kinderen nooit alleen naar de ingang laten lopen en houd geregeld mijn hart vast.
209	Veel ouders komen met de fiets hun kind(eren) halen, ze staan massaal voor het hek. Als daar dan auto's staan te wachten moeten de ouders op straat staan. Misschien een ruimere plaats waar geen auto's geparkeerd mogen/kunnen staan, zodat er meer veilige plaatsen zijn waar ouders op hun kind kunnen wachten. Auto's moeten daardoor langzamer rijden, wat het geheel dus veiliger maakt. Eenrichtingsverkeer zou juist meer snelheid in de hand werken. Gewoon even geduld. Er is vlakbij (d'Alburg) een ruime parkeerplaats. Ouders moeten daarvoor een eind omlopen. Misschien een bruggetje met zebrapad/oversteekplaats vanaf d'Alburg naar school.
210	Zeker bij slecht weer, wanneer het een logisch gevolg is dat er meer ouder hun kind(eren) met de auto brengen/halen is het echt een grote chaos. Er is bijna geen ruimte om elkaar te passeren en bij de kleuteringang zijn er bijna geen parkeerplaatsen voor de auto. De auto moet een eind van school geparkeerd worden. Onbegrijpelijk dat hier niet in voorzien is tijdens de bouw van de school, ook vanuit de gemeente.
212	De verkeersveiligheid is de verantwoordelijkheid van de ouders die hun kinderen naar school brengen en afhalen. Met name bij het afhalen wordt er geparkeerd of er geen andere weggebruikers aanwezig zijn.

213	Vuilcontainers in de straat worden door gemeente geleegd op tijden dat school in/uit gaat. fietsers wachten op hun kinderen op parkeerplaatsen die bedoelt zijn voor auto's het is niet duidelijk waar de ouders die op de fiets zijn moeten "parkeren" tijdens het wachten op hun kinderen. Zoen en zoef mogelijkheid is niet aanwezig Vaak lost een vrachtauto bij bakkerij van ballegooien in de buurt, daardoor is het niet mogelijk om van die kant kinderen naar school te brengen, vervolgens rijden ouders andere kant de straat in , tegen het verkeer is. Wanneer deze auto bv pas om 9 uur gaat lossen, is er geen probleem wat schoolverkeer betreft. Bij kerk naast de school staan ook vaak auto's aan de verkeerde kant van de weg geparkeerd en is het lastig om goed de straat in te rijden. wij slecht weer wordt er dubbel achter de geparkeerde autos geparkeerd, zodat alles stil komt te staan.
216	Iedereen doet maar wat en wil vooral zo dicht mogelijk bij de ingang staan. Verder is het zeer irritant als autos op de doorgaande weg even stoppen om hun kind eruit te laten, dit zorgt voor opstoppingen en verkeersonveilif Ge situaties omdat anderen dan weer in gaan halen. Verder zijn er veel grotere kinderen op fietsen en scooters van de andere school in de buurt die ook nog langsrazen. De personen die op de fiets komen hebben volgens mij geen verkeersregels geleerd.
217	Onze school hanteert de regel dat als je binnen een bepaalde straal van school af woont, je lopend naar school moet gaan. Dit ivm de drukte in het fietsenhok. Mijn kinderen zijn altijd lopend gegaan. Helaas hebben zij daardoor weinig kennis opgedaan is het verkeer tijdens 'drukke' momenten.
218	Zoals ik heb aangegeven zouden kinderen, maar zeker de ouders die daar ook verantwoordelijk voor zijn, veel meer op fiets kunnen komen of lopend. Echter er moet een oplossing voor het fietsenhok komen gezien die niet groot is.
221	oversteekplaats bij de hoofdingang en kleuteringang kan beter worden aangegeven door middel van opvallende kleuren op het wegdek (net zoals op de stoep).
222	Leerkrachten parkeren nog steeds bij de school, dit verminderd het aantal parkeerplaatsen voor ouders. Geef het goede voorbeeld zou ik zeggen. Misschien is klaar-overs een optie bij school. Vooral in Perzikstraat worden de kinderen bijna omvergereden en is het onoverzichtelijk voor de kinderen mede door verkeersdrukte.
225	Het eenrichting verkeer word heel vaak genegeerd door bestuurders waardoor het gevaarlijk word. Er word te vaak geparkeerd voor de begraafplaats ingang En te vaak zo geparkeerd zodat de autos niet meer er door kunnen.
226	Zeebrapad
228	Ik vind het alleen verkeersonveilig bij onze school omdat er zo vreselijk veel ouders met de auto komen. Daardoor durf ik mijn kind niet alleen naar school te laten gaan. Met de fiets kun je er soms ook bijna niet tussendoor. Ik vind het onverantwoordelijk gedrag van de ouders. Ze moeten wijzer zijn en met de fiets komen om zo het goede voorbeeld te geven.
230	wat mij betreft mag de gemeente aalburg de straat bij school rond aan wn uitgaanstijden afsluiten voor auto's, zou veiliger zijn voor schoolkinderen
231	Ik denk veiligheid vooral bij de ouders ligt. Het is vooral 'ikke' en 'mijn kind' en als dat maar geregeld is interesseert de rest niet. Parkeer daar waar je zijn moet, en de rest zoekt het maar uit. Evenals tegen het verkeer in rijden. Onder het motto 'ik moet daar zijn..'

234	er komen veel mensen met de auto naar school die ook met de fiets of zelfs lopend zouden kunnen komen , het zou het veiligt zijn als aan beide zeiden langs de straat een stoep zou zijn , en er daar niet geparkeerd mag worden(in de hele straat , nu staan er langs 2 kanten geparkeerd en is het soms een drama om de straat in te komen , ook als men van school over wil steken naar de singel (waar bij overstekende voetgangers voorang hebben, (recht door op de zelfde weg) is er slechts 1 op de 15 auto's die de voetgangers overlaten steken!!!!!!)
235	Er staat een laag hek rondom het 'plateau' waar de kinderen vanaf het schoolplein op komen. Dat hek staat er vervelend, omdat ouders met hun fietsen erachter staan en dus op straat. Dit bevorderd de doorstroom zeker niet! Zonder dit hek (zoals in het verleden) staan ouders meer op het plateau en niet op straat.
237	Het wordt ook onveilig doordat, de voetgangers noet op de stoep lopen, daardoor moeten de fietsers uitwijken en de automobilisten omen daardoor ook weer klem te zitten en daardoor rijden ze de foetsers weer klem. Het beste is z.v.m. op de fiets komen. Ik vind hetbest eng om mijn jongste van 5 op de fiets te laten gaan want ze zien ze vaak over het hooft. Over de gemeente werken met hun busjes is ook nog wat te zeggen, op het drukste momenten van de dag, gaan hun ok tegen de richting in terwijl het 1 richting is, en ze zetten hun busjes ook zomar in hun achteruit zonder te kijken, mijn jongste heeft er bijna al een keer onder gelegen. Ik hoop dat dit onderzoek effect heeft
238	Ik denk dat veel maatregelen al genomen zijn en dat die een positieve bijdrage hebben geleverd, daar ben ik blij om! Het meest gevaarlijke stukje vind ik het stukje bij de parkeerplaatsen bij de begraafplaats, daar is het overzicht heel, heel slecht. Het is er smal en de kinderen lopen achter de auto's langs en tussen de auto's door. De fietsers kunnen er slecht tussendoor. Sinds wij verhuisd zijn hoeven we niet meer vanaf die kant naar school te lopen en ik ben daar heel erg blij om! Wij komen nu vanaf de Mussentiend (oversteken vanuit doodlopende stukje F. Hendrikstraat) en dat is veel veilige! Sinds die witte strepen daar op de weg staan zijn auto's nog voorzichtiger bij het langsrijden. Wie weet zou een zebrapad nog beter zijn, maar vooral op de standaardtijden waarop iedereen er loopt en oversteekt merk je dat passerende auto's daar rekening mee houden!
241	Bij sommige stellingen wilde ik graag wat uitleg geven, maar dat lukte niet, vandaar gelukkig nu deze mogelijkheid. Het probleem bij onze school is denk ik het volgende: groot parkeerprobleem. Je kunt als ouder niet je kind fatsoenlijk met de auto ophalen (veel te weinig parkeerplaatsen), daardoor is het soms overzichtelijk. Vanuit de Singel om over te steken naar de Witboomstraat (dat zijn veel kinderen) is echt gevaarlijk: daar rijden ze veel te hard. Er is geen zebrapad o.i.d. jammer! Succes met de uitkomsten!
243	Er is een zeer beperkte parkeergelegenheid voor voertuigen. De situatie ontstaat dat ouder langs de stoepen voorde school parkeren. Wanneer de school uitgaat wordt dit een ongelooflijke drukte en onoverzichtelijk voor een ieder. Auto's fietsers, wandelaars, brommers het gaat kriskras door elkaar heen. Als men het beter zou stroomlijnen bv een aparte strook voor de fietsers achter hekjes gemarkeerd met een kleur is dit voor de fietsers een veilig gedeelte. De voetgangers maken over het algemeen gebruik van de stoep. Iedereen wil zo snel mogelijk weg zijn bij de school en naar de richtingsaanduiding van het verkeer wordt niet meer gekeken.
246	Persoonlijk vind ik het niet onveilig bij onze school, maar er komen teveel ouders met de auto waardoor het een hele onderneming is om met zelffietsende kinderen hier doorheen te manouvreren. De enige straat die ik wat aan de gevaarlijke kant vind, is de Witboomstraat. Wel overzichtelijk, maar het is een drukke straat en auto´s rijden toch vaak harder dan toegestaan. Altijd weer blij als de kinderen daar veilig zijn overgestoken.

247	Het ophalen met fiets is niet handig geregeld auto's rijden kort langs je Zelfs een keer 1 over m'n voet gereden. Heel gevaarlijk als je met kind wacht. Binnen hek met fiets wachten is niet te doen door smalle ingang en drukte
248	Teveel ouders (ook die dichtbij wonen) brengen hun kind met de auto , er ontstaan hierdoor veel onveilige situaties , meer promoten om te fietsen of te wandelen , je kan met de fiets nergens langs ivm geparkeerde auto's het eerste stuk ben je gedwongen op de stoep te fietsen door alle auto's wat ook niet bevorderlijk is voor de verkeersveiligheid
249	als aan de overkant van de straat (andere kant dan waar de parkeervakken zich bevinden) het parkeerverbod doorgetrokken zou worden, dus geen auto's meer langs de stoep, alleen in de vakken, zou de veiligheid ten goede komen door uitstekende auto's in de parkeervakken en tegemoetkomende auto's die langs de geparkeerde auto's heen moeten rijden ontstaat de situatie waarin fietsers af moeten stappen om auto's te kunnen laten passeren en is de situatie dermate onveilig voor fietsers. Er zijn inderdaad weinig parkeerplaatsen en er komen zeer veel mensen met de auto (terwijl het bijna niet kan dat ze extreem ver van school weg wonen) Als er ook maar 1 druppel regen dreigt te vallen lijkt het wel of bijna iedereen met de auto komt en is er helemaal geen doorkomen meer aan. In mijn ogen veroorzaakt het ook een situatie dat het toch wel aardig lang gaat duren voor de kinderen zelfstandig naar school kunnen lopen of fietsen, puur omdat de verkeersveiligheid met deze extreme drukte niet te overzien is. Ook is er geen trottoir als je na de straat van de school rechtsaf gaat waardoor ze over de weg moeten lopen. Ook geen ideale situatie dus om met de grote hoeveelheid auto's die hier passeren en waar ook auto's geparkeerd staan. Het is zigzaggen tussen geparkeerde auto's, tegemoetkomend en passerrend verkeer.
251	Er is al 1 richtingsverkeer, maar het probleem zit in het parkeren. Te weinig vakken. Leraren komen ook met auto omdat ze van verder weg komen. En er wonen ook nog mensen in de straat die hun auto daar parkeren.
252	lopen en fietsen veel beter voor kinderen en leren daardoor ook al jong op te letten in verkeer. vooral kinderen het verbaasd me soms dat kinderen die veel dichterbij wonen met de auto gebracht worden... succes met je onderzoek!!
253	Er zou gekeken kunnen worden naar nieuwe parkeerplaatsen.
255	De ouders moeten beter de verkeersborden lezen, dat scheelt problemen!!
258	Zou graag zien dat er niet geparkeerd mag worden aan de wilhelminastraat ter hoogte waar onze kinderen oversteken of dat er een zebrapad komt te liggen Er staan vaak auto's geparkeerd zodat het voor de kinderen moeilijk en gevaarlijker oversteken is
259	Parkeren is erg lastig en krap bij de school. Weinig overzicht
261	Met name bij regenachtig weer belachelijk druk bij school. Alsof jezelf en je kinderen smelten. Ook het jaarlijkse schoolreisje loopt altijd vertraging op door in de bocht geparkeerde auto's. Leren we het als ouders dan nooit?
263	Fietsen naar school stimuleren. Ook voor kinderen die dichtbij wonen. Fietsstrook aanleggen bij school en aparte ingang voor fietsers naar het schoolplein. En voldoende en stevige fietsenstalling waarbij fietsen niet snel om kunnen vallen stimuleert het fietsen.

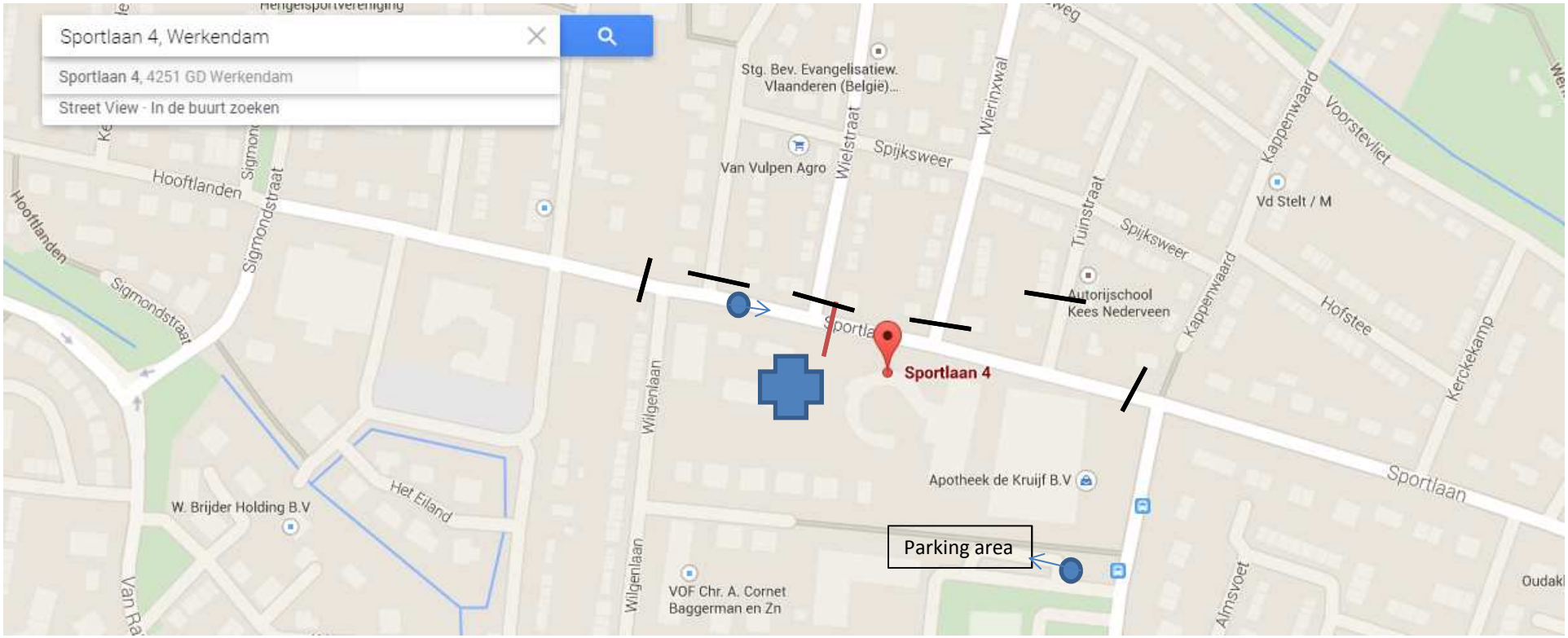
274	Zebrapad op de mussentiend waar de Frederik Hendrikstraat op uitkomt zou voor ons handig zijn. Succes met afstuderen!
277	Het is altijd erg druk met auto's in de straat bij de school. Hierdoor word het wel gevaarlijker voor kinderen die op de fiets komen. Kunnen al gauw over het hoofd worden gezien, als ouders vanuit hun parkeersituatie weg willen rijden.
278	De straat van de school is op zich een rustige straat. Als de school uit en in gaat is het druk. Het scheelt dat het nu eenrichtingsverkeer is, het is nu iets overzichtelijker.
279	Te weinig parkeerplaatsen voor ouders, daarom veel foutparkeerders. Een officiele ingang maar aan de Vroonhoeve, veel te druk en onveilig. Geen mogelijkheid om als ouder goed te wachten, staan nu vaak midden op straat (vroonhoeve) te wachten of bij omwonende tegen de heg/auto's/tuin, zeer onveilig. Geen officiele oversteekplaats. Geen zoen en zoef zone? Kortom, er is te weinig ruimte om de school. Misschien een verbod op ouders met auto's voor bepaalde groepen? Bepaalde groepen kunnen toch wel zelfstandig naar school, ouders maken het vaak zelf extra onveilig. Ouders moeten ook meer opletten op elkaar, kinderen en begrip hebben voor omwonende.
281	Er is al eenrichting en parkeerverbod (gedeeltelijk) maar vooral 2e gedeelte straat te smal ivm geparkeerde auto's en achteruit rijdende auto's en daar tussendoor veel fietsers....ook lopen daar nog kinderen tussendoor op straat ivm maar aan een kant van de straat trottoir.... (dus lopen dan op straat of moeten 2x oversteken...) Ook zou even een stopplek om evt even kinderen uit de auto te laten geen luxe zijn....word nu door heel de straat heen ff gestopt op diverse plaatsen...
284	Er wordt over het algemeen rustig gereden, alleen er zijn gewoon geen parkeerplaatsen genoeg, zeker met slecht weer, mensen met een baby die ook nog een behoorlijke afstand moeten overbruggen zoals wij 2 km, dan kom je niet op de fiets, wel in de zomer! er zouden parkeerplaatsen bij kunnen komen tegenover de begraafplaats waar nu een sloot ligt.
286	Er komen erg veel kinderen op de fiets naar school, die volgens de schoolregels lopend zouden moeten komen. Doordat dit door school niet wordt gecontroleerd, blijven ouders dit doen. Wanneer anderen zien dat mensen hier zo gemakkelijk mee omgaan, gaan zij het ook doen. Hierdoor komen er steeds meer fietsers op school. Dit geeft ook onveilige situaties; fietsers op de stoep, tussen auto's door manouvreren. Als kinderen die echt met de fiets mogen komen een nummer in de fietsenstalling krijgen, is dit probleem volgens mij opgelost. Want kinderen die geen nummer hebben, staan dan buiten de fietsenrekken en kunnen hierop worden aangesproken.
287	Nee. Ik denk dat er de laatste jaren al veel is verbeterd wbt de verkeersveiligheid rond de school.
288	Wij vinden dat er op bepaalde punten rondom school, gevaarlijke kruispunten bij boekwinkel schrijvertje klaar-overs moeten staan. Op dit punt weten de kinderen niet wat ze moeten doen.
289	Het is erg druk (te druk en daardoor gevaarlijker) rondom school met auto's zeker met slecht weer, maar het kan denk ik niet anders gezoen de beperkte ruimte voor de school.
291	Er zou rekening gehouden moeten worden door de begeleidende ouders dat zij gebruik maken van het trottoir. Over de weg lopen houdt het verkeer enorm op. Dit gebeurd erg vaak.
292	als er meer plaatsen zouden zijn voor de fietsen van de leerlingen, dan zouden meer leerlingen op de fiets naar school (kunnen) komen

294	de verkeers onveilige situatie wordt door de school zelf in de hand gewerkt. er geldt een verbod op op de fiets naar school gaan als je binnen een te dichte cirkel bij school woont. dit betekent dat 80 % van de kinderen officieel niet op de fiets mag komen. als de school dat verbod zou intrekken, werkt het naar alle kanten positief. 1 kinderen leren weer zelf op het verkeer te letten waardoor ze zelfstandiger worden 2 minder kinderen worden met de auto gebracht, waardoor de verkeers drukte afneemt
295	Ik kom zelf niet zo veel meer bij school, maar als ik er ben met de auto, valt mij op dat er veel ouders zijn die hun kinderen met de auto naar school brengen. Misschien kunnen ze vanuit de school en/of gemeente stimuleren om meer met de fiets of lopends te komen.
297	Bij een beetje regen komen ouders al met de auto, wat meteen een chaos veroorzaakt tot straten ver buiten de straat van school. Hier zouden ouders beter over na moeten denken. Loop met paraplu...vinden kinderen leuk of trek een regenjas aan op de fiets. Soms is het echt een belachelijke situatie!
299	Er zijn bij de school al aardig wat maatregelen genomen ter verbetering van de verkeersveiligheid. Maar wordt niet altijd goed gebruikt. Wat nog verbeterd kan worden: Vanuit school: - kinderen niet fietsend het plein op en af; plaatsen aanwijzen waar fietsen van ouders die kind komen brengen, fietsen kunnen plaatsen. Dus niet op de stoep! Vanuit gemeente: zebrapad bij school; soms kan er niet overgestoken worden omdat auto's gewoon doorrijden. En sinds de parkeerplaatsen bij de begraafplaatsen verkleind zijn, steken auto's uit over straat: daardoor minder ruimte op de weg en minder overzicht. Als laatste: de enige stoep (trotoire) die doorlopend is in de straat, is aan de andere kant van de straat als waar de school is: onhandig.
300	Jammer dat er weinig parkeerruimte is. Maar naar mijn idee doen alle ouders hun best om een zo veilig mogelijke situatie te maken. Ik heb persoonlijk nauwelijks onverantwoord gedrag gezien. Alleen door de drukte is het voor kleine kinderen een onoverzichtelijke situatie.
301	Bij de Mussentiend zouden klaarovers handig zijn. En de situatie met auto's bij de begraafplaats is erg gevaarlijk.
302	Voor de peuterspeelzaal Is een voetpad wat afloopt op straat waar geen overzicht is door geparkeerde auto's. Daarbij een diepe sloot zonder goed hek ervoor vind ik erg onveilig naast een peuterspeelzaal.. Ouders laten vaak de poort open staan. Veel gehaaste autodrukte vlakbij de school. succes ermee
306	Nee, alles is in voorgaande vragen wel aan bod gekomen
307	Vooral erg lastig dat er zo weinig parkeerplaatsen zijn, waardoor mijns inziens juist onveilige situaties ontstaan. De parkeerplaatsen zijn ook voor het personeel en de peuterspeelzaal.
309	op dit moment niet
310	Er zijn altijd ouders die erg hard rijden maar dat is ieder zijn eigen verantwoording
312	----------

314	M.i. gaat het niet alleen om het aantal auto's en of deze te hard rijden, maar ook hoe deze geparkeerd staan, bijv. midden op de weg voor een leeg parkeervak gebeurt regelmatig. Verder vind ik dat een uitbreiding van het fietsenhok erg prettig zou zijn. Het beleid is dat leerlingen rondom de school lopend naar school moeten, echter op de fiets leren ze vaak meer in het verkeer.
315	Er is door de school al zo vaak verzocht (en ook de borden geven het aan) om niet buiten de verkeer vakken te parkeren. Dit gebeurd helaas nog steeds. Ofwel de mentaliteit van de mensen zal moeten veranderen. (De meeste zijn te beroerd om een paar meter te lopen. Ofwel misschien hoe onvriendelijk ook, maar weer gaan beboeten.
316	Het gedrag van ouders is het verkeer irriteert mij iedere dag weer! Ik breng mijn kind iedere dag, bij elk weer type, met de fiets naar school. Ouders in een auto zijn gewoon asociaal rond de school in het verkeer. Ze nemen voorrang, duwen je van de weg en letten absoluut niet op fietsers! Ik zeg; pak allemaal de fiets!
318	Voor school zelf is het verkeer goed geregeld met een sluis, drempel en parkeerverbod. Er is eenrichtingverkeer van gemaakt, dat is ook goed. Voor fietsers geldt dit niet. Er staan auto's geparkeerd, er rijden auto's die door de geparkeerde auto's niet meer kunnen uitwijken. Er komen fietsers tegemoet (vaak kleine kinderen die nog wat 'swabberen') die niet voldoende ruimte hebben om te fietsen en vaak ook moeten stoppen voor de voetgangers. Dat is een gevaarlijke situatie. In de straat van school zelf wordt niet echt te hard gereden, dat is niet goed mogelijk, door alle maatregelen. De straten erom heen wordt er wel flink doorgereden met de kinderen vaak zonder gordel op de bijrijdersstoel. We hebben aardig wat 'beschermengeltjes' in Veen ;-). Succes met je onderzoek!
320	Smalle straat waar de school staat en te weinig parkeerplaatsen, waardoor midden op de weg vaak gestopt wordt om het kind te laten uitstappen. Dit is hinderlijk voor achteropkomende auto's en fietsers.

update

APPENDIX J; MEASUREMENT MAPS SAMPLE SCHOOLS

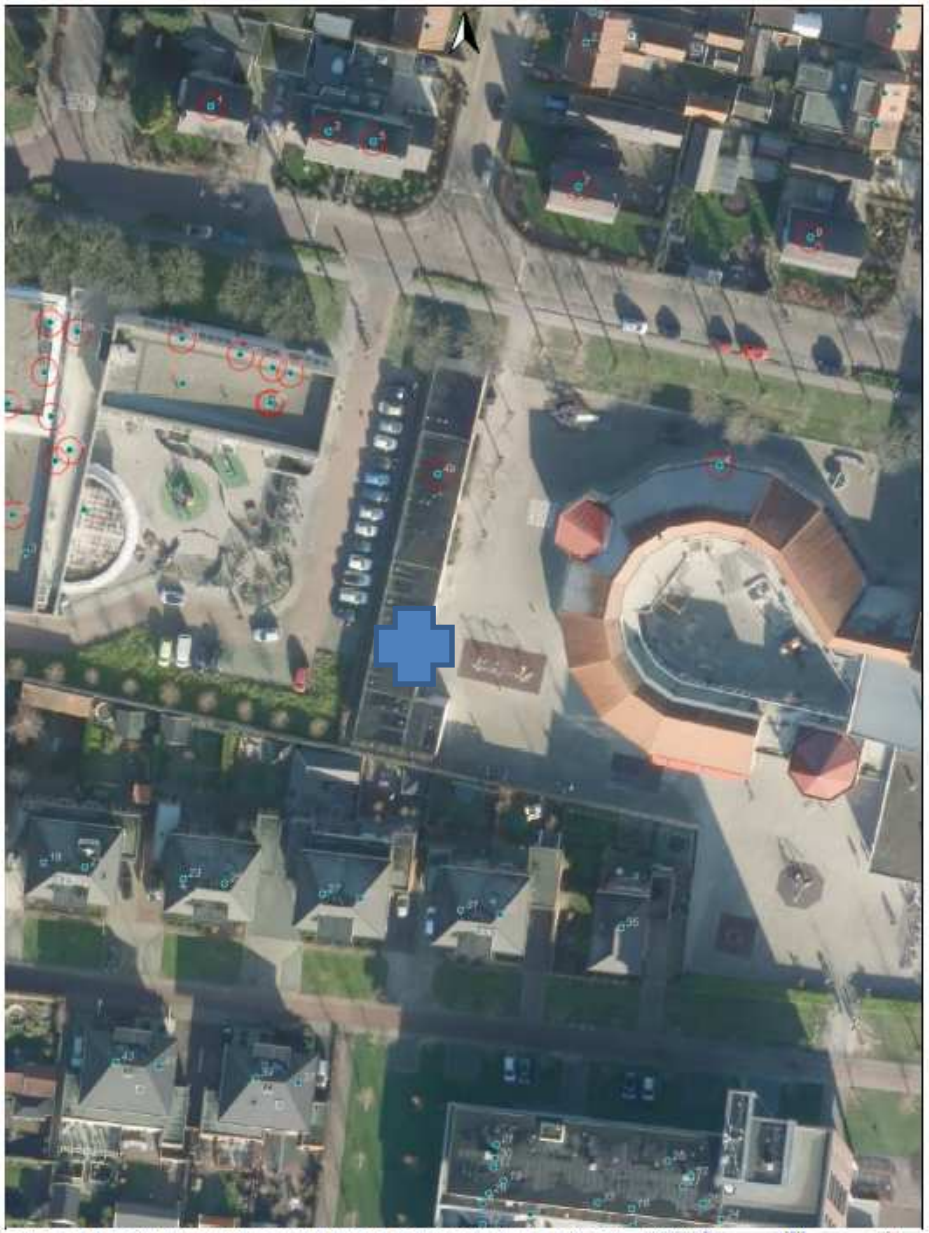


De Akker, Werkendam

Legend

- Location road tube counter
- Location camera
- School zone border
- School

De Akker/Groenenwegen



Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:820

0 10 20 30m

10 Februari 2015

Legend

School

De Akker

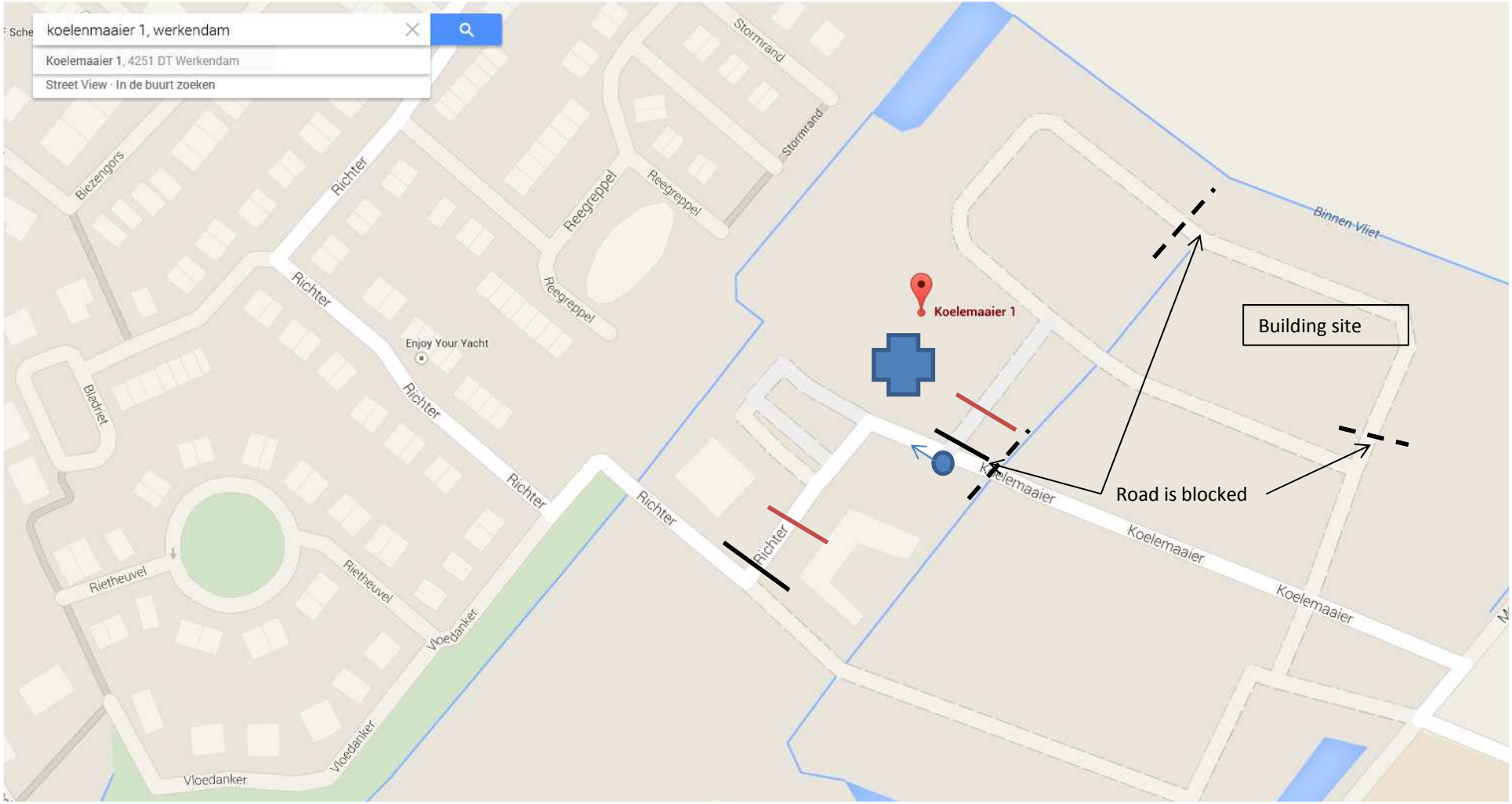
Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:500

0 10 20 30m

De Akker

14 Juli 2015



Het Baken, Werkendam

Legend

- Location road tube counter
- Location camera
- School zone border
- School

Het Baken

Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:1000

0 20 40 60m

10 Februari 2015

Legend

School

Het Baken

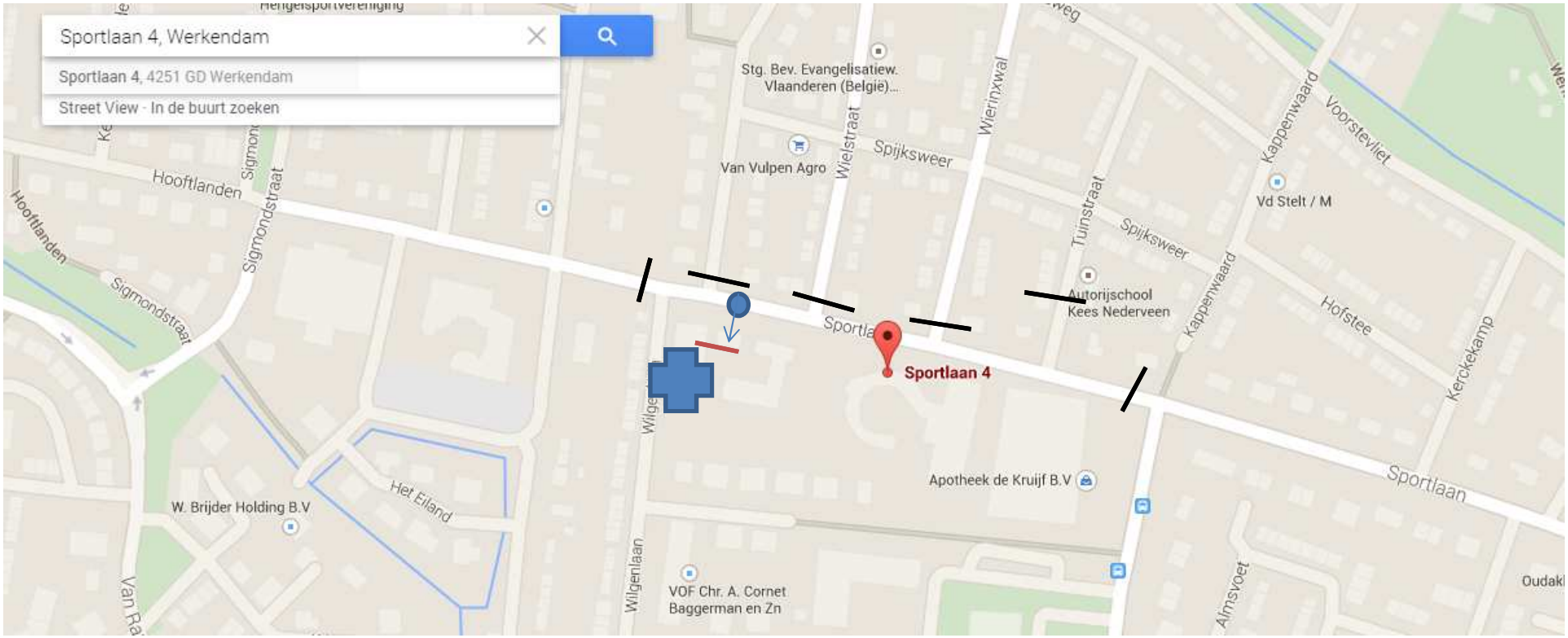
Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Het Baken

Schaal 1:500

0 10 20 30m

14 Juli 2015

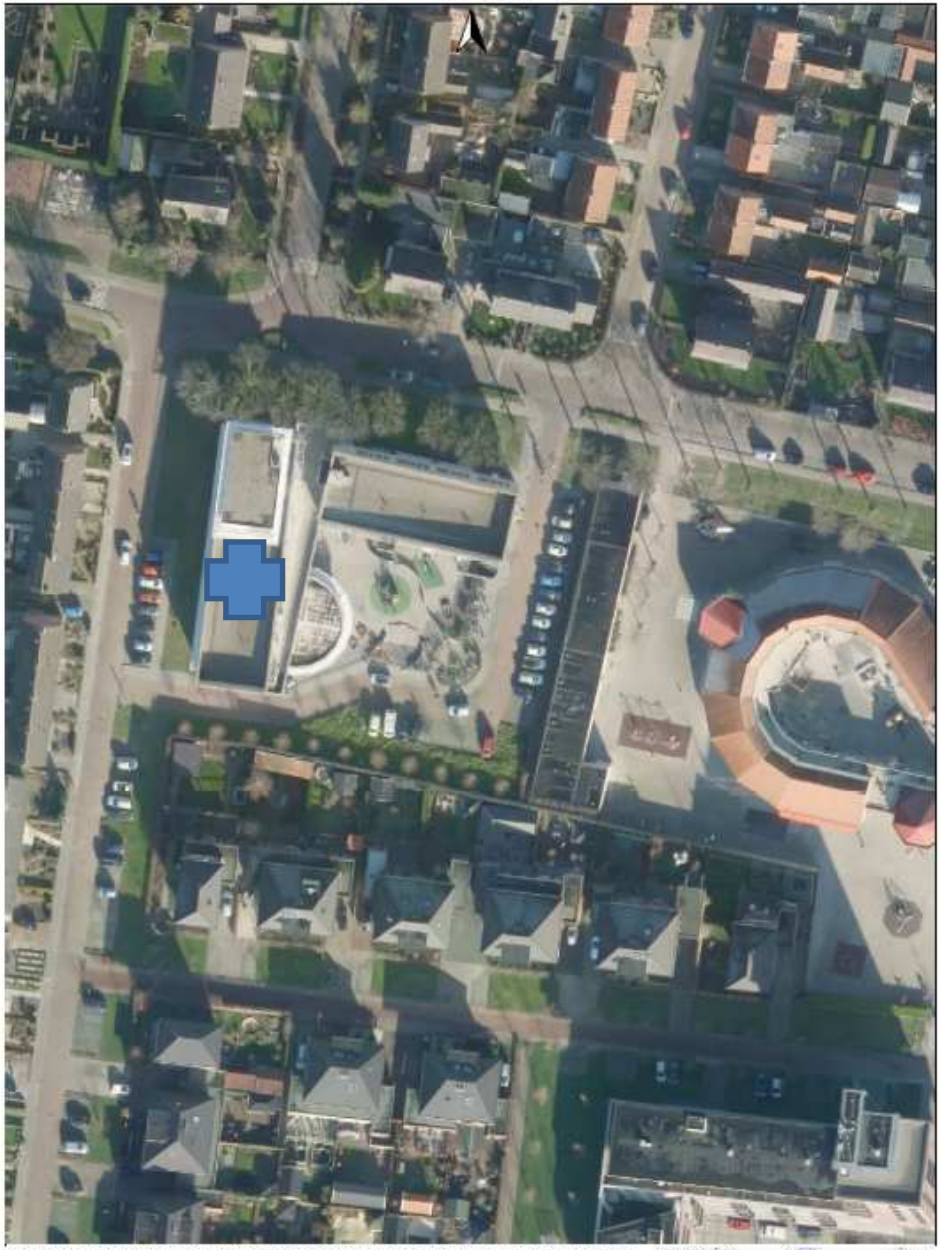


Burgemeester Sigmund, Werkendam

Legend

- Location road tube counter
- Location camera
- School zone border
- School

Burgemeester Sigmund



Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:1000

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04 Juni 2015

Legend

School

Burgemeester Sigmondschool

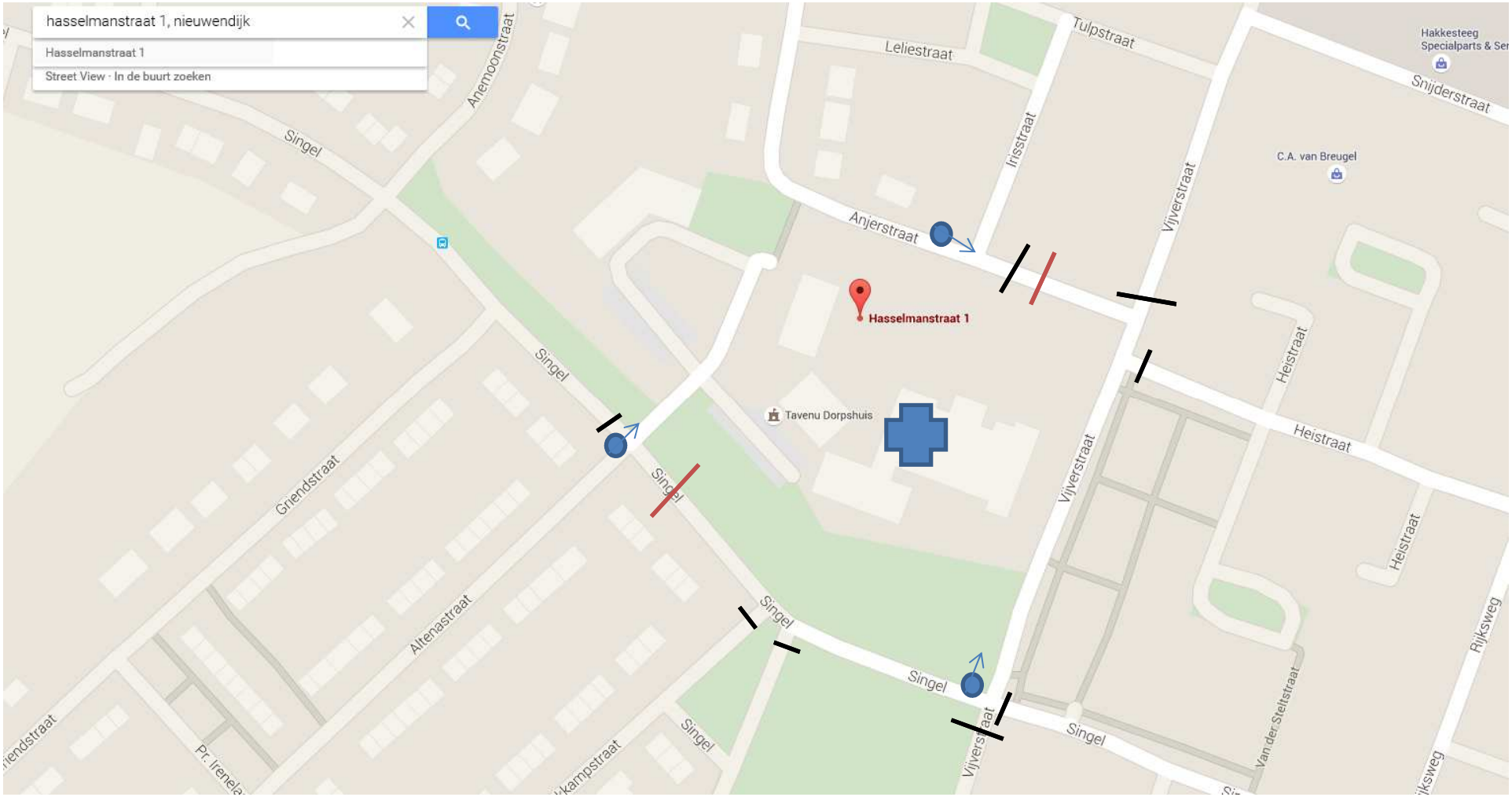
Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:500

0 10 20 30m

Burgemeester Sigmondschool

14 Juli 2015

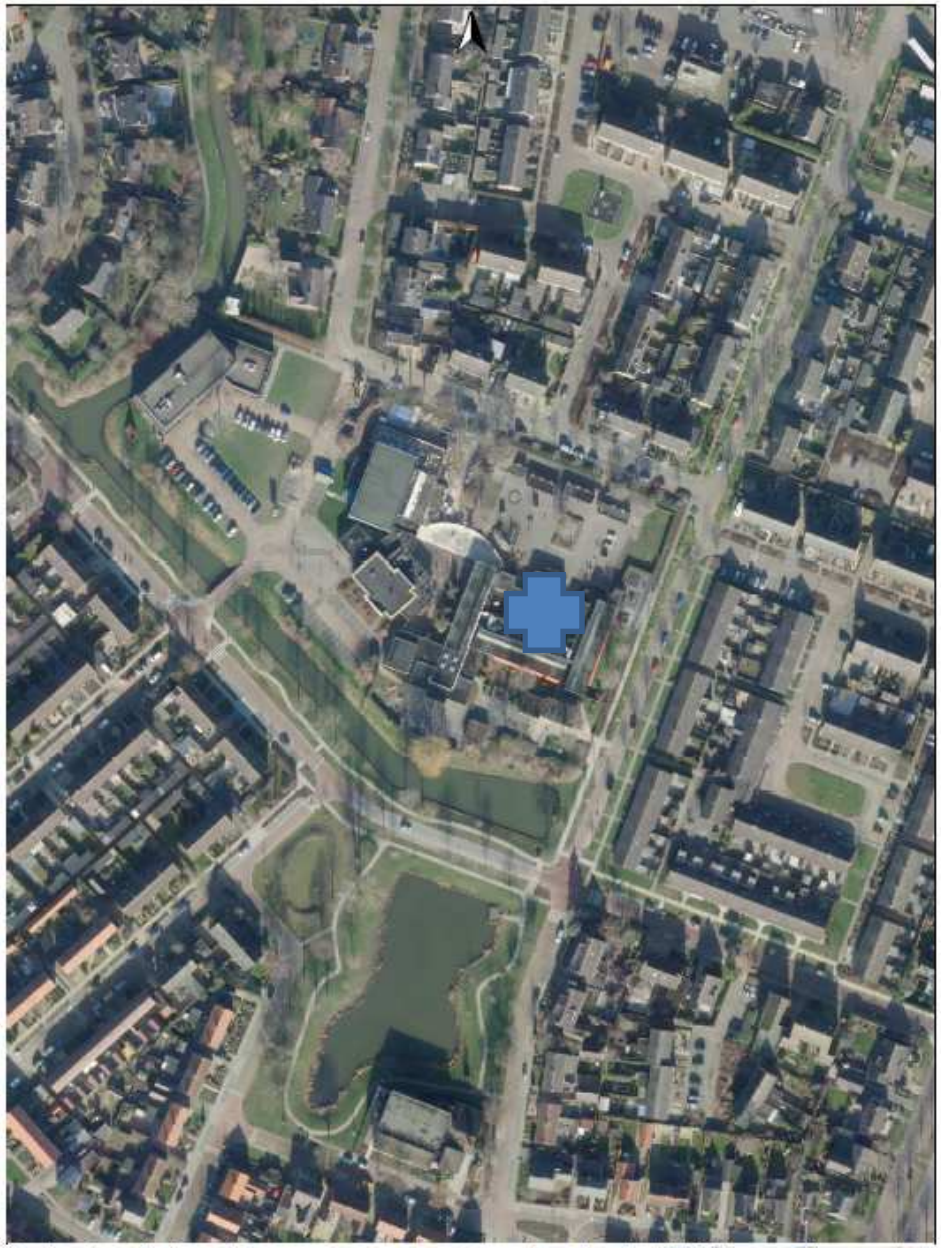


Regenboog, Nieuwendijk

Legend

- Location road tube counter
- Location camera
- School zone border
- School

Regenboog



Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:2000

0 20 40 60m

04 Juni 2015

Legend

School

De Regenboog

Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:500

0 10 20 30m

De Regenboog

14 Juli 2015

Waardhuizen, Waardhuizen

Legend

- Location road tube counter
- Location camera
- School zone border
- School

Waardhuizen

Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:768

0 10 20 30m

10 Februari 2015

Legend

School

Waardhuizen

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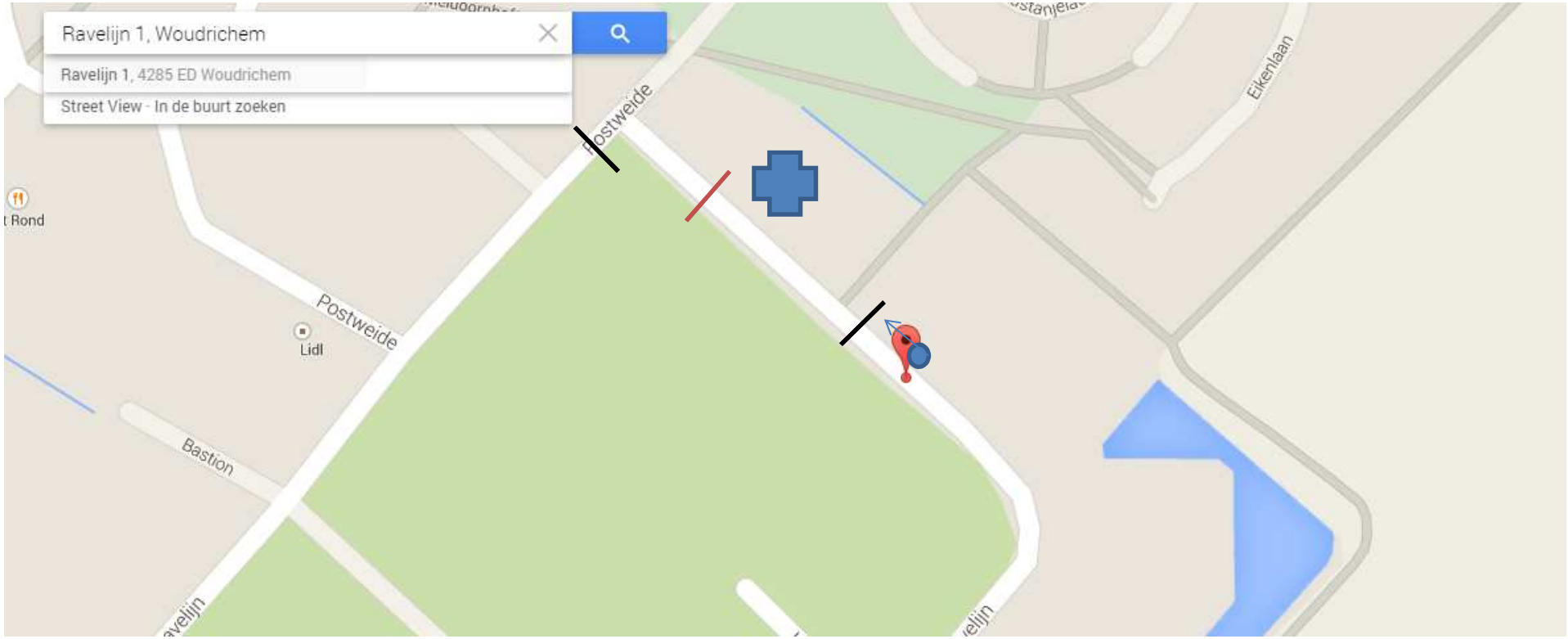
Schaal 1:500

0 10 20 30m



Ravelijn, Woudrichem

Legend

- Location road tube counter
- Location camera
- School zone border
- School

Ravelijn

Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:900

0 10 20 30m

10 Februari 2015

Legend

School

Ravelijn

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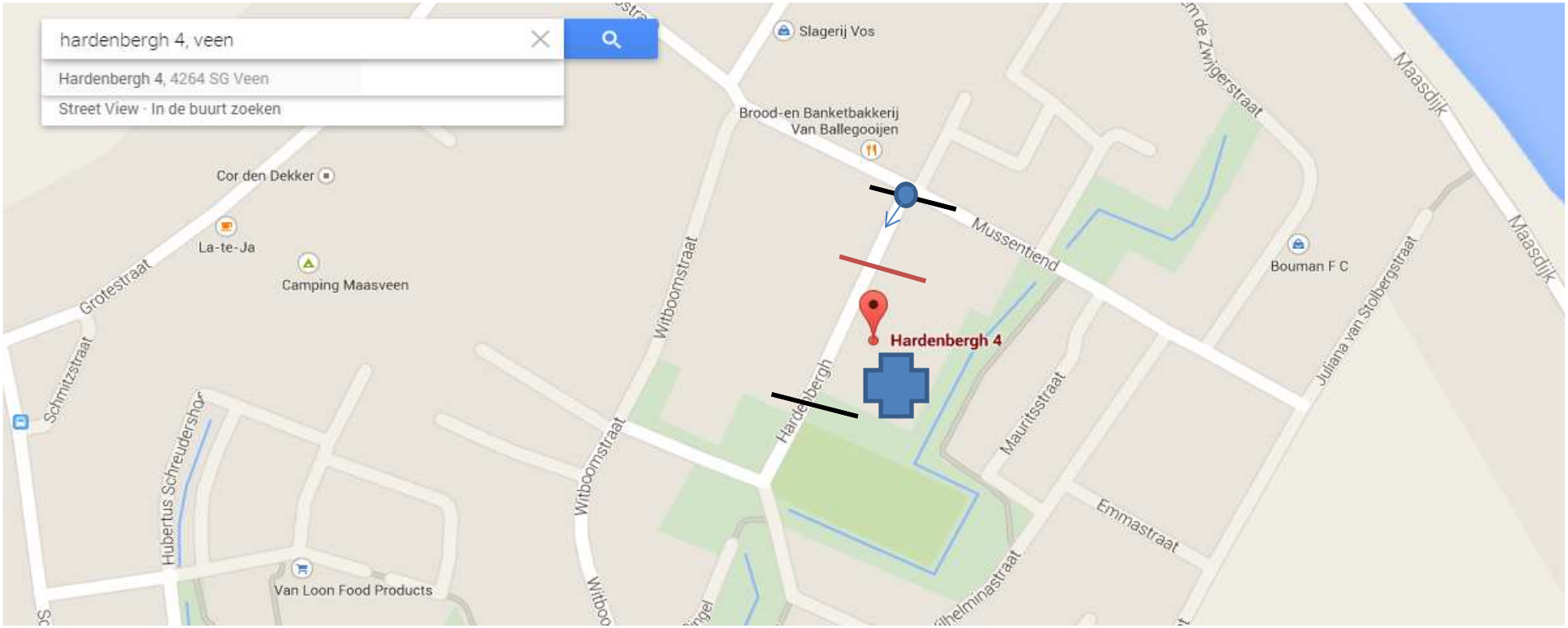
Schaal 1:500

0 10 20 30m

Ravelijn

14 Juli 2015



Oranje Nassauschool, Veen

Legend

- Location road tube counter
- Location camera
- School zone border
- School

Oranje Nassauschool

Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:932

0 10 20 30m

10 Februari 2015

Legend

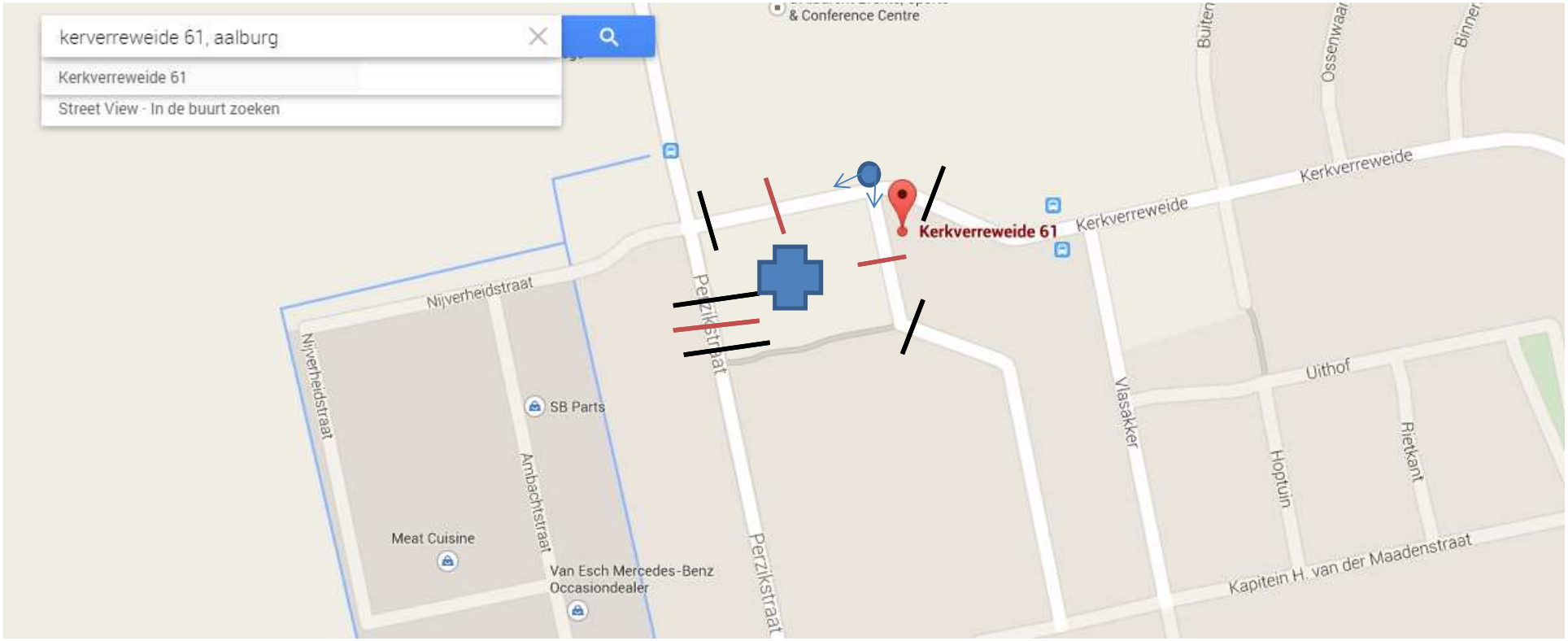
School

Oranje Nassauschool

Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:500

0 10 20 30m

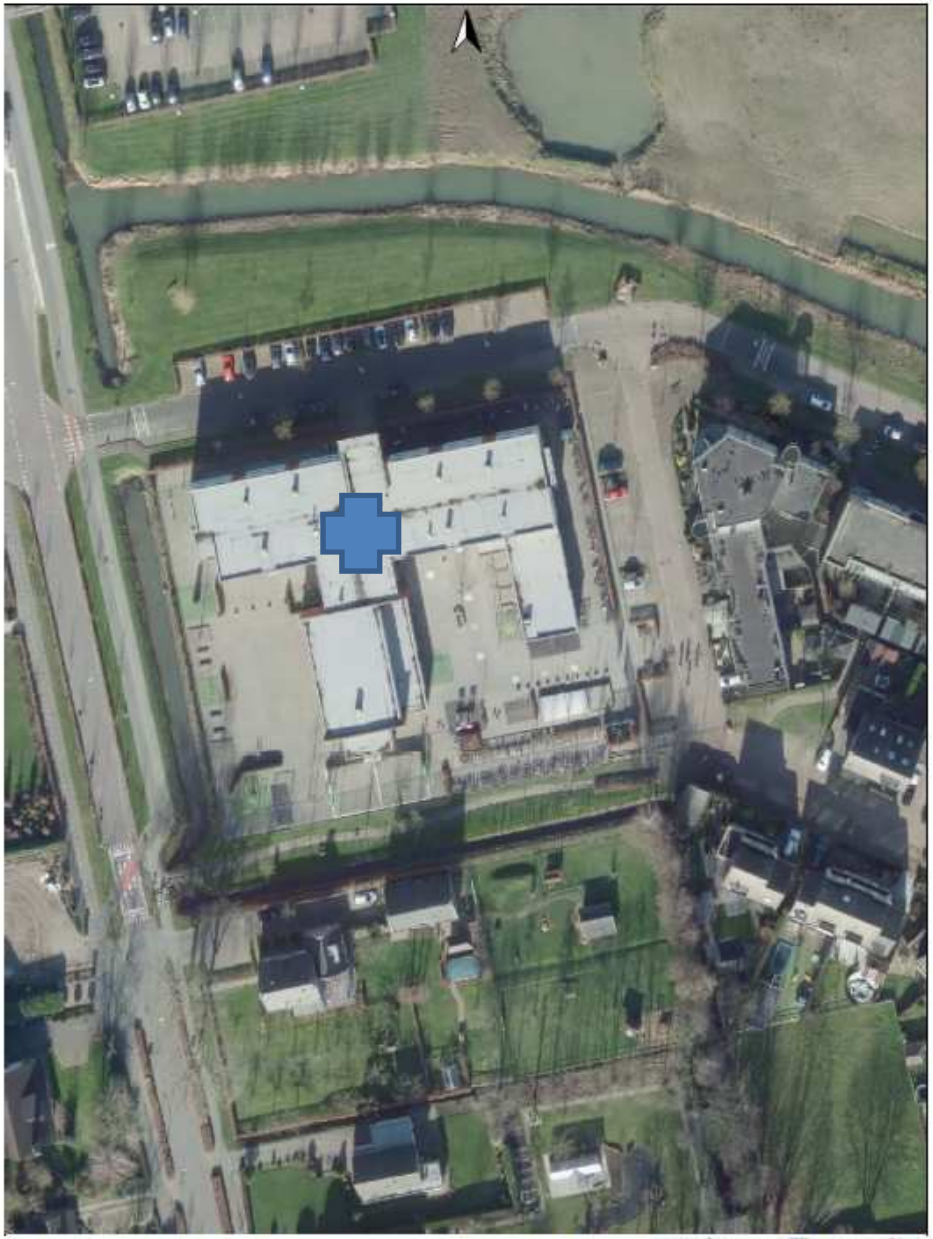


De Hoeksteen, Aalburg

Legend

- Location road tube counter
- Location camera
- School zone border
- School

De Hoeksteen



Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

Schaal 1:983

0 10 20 30m

10 Februari 2015

Legend

School

De Hoeksteen

Aan de op deze afdruk vermelde gegevens kunnen geen rechten worden ontleend.

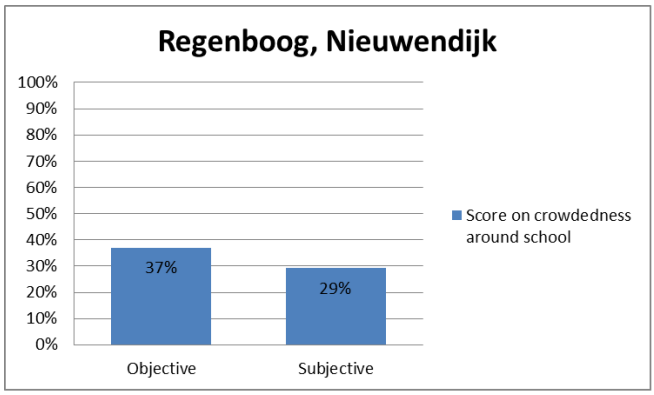
Schaal 1:500

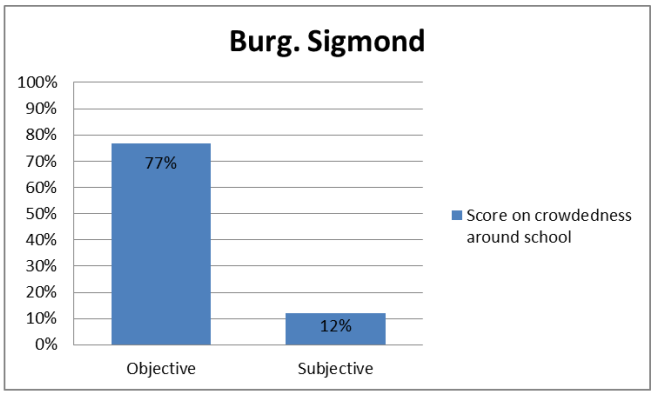
0 10 20 30m

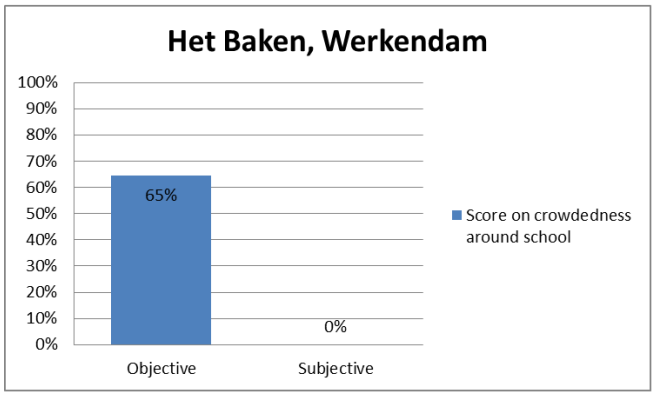
De Hoeksteen

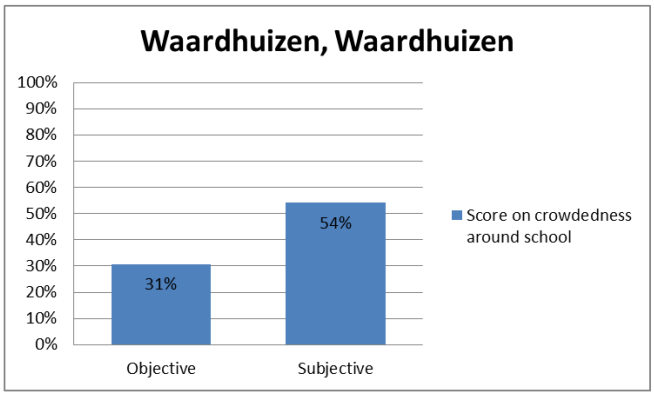
14 Juli 2015

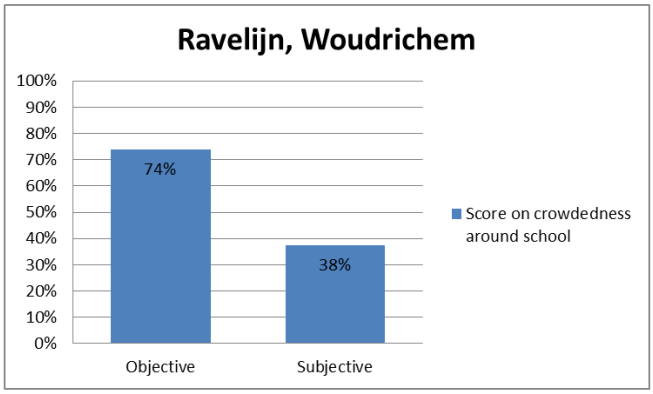
APPENDIX K; COMPARISON OF OBJECTIVE AND SUBJECTIVE DATA

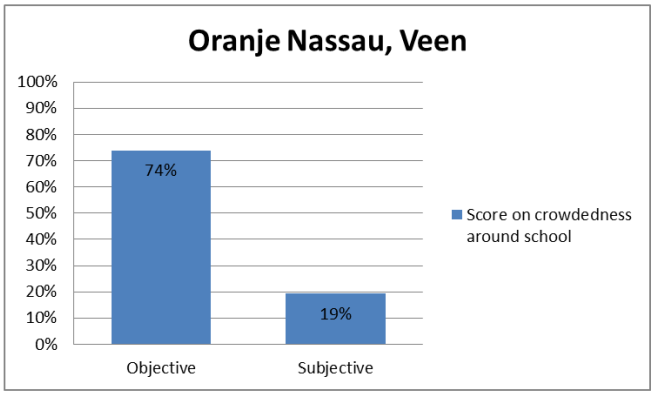


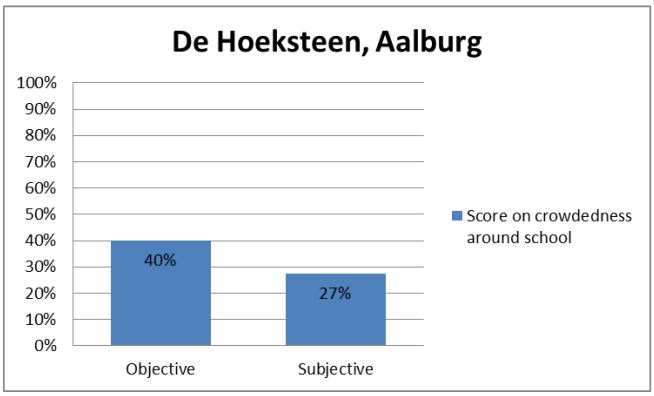


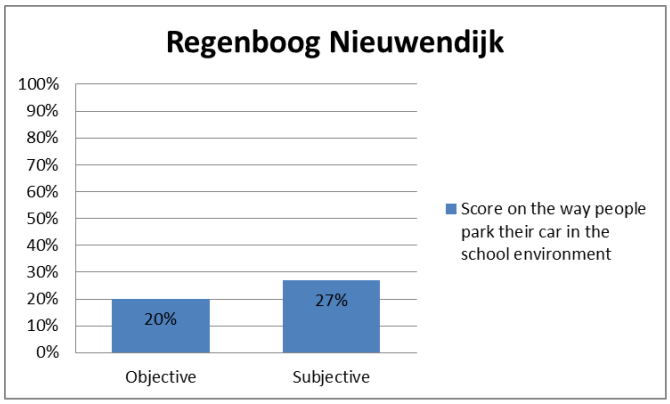


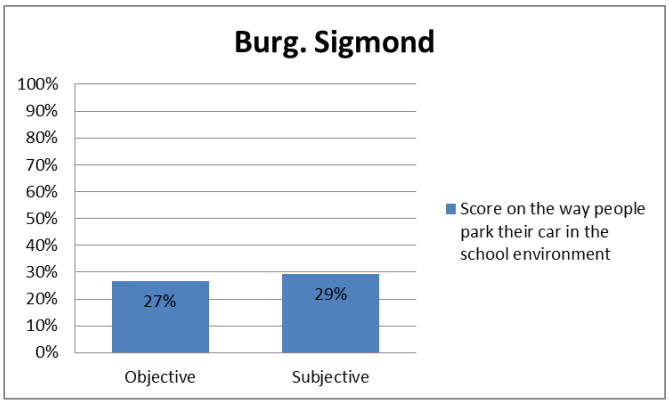


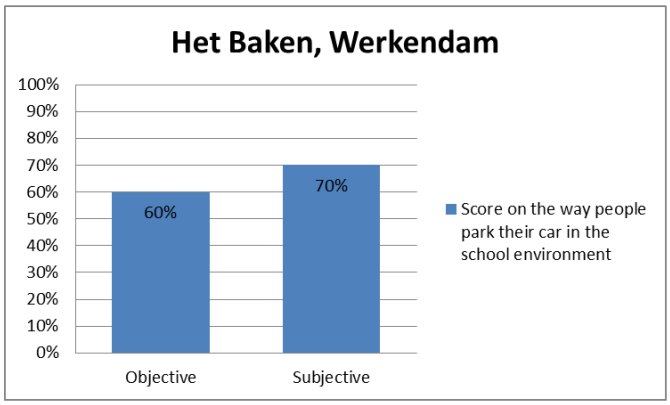


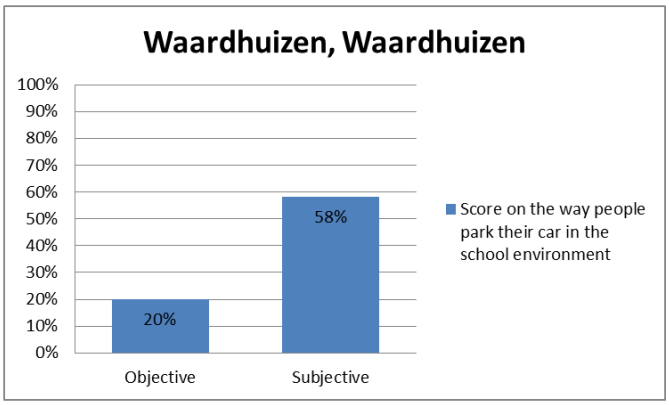


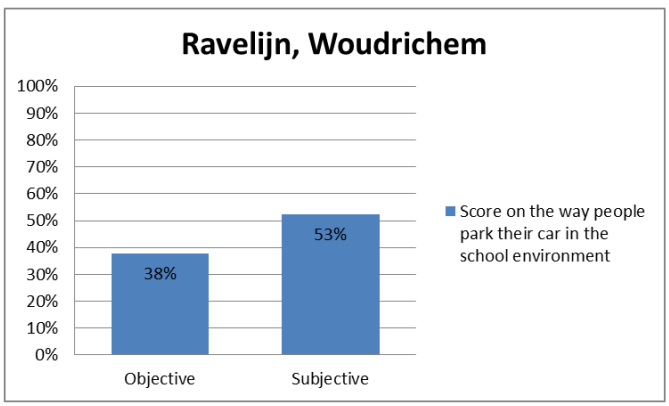


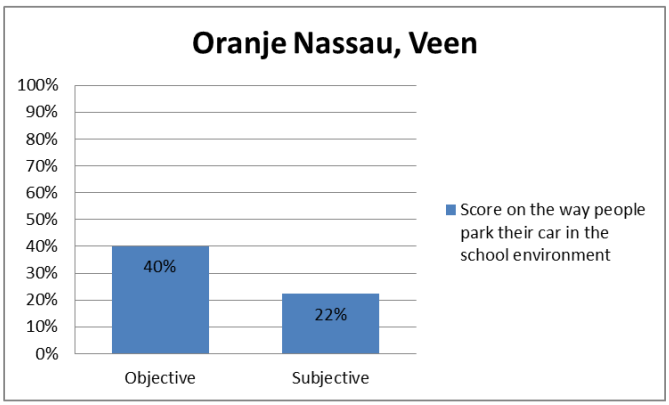

Regenboog Nieuwendijk
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
20%
27%
Objective
Subjective
Score on the way people park their car in the school environment

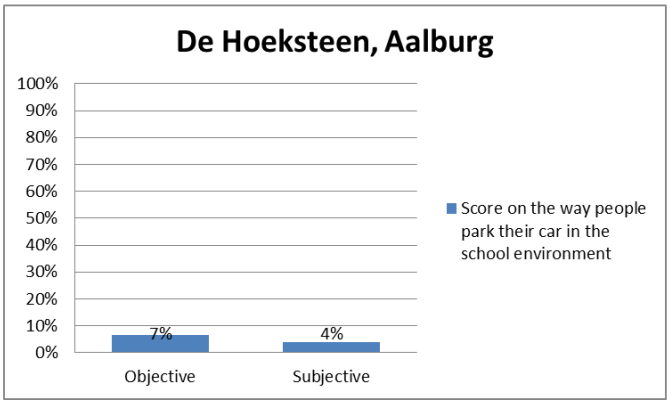

Burg. Sigmond
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
27%
29%
Objective
Subjective
Score on the way people park their car in the school environment

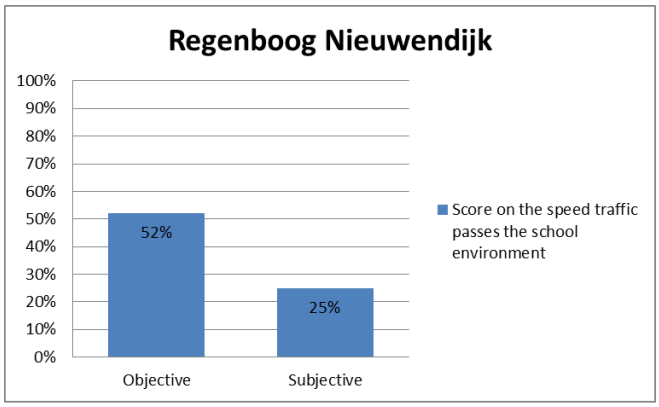

Het Baken, Werkendam
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
60%
70%
Objective
Subjective
Score on the way people park their car in the school environment

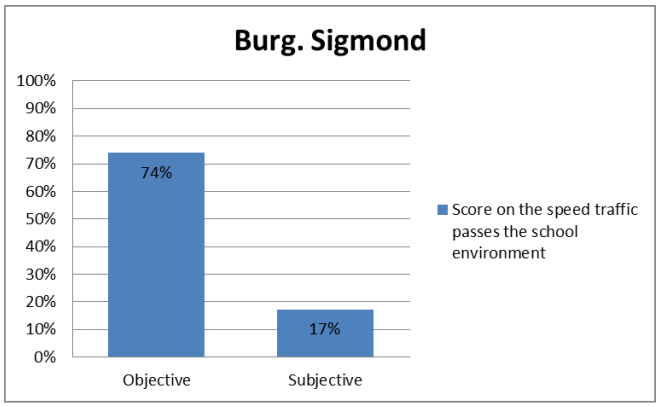

Waardhuizen, Waardhuizen
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
20%
58%
Objective
Subjective
Score on the way people park their car in the school environment

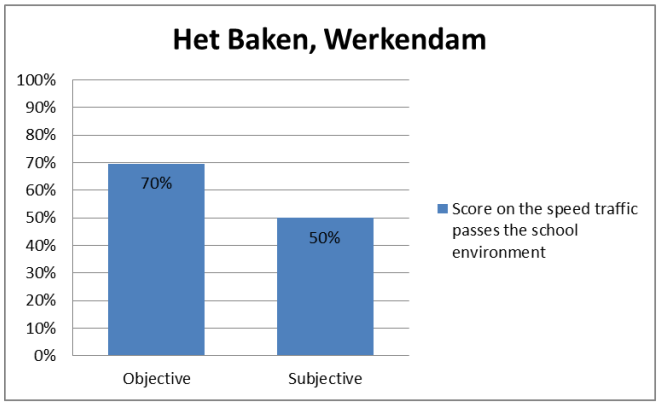

Ravelijn, Woudrichem
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
38%
53%
Objective
Subjective
Score on the way people park their car in the school environment

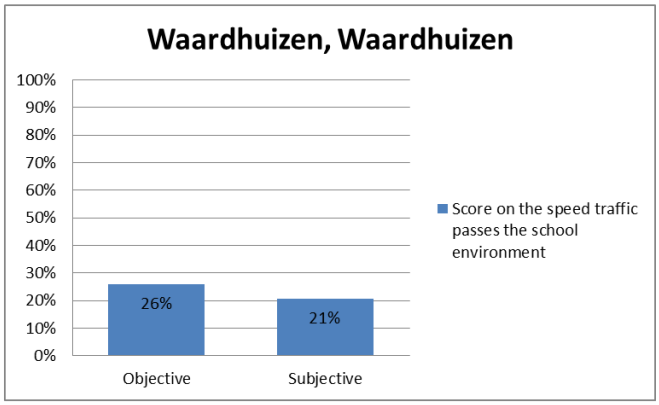

Oranje Nassau, Veen
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
40%
22%
Objective
Subjective
Score on the way people park their car in the school environment

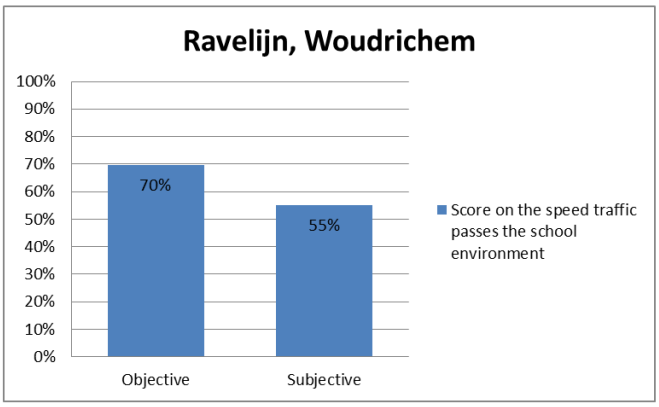

De Hoeksteen, Aalburg
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
7%
4%
Objective
Subjective
Score on the way people park their car in the school environment

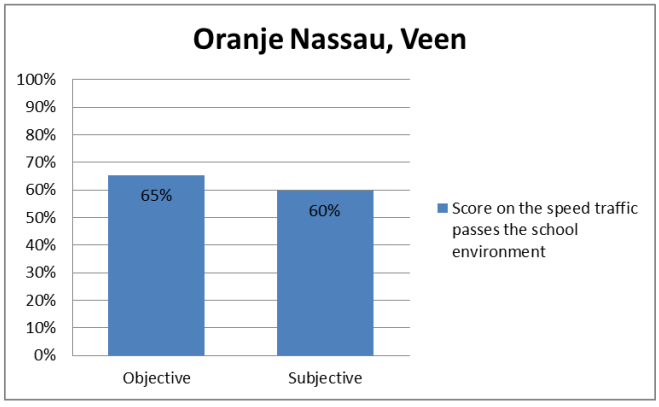

Regenboog Nieuwendijk
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
52%
25%
Objective
Subjective
Score on the speed traffic passes the school environment

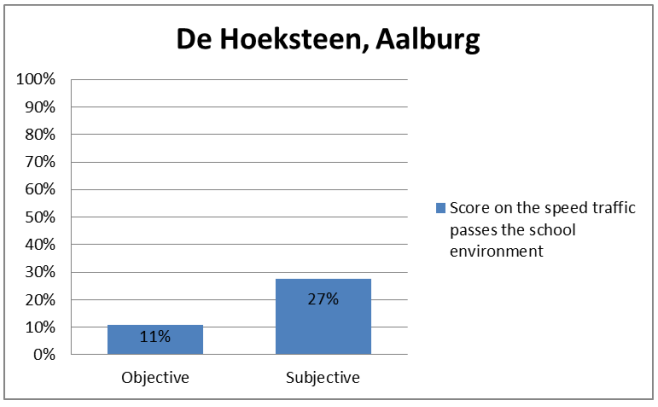

Burg. Sigmond
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
74%
17%
Objective
Subjective
Score on the speed traffic passes the school environment


Het Baken, Werkendam
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
70%
50%
Objective
Subjective
Score on the speed traffic passes the school environment


Waardhuizen, Waardhuizen
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
26%
21%
Objective
Subjective
Score on the speed traffic passes the school environment


Ravelijn, Woudrichem
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
70%
55%
Objective
Subjective
Score on the speed traffic passes the school environment


Oranje Nassau, Veen
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
65%
60%
Objective
Subjective
Score on the speed traffic passes the school environment


De Hoeksteen, Aalburg
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
11%
27%
Objective
Subjective
Score on the speed traffic passes the school environment

APPENDIX L; MEASUREMENTS SAMPLE SCHOOLS

Counted date:	5 March 2015
Day:	Thursday
School:	De Akker
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	249
Translated into cars per day (by 7,7%)	3234

Counted date:	5 March 2015
Day:	Thursday
School:	De Akker
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	4321
Real percentage:	5,8%

Counted day:	2 March 2015
Day:	Monday
School:	De Akker
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	135
Translated into cars per day (by 7,7%)	3506

Counted day:	2 March 2015
Day:	Monday
School:	De Akker
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	4050
Real percentage:	6,7%

Counted date:	29 April 2014
Day:	Tuesday
School:	Regenboog
Place:	Nieuwendijk
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	117
Translated into cars per day (by 7,7%)	1519

Counted date:	29 April 2014
Day:	Tuesday
School:	Regenboog
Place:	Nieuwendijk
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	1800
Real percentage:	6,5%

Counted date:	29 April 2014
Day:	Tuesday
School:	Regenboog
Place:	Nieuwendijk
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	64
Translated into cars per day (by 7,7%)	1662

Counted date:	29 April 2014
Day:	Tuesday
School:	Regenboog
Place:	Nieuwendijk
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	1800
Real percentage:	7,1%

Counted date:	19 March 2015
Day:	Thursday
School:	Burg. Sigmund
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	61
Translated into cars per day (by 7,7%)	792

Counted date:	19 March 2015
Day:	Thursday
School:	Burg. Sigmund
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	200
Real percentage:	30,5%

Counted date:	17 March 2015
Day:	Tuesday
School:	Burg. Sigmund
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	38
Translated into cars per day (by 7,7%)	987

Counted date:	17 March 2015
Day:	Tuesday
School:	Burg. Sigmund
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	171
Real percentage:	44,4%

Counted date:	18 March 2015
Day:	Wednesday
School:	Het Baken
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	71
Translated into cars per day (by 7,7%)	922

Counted date:	18 March 2015
Day:	Wednesday
School:	Het Baken
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	548
Real percentage:	13,0%

Counted date:	18 March 2015
Day:	Wednesday
School:	Het Baken
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	60
Translated into cars per day (by 7,7%)	1558

Counted date:	18 March 2015
Day:	Wednesday
School:	Het Baken
Place:	Werkendam
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	548
Real percentage:	21,9%

Counted date:	12 March 2015
Day:	Thursday
School:	Waardhuizen
Place:	Waardhuizen
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	38
Translated into cars per day (by 7,7%)	494

Counted date:	12 March 2015
Day:	Thursday
School:	Waardhuizen
Place:	Waardhuizen
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	565
Real percentage:	6,7%

Counted date:	12 March 2015
Day:	Thursday
School:	Waardhuizen
Place:	Waardhuizen
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	17
Translated into cars per day (by 7,7%)	442

Counted date:	12 March 2015
Day:	Thursday
School:	Waardhuizen
Place:	Waardhuizen
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	565
Real percentage:	6,0%

Counted date:	10 March 2015
Day:	Tuesday
School:	Ravelijn
Place:	Woudrichem
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	72
Translated into cars per day (by 7,7%)	935

Counted date:	10 March 2015
Day:	Tuesday
School:	Ravelijn
Place:	Woudrichem
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	305
Real percentage:	23,6%

Counted date:	10 March 2015
Day:	Tuesday
School:	Ravelijn
Place:	Woudrichem
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	55
Translated into cars per day (by 7,7%)	1429

Counted date:	10 March 2015
Day:	Tuesday
School:	Ravelijn
Place:	Woudrichem
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	305
Real percentage:	36,1%

Counted date:	2 April 2015
Day:	Thursday
School:	Oranje Nassau School
Place:	Woudrichem
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	36
Translated into cars per day (by 7,7%)	468

Counted date:	2 April 2015
Day:	Thursday
School:	Oranje Nassau School
Place:	Veen
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	228
Real percentage:	15,8%

Counted date:	2 April 2015
Day:	Thursday
School:	Oranje Nassau School
Place:	Veen
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	20
Translated into cars per day (by 7,7%)	519

Counted date:	2 April 2015
Day:	Thursday
School:	Oranje Nassau School
Place:	Veen
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	228
Real percentage:	17,5%

Counted date:	25 March 2015
Day:	Wednesday
School:	De Hoeksteen
Place:	Aalburg
Weather type: 1=dry 2=rain	1
Number of cars between 8 and 9pm:	21
Translated into cars per day (by 7,7%)	273

Counted date:	25 March 2015
Day:	Wednesday
School:	De Hoeksteen
Place:	Aalburg
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	320
Real percentage:	6,6%

Counted date:	25 March 2015
Day:	Wednesday
School:	De Hoeksteen
Place:	Aalburg
Weather type: 1=dry 2=rain	1
Number of cars between 8.15 and 8.45 pm:	13
Translated into cars per day (by 7,7%)	338

Counted date:	25 March 2015
Day:	Wednesday
School:	De Hoeksteen
Place:	Aalburg
Weather type: 1=dry 2=rain	1
Measured number of cars during the day:	320
Real percentage:	8,1%

Counted date:	5 March 2015
Day:	Thursday
School:	De Akker
Plaats:	Werkendam
Street:	Sportlaan
Number of students:	100
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	4
Total time wrongly parked cars:	0:01:18

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:24:13	8:24:32	0:00:19	parked at a spot reserved for taxi
Auto 2	8:24:47	8:25:12	0:00:25	parked at a spot reserved for taxi
Auto 3	8:30:22	8:30:36	0:00:14	parked at a spot reserved for taxi
Auto 4	8:14:10	8:14:30	0:00:20	parked at a spot reserved for taxi

Counted date:	12 March 2015
Day:	Thursday
School:	De Akker
Plaats:	Werkendam
Street:	Sportlaan
Number of students:	100
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	3
Total time wrongly parked cars:	0:02:02

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:10:00	8:10:37	0:00:37	parked at a spot reserved for taxi
Auto 2	8:13:34	8:14:08	0:00:34	parked at a spot reserved for taxi
Auto 3	8:23:33	8:24:24	0:00:51	parked at a spot reserved for taxi

Counted date:	3 March 2015
Day:	Tuesday
School:	De Akker
Plaats:	Werkendam
Street:	Parking Area
Number of students:	100
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	10
Total time wrongly parked cars:	0:12:41

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:16:05	8:16:53	0:00:48	Parked outside parking spots
Auto 2	8:20:26	8:21:00	0:00:34	Parked outside parking spots
Auto 3	8:21:14	8:21:41	0:00:27	Parked outside parking spots
Auto 4	8:21:41	8:23:42	0:02:01	Parked outside parking spots
Auto 5	8:22:18	8:28:05	0:05:47	Parked outside parking spots
Auto 6	8:22:46	8:23:28	0:00:42	Parked outside parking spots
Auto 7	8:23:15	8:23:59	0:00:44	Parked outside parking spots
Auto 8	8:24:05	8:24:16	0:00:11	Parked outside parking spots
Auto 9	8:25:40	8:26:52	0:01:12	Parked outside parking spots
Auto 10	8:25:59	8:26:14	0:00:15	Parked outside parking spots

Counted date:	10 March 2015
Day:	Tuesday
School:	De Akker
Plaats:	Werkendam
Street:	Parking Area
Number of students:	100
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	8
Total time wrongly parked cars:	0:07:17

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:18:57	8:19:49	0:00:52	Parked outside parking spots
Auto 2	8:21:31	8:21:59	0:00:28	Parked outside parking spots
Auto 3	8:21:44	8:23:15	0:01:31	Parked outside parking spots
Auto 4	8:22:43	8:23:15	0:00:32	Parked outside parking spots
Auto 5	8:24:08	8:25:24	0:01:16	Parked outside parking spots
Auto 6	8:25:19	8:25:59	0:00:40	Parked outside parking spots
Auto 7	8:25:38	8:27:02	0:01:24	Parked outside parking spots
Auto 8	8:29:51	8:30:25	0:00:34	Parked outside parking spots

Counted date:	7 April 2015
Day:	Tuesday
School:	Regenboog
Plaats:	Nieuwendijk
Street:	Hasselmanstraat
Number of students:	289
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	6
Total time wrongly parked cars:	0:02:47

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:18:28	8:18:54	0:00:26	In the middle of driving street
Auto 2	8:21:07	8:21:49	0:00:42	In the middle of driving street
Auto 3	8:25:06	8:25:17	0:00:11	In the middle of driving street
Auto 4	8:29:32	8:29:52	0:00:20	In the middle of driving street
Auto 5	8:30:15	8:30:51	0:00:36	In the middle of driving street
Auto 6	8:34:10	8:34:42	0:00:32	Within 5 metres of a corner

Counted date:	7 April 2015
Day:	Tuesday
School:	Regenboog
Plaats:	Nieuwendijk
Street:	Singel
Number of students:	289
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	1
Total time wrongly parked cars:	0:00:30

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:27:56	8:28:26	0:00:30	In a corner

Counted date:	7 April 2015
Day:	Tuesday
School:	Regenboog
Plaats:	Nieuwendijk
Street:	Vijverstraat
Number of students:	289
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	3
Total time wrongly parked cars:	0:01:26

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:16:39	8:17:29	0:00:50	In the middle of driving street
Auto 2	8:22:55	8:23:10	0:00:15	In the middle of driving street
Auto 3	8:24:41	8:25:02	0:00:21	In the middle of driving street

Counted date:	9 April 2015
Day:	Thursday
School:	Regenboog
Plaats:	Nieuwendijk
Street:	Hasselmanstraat
Number of students:	289
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	8
Total time wrongly parked cars:	0:08:03

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:18:54	8:19:27	0:00:33	In the middle of driving street
Auto 2	8:23:22	8:23:41	0:00:19	In the middle of driving street
Auto 3	8:25:37	8:26:18	0:00:41	In the middle of driving street
Auto 4	8:25:40	8:26:18	0:00:38	In the middle of driving street
Auto 5	8:27:44	8:28:44	0:01:00	In the middle of driving street
Auto 6	8:29:08	8:29:30	0:00:22	Within 5 metres of a corner
Auto 7	8:30:30	8:34:42	0:04:12	In the middle of driving streetm (van)
Auto 8	8:33:35	8:33:53	0:00:18	In the middle of driving street

Counted date:	9 April 2015
Day:	Thursday
School:	Regenboog
Plaats:	Nieuwendijk
Street:	Singel
Number of students:	289
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	0
Total time wrongly parked cars:	0:00:00

Wrongly parked cars Time start: Time end: Duration: Reason

Counted date:	9 April 2015
Day:	Thursday
School:	Regenboog
Plaats:	Nieuwendijk
Street:	Vijverstraat
Number of students:	289
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	1
Total time wrongly parked cars:	0:00:30

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:28:34	8:29:04	0:00:30	In the middle of driving street

Counted date:	5 March 2015
Day:	Thursday
School:	Burg. Sigmund
Plaats:	Werkendam
Street:	Sportlaan
Number of students:	148
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	11
Total time wrongly parked cars:	0:08:50

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:18:13	8:18:50	0:00:37	Parked behind already parked car
Auto 2	8:19:39	8:20:00	0:00:21	Parked behind already parked car
Auto 3	8:21:47	8:22:03	0:00:16	
Auto 4	8:22:45	8:24:00	0:01:15	
Auto 5	8:24:56	8:25:12	0:00:16	
Auto 6	8:24:57	8:25:12	0:00:15	Caused by the predescesor
Auto 7	8:25:50	8:26:21	0:00:31	
Auto 8	8:26:05	8:26:21	0:00:16	
Auto 9	8:28:11	8:30:09	0:01:58	
Auto 10	8:29:03	8:31:27	0:02:24	
Auto 11	8:30:04	8:30:45	0:00:41	

Counted date:	5 March 2015
Day:	Thursday
School:	Burg. Sigmund
Plaats:	Werkendam
Street:	Sportlaan
Number of students:	148
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	5
Total time wrongly parked cars:	0:05:29

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:24:23	8:25:34	0:01:11	
Auto 2	8:24:29	8:25:12	0:00:43	
Auto 3	8:25:47	8:28:38	0:02:51	
Auto 4	8:30:50	8:31:22	0:00:32	
Auto 5	8:36:08	8:36:20	0:00:12	

Counted date:	12 February 2015
Day:	Thursday
School:	Het Baken
Plaats:	Werkendam
Street:	Koelemaaier
Number of students:	292
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	6
Total time wrongly parked cars:	0:09:39

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:17:55	8:18:10	0:00:15	Next to side parking spots
Auto 2	8:23:04	8:23:15	0:00:11	Next to side parking spots
Auto 3	8:23:53	8:28:58	0:05:05	Within 5 metres of a corner
Auto 4	8:26:40	8:27:39	0:00:59	In front of a parking spot
Auto 5	8:33:42	8:34:06	0:00:24	Next to side parking spots
Van 1	8:33:25	8:36:10	0:02:45	Within 5 metres of a corner

Counted date:	11 March 2015
Day:	Wednesday
School:	Het Baken
Plaats:	Werkendam
Street:	Koelemaaier
Number of students:	292
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	2
Total time wrongly parked cars:	0:12:37

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	12:14:39	12:26:49	0:12:10	Next to side parking spots
Auto 2	12:21:48	12:22:15	0:00:27	Next to side parking spots

Counted date:	19 March 2015
Day:	Thursday
School:	Waardhuizen
Plaats:	Waardhuizen
Street:	Waardhuizen
Number of students:	41
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	0
Total time wrongly parked cars:	0:00:00

Wrongly parked cars Time start: Time end: Duration: Reason

Counted date:	2 April 2015
Day:	Thursday
School:	Waardhuizen
Plaats:	Waardhuizen
Street:	Waardhuizen
Number of students:	41
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	0
Total time wrongly parked cars:	0:00:00

Wrongly parked cars Time start: Time end: Duration: Reason

Counted date:	17 March 2015
Day:	Tuesday
School:	Ravelijn
Plaats:	Woudrichem
Street:	Ravelijn
Number of students:	134
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	2
Total time wrongly parked cars:	0:08:01

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:20:57	8:21:09	0:00:12	Blocking the driving stree
Auto 2	8:29:28	8:37:17	0:07:49	In front of an exit

Counted date:	31 March 2015
Day:	Tuesday
School:	Ravelijn
Plaats:	Woudrichem
Street:	Ravelijn
Number of students:	134
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	3
Total time wrongly parked cars:	0:01:46

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:18:54	8:19:08	0:00:14	Blocking the driving stree
Auto 2	8:20:54	8:21:15	0:00:21	Next to an already parked car
Auto 3	8:24:47	8:25:58	0:01:11	In front of an exit

Counted date:	26 March 2015
Day:	Thursday
School:	Oranje Nassau School
Plaats:	Veen
Street:	Hardenbergh
Number of students:	249
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	1
Total time wrongly parked cars:	0:00:51

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:21:24	8:22:15	0:00:51	Next to an already parked car

Counted date:	1 April 2015
Day:	Wednesday
School:	Oranje Nassau School
Plaats:	Veen
Street:	Hardenbergh
Number of students:	249
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	1
Total time wrongly parked cars:	0:05:41

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	12:18:25	12:24:06	0:05:41	Next to an already parked car

Counted date:	24 March 2015
Day:	Tuesday
School:	De Hoeksteen
Plaats:	Aalburg
Street:	Kerkverreweide
Number of students:	415
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	3
Total time wrongly parked cars:	0:00:59

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:23:52	8:24:18	0:00:26	Within 5 metres of a corner
Auto 2	8:23:58	8:24:18	0:00:20	Behing predecessor
Auto 3	8:26:09	8:26:22	0:00:13	Within 5 metres of a corner

Counted date:	24 March 2015
Day:	Tuesday
School:	De Hoeksteen
Plaats:	Aalburg
Street:	Vlasakker
Number of students:	415
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	14
Total time wrongly parked cars:	0:28:28

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:16:40	8:18:00	0:01:20	Within 5 metres of a corner
Auto 2	8:17:45	8:18:11	0:00:26	Within 5 metres of a corner
Auto 3	8:21:38	8:22:02	0:00:24	Next to an already parked car
Auto 4	8:22:57	8:23:14	0:00:17	Next to an already parked car
Auto 5	8:24:39	8:26:04	0:01:25	Next to an already parked car
Auto 6	8:25:19	8:26:04	0:00:45	Next to an already parked car
Auto 7	8:26:40	8:27:11	0:00:31	Next to an already parked car
Auto 8	8:27:00	8:27:40	0:00:40	Next to an already parked car
Auto 9	8:27:45	8:28:24	0:00:39	Next to an already parked car
Auto 10	8:32:40	8:34:15	0:01:35	Next to an already parked car
Auto 11	8:18:23	8:19:18	0:00:55	At a place where it is not allowed to park
Auto 12	8:18:28	8:25:45	0:07:17	At a place where it is not allowed to park
Auto 13	8:25:00	8:32:45	0:07:45	At a place where it is not allowed to park
Auto 14	8:25:20	8:29:49	0:04:29	At a place where it is not allowed to park

Counted date:	30 March 2015
Day:	Monday
School:	De Hoeksteen
Plaats:	Aalburg
Street:	Kerkverreweide
Number of students:	415
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	10
Total time wrongly parked cars:	0:09:16

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:14:29	8:14:58	0:00:29	In front of an exit
Auto 2	8:19:43	8:20:11	0:00:28	Next to already parked car
Auto 3	8:20:23	8:20:30	0:00:07	Within 5 metres of a corner
Auto 4	8:20:36	8:20:46	0:00:10	Within 5 metres of a corner
Auto 5	8:20:50	8:20:58	0:00:08	Next to already parked car
Auto 6	8:23:02	8:24:05	0:01:03	Next to already parked car
Auto 7	8:26:55	8:27:43	0:00:48	Next to already parked car
Auto 8	8:29:19	8:29:25	0:00:06	Within 5 metres of a corner
Auto 9	8:30:46	8:35:58	0:05:12	Within 5 metres of a corner
Auto 10	8:31:54	8:32:39	0:00:45	Next to already parked car

Counted date:	30 March 2015
Day:	Tuesday
School:	De Hoeksteen
Plaats:	Aalburg
Street:	Vlasakker
Number of students:	415
Weather type: 1=dry 2=rain	1
Total wrongly parked cars:	16
Total time wrongly parked cars:	0:23:55

Wrongly parked cars	Time start:	Time end:	Duration:	Reason
Auto 1	8:13:15	8:13:29	0:00:14	Next to an already parked car
Auto 2	8:16:25	8:16:47	0:00:22	Next to an already parked car
Auto 3	8:18:44	8:19:00	0:00:16	At a place where it is not allowed to park
Auto 4	8:19:28	8:19:40	0:00:12	Next to an already parked car
Auto 5	8:19:28	8:20:10	0:00:42	Next to an already parked car
Auto 6	8:19:33	8:20:00	0:00:27	Next to an already parked car
Auto 7	8:20:00	8:20:30	0:00:30	Next to an already parked car
Auto 8	8:20:25	8:20:48	0:00:23	Next to an already parked car
Auto 9	8:21:34	8:22:16	0:00:42	At a place where it is not allowed to park
Auto 10	8:23:24	8:24:22	0:00:58	Next to an already parked car
Auto 11	8:23:49	8:29:18	0:05:29	At a place where it is not allowed to park
Auto 12	8:27:15	8:34:46	0:07:31	At a place where it is not allowed to park
Auto 13	8:30:19	8:31:00	0:00:41	At a place where it is not allowed to park
Auto 14	8:30:35	8:31:00	0:00:25	At a place where it is not allowed to park
Auto 15	8:31:55	8:36:39	0:04:44	At a place where it is not allowed to park
Auto 16	8:34:20	8:34:39	0:00:19	Next to an already parked car

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 85			
Straatnaam : Koelemaaier			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 85	W 85	W 85
Max. snelheid	30	30	30
Telnaam	Koelemaaier '1503	Koelemaaier '1503	Koelemaaier '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [08:00]	16-03-15 [08:00]	16-03-15 [08:00]
Eind	19-03-15 [08:15]	19-03-15 [08:45]	19-03-15 [08:45]
KanaalInfo	Richter	Rijshaak	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	15	16	31
Dinsdag	13	13	26
Woensdag	13	20	33
Donderdag	14	11	25
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	14	15	29
Werkdag	14	15	29
Weekenddag	0	0	0
07-19 uur (werkdag)	14	15	29
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	13	14	27
Middel	0	1	2
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	13	14	27
Middel	0	1	2
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	1	2	3
15 - 20 km/h	1	2	3
20 - 25 km/h	5	4	8
25 - 30 km/h	5	4	8
30 - 35 km/h	1	2	2
35 - 40 km/h	1	2	2
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	18	15	16
gemiddelde snelheid	25	25	25
V85	30	33	32
V90	33	36	35
% te hard rijders	15,00 %	22,00 %	18,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 85			
Straatnaam : Koelemaaier			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 85	W 85	W 85
Max. snelheid	30	30	30
Telnaam	Koelemaaier '1503	Koelemaaier '1503	Koelemaaier '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [08:15]	16-03-15 [08:15]	16-03-15 [08:15]
Eind	19-03-15 [08:15]	19-03-15 [08:30]	19-03-15 [08:30]
KanaalInfo	Richter	Rijshaak	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	10	13	23
Dinsdag	11	8	19
Woensdag	9	17	26
Donderdag	11	9	20
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	10	12	22
Werkdag	10	12	22
Weekenddag	0	0	0
07-19 uur (werkdag)	10	12	22
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	10	10	20
Middel	0	1	2
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	10	10	20
Middel	0	1	2
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	1	2	2
15 - 20 km/h	1	2	2
20 - 25 km/h	4	3	6
25 - 30 km/h	4	3	6
30 - 35 km/h	0	1	2
35 - 40 km/h	0	1	2
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	18	14	16
gemiddelde snelheid	24	24	24
V85	29	33	31
V90	30	36	34
% te hard rijders	10,00 %	21,00 %	16,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 85			
Straatnaam : Koelemaaier			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 85	W 85	W 85
Max. snelheid	30	30	30
Telnaam	Koelemaaier '1503	Koelemaaier '1503	Koelemaaier '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [06:15]	16-03-15 [07:15]	16-03-15 [06:15]
Eind	19-03-15 [23:00]	19-03-15 [23:00]	19-03-15 [23:00]
KanaalInfo	Richter	Rijshaak	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	106	98	204
Dinsdag	88	64	152
Woensdag	77	87	164
Donderdag	85	75	160
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	89	81	170
Werkdag	89	81	170
Weekenddag	0	0	0
07-19 uur (werkdag)	78	68	147
19-23 uur (werkdag)	8	12	20
23-07 uur (werkdag)	2	1	3
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	77	69	146
Middel	11	11	22
Zwaar	2	1	2
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	68	57	125
Middel	10	10	20
Zwaar	2	1	2
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	8	11	19
Middel	0	1	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	1	1	2
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	6	6	12
15 - 20 km/h	6	6	12
20 - 25 km/h	30	23	53
25 - 30 km/h	30	23	53
30 - 35 km/h	8	11	20
35 - 40 km/h	8	11	20
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	20	20	20
gemiddelde snelheid	25	26	26
V85	32	35	34
V90	35	37	36
% te hard rijders	19,00 %	28,00 %	23,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 85			
Straatnaam : Koelemaaier			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 85	W 85	W 85
Max. snelheid	30	30	30
Telnaam	Koelemaaier '1503	Koelemaaier '1503	Koelemaaier '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [06:15]	16-03-15 [07:15]	16-03-15 [06:15]
Eind	22-03-15 [22:15]	22-03-15 [21:15]	22-03-15 [22:15]
KanaalInfo	Richter	Rijshaak	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	50	48	98
Maandag	106	98	204
Dinsdag	88	64	152
Woensdag	77	87	164
Donderdag	85	75	160
Vrijdag	81	75	156
Zaterdag	61	55	116
Gemiddelden			
Etmaal (weekdag)	78	72	150
Werkdag	87	80	167
Weekenddag	56	52	107
07-19 uur (werkdag)	77	67	144
19-23 uur (werkdag)	8	11	20
23-07 uur (werkdag)	2	1	4
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	76	69	145
Middel	10	10	21
Zwaar	1	1	2
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	66	57	123
Middel	9	9	19
Zwaar	1	1	2
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	8	11	19
Middel	0	1	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	1	1	2
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	6	5	12
15 - 20 km/h	6	5	12
20 - 25 km/h	29	22	52
25 - 30 km/h	29	22	52
30 - 35 km/h	8	12	20
35 - 40 km/h	8	12	20
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	20	20	20
gemiddelde snelheid	26	27	26
V85	33	35	34
V90	35	37	36
% te hard rijders	21,00 %	31,00 %	26,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 84			
Straatnaam : Richter			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 84	W 84	W 84
Max. snelheid	30	30	30
Telnaam	Richter 91 '1503	Richter 91 '1503	Richter 91 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [08:00]	16-03-15 [08:00]	16-03-15 [08:00]
Eind	19-03-15 [08:45]	19-03-15 [08:45]	19-03-15 [08:45]
KanaalInfo	Richter 86	Koelemaaier	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	44	45	89
Dinsdag	48	57	105
Woensdag	54	55	109
Donderdag	50	54	104
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	49	53	102
Werkdag	49	53	102
Weekenddag	0	0	0
07-19 uur (werkdag)	49	53	102
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	45	50	95
Middel	4	2	6
Zwaar	0	0	1
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	45	50	95
Middel	4	2	6
Zwaar	0	0	1
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	7	13	20
15 - 20 km/h	7	13	20
20 - 25 km/h	14	12	25
25 - 30 km/h	14	12	25
30 - 35 km/h	4	1	5
35 - 40 km/h	4	1	5
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	15	13	14
gemiddelde snelheid	24	20	22
V85	31	28	29
V90	34	29	31
% te hard rijders	17,00 %	5,00 %	11,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 84			
Straatnaam : Richter			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 84	W 84	W 84
Max. snelheid	30	30	30
Telnaam	Richter 91 '1503	Richter 91 '1503	Richter 91 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [08:15]	16-03-15 [08:15]	16-03-15 [08:15]
Eind	19-03-15 [08:30]	19-03-15 [08:15]	19-03-15 [08:30]
KanaalInfo	Richter 86	Koelemaaier	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	40	37	77
Dinsdag	44	41	85
Woensdag	48	45	93
Donderdag	44	34	78
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	44	39	83
Werkdag	44	39	83
Weekenddag	0	0	0
07-19 uur (werkdag)	44	39	83
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	40	37	77
Middel	4	2	6
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	40	37	77
Middel	4	2	6
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	6	11	17
15 - 20 km/h	6	11	17
20 - 25 km/h	12	8	20
25 - 30 km/h	12	8	20
30 - 35 km/h	3	1	4
35 - 40 km/h	3	1	4
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	15	13	14
gemiddelde snelheid	24	19	22
V85	31	27	29
V90	34	28	30
% te hard rijders	16,00 %	3,00 %	10,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 84			
Straatnaam : Richter			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 84	W 84	W 84
Max. snelheid	30	30	30
Telnaam	Richter 91 '1503	Richter 91 '1503	Richter 91 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [05:30]	16-03-15 [06:15]	16-03-15 [05:30]
Eind	19-03-15 [23:00]	19-03-15 [23:00]	19-03-15 [23:00]
KanaalInfo	Richter 86	Koelemaaier	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	257	248	505
Dinsdag	239	219	458
Woensdag	194	190	384
Donderdag	272	266	538
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	240	231	471
Werkdag	240	231	471
Weekenddag	0	0	0
07-19 uur (werkdag)	218	205	424
19-23 uur (werkdag)	19	23	42
23-07 uur (werkdag)	3	2	6
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	217	217	434
Middel	20	13	34
Zwaar	3	1	4
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	197	193	390
Middel	19	12	30
Zwaar	3	1	4
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	18	22	40
Middel	0	1	2
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	2	2	4
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	37	44	81
15 - 20 km/h	37	44	81
20 - 25 km/h	58	51	109
25 - 30 km/h	58	51	109
30 - 35 km/h	22	19	42
35 - 40 km/h	22	19	42
40 - 45 km/h	2	2	4
45 - 50 km/h	2	2	4
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	15	14	14
gemiddelde snelheid	24	23	23
V85	33	32	32
V90	36	35	35
% te hard rijders	20,00 %	18,00 %	19,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 84			
Straatnaam : Richter			BeginJaar : 2015
Locatie :			periode van : 10 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 84	W 84	W 84
Max. snelheid	30	30	30
Telnaam	Richter 91 '1503	Richter 91 '1503	Richter 91 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	16-03-15 [05:30]	16-03-15 [06:15]	16-03-15 [05:30]
Eind	22-03-15 [22:15]	22-03-15 [21:15]	22-03-15 [22:15]
KanaalInfo	Richter 86	Koelemaaier	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	99	98	197
Maandag	257	248	505
Dinsdag	239	219	458
Woensdag	194	190	384
Donderdag	272	266	538
Vrijdag	153	149	302
Zaterdag	71	67	138
Gemiddelden			
Etmaal (weekdag)	184	177	360
Werkdag	223	214	437
Weekenddag	85	82	168
07-19 uur (werkdag)	203	192	395
19-23 uur (werkdag)	17	20	37
23-07 uur (werkdag)	3	3	6
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	201	202	403
Middel	20	11	31
Zwaar	2	1	3
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	183	181	364
Middel	18	10	28
Zwaar	2	1	3
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	16	19	35
Middel	0	1	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	2	2	4
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	33	40	73
15 - 20 km/h	33	40	73
20 - 25 km/h	53	46	100
25 - 30 km/h	53	46	100
30 - 35 km/h	23	19	41
35 - 40 km/h	23	19	41
40 - 45 km/h	2	2	4
45 - 50 km/h	2	2	4
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	15	14	14
gemiddelde snelheid	24	23	24
V85	34	33	34
V90	36	36	36
% te hard rijders	24,00 %	21,00 %	23,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : N 37			
Straatnaam : Singel			BeginJaar : 2012
Locatie : N37			periode van : 23 apr 2014
Wijk : Geen			T/m : 6 mei 2014
Woonplaats : NIEUWENDIJK NB			
Telpunt	N 37	N 37	N 37
Max. snelheid	30	30	30
Telnaam	Singel 43 '1404 15min	Singel 43 '1404 15min	Singel 43 '1404 15min
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	28-04-14 [08:00]	28-04-14 [08:00]	28-04-14 [08:00]
Eind	1-05-14 [08:45]	1-05-14 [08:45]	1-05-14 [08:45]
KanaalInfo	Altenastraat	Hoekkampstraat	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	46	56	102
Dinsdag	56	61	117
Woensdag	43	57	100
Donderdag	43	58	101
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	47	58	105
Werkdag	47	58	105
Weekenddag	0	0	0
07-19 uur (werkdag)	47	58	105
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	43	53	96
Middel	3	4	8
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	1
07-19 uur (werkdagen) gemiddeld			
Licht	43	53	96
Middel	3	4	8
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	1
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0

Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	1	0	1
15 - 20 km/h	1	0	1
20 - 25 km/h	3	2	5
25 - 30 km/h	3	2	5
30 - 35 km/h	14	16	30
35 - 40 km/h	14	16	30
40 - 45 km/h	6	10	15
45 - 50 km/h	6	10	15
50 - 55 km/h	0	0	1
55 - 60 km/h	0	0	1
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	30	31	31
gemiddelde snelheid	36	37	37
V85	44	46	45
V90	46	47	47
% te hard rijders	85,00 %	91,00 %	88,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : N 37			
Straatnaam : Singel			BeginJaar : 2012
Locatie : N37			periode van : 23 apr 2014
Wijk : Geen			T/m : 6 mei 2014
Woonplaats : NIEUWENDIJK NB			
Telpunt	N 37	N 37	N 37
Max. snelheid	30	30	30
Telnaam	Singel 43 '1404 15min	Singel 43 '	Singel 43 '1404 15min
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	28-04-14 [08:15]	28-04-14 [08	28-04-14 [08:15]
Eind	1-05-14 [08:30]	1-05-14 [08::	1-05-14 [08:30]
KanaalInfo	Altenastraat	Hoekkampst	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	25	28	53
Dinsdag	30	34	64
Woensdag	20	29	49
Donderdag	26	30	56
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	25	30	56
Werkdag	25	30	56
Weekenddag	0	0	0
07-19 uur (werkdag)	25	30	56
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	24	28	52
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	24	28	52
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	0	0	0
15 - 20 km/h	0	0	0
20 - 25 km/h	1	1	2
25 - 30 km/h	1	1	2
30 - 35 km/h	8	9	16
35 - 40 km/h	8	9	16
40 - 45 km/h	3	5	9
45 - 50 km/h	3	5	9
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	30	31	31
gemiddelde snelheid	36	38	37
V85	45	46	46
V90	47	48	47
% te hard rijders	87,00 %	93,00 %	91,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : N 37			
Straatnaam : Singel			BeginJaar : 2012
Locatie : N37			periode van : 23 apr 201
Wijk : Geen			T/m : 6 mei 2014
Woonplaats : NIEUWENDIJK NB			
Telpunt	N 37	N 37	N 37
Max. snelheid	30	30	30
Telnaam	Singel 43 '1404 15min	Singel 43 '1404 15min	Singel 43 '1404 15min
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	28-04-14 [00:00]	28-04-14 [00:15]	28-04-14 [00:00]
Eind	1-05-14 [23:45]	1-05-14 [23:45]	1-05-14 [23:45]
KanaalInfo	Altenastraat	Hoekkampstraat	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	933	818	1751
Dinsdag	981	819	1800
Woensdag	952	781	1733
Donderdag	1022	850	1872
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	972	817	1789
Werkdag	972	817	1789
Weekenddag	0	0	0
07-19 uur (werkdag)	754	620	1374
19-23 uur (werkdag)	182	132	315
23-07 uur (werkdag)	36	65	100
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	842	710	1552
Middel	93	78	172
Zwaar	8	4	11
Tweewieler	0	0	0
Overig	30	24	54
07-19 uur (werkdagen) gemiddeld			
Licht	646	537	1183
Middel	80	64	144
Zwaar	6	3	9
Tweewieler	0	0	0
Overig	21	16	37
19-23 uur (werkdagen) gemiddeld			
Licht	167	122	289
Middel	8	5	12
Zwaar	0	0	1
Tweewieler	0	0	0
Overig	8	5	12
23-07 uur (werkdagen) gemiddeld			
Licht	28	52	80
Middel	5	10	15

Zwaar	1	0	1
Tweewieler	0	0	0
Overig	1	4	4
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	4	4	9
15 - 20 km/h	4	4	9
20 - 25 km/h	52	49	101
25 - 30 km/h	52	49	101
30 - 35 km/h	283	221	504
35 - 40 km/h	283	221	504
40 - 45 km/h	135	120	256
45 - 50 km/h	135	120	256
50 - 55 km/h	10	13	23
55 - 60 km/h	10	13	23
60 - 65 km/h	1	1	2
65 - 70 km/h	1	1	2
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	31	30	30
gemiddelde snelheid	37	37	37
V85	45	46	46
V90	47	48	47
% te hard rijders	88,00 %	87,00 %	88,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : N 37			
Straatnaam : Singel			BeginJaar : 2012
Locatie : N37			periode van : 23 apr 2014
Wijk : Geen			T/m : 6 mei 2014
Woonplaats : NIEUWENDIJK NB			
Telpunt	N 37	N 37	N 37
Max. snelheid	30	30	30
Telnaam	Singel 43 '1404 15min	Singel 43 '1404 15min	Singel 43 '1404 15min
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	26-04-14 [00:00]	26-04-14 [00:00]	26-04-14 [00:00]
Eind	2-05-14 [23:45]	2-05-14 [23:30]	2-05-14 [23:45]
KanaalInfo	Altenastraat	Hoekkampstraat	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	589	500	1089
Maandag	933	818	1751
Dinsdag	981	819	1800
Woensdag	952	781	1733
Donderdag	1022	850	1872
Vrijdag	1059	957	2016
Zaterdag	901	691	1592
Gemiddelden			
Etmaal (weekdag)	920	774	1693
Werkdag	989	845	1834
Weekenddag	745	596	1340
07-19 uur (werkdag)	768	647	1415
19-23 uur (werkdag)	184	133	316
23-07 uur (werkdag)	37	65	103
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	857	735	1592
Middel	95	81	175
Zwaar	8	4	12
Tweewieler	0	0	0
Overig	29	25	55
07-19 uur (werkdagen) gemiddeld			
Licht	660	561	1220
Middel	81	66	147
Zwaar	7	4	10
Tweewieler	0	0	0
Overig	21	17	38
19-23 uur (werkdagen) gemiddeld			
Licht	167	122	290
Middel	8	5	13
Zwaar	1	0	1
Tweewieler	0	0	0
Overig	7	5	12
23-07 uur (werkdagen) gemiddeld			
Licht	30	52	82
Middel	5	10	15
Zwaar	1	0	1

Tweewieler	0	0	0
Overig	1	4	5
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	1	0	1
10 - 15 km/h	4	4	8
15 - 20 km/h	4	4	8
20 - 25 km/h	50	49	100
25 - 30 km/h	50	49	100
30 - 35 km/h	289	229	518
35 - 40 km/h	289	229	518
40 - 45 km/h	139	125	265
45 - 50 km/h	139	125	265
50 - 55 km/h	11	13	24
55 - 60 km/h	11	13	24
60 - 65 km/h	1	1	2
65 - 70 km/h	1	1	2
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	30	30	30
gemiddelde snelheid	36	37	36
V85	45	46	45
V90	47	48	47
% te hard rijders	87,00 %	86,00 %	87,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 86			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie : W86			periode van : 9 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 86	W 86	W 86
Max. snelheid	30	30	30
Telnaam	Sportlaan 2 '1503	Sportlaan 2 '1503	Sportlaan 2 '1503
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	16-03-15 [08:30]	17-03-15 [08:30]	16-03-15 [08:30]
Eind	19-03-15 [08:45]	19-03-15 [08:45]	19-03-15 [08:45]
KanaalInfo	Wilgenlaan	Sportlaan	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	3	0	3
Dinsdag	48	1	49
Woensdag	48	1	49
Donderdag	59	2	61
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	40	1	40
Werkdag	40	1	40
Weekenddag	0	0	0
07-19 uur (werkdag)	40	1	40
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	38	1	38
Middel	2	0	2
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	38	1	38
Middel	2	0	2
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	16	0	17
15 - 20 km/h	16	0	17
20 - 25 km/h	3	0	3
25 - 30 km/h	3	0	3
30 - 35 km/h	0	0	0
35 - 40 km/h	0	0	0
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	12	12	12
gemiddelde snelheid	16	17	16
V85	20	24	20
V90	23	26	24
% te hard rijders	0,00 %	0,00 %	0,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 86			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie : W86			periode van : 9 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 86	W 86	W 86
Max. snelheid	30	30	30
Telnaam	Sportlaan 2 '1503	Sportlaan 2 '1503	Sportlaan 2 '1503
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	16-03-15 [08:30]	17-03-15 [08:30]	16-03-15 [08:30]
Eind	19-03-15 [08:30]	17-03-15 [08:30]	19-03-15 [08:30]
KanaalInfo	Wilgenlaan	Sportlaan	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	1	0	1
Dinsdag	37	1	38
Woensdag	28	0	28
Donderdag	34	0	34
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	25	1	25
Werkdag	25	1	25
Weekenddag	0	0	0
07-19 uur (werkdag)	25	1	25
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	24	1	24
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	24	1	24
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	10	0	10
15 - 20 km/h	10	0	10
20 - 25 km/h	2	0	2
25 - 30 km/h	2	0	2
30 - 35 km/h	0	0	0
35 - 40 km/h	0	0	0
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	12	12	12
gemiddelde snelheid	16	15	16
V85	21	18	21
V90	24	19	24
% te hard rijders	0,00 %	0,00 %	0,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 86			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie : W86			periode van : 9 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 86	W 86	W 86
Max. snelheid	30	30	30
Telnaam	Sportlaan 2 '1503	Sportlaan 2 '1503	Sportlaan 2 '1503
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	16-03-15 [08:30]	16-03-15 [12:00]	16-03-15 [08:30]
Eind	19-03-15 [22:45]	19-03-15 [20:45]	19-03-15 [22:45]
KanaalInfo	Wilgenlaan	Sportlaan	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	73	13	86
Dinsdag	157	14	171
Woensdag	130	16	146
Donderdag	178	22	200
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	134	16	151
Werkdag	134	16	151
Weekenddag	0	0	0
07-19 uur (werkdag)	128	13	142
19-23 uur (werkdag)	5	2	7
23-07 uur (werkdag)	1	1	2
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	128	15	142
Middel	5	1	6
Zwaar	1	0	1
Tweewieler	0	0	0
Overig	1	0	2
07-19 uur (werkdagen) gemiddeld			
Licht	122	12	134
Middel	4	0	5
Zwaar	1	0	1
Tweewieler	0	0	0
Overig	1	0	2
19-23 uur (werkdagen) gemiddeld			
Licht	5	2	6
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	1	1	2
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0

Snelheidsklassen Gemiddeld werkdag aantal			
0 - 10 km/h	4	2	6
10 - 15 km/h	52	6	57
15 - 20 km/h	52	6	57
20 - 25 km/h	14	2	15
25 - 30 km/h	14	2	15
30 - 35 km/h	0	0	0
35 - 40 km/h	0	0	0
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0

Snelheid werkdagen			
V15	12	10	11
gemiddelde snelheid	16	15	16
V85	23	22	23
V90	25	25	25
% te hard rijders	0,00 %	0,00 %	0,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 86			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie : W86			periode van : 9 mrt 2015
Wijk : Geen			T/m : 24 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 86	W 86	W 86
Max. snelheid	30	30	30
Telnaam	Sportlaan 2 '1503	Sportlaan 2 '1503	Sportlaan 2 '1503
Apparaat	Archer	Archer	Archer
IntSpec	CLS+SPD	CLS+SPD	CLS+SPD
Start	16-03-15 [08:30]	16-03-15 [12:00]	16-03-15 [08:30]
Eind	22-03-15 [16:30]	22-03-15 [18:15]	22-03-15 [18:15]
KanaalInfo	Wilgenlaan	Sportlaan	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	6	1	7
Maandag	73	13	86
Dinsdag	157	14	171
Woensdag	130	16	146
Donderdag	178	22	200
Vrijdag	120	13	133
Zaterdag	17	15	32
Gemiddelden			
Etmaal (weekdag)	97	13	111
Werkdag	132	16	147
Weekenddag	12	8	20
07-19 uur (werkdag)	126	12	139
19-23 uur (werkdag)	5	2	7
23-07 uur (werkdag)	1	1	2
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	125	14	139
Middel	5	1	6
Zwaar	1	0	1
Tweewieler	0	0	0
Overig	1	0	2
07-19 uur (werkdagen) gemiddeld			
Licht	120	12	131
Middel	5	0	5
Zwaar	1	0	1
Tweewieler	0	0	0
Overig	1	0	2
19-23 uur (werkdagen) gemiddeld			
Licht	4	2	6
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	1	1	1
Middel	0	1	1
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	4	2	6
10 - 15 km/h	50	5	55
15 - 20 km/h	50	5	55
20 - 25 km/h	14	2	16
25 - 30 km/h	14	2	16
30 - 35 km/h	0	0	0
35 - 40 km/h	0	0	0
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	12	10	11
gemiddelde snelheid	16	15	16
V85	23	21	23
V90	25	24	25
% te hard rijders	0,00 %	0,00 %	0,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 83			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie :			periode van : 24 feb 2015
Wijk : Geen			T/m : 9 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 83	W 83	W 83
Max. snelheid	30	30	30
Telnaam	Sportlaan 7 '1503	Sportlaan 7 '1503	Sportlaan 7 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	2-03-15 [08:00]	2-03-15 [08:00]	2-03-15 [08:00]
Eind	5-03-15 [08:45]	5-03-15 [08:45]	5-03-15 [08:45]
KanaalInfo	Wielstraat	Wierinxwal	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	134	112	246
Dinsdag	123	117	240
Woensdag	126	113	239
Donderdag	135	114	249
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	130	114	244
Werkdag	130	114	244
Weekenddag	0	0	0
07-19 uur (werkdag)	130	114	244
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	120	104	224
Middel	9	9	18
Zwaar	0	1	1
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	120	104	224
Middel	9	9	18
Zwaar	0	1	1
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	7	5	12
15 - 20 km/h	7	5	12
20 - 25 km/h	31	19	50
25 - 30 km/h	31	19	50
30 - 35 km/h	24	25	49
35 - 40 km/h	24	25	49
40 - 45 km/h	2	8	10
45 - 50 km/h	2	8	10
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	21	22	21
gemiddelde snelheid	28	32	30
V85	37	40	38
V90	38	43	40
% te hard rijders	42,00 %	57,00 %	49,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 83			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie :			periode van : 24 feb 2015
Wijk : Geen			T/m : 9 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 83	W 83	W 83
Max. snelheid	30	30	30
Telnaam	Sportlaan 7 '1503	Sportlaan 7 '1503	Sportlaan 7 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	2-03-15 [08:15]	2-03-15 [08:15]	2-03-15 [08:15]
Eind	5-03-15 [08:30]	5-03-15 [08:30]	5-03-15 [08:30]
KanaalInfo	Wielstraat	Wierinxwal	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	72	63	135
Dinsdag	70	65	135
Woensdag	78	46	124
Donderdag	70	59	129
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	72	58	131
Werkdag	72	58	131
Weekenddag	0	0	0
07-19 uur (werkdag)	72	58	131
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	67	54	120
Middel	5	4	9
Zwaar	0	0	1
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	67	54	120
Middel	5	4	9
Zwaar	0	0	1
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0
10 - 15 km/h	5	3	9
15 - 20 km/h	5	3	9
20 - 25 km/h	17	11	28
25 - 30 km/h	17	11	28
30 - 35 km/h	13	12	25
35 - 40 km/h	13	12	25
40 - 45 km/h	1	3	4
45 - 50 km/h	1	3	4
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	20	21	20
gemiddelde snelheid	28	30	29
V85	37	39	38
V90	38	40	39
% te hard rijders	39,00 %	51,00 %	44,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 83			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie :			periode van : 24 feb 2015
Wijk : Geen			T/m : 9 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 83	W 83	W 83
Max. snelheid	30	30	30
Telnaam	Sportlaan 7 '1503	Sportlaan 7 '1503	Sportlaan 7 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	2-03-15 [00:00]	2-03-15 [00:00]	2-03-15 [00:00]
Eind	5-03-15 [23:45]	5-03-15 [23:45]	5-03-15 [23:45]
KanaalInfo	Wielstraat	Wierinxwal	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	2131	1919	4050
Dinsdag	2232	1981	4213
Woensdag	2367	2134	4501
Donderdag	2282	2039	4321
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	2253	2018	4271
Werkdag	2253	2018	4271
Weekenddag	0	0	0
07-19 uur (werkdag)	1796	1519	3314
19-23 uur (werkdag)	374	322	696
23-07 uur (werkdag)	83	178	261
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	2080	1846	3925
Middel	159	163	322
Zwaar	14	10	24
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	1659	1397	3056
Middel	123	113	236
Zwaar	14	8	22
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	348	301	649
Middel	25	20	45
Zwaar	1	1	2
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	72	148	220
Middel	10	30	40
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	1	0	1
10 - 15 km/h	72	34	107
15 - 20 km/h	72	34	107
20 - 25 km/h	473	262	734
25 - 30 km/h	473	262	734
30 - 35 km/h	499	530	1029
35 - 40 km/h	499	530	1029
40 - 45 km/h	76	169	245
45 - 50 km/h	76	169	245
50 - 55 km/h	6	13	18
55 - 60 km/h	6	13	18
60 - 65 km/h	0	2	2
65 - 70 km/h	0	2	2
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	22	24	23
gemiddelde snelheid	30	34	32
V85	38	42	39
V90	39	45	42
% te hard rijders	52,00 %	71,00 %	61,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : W 83			
Straatnaam : Sportlaan			BeginJaar : 2015
Locatie :			periode van : 24 feb 2015
Wijk : Geen			T/m : 9 mrt 2015
Woonplaats : WERKENDAM			
Telpunt	W 83	W 83	W 83
Max. snelheid	30	30	30
Telnaam	Sportlaan 7 '1503	Sportlaan 7 '1503	Sportlaan 7 '1503
Apparaat	VT300	VT300	VT300
IntSpec	CLS*SPD	CLS*SPD	CLS*SPD
Start	2-03-15 [00:00]	2-03-15 [00:00]	2-03-15 [00:00]
Eind	8-03-15 [23:45]	8-03-15 [23:30]	8-03-15 [23:45]
KanaalInfo	Wielstraat	Wierinxwal	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	1068	955	2023
Maandag	2131	1919	4050
Dinsdag	2232	1981	4213
Woensdag	2367	2134	4501
Donderdag	2282	2039	4321
Vrijdag	2479	2209	4688
Zaterdag	2420	2212	4632
Gemiddelden			
Etmaal (weekdag)	2140	1921	4061
Werkdag	2298	2056	4355
Weekenddag	1744	1584	3328
07-19 uur (werkdag)	1822	1542	3364
19-23 uur (werkdag)	386	330	716
23-07 uur (werkdag)	90	184	274
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	2124	1885	4009
Middel	161	162	323
Zwaar	14	9	23
Tweewieler	0	0	0
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	1685	1422	3107
Middel	125	112	237
Zwaar	13	8	21
Tweewieler	0	0	0
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	361	310	671
Middel	24	19	44
Zwaar	1	1	2
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			

Licht	78	153	231
Middel	12	31	42
Zwaar	0	0	1
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	1	0	1
10 - 15 km/h	75	34	109
15 - 20 km/h	75	34	109
20 - 25 km/h	483	269	752
25 - 30 km/h	483	269	752
30 - 35 km/h	509	541	1050
35 - 40 km/h	509	541	1050
40 - 45 km/h	76	168	244
45 - 50 km/h	76	168	244
50 - 55 km/h	5	14	19
55 - 60 km/h	5	14	19
60 - 65 km/h	0	2	2
65 - 70 km/h	0	2	2
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	22	25	23
gemiddelde snelheid	31	34	32
V85	38	42	39
V90	39	45	42
% te hard rijders	52,00 %	71,00 %	61,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 02			
Straatnaam : Waardhuizen			BeginJaar : 2015
Locatie : vc160315_112			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WAARDHUIZEN			
Telpunt	WW 02	WW 02	WW 02
Max. snelheid	30	30	30
Telnaam	vc160315_112_1_aangepast	vc160315_112_1_aangepast	vc160315_112_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [08:00]	9-03-15 [08:15]	9-03-15 [08:00]
Eind	12-03-15 [08:45]	12-03-15 [08:45]	12-03-15 [08:45]
KanaalInfo	Oost	West	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	20	7	27
Dinsdag	19	9	28
Woensdag	26	8	34
Donderdag	28	10	38
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	23	8	32
Werkdag	23	8	32
Weekenddag	0	0	0
07-19 uur (werkdag)	23	8	32
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	12	8	20
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	10	0	10
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	12	8	20
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	10	0	10
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0

10 - 15 km/h	2	0	3
15 - 20 km/h	4	2	6
20 - 25 km/h	2	2	5
25 - 30 km/h	2	0	2
30 - 35 km/h	2	1	3
35 - 40 km/h	3	0	3
40 - 45 km/h	2	1	4
45 - 50 km/h	2	0	3
50 - 55 km/h	1	1	2
55 - 60 km/h	1	0	1
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	16	17	16
gemiddelde snelheid	31	24	29
V85	47	45	46
V90	49	49	49
% te hard rijders	52,00 %	41,00 %	49,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 02			
Straatnaam : Waardhuizen			BeginJaar : 2015
Locatie : vc160315_112			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WAARDHUIZEN			
Telpunt	WW 02	WW 02	WW 02
Max. snelheid	30	30	30
Telnaam	vc160315_112_1_aangepast	vc160315_112_1_aangepast	vc160315_112_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [08:15]	9-03-15 [08:15]	9-03-15 [08:15]
Eind	12-03-15 [08:30]	12-03-15 [08:30]	12-03-15 [08:30]
KanaalInfo	Oost	West	

Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	8	6	14
Dinsdag	11	6	17
Woensdag	9	6	15
Donderdag	11	6	17
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	10	6	16
Werkdag	10	6	16
Weekenddag	0	0	0
07-19 uur (werkdag)	10	6	16
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	5	6	11
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	4	0	4
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	5	6	11
Middel	1	0	1
Zwaar	0	0	0
Tweewieler	4	0	4
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	0	0	0

10 - 15 km/h	0	0	0
15 - 20 km/h	2	1	3
20 - 25 km/h	1	2	3
25 - 30 km/h	1	0	1
30 - 35 km/h	1	0	2
35 - 40 km/h	1	0	1
40 - 45 km/h	1	1	2
45 - 50 km/h	1	0	1
50 - 55 km/h	0	1	1
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	17	20	17
gemiddelde snelheid	32	25	30
V85	49	44	48
V90	53	51	52
% te hard rijders	54,00 %	42,00 %	49,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 02			
Straatnaam : Waardhuizen			BeginJaar : 2015
Locatie : vc160315_112			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WAARDHUIZEN			
Telpunt	WW 02	WW 02	WW 02
Max. snelheid	30	30	30
Telnaam	vc160315_112_1_aangepast	vc160315_112_1_aangepast	vc160315_112_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [00:00]	9-03-15 [02:00]	9-03-15 [00:00]
Eind	12-03-15 [23:45]	12-03-15 [23:45]	12-03-15 [23:45]
KanaalInfo	Oost	West	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	336	272	608
Dinsdag	302	263	565
Woensdag	342	351	693
Donderdag	310	283	593
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	322	292	615
Werkdag	322	292	615
Weekenddag	0	0	0
07-19 uur (werkdag)	245	214	459
19-23 uur (werkdag)	59	68	127
23-07 uur (werkdag)	18	11	29
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	191	233	424
Middel	21	18	39
Zwaar	1	0	1
Tweewieler	110	41	151
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	138	165	303
Middel	19	16	35
Zwaar	0	0	1
Tweewieler	88	32	120
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	41	58	100
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	16	7	24
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	12	9	21
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	6	1	8
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	24	19	42

10 - 15 km/h	42	28	70
15 - 20 km/h	56	48	104
20 - 25 km/h	32	40	71
25 - 30 km/h	30	20	50
30 - 35 km/h	37	29	66
35 - 40 km/h	41	36	77
40 - 45 km/h	30	38	68
45 - 50 km/h	20	21	42
50 - 55 km/h	6	8	14
55 - 60 km/h	3	4	6
60 - 65 km/h	1	1	2
65 - 70 km/h	0	0	1
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	13	14	14
gemiddelde snelheid	26	28	27
V85	42	44	43
V90	45	46	45
% te hard rijders	43,00 %	47,00 %	45,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 02			
Straatnaam : Waardhuizen			BeginJaar : 2015
Locatie : vc160315_112			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WAARDHUIZEN			
Telpunt	WW 02	WW 02	WW 02
Max. snelheid	30	30	30
Telnaam	vc160315_112_1_aangepast	vc160315_112_1_aangepast	vc160315_112_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [00:00]	9-03-15 [02:00]	9-03-15 [00:00]
Eind	15-03-15 [23:30]	15-03-15 [23:45]	15-03-15 [23:45]
KanaalInfo	Oost	West	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	219	289	508
Maandag	336	272	608
Dinsdag	302	263	565
Woensdag	342	351	693
Donderdag	310	283	593
Vrijdag	300	286	586
Zaterdag	227	229	456
Gemiddelden			
Etmaal (weekdag)	291	282	573
Werkdag	318	291	609
Weekenddag	223	259	482
07-19 uur (werkdag)	243	212	455
19-23 uur (werkdag)	57	66	123
23-07 uur (werkdag)	18	14	31
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	193	234	426
Middel	22	19	41
Zwaar	1	1	1
Tweewieler	103	38	141
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	141	165	306
Middel	20	16	36
Zwaar	0	1	1
Tweewieler	82	30	112
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	40	57	98
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	15	6	21
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	12	12	23
Middel	0	1	1
Zwaar	0	0	0
Tweewieler	6	1	7
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	22	17	39
10 - 15 km/h	42	27	69

15 - 20 km/h	52	47	99
20 - 25 km/h	30	38	68
25 - 30 km/h	31	20	51
30 - 35 km/h	36	28	65
35 - 40 km/h	43	37	80
40 - 45 km/h	33	39	72
45 - 50 km/h	20	23	42
50 - 55 km/h	5	9	14
55 - 60 km/h	4	4	8
60 - 65 km/h	1	1	2
65 - 70 km/h	0	1	1
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0
Snelheid werkdagen			
V15	13	16	15
gemiddelde snelheid	29	31	30
V85	43	45	44
V90	45	48	46
% te hard rijders	47,00 %	53,00 %	50,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 01			
Straatnaam : Ravelijn			BeginJaar : 2015
Locatie : vc160315_111			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WOUDRICHEM			
Telpunt	WW 01	WW 01	WW 01
Max. snelheid	30	30	30
Telnaam	vc160315_111_1_aangepast	vc160315_111_1_aangepast	vc160315_111_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [08:00]	9-03-15 [08:00]	9-03-15 [08:00]
Eind	12-03-15 [08:45]	12-03-15 [08:30]	12-03-15 [08:45]
KanaalInfo	Postweide	Kazemat	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	30	34	64
Dinsdag	35	37	72
Woensdag	30	30	60
Donderdag	28	26	54
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	31	32	62
Werkdag	31	32	62
Weekenddag	0	0	0
07-19 uur (werkdag)	31	32	62
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	21	24	45
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	7	6	14
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	21	24	45
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	7	6	14
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	6	5	11

10 - 15 km/h	9	6	14
15 - 20 km/h	4	10	14
20 - 25 km/h	5	8	14
25 - 30 km/h	5	3	8
30 - 35 km/h	1	1	2
35 - 40 km/h	0	0	0
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0

Snelheid werkdagen			
V15	8	10	9
gemiddelde snelheid	16	18	17
V85	27	24	26
V90	28	26	28
% te hard rijders	5,00 %	3,00 %	4,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 01			
Straatnaam : Ravelijn			BeginJaar : 2015
Locatie : vc160315_111			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WOUDRICHEM			
Telpunt	WW 01	WW 01	WW 01
Max. snelheid	30	30	30
Telnaam	vc160315_111_1_aangepast	vc160315_111_1_aangepast	vc160315_111_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [08:15]	9-03-15 [08:15]	9-03-15 [08:15]
Eind	12-03-15 [08:30]	12-03-15 [08:30]	12-03-15 [08:30]
KanaalInfo	Postweide	Kazemat	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	24	28	52
Dinsdag	23	32	55
Woensdag	24	25	49
Donderdag	22	23	45
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	23	27	50
Werkdag	23	27	50
Weekenddag	0	0	0
07-19 uur (werkdag)	23	27	50
19-23 uur (werkdag)	0	0	0
23-07 uur (werkdag)	0	0	0
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	16	21	37
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	5	4	9
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	16	21	37
Middel	2	2	4
Zwaar	0	0	0
Tweewieler	5	4	9
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	0	0	0
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	0	0	0
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	4	4	8

10 - 15 km/h	7	4	12
15 - 20 km/h	4	9	13
20 - 25 km/h	4	8	11
25 - 30 km/h	3	2	5
30 - 35 km/h	0	0	1
35 - 40 km/h	0	0	0
40 - 45 km/h	0	0	0
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0

Snelheid werkdagen			
V15	8	10	9
gemiddelde snelheid	15	18	17
V85	25	24	24
V90	27	25	26
% te hard rijders	2,00 %	2,00 %	2,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 01			
Straatnaam : Ravelijn			BeginJaar : 2015
Locatie : vc160315_111			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WOUDRICHEM			
Telpunt	WW 01	WW 01	WW 01
Max. snelheid	30	30	30
Telnaam	vc160315_111_1_aangepast	vc160315_111_1_aangepast	vc160315_111_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [02:45]	9-03-15 [06:30]	9-03-15 [02:45]
Eind	12-03-15 [22:00]	12-03-15 [21:30]	12-03-15 [22:00]
KanaalInfo	Postweide	Kazemat	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	0	0	0
Maandag	150	152	302
Dinsdag	170	135	305
Woensdag	155	132	287
Donderdag	173	151	324
Vrijdag	0	0	0
Zaterdag	0	0	0
Gemiddelden			
Etmaal (weekdag)	162	142	304
Werkdag	162	142	304
Weekenddag	0	0	0
07-19 uur (werkdag)	143	124	267
19-23 uur (werkdag)	13	16	29
23-07 uur (werkdag)	6	2	8
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	114	102	215
Middel	8	6	13
Zwaar	0	0	0
Tweewieler	41	36	76
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	98	87	185
Middel	8	6	13
Zwaar	0	0	0
Tweewieler	37	32	69
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	10	13	23
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	3	3	6
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	5	2	7
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	1	1	2
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	21	14	36

10 - 15 km/h	34	31	65
15 - 20 km/h	30	30	61
20 - 25 km/h	29	26	55
25 - 30 km/h	26	20	46
30 - 35 km/h	13	14	27
35 - 40 km/h	6	5	12
40 - 45 km/h	2	2	4
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0

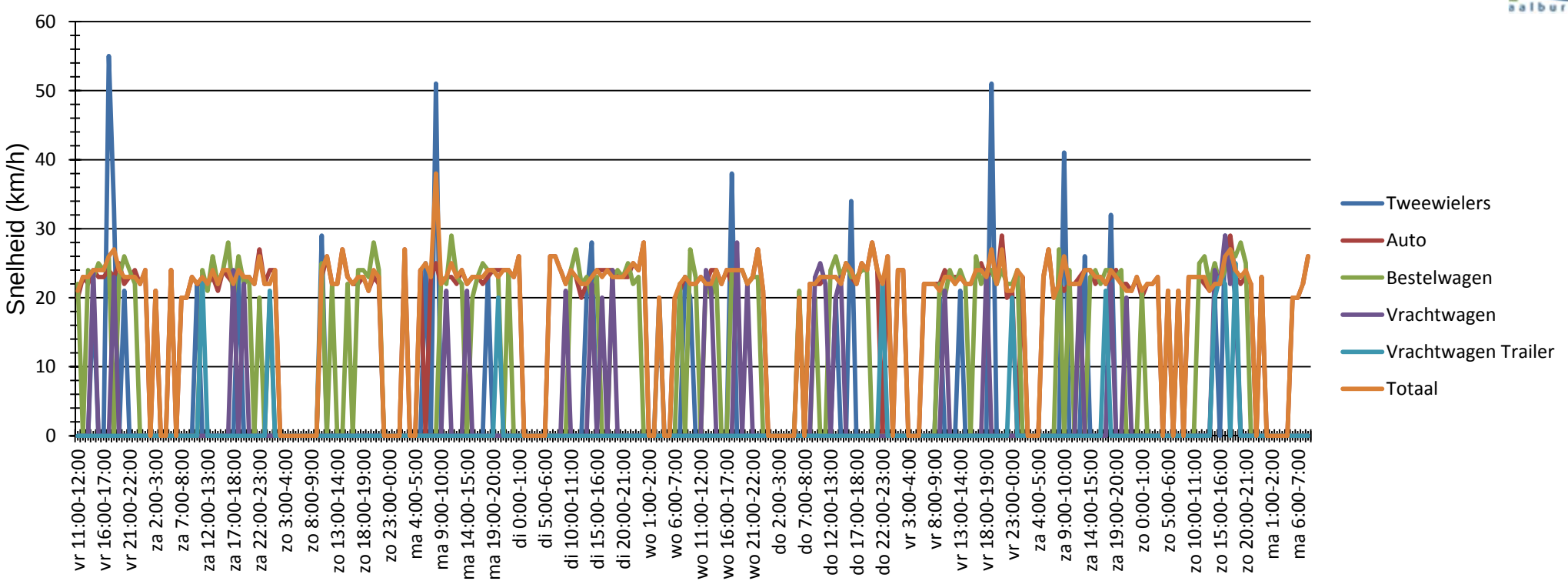
Snelheid werkdagen			
V15	10	11	11
gemiddelde snelheid	19	19	19
V85	30	30	30
V90	32	32	32
% te hard rijders	13,00 %	15,00 %	14,00 %

	Kanaal 1	Kanaal 2	Totaal
Telpunt : WW 01			
Straatnaam : Ravelijn			BeginJaar : 2015
Locatie : vc160315_111			periode van : 9 mrt 2015
Wijk : Geen			T/m : 15 mrt 2015
Woonplaats : WOUDRICHEM			
Telpunt	WW 01	WW 01	WW 01
Max. snelheid	30	30	30
Telnaam	vc160315_111_1_aangepast	vc160315_111_1_aangepast	vc160315_111_1_aangepast
Apparaat	TWR	TWR	TWR
IntSpec	SPD*LEN	SPD*LEN	SPD*LEN
Start	9-03-15 [02:45]	9-03-15 [06:30]	9-03-15 [02:45]
Eind	15-03-15 [20:45]	15-03-15 [22:30]	15-03-15 [22:30]
KanaalInfo	Postweide	Kazemat	
Kanaal	1	2	Totaal
Gemiddeld aantal voertuigen			
Zondag	70	59	129
Maandag	150	152	302
Dinsdag	170	135	305
Woensdag	155	132	287
Donderdag	173	151	324
Vrijdag	155	149	304
Zaterdag	83	77	160
Gemiddelden			
Etmaal (weekdag)	137	122	259
Werkdag	161	144	304
Weekenddag	76	68	144
07-19 uur (werkdag)	141	124	265
19-23 uur (werkdag)	13	17	31
23-07 uur (werkdag)	6	3	8
Voertuigcategorie			
Werkdagen gemiddelden			
Licht	113	101	214
Middel	8	7	15
Zwaar	0	0	0
Tweewieler	39	36	75
Overig	0	0	0
07-19 uur (werkdagen) gemiddeld			
Licht	99	87	186
Middel	7	5	12
Zwaar	0	0	0
Tweewieler	36	32	67
Overig	0	0	0
19-23 uur (werkdagen) gemiddeld			
Licht	9	12	21
Middel	1	2	3
Zwaar	0	0	0
Tweewieler	3	4	6
Overig	0	0	0
23-07 uur (werkdagen) gemiddeld			
Licht	5	2	7
Middel	0	0	0
Zwaar	0	0	0
Tweewieler	1	1	2
Overig	0	0	0
Snelheidsklassen			
Gemiddeld werkdag aantal			
0 - 10 km/h	21	15	36

10 - 15 km/h	33	31	64
15 - 20 km/h	30	29	59
20 - 25 km/h	29	26	55
25 - 30 km/h	28	22	49
30 - 35 km/h	13	14	27
35 - 40 km/h	6	5	11
40 - 45 km/h	2	1	3
45 - 50 km/h	0	0	0
50 - 55 km/h	0	0	0
55 - 60 km/h	0	0	0
60 - 65 km/h	0	0	0
65 - 70 km/h	0	0	0
70 - 75 km/h	0	0	0
75 - 80 km/h	0	0	0
80 - 85 km/h	0	0	0
85 - 90 km/h	0	0	0
90 - 95 km/h	0	0	0
95 - 100 km/h	0	0	0
100 - 105 km/h	0	0	0
105 - 110 km/h	0	0	0
110 - 115 km/h	0	0	0
115 - 120 km/h	0	0	0
120 - 125 km/h	0	0	0
125 - 130 km/h	0	0	0
130 - 140 km/h	0	0	0
140 - 150 km/h	0	0	0
150 - 160 km/h	0	0	0
160 - 170 km/h	0	0	0
170 - 200 km/h	0	0	0
200 - 240 km/h	0	0	0

Snelheid werkdagen			
V15	11	11	11
gemiddelde snelheid	21	21	21
V85	31	31	31
V90	33	33	33
% te hard rijders	16,00 %	17,00 %	16,00 %

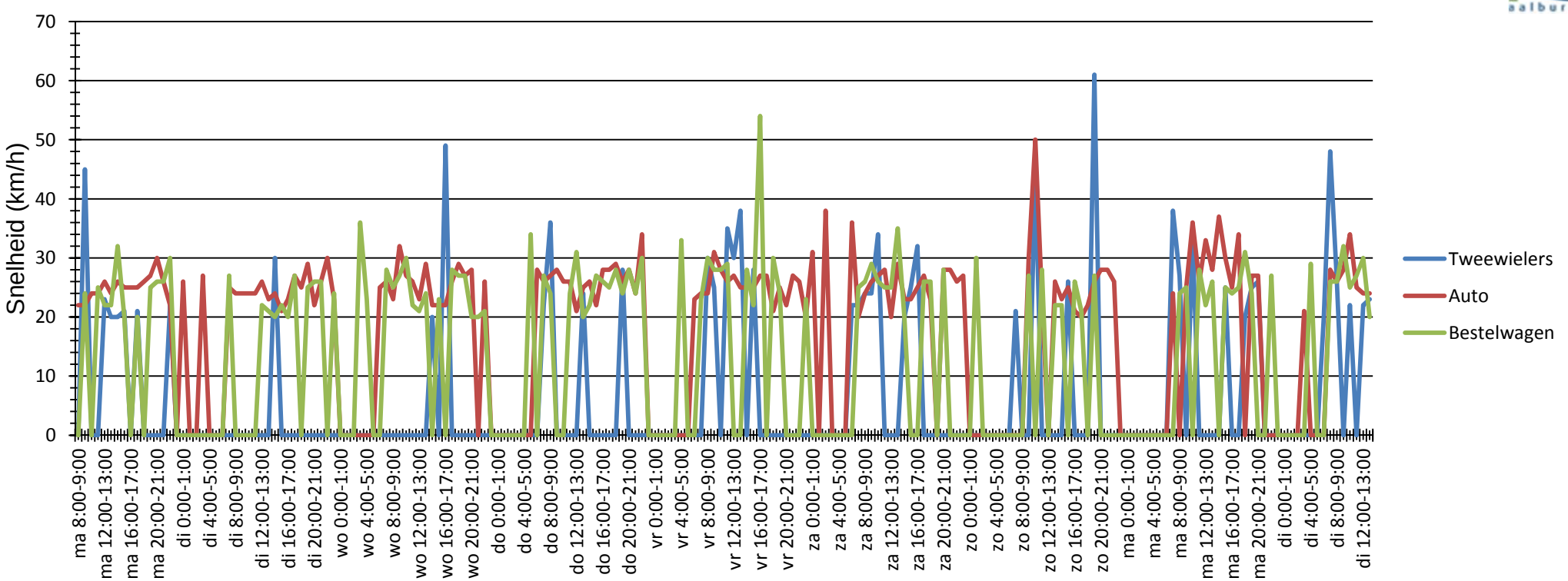
Verloop Gemiddelde snelheid



Evaluatie periode	vrijdag 20 maart 2015,11:00 - maandag 30 maart 2015,9:00					
Snelheidslimiet	30	km/h		**Aantal**	**Vd[km/h]**	**Vmax[km/h]**	**V85 [km/h]**
Snelheidsovertredingen	2,59	%	**Tweewielers**	38	28	55	38
Gemiddelde Afstand	156,86	s	**Auto**	951	23	45	26
Druk verkeer	2,90	%	**Bestelwagen**	242	24	32	26
GDV	132		**Vrachtwagen**	52	23	36	25
GJV	48180		**Vrachtwagen Trailer**	28	23	35	27
Aandeel zwaar vervoer	6,10	%					
Rijrichting	Beide richtingen		**Totaal**	1311	23	55	26

Bewerker:	Bart Geerts
Commentaar:	telling
Locatie:	Vroonheide
Richting aankomende voertuigen:	
Richting wegrijdende voertuigen:	

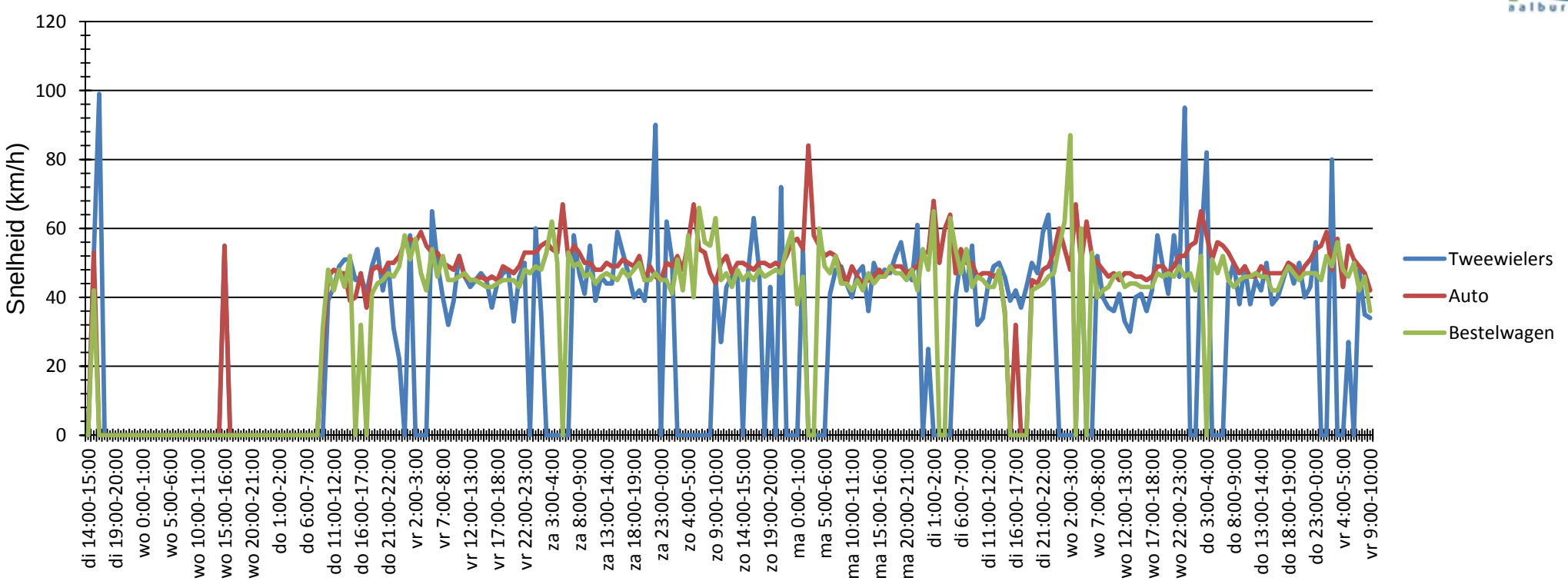
Verloop Gemiddelde snelheid



Evaluatie periode	maandag 30 maart 2015,8:00 - dinsdag 7 april 2015,14:00					
Snelheidslimiet	30	km/h		**Aantal**	**Vd[km/h]**	**Vmax[km/h]**	**V85 [km/h]**
Snelheidsovertredingen	13,85	%	**Tweewielers**	250	26	61	30
Gemiddelde Afstand	104,97	s	**Auto**	922	26	50	30
Druk verkeer	6,80	%	**Bestelwagen**	276	26	54	31
GDV	193		**Vrachtwagen**	89	25	43	29
GJV	70445		**Vrachtwagen Trailer**	52	25	36	29
Aandeel zwaar vervoer	8,87	%					
Rijrichting	Beide richtingen		**Totaal**	1589	26	61	30

Bewerker:	Bart Geerts
Commentaar:	telling
Locatie:	Hardenbergh
Richting aankomende voertuigen:	
Richting wegrijdende voertuigen:	

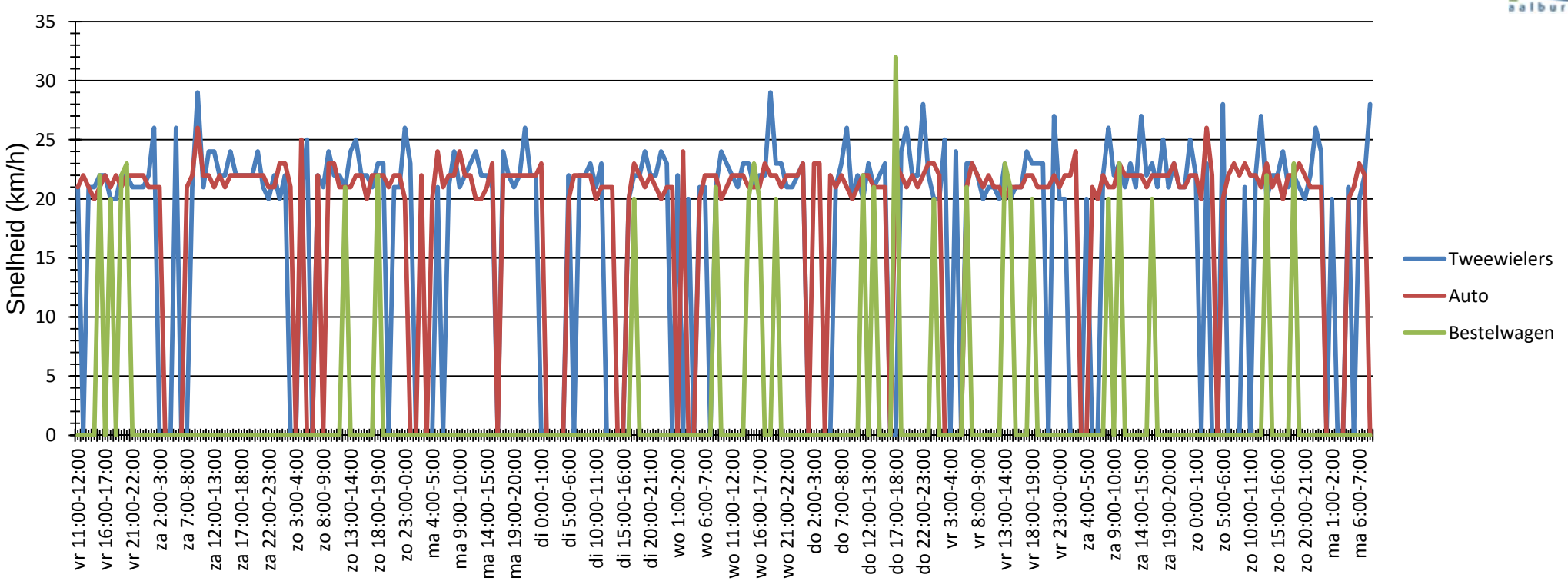
Verloop Gemiddelde snelheid



Evaluatie periode	dinsdag 10 maart 2015,14:00 - vrijdag 20 maart 2015,10:00					
Snelheidslimiet	50	km/h		**Aantal**	**Vd[km/h]**	**Vmax[km/h]**	**V85 [km/h]**
Snelheidsovertredingen	33,30	%	**Tweewielers**	1089	45	111	57
Gemiddelde Afstand	39,16	s	**Auto**	14564	48	113	58
Druk verkeer	16,09	%	**Bestelwagen**	4561	46	87	55
GDV	2571		**Vrachtwagen**	3981	43	86	54
GJV	938415		**Vrachtwagen Trailer**	1089	41	85	49
Aandeel zwaar vervoer	20,05	%					
Rijrichting	Beide richtingen		**Totaal**	25284	47	113	57

Bewerker:	Bart Geerts
Commentaar:	telling
Locatie:	Perzikstraat
Richting aankomende voertuigen:	
Richting wegrijdende voertuigen:	

Verloop Gemiddelde snelheid



Evaluatie periode	vrijdag 20 maart 2015,11:00 - maandag 30 maart 2015,9:00					
Snelheidslimiet	30	km/h		**Aantal**	**Vd[km/h]**	**Vmax[km/h]**	**V85 [km/h]**
Snelheidsovertredingen	1,29	%	**Tweewielers**	585	22	52	24
Gemiddelde Afstand	114,88	s	**Auto**	1848	22	44	23
Druk verkeer	2,81	%	**Bestelwagen**	32	22	32	23
GDV	251		**Vrachtwagen**	15	27	41	34
GJV	91615		**Vrachtwagen Trailer**	9	30	43	37
Aandeel zwaar vervoer	0,96	%					
Rijrichting	Beide richtingen		**Totaal**	2489	22	52	24

Bewerker:	Bart Geerts
Commentaar:	telling
Locatie:	Kerkverreweide
Richting aankomende voertuigen:	
Richting wegrijdende voertuigen:	