

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|---|-----------------------------|---|------------------------------|----------------------------|-----------------------------|--------------------------|-------------------------|-------------------------|-----------------------|---------------------------|---------------------------|-----------|----------------------------|-----------------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: greenfield Logistikpark | | Stadt: Voerde | | t _u = 82 [s] | | | | | | | | 82 [s] | | |
| Knotenpunkt: Frankfurter Straße / Emmelsumer Straße | | Zeitabschnitt: Prognose Nachmittagsspitze | | t _f = 20 [s] | | | | | | | | 20 [s] | | |
| Bearbeiter: | | | | f _m = 1,100 [-] | | | | | | | | 1,100 [-] | | |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q _{LV} [Kfz/h] | q _{Lkw+Bus} [Kfz/h] | q _{Lkwk} [Kfz/h] | q _{SV} [Kfz/h] | q _{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t _B [s] | q _S [Kfz/h] | C | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | K4 | |
| RA | | | | 162 | 11 | 43,8 | 3,25 | 15,00 | 0,0 | | | | Emmelsumer Str. | |
| LA | | | | 9,1 | | | | | 0,0 | | | | Ost | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q _{Kfz} [Kfz/h] | a | f _{SV} | f _B | f _R | f _S | f ₁ | f ₂ | t _B [s] | q _S [Kfz/h] | C | Bez./Bem. | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| RA | 162 | 0,9364 | 1,394 | 1,000 | 1,075 | 1,000 | 1,000 | 1,000 | 2,510 | 1435 | 367 | | | |
| LA | 11 | 0,0636 | 1,082 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,093 | 1720 | 440 | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q _{Kfz} [Kfz/h] | f _{SV} | q _{S,M} [Kfz/h] | C _M | x | f _A | N _{GE} [Kfz] | t _{w,G} [s] | t _{w,R} [s] | t _w [s] | QSV | N _{MS} [Kfz] | S [%] | N _{MS,S} [Kfz] | L _S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 173 | 1,374 | 1450 | 371 | 0,4659 | 0,2561 | 0,521 | 25,8 | 5,0 | 30,8 | B | 3,849 | 95 | 7,167 | 59 |
| GF Geradeausfahrer | | RA Rechtsabbieger | | LA Linksabbieger | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|---------|---------|-------|---------|-------|-------|----------|----------|------|------------|----------|-------|-------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Frankfurter Straße / Emmelsumer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| $t_U =$ | | 82 | [s] | $f_m =$ | | 1,100 | [-] | $T =$ | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q_{Kfz} | q_S | t_F | t_F | C | x | f_A | N_{GE} | N_{MS} | S | $N_{MS,S}$ | f_{SV} | L_S | t_w | QSV | Bemerkungen |
| | | [Kfz/h] | [Kfz/h] | [s] | [s] | [Kfz/h] | [-] | [-] | [Kfz] | [Kfz] | [%] | [Kfz] | [-] | [m] | [s] | [-] | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 500 | 1822 | 50 | 50 | 1133 | 0,441 | 0,622 | 0,470 | 6,404 | 95 | 10,664 | | ##### | 9,6 | A | Mischfahrstreifen |
| 2 | K1L | 2 | 2000 | 50 | 50 | 1244 | 0,002 | 0,622 | 0,001 | 0,018 | 95 | 0,246 | 1,000 | 1 | 5,9 | A | LA mit Durchsetzen |
| 3 | K2 | 433 | 1955 | 50 | 50 | 1216 | 0,356 | 0,622 | 0,322 | 5,111 | 95 | 8,934 | | ##### | 8,5 | A | Mischfahrstreifen |
| 4 | K2L | 17 | 1651 | 50 | 50 | 1027 | 0,017 | 0,622 | 0,009 | 0,157 | 95 | 0,828 | 1,212 | 6 | 6,0 | A | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3 | 498 | 1756 | 20 | 20 | 450 | 1,107 | 0,256 | 31,008 | 42,352 | 95 | 53,358 | | ##### | 278,7 | F | Mischfahrstreifen |
| 9 | K3L | 256 | 1850 | 20 | 20 | 474 | 0,540 | 0,256 | 0,723 | 5,758 | 95 | 9,816 | 1,081 | 64 | 31,8 | B | LA mit Durchsetzen |
| 10 | K4 | 173 | 1450 | 20 | 20 | 371 | 0,466 | 0,256 | 0,520 | 3,849 | 95 | 7,167 | | ##### | 30,8 | B | Mischfahrstreifen |
| 11 | K4L | 25 | 1866 | 20 | 20 | 478 | 0,052 | 0,256 | 0,031 | 0,460 | 95 | 1,607 | 1,072 | 10 | 23,2 | B | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
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| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
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| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
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| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
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| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 1904 | | | | 6392 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | 0,602 | | | | | | | | | 84,8 | | |
| Maximum: | | | | | | 1,107 | | | | | | | | ##### | 278,7 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | |
|------------------------------------|----------------|--|---------|-------|--------|--------|-------|
| Bedingt verträgliche Linksabbieger | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | |
| Stadt: | | Voerde | | | | | |
| Knotenpunkt: | | Frankfurter Straße / Emmelsumer Straße | | | | | |
| Zeitraum: | | Prognose Nachmittagsspitze | | | | | |
| Bearbeiter: | | | | | | | |
| f_{in} | 1,100 | Nr. | 1 | 2 | 3 | 4 | 5 |
| Bezeichnung | | K1L | K2L | K3L | K4L | | |
| Bemerkungen | | | | | | | |
| Berechnungsfall | | | | | | | |
| t_U | [s] | {1} | 82 | 82 | 82 | 82 | |
| LA | q_{LV} | [Kfz/h] | {2} | | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | | |
| | q_{SV} | [Kfz/h] | {5} | | | | |
| | q_{Kfz} | [Kfz/h] | {6} | 2 | 17 | 256 | 25 |
| | SV | [%] | {7} | 0,0 | 23,5 | 9,0 | 8,0 |
| | b | [m] | {8} | 3,25 | 3,25 | 3,25 | 3,25 |
| | R | [m] | {9} | 12,00 | 12,00 | 12,00 | 12,00 |
| | s | [%] | {10} | 0,0 | 0,0 | 0,0 | 0,0 |
| | L_{LA} | [m] | {11} | 20,0 | 20,0 | 20,0 | 20,0 |
| | t_F | [s] | {12} | 50 | 50 | 20 | 20 |
| | Diagonalgrün? | | {13} | nein | nein | nein | nein |
| | GV | q_G | [Kfz/h] | {14} | 385 | 395 | 162 |
| q_{RA} | | [Kfz/h] | {15} | 48 | 105 | 11 | 40 |
| x_{gegen} | | [-] | {16} | | | | |
| n_{gegen} | | [-] | {17} | 1 | 1 | 1 | 1 |
| $t_{F,gegen}$ | | [s] | {18} | 50 | 50 | 20 | 20 |
| t_z | | [s] | {19} | 7,0 | 7,0 | 7,0 | 7,0 |
| LA | q_{Kfz} | [Kfz/h] | {20} | 2 | 17 | 256 | 25 |
| | f_{SV} | [-] | {21} | 1,000 | 1,212 | 1,081 | 1,072 |
| | f_b | [-] | {22} | 1,000 | 1,000 | 1,000 | 1,000 |
| | f_R | [-] | {23} | 1,120 | 1,120 | 1,120 | 1,120 |
| | f_s | [-] | {24} | 1,000 | 1,000 | 1,000 | 1,000 |
| | f_1 | [-] | {25} | 1,120 | 1,120 | 1,120 | 1,120 |
| | f_2 | [-] | {26} | 1,000 | 1,000 | 1,000 | 1,000 |
| | t_B | [s] | {27} | 2,016 | 2,442 | 2,179 | 2,161 |
| | q_S | [Kfz/h] | {28} | 1786 | 1474 | 1652 | 1666 |
| | $t_{F,durch}$ | [s] | {29} | 50 | 50 | 20 | 20 |
| | $t_{F,GF}$ | [s] | {30} | 0 | 0 | 0 | 0 |
| GV | q_{gegen} | [Kfz/h] | {31} | 433 | 500 | 173 | 498 |
| | $m_{s,gegen}$ | [Kfz] | {32} | 3,849 | 4,444 | 2,979 | 8,577 |
| | $t_{ab,gegen}$ | [s] | {33} | 9,88 | 11,99 | 6,45 | 23,09 |
| | | | {33*} | | | | |
| LA | C_D | [Kfz/h] | {34} | 1111 | 917 | 423 | 427 |
| | t_v | [s] | {35} | 40,12 | 38,01 | 13,55 | 0,00 |
| | | | {35*} | | | | |
| | G_D | [Kfz/h] | {36} | 766 | 707 | 1045 | 709 |
| | | | {36*} | | | | |
| | C_D | [Kfz/h] | {37} | 350 | 306 | 161 | 0 |
| | | | {37*} | | | | |
| | C_{PW} | [Kfz/h] | {38} | 146 | 121 | 135 | 137 |
| | C_{GF} | [Kfz/h] | {39} | 0 | 0 | 0 | 0 |
| | C_{LA} | [Kfz/h] | {40} | 497 | 427 | 297 | 137 |
| | x | [-] | {41} | 0,004 | 0,040 | 0,863 | 0,183 |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 798 | 687 | 1159 | 533 |
| | f_A | [-] | {43} | 0,278 | 0,290 | 0,180 | 0,082 |
| | N_{GE} | [Kfz] | {44} | 0,002 | 0,023 | 4,557 | 0,126 |
| | $t_{W,G}$ | [s] | {45} | 21,4 | 20,9 | 32,7 | 35,1 |
| | $t_{W,R}$ | [s] | {46} | 0,0 | 0,2 | 55,3 | 3,3 |
| | t_W | [s] | {47} | 21,4 | 21,1 | 87,9 | 38,4 |
| | QSV | [-] | {48} | B | B | E | C |
| | N_{MS} | [Kfz] | {49} | 0,035 | 0,301 | 10,218 | 0,656 |
| | S | [%] | {50} | 95 | 95 | 95 | 95 |
| $N_{MS,S}$ | [Kfz] | {51} | 0,352 | 1,229 | 15,624 | 2,027 | |
| L_S | [m] | {52} | 2 | 9 | 101 | 13 | |

| Zusammenstellung der Signalprogramme | | | | | | | |
|---|---|--|---------------|---|---|----------------------------|--------------------------------|
| Signalprogramm Nr. | Verkehr vorgegebene Signalprogramme bei automatischer Auswahl | Art d. Steuerung F=Festzeit V=Verkehrsabh.St. E=Einzelst. K=Koordinierte St. | Parametersatz | | EINSATZZEITEN | | |
| | | | | Logik | werktags montags bis freitags | samstags | sonntags und an den Feiertagen |
| 1 6 | sporadisch | V - E F - E | 1 1 | 01 01* | 23.00-05.00 | 23.00-07.00 | 23.00-05.00 |
| 2 7 | gering | V - E F - E | 2 2 | 01 01* | 21.00-23.00 | 06.00-07.00 20.00-23.00 | 07.00-09.00 20.00-23.00 |
| 3 8 | mittlerer Tagesverkehr | V - E F - E | 3 3 | 01 01* | 05.00-06.30 08.30-15.00 19.00-21.00 | 07.00-20.00 | 09.00-20.00 |
| 4 9 | Morgenspitze | V - E F - E | 4 4 | 01 01* | 06.30-08.30 | | |
| 5 10 | Abendspitze | V - E F - E | 5 5 | 01 01* | 15.00-19.00 | | |
| Abschaltung | | Blinken in der Nebenrichtung | | | -- | -- | -- |
| <p>* Die Signalprogramme 6 bis 10 werden durch einen Schalter „Festzeit“ oder den Programmparameter „F“ in der Logik nach den "Festen Freigabezeiten" TgX erzeugt.</p> <p><u>Erforderliche Schalter am Steuergerät:</u> Auswahl des Parametersatzes (=Verkehrssituation); Verkehrsabhängig/Festzeit; Automatisch/Manuell; Alles-Rot/Hauptrichtung-Dauergrün(HDG); Bediengerät/Hauptrichtung-Dauergrün(DHDG); Handsteuerung Ein/Aus(HS); Weiterschaltung aus den Haltepunkten bei Handsteuerung(HST)</p> <p><u>Festzeit-Steuerung:</u> Schalter „Festzeit“ oder Programmparameter „F“ gesetzt: immer nur 6-10</p> <p><u>Automatisch</u> (Schalter): Nach den „Einsatzzeiten“ werden bei „Festzeit-Steuerung“ die Programme 6-10 und ansonsten die Signalprogramme 1-5 geschaltet.</p> <p><u>Manuell</u> (Schalter): Abhängig von der Schalterstellung für die Auswahl des Parametersatzes wird bei „Festzeitsteuerung“ eines der Programme von 6-10 und ansonsten eines der Programme von 1-5 aktiviert.</p> <p><u>Abschaltung:</u> Bei Schalterstellung „Automatisch“ erfolgt die Abschaltung der LSA nach den „Einsatzzeiten“.</p> | | | | | | | |
| SIGNALPROGRAMM Planung Variante Nr. 0 (wsp271fe.doc) -Ba/Str- Bestand 02.06.2005 gez. Geiger | | | | Kreis WESEL FB 70 Baubetrieb LSA 271 Frankfurter Straße (L396) / Emmelsumer Straße (K12) in Wesel | | | |
| Ing.-Büro GEIGER & HAMBURGIER GmbH Essen | | | | 25.11.2002 gez. Geiger | | Seite 6/48 | |

Abbildung 2: Signaltechnische Unterlagen zum Knotenpunkt Willy-Brandt-Straße / Frankfurter Straße
 - Zusammenstellung der Signalprogramme-
 (Quelle: Landesbetrieb Straßenbau NRW, Regionalniederlassung Niederrhein)

| Programmparameter | | | | | | |
|--|--------------------------------|--------------------------------|---|--------------------------------|--------------------------------|---|
| Parametername | PARAMETERSATZ | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Umlaufzeiten (s) Tu | u | u | u | u | u | |
| Feste Freigabezeiten (s) Tg1 Tg2 Tg3 Tga Tgc | 20 25 12 10 13 | 30 35 15 10 14 | 45 50 20 11 15 | 60 65 30 12 15 | 60 65 30 12 15 | |
| Min. Freigabezeiten (s) Tgm1 Tgm2 Tgm3 | 20 20 12 | 20 20 12 | 20 20 12 | 20 20 12 | 20 20 12 | |
| Versatzzeiten (s) Tvkfh Tvkfn Tva3 Tvc2 | 7 7 1 1 | 7 7 1 1 | 7 7 1 1 | 7 7 1 1 | 7 7 1 1 | |
| Rot- und Wartezeiten (s) Tr Twf Twm Tnbh | 20 60 20 30 | 20 60 25 30 | 20 70 30 30 | 20 80 35 30 | 20 80 35 30 | |
| Schwellwerte (s) für autom. FU-Freigabe bzw. Verlängerung Tgt1 Tgs1 | 50 100 | 50 100 | 9 100 | 9 100 | 9 100 | |
| SIGNALPROGRAMM Planung | | | Stadt W E S E L | | | |
| Variante Nr. 2 (wspb8396.doc) -PI- | | | LSA 205 Dinslakener Landstr. - Hindenburgstr. (B8) / Frankfurter Straße (L396) | | | |
| Bestand: 04.10.2010 <i>W. Geiger</i> | | | 04.05.2009 <i>W. Geiger</i> Seite 8 | | | |
| <small>Vervielfältigung, auch auszugsweise, sowie Verwertung und Mitteilung des Inhaltes sind unzulässig, sofern nicht ausdrücklich zugestanden.</small> | | | | | | |

Abbildung 3: Signaltechnische Unterlagen zum Knotenpunkt Willy-Brandt-Straße / Frankfurter Straße
 - Programmparameter (Feste Freigabezeiten) -
 (Quelle: Landesbetrieb Straßenbau NRW, Regionalniederlassung Niederrhein)

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|-----|------------------|-----|------|------|----------------|----------------|--------------------|----------------------|--------------------|--|--|
| Ausgangsdaten | | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | | |
| Zeitraum: | | Vorbelastung Morgenspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | | |
| T _Z = | | 14 | [s] | f _{in} = | | | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | |
| Ifd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen | | |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} | | |
| Phase 1 | | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 725 | 4,6 | 725 | | | 0,0 | | | | 60 | | | |
| 2 | K1R | | | | | 524 | 9,4 | 524 | | | 0,0 | | | | 60 | | | |
| 3 | K2L | | | | | 844 | 5,5 | 844 | | | 0,0 | | | | 65 | | | |
| 4 | K2L | | | | | | 0,0 | | | | 0,0 | | | | 65 | LA mit Durchsetzen | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | | |
| 8 | K3L | | | | | 530 | 8,3 | 530 | | | 0,0 | | | | 30 | | | |
| 9 | K3R | | | | | 1 | 0,0 | 1 | | | 0,0 | | | | 30 | | | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
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| Phase 3 | | | | | | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | | | | | | |
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| Phase 5 | | | | | | | | | | | | | | | | | | |
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| Phase 6 | | | | | | | | | | | | | | | | | | |
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| 30 | | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Morgenspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,7277 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _b [-] | f _R [-] | f _e [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 725 | 1,041 | | | 1,000 | 1,000 | 1,000 | 1,875 | 1920 | 0,3775 | | |
| 2 | K1R | 524 | 1,085 | | | 1,000 | 1,000 | 1,000 | 1,952 | 1844 | 0,2842 | | |
| 3 | K2L | 844 | 1,050 | | | 1,000 | 1,000 | 1,000 | 1,889 | 1906 | 0,4429 | X | |
| 4 | K2L | | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | | | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3L | 530 | 1,075 | | | 1,000 | 1,000 | 1,000 | 1,934 | 1861 | 0,2848 | X | |
| 9 | K3R | 1 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0005 | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
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| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
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| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | | |
|--|------|--|---------|------------|-------|---------|-------|-------|----------|----------|------|------------|----------|-------|-------|------|--------------------|------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | | |
| Zeilabschnitt: | | Vorbelastung Morgenspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | | |
| $t_U =$ | | 109 | [s] | $f_{in} =$ | | 1,100 | [-] | $T =$ | | 1,0 | [h] | | | | | | | |
| ifd. Nr. | Bez. | q_{kfz} | q_S | t_F | t_F | C | x | f_A | N_{OE} | N_{MS} | S | $N_{MS,S}$ | f_{SV} | L_S | t_W | QSV | Bemerkungen | |
| | | [Kfz/h] | [Kfz/h] | [s] | [s] | [Kfz/h] | [-] | [-] | [Kfz] | [Kfz] | [%] | [Kfz] | [-] | [m] | [s] | [-] | | |
| | | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} | {17} |
| Phase 1 | | | | | | | | | | | | | | | | | | |
| 1 | K1 | 725 | 1920 | 65 | 60 | 1075 | 0,675 | 0,560 | 1,413 | 16,942 | 95 | 23,904 | 1,041 | 149 | 21,7 | B | | |
| 2 | K1R | 524 | 1844 | 65 | 60 | 1032 | 0,508 | 0,560 | 0,630 | 10,390 | 95 | 15,841 | 1,085 | 103 | 17,0 | A | | |
| 3 | K2L | 844 | 1906 | 65 | 65 | 1154 | 0,731 | 0,606 | 1,998 | 20,093 | 95 | 27,674 | 1,050 | 174 | 21,5 | B | | |
| 4 | K2L | | 2000 | | 65 | | | | | | 95 | | 1,000 | | | | LA mit Durchsetzen | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | | |
| 8 | K3L | 530 | 1861 | 30 | 30 | 529 | 1,001 | 0,284 | 19,842 | 35,889 | 95 | 46,021 | 1,075 | 297 | 174,0 | F | | |
| 9 | K3R | 1 | 2000 | 30 | 30 | 569 | 0,002 | 0,284 | 0,001 | 0,023 | 95 | 0,277 | 1,000 | 2 | 27,9 | B | | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
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| 13 | | | | | | | | | | | | | | | | | | |
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| Phase 3 | | | | | | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | | | | | | |
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| 24 | | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | | |
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| 26 | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | | |
| Summe: | | 2624 | | | | 4359 | | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,725 | | | | | | | | 51,4 | | | |
| Maximum: | | | | | | | 1,001 | | | | | | | 297 | 174,0 | F | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|------------------------------------|----------------|--|---------|-------|-----|---|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | |
| Stadt: | | Voerde | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | |
| Zeitabschnitt: | | Vorbeltastung Morgenspitze | | | | |
| Bearbeiter: | | | | | | |
| $f_{in} =$ | | 1,100 | Nr. | 1 | 2 | 3 |
| Bezeichnung | | K2L | | | | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | | | | |
| t_U | | [s] | {1} | 109 | | |
| LA | q_{LV} | [Kfz/h] | {2} | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | |
| | q_{SV} | [Kfz/h] | {5} | | | |
| | q_{Kfz} | [Kfz/h] | {6} | 0 | | |
| | SV | [%] | {7} | 0,0 | | |
| | b | [m] | {8} | 3,25 | | |
| | R | [m] | {9} | 12,00 | | |
| | s | [%] | {10} | 0,0 | | |
| | L_{LA} | [m] | {11} | 15,0 | | |
| | t_F | [s] | {12} | 65 | | |
| | Diagonalgrün? | | {13} | nein | | |
| | GV | q_G | [Kfz/h] | {14} | 725 | |
| q_{RA} | | [Kfz/h] | {15} | 0 | | |
| x_{gegen} | | [-] | {16} | | | |
| n_{gegen} | | [-] | {17} | 1 | | |
| $t_{F,gegen}$ | | [s] | {18} | 60 | | |
| t_z | | [s] | {19} | 7,0 | | |
| LA | q_{Kfz} | [Kfz/h] | {20} | 0 | | |
| | f_{SV} | [-] | {21} | 1,000 | | |
| | f_b | [-] | {22} | 1,000 | | |
| | f_R | [-] | {23} | 1,120 | | |
| | f_s | [-] | {24} | 1,000 | | |
| | f_1 | [-] | {25} | 1,120 | | |
| | f_2 | [-] | {26} | 1,000 | | |
| | t_B | [s] | {27} | 2,016 | | |
| | q_S | [Kfz/h] | {28} | 1786 | | |
| | $t_{F,durch}$ | [s] | {29} | 65 | | |
| | $t_{F,GF}$ | [s] | {30} | 0 | | |
| GV | q_{gegen} | [Kfz/h] | {31} | 725 | | |
| | $m_{s,gegen}$ | [Kfz] | {32} | 8,861 | | |
| | $t_{ab,gegen}$ | [s] | {33} | 28,74 | | |
| | | | {33*} | | | |
| LA | C_0 | [Kfz/h] | {34} | 1081 | | |
| | t_v | [s] | {35} | 36,26 | | |
| | | | {35*} | | | |
| | G_D | [Kfz/h] | {36} | 540 | | |
| | | | {36*} | | | |
| | C_D | [Kfz/h] | {37} | 168 | | |
| | | | {37*} | | | |
| | C_{PW} | [Kfz/h] | {38} | 83 | | |
| | C_{GF} | [Kfz/h] | {39} | 0 | | |
| | C_{LA} | [Kfz/h] | {40} | 251 | | |
| | x | [-] | {41} | 0,000 | | |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 414 | | |
| | f_A | [-] | {43} | 0,140 | | |
| | N_{GE} | [Kfz] | {44} | 0,000 | | |
| | $t_{W,G}$ | [s] | {45} | 40,3 | | |
| | $t_{W,R}$ | [s] | {46} | 0,0 | | |
| | t_W | [s] | {47} | 40,3 | | |
| | QSV | [-] | {48} | C | | |
| | N_{MS} | [Kfz] | {49} | 0,000 | | |
| | S | [%] | {50} | 95 | | |
| | $N_{MS,S}$ | [Kfz] | {51} | 0,000 | | |
| | | [m] | {52} | 0 | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|-----|------------------|------|------|------|----------------|----------------|--------------------|----------------------|--------------------|--|--|
| Ausgangsdaten | | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | | |
| Zeitraum: | | Prognose Morgenspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | | |
| T _Z = | | 14 | [s] | f _{in} = | | | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | |
| lfd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen | | |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | | | |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} | | | |
| Phase 1 | | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 725 | 4,6 | 725 | | | 0,0 | | | | 60 | | | |
| 2 | K1R | | | | | 579 | 9,7 | 579 | | | 0,0 | | | | 60 | | | |
| 3 | K2L | | | | | 844 | 5,5 | 844 | | | 0,0 | | | | 65 | | | |
| 4 | K2L | | | | | | 0,0 | | | | 0,0 | | | | 65 | LA mit Durchsetzen | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | | |
| 8 | K3L | | | | | 541 | 8,9 | 541 | | | 0,0 | | | | 30 | | | |
| 9 | K3R | | | | | 1 | 0,0 | 1 | | | 0,0 | | | | 30 | | | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | |
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| 18 | | | | | | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | | | | | | |
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| 21 | | | | | | | | | | | | | | | | | | |
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| 23 | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | |
| Zeitraum: | | Prognose Morgenspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,7351 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| {1} | | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 725 | 1,041 | | | 1,000 | 1,000 | 1,000 | 1,875 | 1920 | 0,3775 | | |
| 2 | K1R | 579 | 1,087 | | | 1,000 | 1,000 | 1,000 | 1,957 | 1839 | 0,3148 | | |
| 3 | K2L | 844 | 1,050 | | | 1,000 | 1,000 | 1,000 | 1,889 | 1906 | 0,4429 | X | |
| 4 | K2L | | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | | | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3L | 541 | 1,080 | | | 1,000 | 1,000 | 1,000 | 1,944 | 1852 | 0,2922 | X | |
| 9 | K3R | 1 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0005 | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | |
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| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
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| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|----------------|-------------------|----------------|---------|-------|----------------|-----------------|-----------------|------|-------------------|-----------------|----------------|----------------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| t _U = | | 109 | [s] | f _{in} = | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | | |
| ifd. Nr. | Bez. | q _{Kfz} | q _S | t _F | t _F | C | x | f _A | N _{GE} | N _{MS} | S | N _{MS,S} | f _{SV} | L _S | t _W | QSV | Bemerkungen |
| | | [Kfz/h] | [Kfz/h] | [s] | [s] | [Kfz/h] | [-] | [-] | [Kfz] | [Kfz] | [%] | [Kfz] | [-] | [m] | [s] | [-] | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} | {17} |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 725 | 1920 | 65 | 60 | 1075 | 0,675 | 0,560 | 1,413 | 16,942 | 95 | 23,904 | 1,041 | 149 | 21,7 | B | |
| 2 | K1R | 579 | 1839 | 65 | 60 | 1029 | 0,562 | 0,560 | 0,806 | 12,072 | 95 | 17,948 | 1,087 | 117 | 18,2 | A | |
| 3 | K2L | 844 | 1906 | 65 | 65 | 1154 | 0,731 | 0,606 | 1,998 | 20,093 | 95 | 27,674 | 1,050 | 174 | 21,5 | B | |
| 4 | K2L | | 2000 | | 65 | | | | | | 95 | | 1,000 | | | | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3L | 541 | 1852 | 30 | 30 | 527 | 1,027 | 0,284 | 23,526 | 39,906 | 95 | 50,590 | 1,080 | 328 | 199,8 | F | |
| 9 | K3R | 1 | 2000 | 30 | 30 | 569 | 0,002 | 0,284 | 0,001 | 0,023 | 95 | 0,277 | 1,000 | 2 | 27,9 | B | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2690 | | | | 4353 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,739 | | | | | | | | 56,7 | | |
| Maximum: | | | | | | | 1,027 | | | | | | | 328 | 199,8 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|------------------------------------|----------------|--|---------|-------|-----|---|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | |
| Stadt: | | Voerde | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | |
| Zeitraum: | | Prognose Morgenspitze | | | | |
| Bearbeiter: | | | | | | |
| f_{in} | 1,100 | Nr. | 1 | 2 | 3 | 4 |
| Bezeichnung | | K2L | | | | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | | | | |
| t_U | [s] | {1} | 109 | | | |
| LA | q_{LV} | [Kfz/h] | {2} | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | |
| | q_{SV} | [Kfz/h] | {5} | | | |
| | q_{Kfz} | [Kfz/h] | {6} | 0 | | |
| | SV | [%] | {7} | 0,0 | | |
| | b | [m] | {8} | 3,25 | | |
| | R | [m] | {9} | 12,00 | | |
| | s | [%] | {10} | 0,0 | | |
| | L_{LA} | [m] | {11} | 15,0 | | |
| | t_F | [s] | {12} | 65 | | |
| | Diagonalgrün? | | {13} | nein | | |
| | GV | q_G | [Kfz/h] | {14} | 725 | |
| q_{RA} | | [Kfz/h] | {15} | 0 | | |
| x_{gegen} | | [-] | {16} | | | |
| n_{gegen} | | [-] | {17} | 1 | | |
| $t_{F,gegen}$ | | [s] | {18} | 60 | | |
| t_z | | [s] | {19} | 7,0 | | |
| LA | q_{Kfz} | [Kfz/h] | {20} | 0 | | |
| | f_{SV} | [-] | {21} | 1,000 | | |
| | f_b | [-] | {22} | 1,000 | | |
| | f_R | [-] | {23} | 1,120 | | |
| | f_s | [-] | {24} | 1,000 | | |
| | f_1 | [-] | {25} | 1,120 | | |
| | f_2 | [-] | {26} | 1,000 | | |
| | t_B | [s] | {27} | 2,016 | | |
| | q_S | [Kfz/h] | {28} | 1786 | | |
| | $t_{F,durch}$ | [s] | {29} | 65 | | |
| | $t_{F,GF}$ | [s] | {30} | 0 | | |
| GV | q_{gegen} | [Kfz/h] | {31} | 725 | | |
| | $m_{s,gegen}$ | [Kfz] | {32} | 8,861 | | |
| | $t_{ab,gegen}$ | [s] | {33} | 28,74 | | |
| | | | {33*} | | | |
| LA | C_0 | [Kfz/h] | {34} | 1081 | | |
| | t_v | [s] | {35} | 36,26 | | |
| | | | {35*} | | | |
| | G_D | [Kfz/h] | {36} | 540 | | |
| | | | {36*} | | | |
| | C_D | [Kfz/h] | {37} | 168 | | |
| | | | {37*} | | | |
| | C_{PW} | [Kfz/h] | {38} | 83 | | |
| | C_{GF} | [Kfz/h] | {39} | 0 | | |
| | C_{LA} | [Kfz/h] | {40} | 251 | | |
| | x | [-] | {41} | 0,000 | | |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 414 | | |
| | f_A | [-] | {43} | 0,140 | | |
| | N_{GE} | [Kfz] | {44} | 0,000 | | |
| | $t_{W,G}$ | [s] | {45} | 40,3 | | |
| | $t_{W,R}$ | [s] | {46} | 0,0 | | |
| | t_W | [s] | {47} | 40,3 | | |
| | QSV | [-] | {48} | C | | |
| | N_{MS} | [Kfz] | {49} | 0,000 | | |
| | S | [%] | {50} | 95 | | |
| $N_{MS,S}$ | [Kfz] | {51} | 0,000 | | | |
| L_S | [m] | {52} | 0 | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------------------|------------------|-----|------------------|-----|-----|------|----------------|----------------|--------------------|----------------------|-------------|--------------------|------|
| Ausgangsdaten | | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Nachmittagsspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | | |
| T _z = | | 14 [s] | | | f _{in} = 1,100 [-] | | | T = 1,0 [h] | | | | | | | | | | |
| Ifd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen | | |
| | | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | | {15} | {16} |
| Phase 1 | | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 761 | 2,0 | 761 | | | 0,0 | | | | | 60 | | |
| 2 | K1R | | | | | 580 | 7,6 | 580 | | | 0,0 | | | | | 60 | | |
| 3 | K2L | | | | | 785 | 2,7 | 785 | | | 0,0 | | | | | 65 | | |
| 4 | K2L | | | | | 1 | 0,0 | 1 | | | 0,0 | | | | | 65 | LA mit Durchsetzen | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | | |
| 8 | K3L | | | | | 604 | 3,6 | 604 | | | 0,0 | | | | | 30 | | |
| 9 | K3R | | | | | 3 | 0,0 | 3 | | | 0,0 | | | | | 30 | | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Nachmittagsspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,7138 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{sv} [-] | f _b [-] | f _R [-] | f _e [-] | f ₁ [-] | f ₂ [-] | t _b [s] | q _s [Kfz/h] | q _{Kfz} /q _s [-] | maßg. [-] | Bemerkungen [13] |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 761 | 1,018 | | | 1,000 | 1,000 | 1,000 | 1,832 | 1965 | 0,3873 | | |
| 2 | K1R | 580 | 1,068 | | | 1,000 | 1,000 | 1,000 | 1,923 | 1872 | 0,3098 | | |
| 3 | K2L | 785 | 1,024 | | | 1,000 | 1,000 | 1,000 | 1,844 | 1953 | 0,4020 | X | |
| 4 | K2L | 1 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0005 | | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3L | 604 | 1,032 | | | 1,000 | 1,000 | 1,000 | 1,858 | 1937 | 0,3118 | X | |
| 9 | K3R | 3 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0015 | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|----------------|------------------|----------------|-------|-------|----------------|-----------------|-----------------|------|-------------------|-----------------|----------------|----------------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbereitung Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| t _U = | | 109 | [s] | f _n = | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} | q _S | I _F | I _F | C | x | f _A | N _{GE} | N _{MS} | S | N _{MS,S} | f _{SV} | L _S | t _w | QSV | Bemerkungen |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 781 | 1965 | 65 | 60 | 1099 | 0,692 | 0,560 | 1,563 | 18,125 | 95 | 25,325 | 1,018 | 155 | 22,4 | B | |
| 2 | K1R | 580 | 1872 | 65 | 60 | 1048 | 0,554 | 0,560 | 0,774 | 11,979 | 95 | 17,832 | 1,068 | 114 | 18,0 | A | |
| 3 | K2L | 785 | 1953 | 65 | 65 | 1182 | 0,664 | 0,606 | 1,335 | 17,016 | 95 | 23,992 | 1,024 | 147 | 18,2 | A | |
| 4 | K2L | 1 | 2000 | 65 | 65 | 1211 | 0,001 | 0,606 | 0,000 | 0,012 | 95 | 0,201 | 1,000 | 1 | 8,5 | A | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3L | 604 | 1937 | 30 | 30 | 551 | 1,096 | 0,284 | 35,604 | 53,892 | 95 | 66,308 | 1,032 | 411 | 271,6 | F | |
| 9 | K3R | 3 | 2000 | 30 | 30 | 569 | 0,005 | 0,284 | 0,003 | 0,068 | 95 | 0,509 | 1,000 | 3 | 28,0 | B | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2734 | | | | 5660 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,743 | | | | | | | | | 75,3 | |
| Maximum: | | | | | | | 1,096 | | | | | | | 411 | 271,6 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|------------------------------------|---------------|--|---------|-------|-----|---|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | |
| Stadt: | | Voerde | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | |
| Zeitraum: | | Vorbereitung Nachmittagsspitze | | | | |
| Bearbeiter: | | | | | | |
| f_{in} | = | 1,100 | Nr. | 1 | 2 | 3 |
| Bezeichnung | | K2L | | | | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | | | | |
| t_U | [s] | {1} | 109 | | | |
| LA | q_{LV} | [Kfz/h] | {2} | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | |
| | q_{SV} | [Kfz/h] | {5} | | | |
| | q_{kFz} | [Kfz/h] | {6} | 1 | | |
| | SV | [%] | {7} | 0,0 | | |
| | b | [m] | {8} | 3,25 | | |
| | R | [m] | {9} | 12,00 | | |
| | s | [%] | {10} | 0,0 | | |
| | L_{LA} | [m] | {11} | 15,0 | | |
| | t_F | [s] | {12} | 65 | | |
| | Diagonalgrün? | | {13} | nein | | |
| | GV | q_G | [Kfz/h] | {14} | 761 | |
| q_{RA} | | [Kfz/h] | {15} | 0 | | |
| x_{gegen} | | [-] | {16} | | | |
| n_{gegen} | | [-] | {17} | 1 | | |
| $t_{F,gegen}$ | | [s] | {18} | 60 | | |
| | t_Z | [s] | {19} | 7,0 | | |
| LA | q_{kFz} | [Kfz/h] | {20} | 1 | | |
| | f_{SV} | [-] | {21} | 1,000 | | |
| | f_b | [-] | {22} | 1,000 | | |
| | f_R | [-] | {23} | 1,120 | | |
| | f_s | [-] | {24} | 1,000 | | |
| | f_1 | [-] | {25} | 1,120 | | |
| | f_2 | [-] | {26} | 1,000 | | |
| | t_B | [s] | {27} | 2,016 | | |
| | q_S | [Kfz/h] | {28} | 1786 | | |
| | $t_{F,durch}$ | [s] | {29} | 65 | | |
| | $t_{F,GF}$ | [s] | {30} | 0 | | |
| GV | q_{gegen} | [Kfz/h] | {31} | 761 | | |
| | $m_{s,gegen}$ | [Kfz] | {31*} | | | |
| | | | {32} | 9,301 | | |
| | | | {32*} | | | |
| $t_{ab,gegen}$ | [s] | {33} | 31,18 | | | |
| | | {33*} | | | | |
| LA | C_D | [Kfz/h] | {34} | 1081 | | |
| | t_V | [s] | {35} | 33,82 | | |
| | | | {35*} | | | |
| | G_D | [Kfz/h] | {36} | 518 | | |
| | | | {36*} | | | |
| | C_D | [Kfz/h] | {37} | 150 | | |
| | | | {37*} | | | |
| | C_{PW} | [Kfz/h] | {38} | 83 | | |
| | C_{GF} | [Kfz/h] | {39} | 0 | | |
| | C_{LA} | [Kfz/h] | {40} | 233 | | |
| | x | [-] | {41} | 0,004 | | |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 384 | | |
| | f_A | [-] | {43} | 0,130 | | |
| | N_{GE} | [Kfz] | {44} | 0,002 | | |
| | $t_{W,G}$ | [s] | {45} | 41,2 | | |
| | $t_{W,R}$ | [s] | {46} | 0,0 | | |
| | t_W | [s] | {47} | 41,3 | | |
| | QSV | [-] | {48} | C | | |
| | N_{MS} | [Kfz] | {49} | 0,029 | | |
| | S | [%] | {50} | 95 | | |
| $N_{MS,S}$ | [Kfz] | {51} | 0,315 | | | |
| t_s | [m] | {52} | 2 | | | |

Nachmittagsspitze Vorbereitung

HBS-Berechnung LSA Willy-Brandt-Straße / Frankfurter Straße

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|-----|------------------|-----|------|------|----------------|----------------|--------------------|----------------------|--------------------|
| Ausgangsdaten | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | |
| T _Z = | | 14 | [s] | f _{in} = | | | | 1,100 | [-] | T = | | | | 1,0 | [h] | |
| lfd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} |
| Phase 1 | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 761 | 2,0 | 761 | | | | 0,0 | | | 60 | |
| 2 | K1R | | | | | 590 | 8,0 | 590 | | | | 0,0 | | | 60 | |
| 3 | K2L | | | | | 785 | 2,7 | 785 | | | | 0,0 | | | 65 | |
| 4 | K2L | | | | | 1 | 0,0 | 1 | | | | 0,0 | | | 65 | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | |
| 8 | K3L | | | | | 657 | 4,1 | 657 | | | | 0,0 | | | 30 | |
| 9 | K3R | | | | | 3 | 0,0 | 3 | | | | 0,0 | | | 30 | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | |
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| 21 | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | |
| Zeitalabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,7427 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _B [-] | f _R [-] | f _S [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 761 | 1,018 | | | 1,000 | 1,000 | 1,000 | 1,832 | 1965 | 0,3873 | | |
| 2 | K1R | 590 | 1,072 | | | 1,000 | 1,000 | 1,000 | 1,930 | 1866 | 0,3162 | | |
| 3 | K2L | 785 | 1,024 | | | 1,000 | 1,000 | 1,000 | 1,844 | 1953 | 0,4020 | X | |
| 4 | K2L | 1 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0005 | | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3L | 657 | 1,037 | | | 1,000 | 1,000 | 1,000 | 1,866 | 1929 | 0,3406 | X | |
| 9 | K3R | 3 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0015 | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | |
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| 21 | | | | | | | | | | | | | |
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| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
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| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
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| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|----------------|------------------|----------------|-------|-------|----------------|-----------------|-----------------|------|-------------------|-----------------|----------------|----------------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| t _U = | | 109 | [s] | f _n = | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} | q _S | t _F | t _F | C | x | f _A | N _{GE} | N _{MS} | S | N _{MS,S} | f _{SV} | L _S | t _W | QSV | Bemerkungen |
| | | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 761 | 1965 | 65 | 60 | 1099 | 0,692 | 0,560 | 1,563 | 18,125 | 95 | 25,325 | 1,018 | 155 | 22,4 | B | |
| 2 | K1R | 590 | 1866 | 65 | 60 | 1044 | 0,565 | 0,560 | 0,816 | 12,321 | 95 | 18,257 | 1,072 | 117 | 18,3 | A | |
| 3 | K2L | 785 | 1953 | 65 | 65 | 1182 | 0,664 | 0,606 | 1,335 | 17,016 | 95 | 23,992 | 1,024 | 147 | 18,2 | A | |
| 4 | K2L | 1 | 2000 | 65 | 65 | 1211 | 0,001 | 0,606 | 0,000 | 0,012 | 95 | 0,201 | 1,000 | 1 | 8,5 | A | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3L | 657 | 1929 | 30 | 30 | 549 | 1,198 | 0,284 | 57,094 | 76,987 | 95 | 91,826 | 1,037 | 571 | 413,7 | F | |
| 9 | K3R | 3 | 2000 | 30 | 30 | 569 | 0,005 | 0,284 | 0,003 | 0,068 | 95 | 0,509 | 1,000 | 3 | 28,0 | B | |
| 10 | | | | | | | | | | | | | | | | | |
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| Phase 3 | | | | | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | | | | | |
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| Phase 5 | | | | | | | | | | | | | | | | | |
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| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
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| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2797 | | | | 5654 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,775 | | | | | | | | 112,3 | | |
| Maximum: | | | | | | | 1,198 | | | | | | | 571 | 413,7 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|------------------------------------|----------------|--|---------|-------|-----|---|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | |
| Stadt: | | Voerde | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | |
| Zeitraum: | | Prognose Nachmittagsspitze | | | | |
| Bearbeiter: | | | | | | |
| $f_m =$ | 1,100 | Nr. | 1 | 2 | 3 | 4 |
| Bezeichnung | | K2L | | | | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | | | | |
| t_U | [s] | {1} | 109 | | | |
| LA | q_{LV} | [Kfz/h] | {2} | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | |
| | q_{SV} | [Kfz/h] | {5} | | | |
| | q_{Kfz} | [Kfz/h] | {6} | 1 | | |
| | SV | [%] | {7} | 0,0 | | |
| | b | [m] | {8} | 3,25 | | |
| | R | [m] | {9} | 12,00 | | |
| | s | [%] | {10} | 0,0 | | |
| | L_{LA} | [m] | {11} | 15,0 | | |
| | t_F | [s] | {12} | 65 | | |
| | Diagonalgrün? | | {13} | nein | | |
| | GV | q_G | [Kfz/h] | {14} | 761 | |
| q_{RA} | | [Kfz/h] | {15} | 0 | | |
| x_{gegen} | | [-] | {16} | | | |
| n_{gegen} | | [-] | {17} | 1 | | |
| $t_{F,gegen}$ | | [s] | {18} | 60 | | |
| | t_Z | [s] | {19} | 7,0 | | |
| LA | q_{Kfz} | [Kfz/h] | {20} | 1 | | |
| | f_{SV} | [-] | {21} | 1,000 | | |
| | f_b | [-] | {22} | 1,000 | | |
| | f_R | [-] | {23} | 1,120 | | |
| | f_s | [-] | {24} | 1,000 | | |
| | f_1 | [-] | {25} | 1,120 | | |
| | f_2 | [-] | {26} | 1,000 | | |
| | t_B | [s] | {27} | 2,016 | | |
| | q_S | [Kfz/h] | {28} | 1786 | | |
| | $t_{F,durch}$ | [s] | {29} | 65 | | |
| | $t_{F,GF}$ | [s] | {30} | 0 | | |
| GV | q_{gegen} | [Kfz/h] | {31} | 761 | | |
| | | | {31*} | | | |
| | $m_{s,gegen}$ | [Kfz] | {32} | 9,301 | | |
| | | | {32*} | | | |
| | $t_{ab,gegen}$ | [s] | {33} | 31,18 | | |
| | | | {33*} | | | |
| LA | C_0 | [Kfz/h] | {34} | 1081 | | |
| | t_v | [s] | {35} | 33,82 | | |
| | | | {35*} | | | |
| | G_D | [Kfz/h] | {36} | 518 | | |
| | | | {36*} | | | |
| | C_D | [Kfz/h] | {37} | 150 | | |
| | | | {37*} | | | |
| | C_{PW} | [Kfz/h] | {38} | 83 | | |
| | C_{GF} | [Kfz/h] | {39} | 0 | | |
| | C_{LA} | [Kfz/h] | {40} | 233 | | |
| | x | [-] | {41} | 0,004 | | |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 384 | | |
| | f_A | [-] | {43} | 0,130 | | |
| | N_{GE} | [Kfz] | {44} | 0,002 | | |
| | $t_{W,G}$ | [s] | {45} | 41,2 | | |
| | $t_{W,R}$ | [s] | {46} | 0,0 | | |
| | t_W | [s] | {47} | 41,3 | | |
| | QSV | [-] | {48} | C | | |
| N_{MS} | [Kfz] | {49} | 0,029 | | | |
| S | [%] | {50} | 95 | | | |
| $N_{MS,S}$ | [Kfz] | {51} | 0,315 | | | |
| L_S | [m] | {52} | 2 | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|-------|------------------|-----|------|------|----------------|----------------|--------------------|----------------------|--------------------|
| Ausgangsdaten | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | |
| T _z = | | 14 | [s] | f _{in} = | | | 1,100 | [-] | T = | | | 1,0 | [h] | | | |
| lfd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} |
| Phase 1 | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 725 | 4,6 | 725 | | | 0,0 | | | | 60 | |
| 2 | K1R | | | | | 579 | 9,7 | 579 | | | 0,0 | | | | 60 | |
| 3 | K2 | | | | | 844 | 5,5 | 844 | | | 0,0 | | | | 60 | |
| 4 | K2L | | | | | | 0,0 | | | | 0,0 | | | | 60 | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | |
| 8 | K3L | | | | | 541 | 8,9 | 541 | | | 0,0 | | | | 46 | |
| 9 | K3R | | | | | 1 | 0,0 | 1 | | | 0,0 | | | | 46 | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
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| Phase 3 | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | | | | |
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| Phase 5 | | | | | | | | | | | | | | | | |
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| Phase 6 | | | | | | | | | | | | | | | | |
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| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,7351 [-] | | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _S [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 725 | 1,041 | | | 1,000 | 1,000 | 1,000 | 1,875 | 1920 | 0,3775 | | |
| 2 | K1R | 579 | 1,087 | | | 1,000 | 1,000 | 1,000 | 1,957 | 1839 | 0,3148 | | |
| 3 | K2 | 844 | 1,050 | | | 1,000 | 1,000 | 1,000 | 1,889 | 1906 | 0,4429 | X | |
| 4 | K2L | | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | | | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3L | 541 | 1,080 | | | 1,000 | 1,000 | 1,000 | 1,944 | 1852 | 0,2922 | X | |
| 9 | K3R | 1 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0005 | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
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| Phase 3 | | | | | | | | | | | | | |
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| Phase 4 | | | | | | | | | | | | | |
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| Phase 5 | | | | | | | | | | | | | |
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| Phase 6 | | | | | | | | | | | | | |
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| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | | |
|--|------|--|-------|---------|-------|------|-------|-------|----------|----------|------|------------|----------|-------|-------|------|--------------------|--|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | | |
| $t_U =$ | | 120 | [s] | $f_m =$ | 1,100 | [-] | $T =$ | 1,0 | [h] | | | | | | | | | |
| lfd. Nr. | Bez. | q_{Kfz} | q_S | t_F | t_F | C | x | f_A | N_{GE} | N_{MS} | S | $N_{MS,S}$ | f_{SV} | L_S | t_w | QSV | Bemerkungen | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | |
| Phase 1 | | | | | | | | | | | | | | | | | | |
| 1 | K1 | 725 | 1920 | 60 | 60 | 976 | 0,743 | 0,508 | 2,142 | 21,230 | 95 | 29,022 | 1,041 | 181 | 31,2 | B | | |
| 2 | K1R | 579 | 1839 | 60 | 60 | 935 | 0,619 | 0,508 | 1,055 | 14,903 | 95 | 21,432 | 1,087 | 140 | 25,2 | B | | |
| 3 | K2 | 844 | 1906 | 60 | 60 | 969 | 0,871 | 0,508 | 7,146 | 31,975 | 95 | 41,538 | 1,050 | 262 | 52,6 | D | | |
| 4 | K2L | | 2000 | | 60 | | | | | | 95 | | 1,000 | | | | LA mit Durchsetzen | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | | |
| 8 | K3L | 541 | 1852 | 46 | 46 | 725 | 0,746 | 0,392 | 2,162 | 17,661 | 95 | 24,768 | 1,080 | 161 | 42,1 | C | | |
| 9 | K3R | 1 | 2000 | 46 | 46 | 783 | 0,001 | 0,392 | 0,001 | 0,021 | 95 | 0,266 | 1,000 | 2 | 22,2 | B | | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | | |
| Summe: | | 2690 | | | | 4389 | | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,757 | | | | | | | | 38,8 | | | |
| Maximum: | | | | | | | 0,871 | | | | | | | 262 | 52,6 | D | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|------------------------------------|----------------|--|---------|--------|-----|---|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | |
| Stadt: | | Voerde | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | |
| Bearbeiter: | | | | | | |
| $f_{in} =$ | 1,100 | Nr. | 1 | 2 | 3 | 4 |
| Bezeichnung | | K2L | | | | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | | | | |
| t_U | [s] | {1} | 120 | | | |
| LA | q_{LV} | [Kfz/h] | {2} | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | |
| | q_{SV} | [Kfz/h] | {5} | | | |
| | q_{Kfz} | [Kfz/h] | {6} | 0 | | |
| | SV | [%] | {7} | 0,0 | | |
| | b | [m] | {8} | 3,25 | | |
| | R | [m] | {9} | 12,00 | | |
| | s | [%] | {10} | 0,0 | | |
| | L_{LA} | [m] | {11} | 15,0 | | |
| | t_F | [s] | {12} | 60 | | |
| | Diagonalgrün? | | {13} | nein | | |
| | GV | q_G | [Kfz/h] | {14} | 725 | |
| q_{RA} | | [Kfz/h] | {15} | 0 | | |
| x_{gegen} | | [-] | {16} | | | |
| n_{gegen} | | [-] | {17} | 1 | | |
| $t_{F,gegen}$ | | [s] | {18} | 60 | | |
| t_z | | [s] | {19} | 7,0 | | |
| LA | q_{Kfz} | [Kfz/h] | {20} | 0 | | |
| | f_{SV} | [-] | {21} | 1,000 | | |
| | f_b | [-] | {22} | 1,000 | | |
| | f_R | [-] | {23} | 1,120 | | |
| | f_s | [-] | {24} | 1,000 | | |
| | f_i | [-] | {25} | 1,120 | | |
| | f_2 | [-] | {26} | 1,000 | | |
| | t_B | [s] | {27} | 2,016 | | |
| | q_S | [Kfz/h] | {28} | 1786 | | |
| | $t_{F,durch}$ | [s] | {29} | 60 | | |
| | $t_{F,GF}$ | [s] | {30} | 0 | | |
| GV | q_{gegen} | [Kfz/h] | {31} | 725 | | |
| | | | {31*} | | | |
| | $m_{s,gegen}$ | [Kfz] | {32} | 12,083 | | |
| | | | {32*} | | | |
| | $t_{ab,gegen}$ | [s] | {33} | 39,19 | | |
| | | | {33*} | | | |
| LA | C_0 | [Kfz/h] | {34} | 908 | | |
| | t_v | [s] | {35} | 20,81 | | |
| | | | {35*} | | | |
| | G_D | [Kfz/h] | {36} | 540 | | |
| | | | {36*} | | | |
| | C_D | [Kfz/h] | {37} | 88 | | |
| | | | {37*} | | | |
| | C_{PW} | [Kfz/h] | {38} | 75 | | |
| | C_{GF} | [Kfz/h] | {39} | 0 | | |
| | C_{LA} | [Kfz/h] | {40} | 163 | | |
| | x | [-] | {41} | 0,000 | | |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 320 | | |
| | f_A | [-] | {43} | 0,091 | | |
| | N_{GE} | [Kfz] | {44} | 0,000 | | |
| | $t_{W,G}$ | [s] | {45} | 49,6 | | |
| | $t_{W,R}$ | [s] | {46} | 0,0 | | |
| | t_W | [s] | {47} | 49,6 | | |
| | QSV | [-] | {48} | C | | |
| | N_{MS} | [Kfz] | {49} | 0,000 | | |
| | S | [%] | {50} | 95 | | |
| $N_{MS,S}$ | [Kfz] | {51} | 0,000 | | | |
| L_{LA} | [m] | {52} | 0 | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|-----|------------------|------|------|------|----------------|----------------|--------------------|----------------------|--------------------|--|
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | |
| Zeitraum: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| T _Z = | | 14 | [s] | f _{in} = | | | | 1,100 | [-] | T = | | | | 1,0 | [h] | | |
| Ifd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen | |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | | |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} | | |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 761 | 2,0 | 761 | | | 0,0 | | | | 60 | | |
| 2 | K1R | | | | | 590 | 8,0 | 590 | | | 0,0 | | | | 60 | | |
| 3 | K2 | | | | | 785 | 2,7 | 785 | | | 0,0 | | | | 60 | | |
| 4 | K2L | | | | | 1 | 0,0 | 1 | | | 0,0 | | | | 60 | LA mit Durchsetzen | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3L | | | | | 657 | 4,1 | 657 | | | 0,0 | | | | 46 | | |
| 9 | K3R | | | | | 3 | 0,0 | 3 | | | 0,0 | | | | 46 | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,7427 [-] | | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{kfz} [Kfz/h] | f _{sv} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | q _{kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 761 | 1,018 | | | 1,000 | 1,000 | 1,000 | 1,832 | 1965 | 0,3873 | | |
| 2 | K1R | 590 | 1,072 | | | 1,000 | 1,000 | 1,000 | 1,930 | 1866 | 0,3162 | | |
| 3 | K2 | 785 | 1,024 | | | 1,000 | 1,000 | 1,000 | 1,844 | 1953 | 0,4020 | X | |
| 4 | K2L | 1 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0005 | | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3L | 657 | 1,037 | | | 1,000 | 1,000 | 1,000 | 1,866 | 1929 | 0,3406 | X | |
| 9 | K3R | 3 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0015 | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|-------|---------|-------|-------|-------|-------|----------|----------|------|------------|----------|-------|-------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Frankfurter Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| $t_U =$ | | 120 | [s] | $f_n =$ | | 1,100 | [-] | $T =$ | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q_{Kfz} | q_S | t_F | t_F | C | x | f_A | N_{GE} | N_{MS} | S | $N_{MS,S}$ | f_{sv} | L_S | t_w | QSV | Bemerkungen |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 761 | 1965 | 60 | 60 | 999 | 0,762 | 0,508 | 2,461 | 22,818 | 95 | 30,897 | 1,018 | 189 | 32,5 | B | |
| 2 | K1R | 590 | 1866 | 60 | 60 | 948 | 0,622 | 0,508 | 1,071 | 15,212 | 95 | 21,809 | 1,072 | 140 | 25,3 | B | |
| 3 | K2 | 785 | 1953 | 60 | 60 | 993 | 0,791 | 0,508 | 3,090 | 24,606 | 95 | 32,995 | 1,024 | 203 | 35,5 | C | |
| 4 | K2L | 1 | 2000 | 60 | 60 | 1017 | 0,001 | 0,508 | 0,001 | 0,017 | 95 | 0,237 | 1,000 | 1 | 14,5 | A | LA mit Durchsetzen |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3L | 657 | 1929 | 46 | 46 | 755 | 0,870 | 0,392 | 6,535 | 26,740 | 95 | 35,485 | 1,037 | 221 | 64,8 | D | |
| 9 | K3R | 3 | 2000 | 46 | 46 | 783 | 0,004 | 0,392 | 0,002 | 0,063 | 95 | 0,488 | 1,000 | 3 | 22,2 | B | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2797 | | | | 5495 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,765 | | | | | | | | 39,4 | | |
| Maximum: | | | | | | | 0,870 | | | | | | | 221 | 64,8 | D | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | |
|------------------------------------|--|---------|---------|--------|-----|---|---|
| Bedingt verträgliche Linksabbieger | | | | | | | |
| Projekt: | greenfield Logistikpark | | | | | | |
| Stadt: | Voerde | | | | | | |
| Knotenpunkt: | Willy-Brandt-Straße / Frankfurter Straße | | | | | | |
| Zeitabschnitt: | Prognose Nachmittagsspitze | | | | | | |
| Bearbeiter: | | | | | | | |
| $f_{in} =$ | 1,100 | Nr. | 1 | 2 | 3 | 4 | 5 |
| Bezeichnung | K2L | | | | | | |
| Bemerkungen | | | | | | | |
| Berechnungsfall | | | | | | | |
| t_U | [s] | {1} | 120 | | | | |
| LA | q_{LV} | [Kfz/h] | {2} | | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | | |
| | q_{SV} | [Kfz/h] | {5} | | | | |
| | q_{Kfz} | [Kfz/h] | {6} | 1 | | | |
| | SV | [%] | {7} | 0,0 | | | |
| | b | [m] | {8} | 3,25 | | | |
| | R | [m] | {9} | 12,00 | | | |
| | s | [%] | {10} | 0,0 | | | |
| | L_{LA} | [m] | {11} | 15,0 | | | |
| | t_F | [s] | {12} | 60 | | | |
| | Diagonalgrün? | | {13} | nein | | | |
| | GV | q_G | [Kfz/h] | {14} | 761 | | |
| q_{RA} | | [Kfz/h] | {15} | 0 | | | |
| x_{gegen} | | [-] | {16} | | | | |
| n_{gegen} | | [-] | {17} | 1 | | | |
| $t_{F,gegen}$ | | [s] | {18} | 60 | | | |
| t_z | | [s] | {19} | 7,0 | | | |
| LA | q_{Kfz} | [Kfz/h] | {20} | 1 | | | |
| | f_{SV} | [-] | {21} | 1,000 | | | |
| | f_b | [-] | {22} | 1,000 | | | |
| | f_R | [-] | {23} | 1,120 | | | |
| | f_s | [-] | {24} | 1,000 | | | |
| | f_t | [-] | {25} | 1,120 | | | |
| | f_2 | [-] | {26} | 1,000 | | | |
| | t_B | [s] | {27} | 2,016 | | | |
| | q_S | [Kfz/h] | {28} | 1786 | | | |
| | $t_{F,durch}$ | [s] | {29} | 60 | | | |
| | $t_{F,GF}$ | [s] | {30} | 0 | | | |
| GV | q_{gegen} | [Kfz/h] | {31} | 761 | | | |
| | | | {31*} | | | | |
| | $m_{s,gegen}$ | [Kfz] | {32} | 12,683 | | | |
| | | | {32*} | | | | |
| $t_{ab,gegen}$ | [s] | {33} | 42,51 | | | | |
| | | {33*} | | | | | |
| LA | C_0 | [Kfz/h] | {34} | 908 | | | |
| | t_v | [s] | {35} | 17,49 | | | |
| | | | {35*} | | | | |
| | G_D | [Kfz/h] | {36} | 518 | | | |
| | | | {36*} | | | | |
| | C_D | [Kfz/h] | {37} | 70 | | | |
| | | | {37*} | | | | |
| | C_{PW} | [Kfz/h] | {38} | 75 | | | |
| | C_{GF} | [Kfz/h] | {39} | 0 | | | |
| | C_{LA} | [Kfz/h] | {40} | 145 | | | |
| | x | [-] | {41} | 0,007 | | | |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 286 | | | |
| | f_A | [-] | {43} | 0,081 | | | |
| | N_{GE} | [Kfz] | {44} | 0,004 | | | |
| | $t_{w,G}$ | [s] | {45} | 50,7 | | | |
| | $t_{w,R}$ | [s] | {46} | 0,1 | | | |
| | t_w | [s] | {47} | 50,7 | | | |
| | QSV | [-] | {48} | D | | | |
| | N_{MS} | [Kfz] | {49} | 0,034 | | | |
| | S | [%] | {50} | 95 | | | |
| $N_{MS,S}$ | [Kfz] | {51} | 0,348 | | | | |
| L_S | [m] | {52} | 2 | | | | |

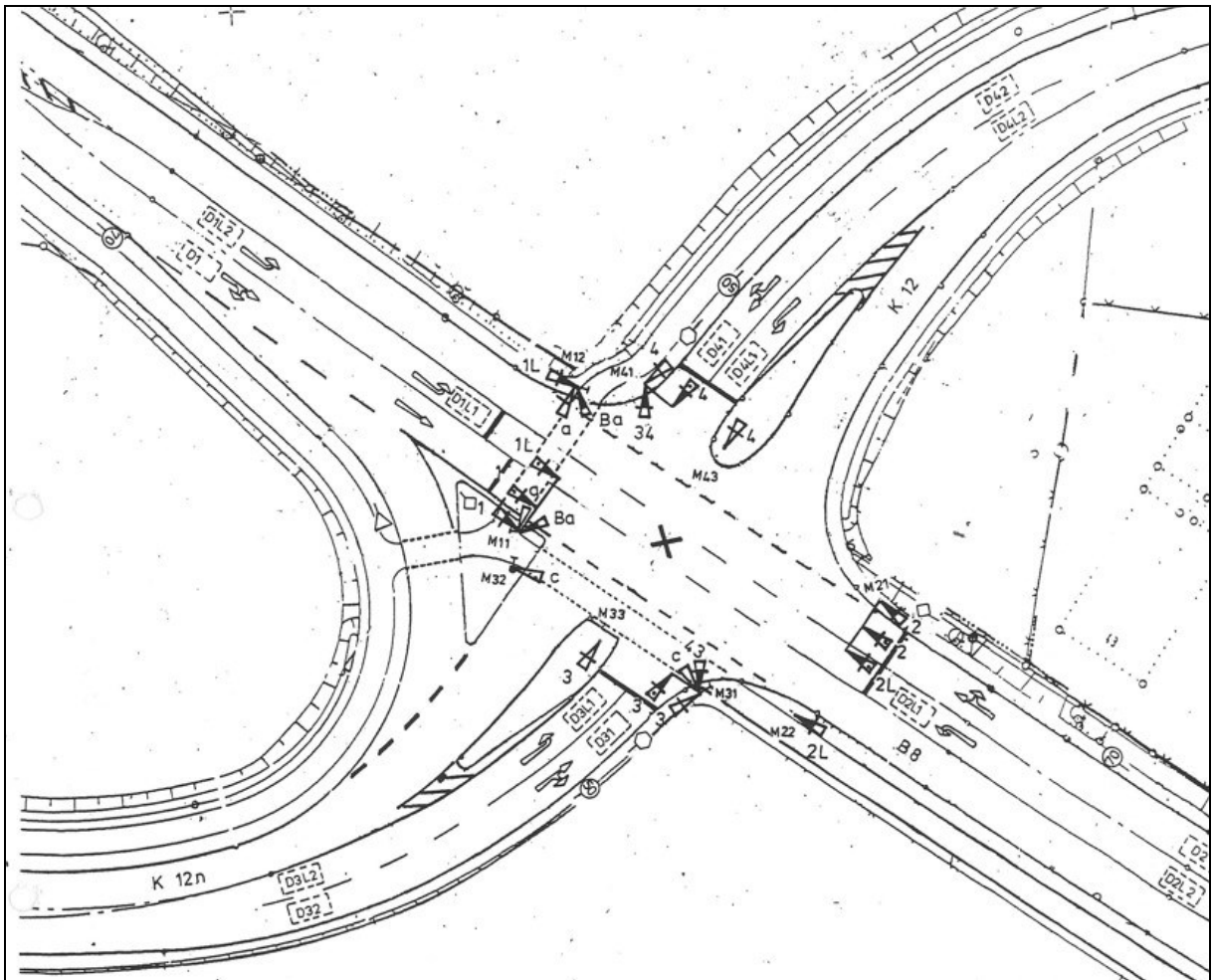


Abbildung 1: Signaltechnische Unterlagen zum Knotenpunkt Willy-Brandt-Straße / Emmelsumer Straße / Neue Hünxer Straße
- Signallageplan -
(Quelle: Landesbetrieb Straßenbau NRW, Regionalniederlassung Niederrhein)

| Zusammenstellung der Signalprogramme | | | | | | | |
|--|---|--|---------------|--|---|----------------------------|-----------------------------------|
| Signalprogramm Nr. | Verkehr vorgegebene Signalprogramme bei automatischer Auswahl | Art d. Steuerung F=Festzeit V=Verkehrsabh.St. E=Einzelst. K=Koordinierte St. | Parametersatz | | EINSATZZEITEN | | |
| | | | | Logik | werktags montags bis freitags | samstags | sonntags und an den Feiertagen |
| 1 6 | sporadisch | V - E F - E | 1 1 | 01 01* | 23.00-05.00 | 23.00-07.00 | 23.00-05.00 |
| 2 7 | gering | V - E F - E | 2 2 | 01 01* | 21.00-23.00 | 06.00-07.00 20.00-23.00 | 07.00-09.00 20.00-23.00 |
| 3 8 | mittlerer Tagesverkehr | V - E F - E | 3 3 | 01 01* | 05.00-06.30 08.30-15.00 19.00-21.00 | 07.00-20.00 | 09.00-20.00 |
| 4 9 | Morgenspitze | V - E F - E | 4 4 | 01 01* | 06.30-08.30 | | |
| 5 10 | Abendspitze | V - E F - E | 5 5 | 01 01* | 15.00-19.00 | | |
| Abschaltung | | Blinken in der Nebenrichtung | | | -- | -- | -- |
| <p>* Die Signalprogramme 6 bis 10 werden durch einen Schalter „Festzeit“ oder den Programmparameter „F“ in der Logik nach den "Festen Freigabezeiten" TgX erzeugt.</p> <p><u>Erforderliche Schalter am Steuergerät:</u> Auswahl des Parametersatzes (=Verkehrssituation); Verkehrsabhängig/Festzeit; Automatisch/Manuell; Alles-Rot/Haupttrichtung-Dauergrün(HDG); Bediengerät/Haupttrichtung-Dauergrün(DHDG); Handsteuerung Ein/Aus(HS); Weiterschaltung aus den Haltepunkten bei Handsteuerung(HST)</p> <p><u>Festzeit-Steuerung:</u> Schalter „Festzeit“ oder Programmparameter „F“ gesetzt: <u>immer nur</u> 6-10</p> <p><u>Automatisch</u> (Schalter): Nach den „Einsatzzeiten“ werden bei „Festzeit-Steuerung“ die Programme 6-10 und ansonsten die Signalprogramme 1-5 geschaltet.</p> <p><u>Manuell</u> (Schalter): Abhängig von der Schalterstellung für die Auswahl des Parametersatzes wird bei „Festzeitsteuerung“ eines der Programme von 6-10 und ansonsten eines der Programme von 1-5 aktiviert.</p> <p><u>Abschaltung:</u> Bei Schalterstellung „Automatisch“ erfolgt die Abschaltung der LSA nach den „Einsatzzeiten“.</p> | | | | | | | |
| SIGNALPROGRAMM Planung Variante Nr. 0 (wsp268b8.doc) -Ba/Str- Bestand vom 06.03.2003 gez. Geiger | | | | Kreis WESEL LSA 268 B8 (Hindenburgstr.) / K12 (Neue Hünxer Str.) - K12n (Emmelsumer Str.) in Wesel | | | |
| Ing.-Büro GEIGER & HAMBURGIER GmbH Essen | | | | 10.07.2002 | | gez. Geiger | Seite 6/48 |

Vervielfältigung, auch auszugsweise, sowie Verwertung und Mitteilung des Inhaltes sind unzulässig, sofern nicht ausdrücklich zugestanden.

Abbildung 2: Signaltechnische Unterlagen zum Knotenpunkt Willy-Brandt-Straße / Emmelsumer Straße / Neue Hünxer Straße
 - Zusammenstellung der Signalprogramme-
 (Quelle: Landesbetrieb Straßenbau NRW, Regionalniederlassung Niederrhein)

| Programmparameter | | | | | | |
|--|--|---|---|---|---|---|
| Parametername | PARAMETERSATZ | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Umlaufzeiten (s) Tu | u | u | u | u | u | |
| Feste Freigabezeiten (s) Tg1 Tg1L Tg2 Tg2L Tg3 Tg4 Tga Tgc | 15 8 20 8 8 10 9 15 | 25 8 25 8 8 10 9 15 | 45 12 40 8 12 15 10 25 | 50 15 45 8 12 15 11 30 | 55 15 45 8 15 20 11 30 | |
| Min. Freigabezeiten (s) Tgm1L Tgm2L Tgm3 Tgm4 | 10 10 10 10 | 12 12 10 10 | 15 15 12 12 | 15 15 12 12 | 15 15 12 12 | |
| Versatzzeiten (s) Tvkfn Tva4 | 5 1 | 5 1 | 5 1 | 5 1 | 5 1 | |
| Rot- und Wartezeiten (s) Tnbh Tnbn Tr Twf max. Wartezeit. HR Twmh max. Wartezeit. NR Twmn | 30 30 20 60 50 90 | 30 30 20 60 50 90 | 30 30 20 75 60 90 | 30 30 20 90 70 120 | 30 30 20 90 70 120 | |
| Loeschzeiten (s) T11 T14 | 120 120 | 120 120 | 253 120 | 253 120 | 253 120 | |
| SIGNALPROGRAMM Planung | | Kreis WESEL | | | | |
| Variante Nr. 0 (wsp268b8.doc) -Ba/Str- Bestand vom 06.03.2003 gez. Geiger | | LSA 268 B8 (Hindenburgstr.) / K12 (Neue Hünxer Str.) - K12n (Emmelsumer Str.) in Wesel | | | | |
| Ing.-Büro GEIGER & HAMBURGIER GmbH Essen | | | 10.07.2002 gez. Geiger | | Seite 8/48 | |

Vervielfältigung, auch auszugsweise, sowie Verwertung und Mitteilung des Inhaltes sind unzulässig, sofern nicht ausdrücklich zugestanden.

Abbildung 3: Signaltechnische Unterlagen zum Knotenpunkt Willy-Brandt-Straße / Emmelsumer Straße / Neue Hünxer Straße
 - Programmparameter (Feste Freigabezeiten) -
 (Quelle: Landesbetrieb Straßenbau NRW, Regionalniederlassung Niederrhein)

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|---------------------------------|------------------------------|----------------------------|-----------------------------|-----------|-----------------------------|----------|----------|----------|-----------------------|---------------------------|---------------------------|-----------------------------|--------------------|--|
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Morgenspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| T _Z = | | 12 | [s] | f _{in} = | | | | 1,100 | [-] | T = | | 1,0 | [h] | | | | |
| lfd. Nr. | Bez. | q _{LV} [Kfz/h] | q _{Lkw+Bus} [Kfz/h] | q _{LkwK} [Kfz/h] | q _{SV} [Kfz/h] | q _{Kfz} [Kfz/h] | SV [%] | q _{Kfz} [Kfz/h] | b [m] | R [m] | s [%] | t _g [s] | q _S [Kfz/h] | t _{F,min} [s] | t _{F,const} [s] | Bemerkungen | |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} | | |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 504 | 3,6 | 504 | | | | 0,0 | | | | | |
| 2 | K1L | | | | | 173 | 7,5 | 173 | | | | 0,0 | | | | | |
| 3 | K1R | | | | | 15 | 0,0 | 15 | | | | 0,0 | | | | | |
| 4 | K2M | | | | | 583 | | 583 | | | | 0,0 | 1930 | | | Mischfahrstreifen | |
| 5 | K2L | | | | | 109 | 16,5 | 109 | | | | 0,0 | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3M | | | | | 156 | | 156 | | | | 0,0 | 1396 | | | Mischfahrstreifen | |
| 9 | K3L | | | | | 12 | 8,3 | 12 | | | | 0,0 | | | | LA mit Durchsetzen | |
| 10 | K4M | | | | | 508 | | 508 | | | | 0,0 | 1653 | | | Mischfahrstreifen | |
| 11 | K4L | | | | | 2 | 50,0 | 2 | | | | 0,0 | | | | LA mit Durchsetzen | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Morgenspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,6094 [-] | | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{sv} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 504 | 1,032 | | | 1,000 | 1,000 | 1,000 | 1,858 | 1937 | 0,2602 | | |
| 2 | K1L | 173 | 1,068 | | | 1,000 | 1,000 | 1,000 | 1,922 | 1874 | 0,0923 | | |
| 3 | K1R | 15 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0075 | | |
| 4 | K2M | 583 | | | | 1,000 | 1,000 | 1,000 | | 1930 | 0,3021 | X | Mischfahrstreifen |
| 5 | K2L | 109 | 1,149 | | | 1,000 | 1,000 | 1,000 | 2,067 | 1741 | 0,0626 | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3M | 156 | | | | 1,000 | 1,000 | 1,000 | | 1396 | 0,1117 | | Mischfahrstreifen |
| 9 | K3L | 12 | 1,075 | | | 1,000 | 1,000 | 1,000 | 1,934 | 1861 | 0,0064 | | LA mit Durchsetzen |
| 10 | K4M | 508 | | | | 1,000 | 1,000 | 1,000 | | 1653 | 0,3073 | X | Mischfahrstreifen |
| 11 | K4L | 2 | 1,450 | | | 1,000 | 1,000 | 1,000 | 2,610 | 1379 | 0,0015 | | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|--|-----------------------------|---------------------------------|------------------------------|----------------------------|-----------------------------|--------------------------|-------------------------|-------------------------|-----------------------|---------------------------|---------------------------|--------------|---------------------------|-----------------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: greenfield Logistikpark | | | | | | | | | | | | | | |
| Stadt: Voerde | | | | | | | | | | | | | | |
| Knotenpunkt: Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | |
| Zeitabschnitt: Vorbelastung Morgenspitze | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| $t_U = 93$ [s] $t_F = 45$ [s] $f_{in} = 1,100$ [-] | | | | | | | | | | | | | | |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q _{LV} [Kfz/h] | q _{Lkw+Bus} [Kfz/h] | q _{LkwK} [Kfz/h] | q _{SV} [Kfz/h] | q _{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t _B [s] | q _S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| RA | | | | 576 | 7 | 4,0 | 3,25 | | 0,0 | | | | K2M | |
| LA | | | | | | 0,0 | | 15,00 | 0,0 | | | | Willy-Brandt-Str. Süd | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q _{Kfz} [Kfz/h] | a [-] | f _{SV} [-] | f _B [-] | f _R [-] | f _S [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| GF | 576 | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| RA | 7 | 0,9880 | 1,036 | 1,000 | 1,075 | 1,000 | 1,000 | 1,000 | 1,865 | 1931 | 955 | | | |
| LA | | 0,0120 | 1,000 | | 1,075 | 1,000 | 1,075 | 1,000 | 1,935 | 1860 | 920 | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q _{Kfz} [Kfz/h] | f _{SV} [-] | q _{S,M} [Kfz/h] | C _M [Kfz/h] | x [-] | f _A [-] | N _{GE} [Kfz] | t _{W,G} [s] | t _{W,R} [s] | t _W [s] | QSV [-] | N _{MS} [Kfz] | S [%] | N _{MSS} [Kfz] | L _S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 583 | 1,036 | 1930 | 954 | 0,6108 | 0,4946 | 1,013 | 17,0 | 3,8 | 20,8 | B | 11,919 | 95 | 17,758 | 110 |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|-----------------------------------|----------------------|--|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|--------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Morgenspitze | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | $t_U =$ | | | | | | | | | | | 93 | [s] |
| | | $t_F =$ | | | | | | | | | | | 12 | [s] |
| | | $f_{in} =$ | | | | | | | | | | | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{LkwK} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | 7 | {8} | {9} | {10} | {11} | {12} | {13} | |
| RA | | | | 43,9 | 123 | 43,9 | 3,25 | | 0,0 | | | | K3M | |
| LA | | | | 51,5 | 33 | 51,5 | | 15,00 | 0,0 | | | | Emmelsumer Straße | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a [-] | f_{SV} [-] | f_B [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| RA | 123 | 0,7885 | 1,395 | 1,000 | | 1,000 | 1,000 | 1,000 | 2,511 | 1434 | 200 | | | |
| LA | 33 | 0,2115 | 1,464 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,832 | 1271 | 178 | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x [-] | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | N_{MSS} [Kfz] | L_S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 156 | 1,410 | 1396 | 195 | 0,7995 | 0,1398 | 2,632 | 38,7 | 48,6 | 87,3 | E | 6,535 | 95 | 10,858 | 92 |
| GF Geradeausfahrer | | RA Rechtsabbieger | | LA Linksabbieger | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|----------------|------------------|----------------|-------|-------|----------------|-----------------|-----------------|------|-------------------|-----------------|----------------|----------------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Morgenspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| t ₀ = | | 93 | [s] | f _n = | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} | q _S | l _F | l _F | C | x | f _A | N _{GE} | N _{MS} | S | N _{MS,S} | f _{SV} | L _S | t _w | QSV | Bemerkungen |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 504 | 1937 | 66 | 50 | 1062 | 0,474 | 0,548 | 0,544 | 8,491 | 95 | 13,420 | 1,032 | 83 | 14,7 | A | |
| 2 | K1L | 173 | 1874 | 66 | 15 | 322 | 0,537 | 0,172 | 0,708 | 4,784 | 95 | 8,484 | 1,068 | 54 | 43,0 | C | |
| 3 | K1R | 15 | 2000 | 66 | 50 | 1097 | 0,014 | 0,548 | 0,008 | 0,184 | 95 | 0,909 | 1,000 | 5 | 9,6 | A | |
| 4 | K2M | 583 | 1930 | 66 | 45 | 955 | 0,611 | 0,495 | 1,012 | 11,918 | 95 | 17,756 | | ##### | 20,8 | B | Mischfahrstreifen |
| 5 | K2L | 109 | 1741 | 66 | 8 | 169 | 0,647 | 0,097 | 1,141 | 3,854 | 95 | 7,174 | 1,149 | 49 | 64,8 | D | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3M | 156 | 1396 | 15 | 12 | 195 | 0,799 | 0,140 | 2,631 | 6,534 | 95 | 10,857 | | ##### | 87,3 | E | Mischfahrstreifen |
| 9 | K3L | 12 | 1861 | 15 | 12 | 260 | 0,046 | 0,140 | 0,027 | 0,295 | 95 | 1,214 | 1,075 | 8 | 35,0 | C | LA mit Durchsetzen |
| 10 | K4M | 508 | 1653 | 15 | 15 | 284 | 1,786 | 0,172 | 112,931 | 126,054 | 95 | 145,043 | | ##### | 1468,1 | F | Mischfahrstreifen |
| 11 | K4L | 2 | 1379 | 15 | 15 | 237 | 0,008 | 0,172 | 0,005 | 0,048 | 95 | 0,416 | 1,450 | 4 | 32,0 | B | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2062 | | | | 4582 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,869 | | | | | | | | 385,1 | | |
| Maximum: | | | | | | | 1,786 | | | | | | | ##### | 1468,1 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|------------------------------------|----------------------|--|---------|--------|-------|-----|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | |
| Stadt: | | Voerde | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | |
| Zeitabschnitt: | | Vorbelastung Morgenspitze | | | | |
| Bearbeiter: | | | | | | |
| f _{in} = | | 1,100 | Nr. | 1 | 2 | 3 |
| Bezeichnung | | | | K3L | K4L | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | | 3 | 4 | |
| t _U | [s] | {1} | | 93 | 93 | |
| LA | q _{LV} | [Kfz/h] | {2} | | | |
| | q _{Lkw+Bus} | [Kfz/h] | {3} | | | |
| | q _{LkwK} | [Kfz/h] | {4} | | | |
| | q _{SV} | [Kfz/h] | {5} | | | |
| | q _{Kfz} | [Kfz/h] | {6} | 12 | 2 | |
| | SV | [%] | {7} | 8,3 | 50,0 | |
| | b | [m] | {8} | 3,25 | 3,25 | |
| | R | [m] | {9} | 12,00 | 12,00 | |
| | s | [%] | {10} | 0,0 | 0,0 | |
| | L _{LA} | [m] | {11} | 17,0 | 17,0 | |
| | t _F | [s] | {12} | 12 | 15 | |
| | Diagonalgrün? | | {13} | nein | nein | |
| | GV | q _G | [Kfz/h] | {14} | 259 | 123 |
| q _{RA} | | [Kfz/h] | {15} | 249 | 33 | |
| x _{gegen} | | [-] | {16} | | | |
| n _{gegen} | | [-] | {17} | 1 | 1 | |
| t _{F,gegen} | | [s] | {18} | 15 | 12 | |
| t _Z | | [s] | {19} | 5,0 | 5,0 | |
| LA | q _{Kfz} | [Kfz/h] | {20} | 12 | 2 | |
| | f _{SV} | [-] | {21} | 1,075 | 1,450 | |
| | f _b | [-] | {22} | 1,000 | 1,000 | |
| | f _R | [-] | {23} | 1,120 | 1,120 | |
| | f _s | [-] | {24} | 1,000 | 1,000 | |
| | f ₁ | [-] | {25} | 1,120 | 1,120 | |
| | f ₂ | [-] | {26} | 1,000 | 1,000 | |
| | t _B | [s] | {27} | 2,167 | 2,923 | |
| | q _S | [Kfz/h] | {28} | 1662 | 1232 | |
| | t _{F,durch} | [s] | {29} | 12 | 17 | |
| | t _{F,GF} | [s] | {30} | 0 | 0 | |
| | GV | q _{gegen} | [Kfz/h] | {31} | 508 | 156 |
| m _{s,gegen} | | [Kfz] | {32} | 11,430 | 3,293 | |
| t _{ab,gegen} | | [s] | {33} | 31,01 | 7,06 | |
| C ₀ | | [Kfz/h] | {34} | 232 | 212 | |
| LA | t _v | [s] | {35} | 0,00 | 9,94 | |
| | G _D | [Kfz/h] | {36} | 700 | 1067 | |
| | C _D | [Kfz/h] | {37} | 0 | 107 | |
| | C _{PW} | [Kfz/h] | {38} | 102 | 0 | |
| | C _{GF} | [Kfz/h] | {39} | 0 | 0 | |
| | C _{LA} | [Kfz/h] | {40} | 102 | 107 | |
| | x | [-] | {41} | 0,118 | 0,019 | |
| | q _{S,LA} | [Kfz/h] | {42} | 730 | 619 | |
| | f _A | [-] | {43} | 0,061 | 0,087 | |
| | N _{GE} | [Kfz] | {44} | 0,074 | 0,011 | |
| | t _{W,G} | [s] | {45} | 41,3 | 38,9 | |
| | t _{W,R} | [s] | {46} | 2,6 | 0,4 | |
| | t _W | [s] | {47} | 43,9 | 39,2 | |
| | QSV | [-] | {48} | C | C | |
| | N _{MS} | [Kfz] | {49} | 0,367 | 0,058 | |
| | S | [%] | {50} | 95 | 95 | |
| | N _{MS,S} | [Kfz] | {51} | 1,392 | 0,464 | |
| | L _S | [m] | {52} | 9 | 4 | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|------|------------------|------|------|------|----------------|----------------|--------------------|----------------------|--------------------|--|
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| T _z = | | 12 | [s] | f _{in} = | | | | 1,100 | [-] | T = | | | | 1,0 | [h] | | |
| lfd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen | |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | | |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 504 | 3,6 | 504 | | | 0,0 | | | | | | |
| 2 | K1L | | | | | 173 | 7,5 | 173 | | | 0,0 | | | | | | |
| 3 | K1R | | | | | 15 | 0,0 | 15 | | | 0,0 | | | | | | |
| 4 | K2M | | | | | 583 | | 583 | | | 0,0 | 1930 | | | | Mischfahrstreifen | |
| 5 | K2L | | | | | 164 | 14,6 | 164 | | | 0,0 | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3M | | | | | 189 | | 189 | | | 0,0 | 1393 | | | | Mischfahrstreifen | |
| 9 | K3L | | | | | 12 | 8,3 | 12 | | | 0,0 | | | | | LA mit Durchsetzen | |
| 10 | K4M | | | | | 631 | | 631 | | | 0,0 | 1682 | | | | Mischfahrstreifen | |
| 11 | K4L | | | | | 2 | 50,0 | 2 | | | 0,0 | | | | | LA mit Durchsetzen | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,6772 [-] | | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 504 | 1,032 | | | 1,000 | 1,000 | 1,000 | 1,858 | 1937 | 0,2602 | | |
| 2 | K1L | 173 | 1,068 | | | 1,000 | 1,000 | 1,000 | 1,922 | 1874 | 0,0923 | | |
| 3 | K1R | 15 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0075 | | |
| 4 | K2M | 583 | | | | 1,000 | 1,000 | 1,000 | | 1930 | 0,3021 | X | Mischfahrstreifen |
| 5 | K2L | 164 | 1,131 | | | 1,000 | 1,000 | 1,000 | 2,037 | 1768 | 0,0928 | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3M | 189 | | | | 1,000 | 1,000 | 1,000 | | 1393 | 0,1357 | | Mischfahrstreifen |
| 9 | K3L | 12 | 1,075 | | | 1,000 | 1,000 | 1,000 | 1,934 | 1861 | 0,0064 | | LA mit Durchsetzen |
| 10 | K4M | 631 | | | | 1,000 | 1,000 | 1,000 | | 1682 | 0,3751 | X | Mischfahrstreifen |
| 11 | K4L | 2 | 1,450 | | | 1,000 | 1,000 | 1,000 | 2,610 | 1379 | 0,0015 | | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|---|----------------------|--------------------------|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|---------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: greenfield Logistikpark | | | | | | | | | | | | | | |
| Stadt: Voerde | | | | | | | | | | | | | | |
| Knotenpunkt: Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | |
| Zeitabschnitt: Prognose Morgenspitze | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | $t_U =$ | | | | | | | | | | 93 | [s] | |
| | | $t_F =$ | | | | | | | | | | 45 | [s] | |
| | | $f_{in} =$ | | | | | | | | | | 1,100 | [-] | |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{Lkwk} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| GF | | | | 576 | 4,0 | 3,25 | 0,0 | 15,00 | 0,0 | | | | K2M | |
| RA | | | | 7 | 0,0 | | | | | | | | Willy-Brandt-Str. | |
| LA | | | | | | | | | | | | | Süd | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a | f_{SV} [-] | f_B [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | q_S [Kfz/h] | C | Bez./Bem. | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| GF | 576 | 0,9880 | 1,036 | 1,000 | | 1,000 | 1,000 | 1,000 | 1,865 | 1931 | 955 | | | |
| RA | 7 | 0,0120 | 1,000 | | 1,075 | 1,000 | 1,075 | 1,000 | 1,935 | 1860 | 920 | | | |
| LA | | | | | | | | | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{MS,S}$ [Kfz] | L_S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 583 | 1,036 | 1930 | 954 | 0,6108 | 0,4946 | 1,013 | 17,0 | 3,8 | 20,8 | B | 11,919 | 95 | 17,758 | 110 |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|---|----------------------|--|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|---------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | $t_U =$ | | | | | | | | | | | 93 | [s] |
| | | $t_F =$ | | | | | | | | | | | 12 | [s] |
| | | $f_{in} =$ | | | | | | | | | | | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{Lkwk} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| RA | | | | | 146 | 44,0 | 3,25 | | 0,0 | | | | K3M | |
| LA | | | | | 43 | 51,2 | | 15,00 | 0,0 | | | | Emmelsumer Straße | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a [-] | f_{SV} [-] | f_B [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| GF | 146 | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| RA | 43 | 0,7725 | 1,396 | 1,000 | 1,075 | 1,000 | 1,000 | 1,000 | 2,513 | 1433 | 200 | | | |
| LA | | 0,2275 | 1,461 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,827 | 1274 | 178 | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x [-] | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{MS,S}$ [Kfz] | L_S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 189 | 1,411 | 1393 | 195 | 0,9706 | 0,1398 | 7,722 | 39,8 | 142,8 | 182,6 | E | 12,582 | 95 | 18,581 | 157 |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|-----------------------------------|----------------------|--|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|---------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | $t_U =$ | | | | | | | | | | | 93 | [s] |
| | | $t_F =$ | | | | | | | | | | | 15 | [s] |
| | | $f_{in} =$ | | | | | | | | | | | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{Lkwk} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| GF | | | | 382 | 249 | 22,5 | 3,25 | 15,00 | 0,0 | | | | K4M | |
| RA | | | | | | | | | 0,0 | | | | Neue Hünxer | |
| LA | | | | | | | | | | | | | Straße | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a [-] | f_{SV} [-] | f_B [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| GF | 382 | 0,6054 | 1,203 | 1,000 | | 1,000 | 1,000 | 1,000 | 2,165 | 1663 | 286 | | | |
| RA | 249 | 0,3946 | 1,086 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,102 | 1713 | 295 | | | |
| LA | | | | | | | | | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x [-] | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{MS,S}$ [Kfz] | L_S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 631 | 1,157 | 1682 | 289 | 2,1801 | 0,1720 | 171,704 | 38,5 | 2135,7 | 2174,2 | F | 188,004 | 95 | 211,194 | 1466 |
| GF Geradeausfahrer | | RA Rechtsabbieger | | LA Linksabbieger | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|----------------|------------------|----------------|-------|-------|----------------|-----------------|-----------------|------|-------------------|-----------------|----------------|----------------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| t ₀ = | | 93 | [s] | f _m = | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} | q _S | t _F | t _F | C | x | f _A | N _{GE} | N _{MS} | S | N _{MS,S} | f _{SV} | L _S | t _w | QSV | Bemerkungen |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 504 | 1937 | 66 | 50 | 1062 | 0,474 | 0,548 | 0,544 | 8,491 | 95 | 13,420 | 1,032 | 83 | 14,7 | A | |
| 2 | K1L | 173 | 1874 | 66 | 15 | 322 | 0,537 | 0,172 | 0,708 | 4,784 | 95 | 8,484 | 1,068 | 54 | 43,0 | C | |
| 3 | K1R | 15 | 2000 | 66 | 50 | 1097 | 0,014 | 0,548 | 0,008 | 0,184 | 95 | 0,909 | 1,000 | 5 | 9,6 | A | |
| 4 | K2M | 583 | 1930 | 66 | 45 | 955 | 0,611 | 0,495 | 1,012 | 11,918 | 95 | 17,756 | | ##### | 20,8 | B | Mischfahrstreifen |
| 5 | K2L | 164 | 1768 | 66 | 8 | 171 | 0,959 | 0,097 | 6,643 | 10,861 | 95 | 16,435 | 1,131 | 112 | 181,6 | E | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3M | 189 | 1393 | 15 | 12 | 195 | 0,971 | 0,140 | 7,725 | 12,584 | 95 | 18,583 | | ##### | 182,6 | E | Mischfahrstreifen |
| 9 | K3L | 12 | 1861 | 15 | 12 | 260 | 0,046 | 0,140 | 0,027 | 0,295 | 95 | 1,214 | 1,075 | 8 | 35,0 | C | LA mit Durchsetzen |
| 10 | K4M | 631 | 1682 | 15 | 15 | 289 | 2,181 | 0,172 | 171,730 | 188,031 | 95 | 211,222 | | ##### | 2174,9 | F | Mischfahrstreifen |
| 11 | K4L | 2 | 1379 | 15 | 15 | 237 | 0,008 | 0,172 | 0,005 | 0,048 | 95 | 0,416 | 1,450 | 4 | 32,0 | B | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2273 | | | | 4589 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 1,058 | | | | | | | | 644,2 | | |
| Maximum: | | | | | | | 2,181 | | | | | | | ##### | 2174,9 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|------------------------------------|-----------------------|--|---------|--------|-------|-----|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | |
| Stadt: | | Voerde | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | |
| Zeitraum: | | Prognose Morgenspitze | | | | |
| Bearbeiter: | | | | | | |
| f _{in} = | | 1,100 | Nr. | 1 | 2 | 3 |
| Bezeichnung | | | K3L | K4L | | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | 3 | 4 | | |
| t _U | | [s] | {1} | 93 | 93 | |
| LA | q _{LV} | [Kfz/h] | {2} | | | |
| | q _{Lkw+Bus} | [Kfz/h] | {3} | | | |
| | q _{LkwK} | [Kfz/h] | {4} | | | |
| | q _{SV} | [Kfz/h] | {5} | | | |
| | q _{Kfz} | [Kfz/h] | {6} | 12 | 2 | |
| | SV | [%] | {7} | 8,3 | 50,0 | |
| | b | [m] | {8} | 3,25 | 3,25 | |
| | R | [m] | {9} | 12,00 | 12,00 | |
| | s | [%] | {10} | 0,0 | 0,0 | |
| | L _{LA} | [m] | {11} | 17,0 | 17,0 | |
| | t _F | [s] | {12} | 12 | 15 | |
| | Diagonalgrün? | | {13} | nein | nein | |
| | GV | q _G | [Kfz/h] | {14} | 382 | 146 |
| q _{RA} | | [Kfz/h] | {15} | 249 | 43 | |
| x _{gegen} | | [-] | {16} | | | |
| n _{gegen} | | [-] | {17} | 1 | 1 | |
| t _{F,gegen} | | [s] | {18} | 15 | 12 | |
| t _Z | | [s] | {19} | 5,0 | 5,0 | |
| LA | q _{Kfz} | [Kfz/h] | {20} | 12 | 2 | |
| | f _{SV} | [-] | {21} | 1,075 | 1,450 | |
| | f _b | [-] | {22} | 1,000 | 1,000 | |
| | f _R | [-] | {23} | 1,120 | 1,120 | |
| | f _s | [-] | {24} | 1,000 | 1,000 | |
| | f ₁ | [-] | {25} | 1,120 | 1,120 | |
| | f ₂ | [-] | {26} | 1,000 | 1,000 | |
| | t _B | [s] | {27} | 2,167 | 2,923 | |
| | q _S | [Kfz/h] | {28} | 1662 | 1232 | |
| | t _{F,durch} | [s] | {29} | 12 | 17 | |
| | t _{F,GF} | [s] | {30} | 0 | 0 | |
| GV | q _{gegen} | [Kfz/h] | {31} | 631 | 189 | |
| | m _{s,gegen} | [Kfz] | {32} | 14,198 | 3,990 | |
| | t _{ab,gegen} | [s] | {33} | 42,45 | 8,73 | |
| | | | {33*} | | | |
| LA | C _D | [Kfz/h] | {34} | 232 | 212 | |
| | t _v | [s] | {35} | 0,00 | 8,27 | |
| | | | {35*} | | | |
| | G _D | [Kfz/h] | {36} | 605 | 1026 | |
| | | | {36*} | | | |
| | C _D | [Kfz/h] | {37} | 0 | 85 | |
| | | | {37*} | | | |
| | C _{PW} | [Kfz/h] | {38} | 102 | 0 | |
| | C _{GF} | [Kfz/h] | {39} | 0 | 0 | |
| | C _{LA} | [Kfz/h] | {40} | 102 | 85 | |
| | x | [-] | {41} | 0,118 | 0,023 | |
| | q _{S,LA} | [Kfz/h] | {42} | 730 | 496 | |
| | f _A | [-] | {43} | 0,061 | 0,069 | |
| | N _{GE} | [Kfz] | {44} | 0,074 | 0,013 | |
| | t _{W,G} | [s] | {45} | 41,3 | 40,3 | |
| | t _{W,R} | [s] | {46} | 2,6 | 0,6 | |
| | t _W | [s] | {47} | 43,9 | 40,9 | |
| | Q _{SV} | [-] | {48} | C | C | |
| | N _{MS} | [Kfz] | {49} | 0,367 | 0,061 | |
| | S | [%] | {50} | 95 | 95 | |
| N _{MS,S} | [Kfz] | {51} | 1,392 | 0,480 | | |
| L _S | [m] | {52} | 9 | 4 | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-----------------------------|-----------------|------------------|------|------------------|-----|-----|------|----------------|----------------|--------------------|----------------------|-------------|--------------------|
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitraum: | | Vorbelastung Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| T _z = | | 11 [s] | | f _{in} = 1,100 [-] | | | | T = 1,0 [h] | | | | | | | | | |
| Ifd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen | |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | | |
| | | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 569 | 1,2 | 569 | | | 0,0 | | | | | | |
| 2 | K1L | | | | | 144 | 2,1 | 144 | | | 0,0 | | | | | | |
| 3 | K1R | | | | | 9 | 0,0 | 9 | | | 0,0 | | | | | | |
| 4 | K2M | | | | | 592 | | 592 | | | 0,0 | | 1972 | | | | Mischfahrstreifen |
| 5 | K2L | | | | | 56 | 26,8 | 56 | | | 0,0 | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3M | | | | | 342 | | 342 | | | 0,0 | | 1748 | | | | Mischfahrstreifen |
| 9 | K3L | | | | | 24 | 0,0 | 24 | | | 0,0 | | | | | | LA mit Durchsetzen |
| 10 | K4M | | | | | 335 | | 335 | | | 0,0 | | 1663 | | | | Mischfahrstreifen |
| 11 | K4L | | | | | 10 | 0,0 | 10 | | | 0,0 | | | | | | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Nachmittagsspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,5016 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen {13} |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 569 | 1,011 | | | 1,000 | 1,000 | 1,000 | 1,819 | 1979 | 0,2876 | | |
| 2 | K1L | 144 | 1,019 | | | 1,000 | 1,000 | 1,000 | 1,834 | 1963 | 0,0734 | | |
| 3 | K1R | 9 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0045 | | |
| 4 | K2M | 592 | | | | 1,000 | 1,000 | 1,000 | | 1972 | 0,3002 | X | Mischfahrstreifen |
| 5 | K2L | 56 | 1,241 | | | 1,000 | 1,000 | 1,000 | 2,234 | 1611 | 0,0348 | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3M | 342 | | | | 1,000 | 1,000 | 1,000 | | 1748 | 0,1957 | | Mischfahrstreifen |
| 9 | K3L | 24 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0120 | | LA mit Durchsetzen |
| 10 | K4M | 335 | | | | 1,000 | 1,000 | 1,000 | | 1663 | 0,2014 | X | Mischfahrstreifen |
| 11 | K4L | 10 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0050 | | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|---|----------------------|--------------------------|-----------------------|---------------------|----------------------|-----------|-----------|-----------|--------------|------------------|------------------|--------------|--------------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: greenfield Logistikpark | | | | | | | | | | | | | | |
| Stadt: Voerde | | | | | | | | | | | | | | |
| Knotenpunkt: Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | |
| Zeitschnitt: Vorbelastung Nachmittagsspitze | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | | | | | | | | | $t_u =$ | 101 | [s] | | |
| | | | | | | | | | | $t_F =$ | 45 | [s] | | |
| | | | | | | | | | | $f_m =$ | 1,100 | [-] | | |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{Lkwk} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_b [s] | q_s [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| RA | | | | 578 | 14 | 1,4 | 3,25 | | 0,0 | | | | K2M | |
| LA | | | | | | 0,0 | | 15,00 | 0,0 | | | | Willy-Brandt-Str. Süd | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a | f_{sv} | f_b | f_R | f_s | f_1 | f_2 | t_b [s] | q_s [Kfz/h] | C | Bez./Bem. | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| RA | 578 | 0,9764 | 1,013 | 1,000 | | 1,000 | 1,000 | 1,000 | 1,823 | 1975 | 900 | | | |
| LA | 14 | 0,0236 | 1,000 | | 1,075 | 1,000 | 1,075 | 1,000 | 1,935 | 1860 | 847 | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{sv} | $q_{s,M}$ | C_M | x | f_A | N_{GE} | $t_{w,G}$ | $t_{w,R}$ | t_w [s] | QSV | N_{MS} | S | $N_{MS,S}$ | L_s [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 592 | 1,012 | 1972 | 898 | 0,6591 | 0,4554 | 1,295 | 21,4 | 5,2 | 26,6 | B | 14,218 | 95 | 20,595 | 125 |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|---|----------------------|--------------------------|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|--------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: greenfield Logistikpark | | | | | | | | | | | | | | |
| Stadt: Voerde | | | | | | | | | | | | | | |
| Knotenpunkt: Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | |
| Zeitabschnitt: Vorbelastung Nachmittagspitze | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | $t_u =$ | 101 | [s] | | | | | | | | | | |
| | | $t_f =$ | 15 | [s] | | | | | | | | | | |
| | | $f_{in} =$ | 1,100 | [-] | | | | | | | | | | |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+BUS}$ [Kfz/h] | q_{Lkwk} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| GF | | | | | 235 | 14,0 | 3,25 | | 0,0 | | | | K3M | |
| RA | | | | | 107 | 11,2 | | 15,00 | 0,0 | | | | Emmelsumer | |
| LA | | | | | | | | | | | | | Straße | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a | f_{SV} | f_B | f_R | f_S | f_1 | f_2 | t_B [s] | $t_{w,R}$ [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| GF | 235 | 0,6871 | 1,126 | 1,000 | | 1,000 | 1,000 | 1,000 | 2,027 | 1776 | 281 | | | |
| RA | 107 | 0,3129 | 1,101 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,130 | 1690 | 268 | | | |
| LA | | | | | | | | | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x | f_A [-] | N_{GE} [Kfz] | $t_{w,G}$ [s] | $t_{w,R}$ [s] | t_w [s] | OSV [-] | N_{MS} [Kfz] | S [%] | N_{MSS} [Kfz] | L_S [m] |
| | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 342 | 1,118 | 1748 | 277 | 1,2348 | 0,1584 | 34,963 | 42,5 | 454,5 | 497,0 | F | 44,558 | 95 | 55,848 | 375 |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|-----------------------------------|----------------------|--|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|--------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Nachmittagsspitze | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | $t_U =$ | | | | | | | | | | | 101 | [s] |
| | | $t_F =$ | | | | | | | | | | | 20 | [s] |
| | | $f_{in} =$ | | | | | | | | | | | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{LkwK} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| RA | | | | | 106 | 37,7 | 3,25 | 0,0 | 0,0 | | | | K4M | |
| LA | | | | | 229 | 6,7 | 15,00 | 0,0 | | | | | Neue Hünxer Straße | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a [-] | f_{SV} [-] | f_B [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| RA | 106 | 0,3164 | 1,339 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 2,411 | 1493 | 310 | | | |
| LA | 229 | 0,6836 | 1,060 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,052 | 1755 | 365 | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x [-] | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | N_{MSS} [Kfz] | L_S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 335 | 1,149 | 1663 | 346 | 0,9691 | 0,2079 | 11,331 | 39,7 | 118,0 | 157,7 | E | 20,654 | 95 | 28,340 | 195 |
| GF Geradeausfahrer | | RA Rechtsabbieger | | LA Linksabbieger | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|----------------|-------------------|----------------|---------|-------|----------------|-----------------|-----------------|------|-------------------|-----------------|----------------|----------------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Vorbelastung Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| t ₀ = | | 101 | [s] | f _{in} = | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} | q _S | t _F | t _F | C | x | f _A | N _{GE} | N _{MS} | S | N _{MS,S} | f _{SV} | L _S | t _W | QSV | Bemerkungen |
| | | [Kfz/h] | [Kfz/h] | [s] | [s] | [Kfz/h] | [-] | [-] | [Kfz] | [Kfz] | [%] | [Kfz] | [-] | [m] | [s] | [-] | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 569 | 1979 | 70 | 55 | 1097 | 0,519 | 0,554 | 0,661 | 10,644 | 95 | 16,162 | 1,011 | 98 | 16,2 | A | |
| 2 | K1L | 144 | 1963 | 70 | 15 | 311 | 0,463 | 0,158 | 0,513 | 4,182 | 95 | 7,641 | 1,019 | 47 | 44,5 | C | |
| 3 | K1R | 9 | 2000 | 70 | 55 | 1109 | 0,008 | 0,554 | 0,005 | 0,118 | 95 | 0,697 | 1,000 | 4 | 10,1 | A | |
| 4 | K2M | 592 | 1972 | 70 | 45 | 898 | 0,859 | 0,455 | 1,295 | 14,220 | 95 | 20,597 | | ##### | 26,6 | B | Mischfahrstreifen |
| 5 | K2L | 56 | 1611 | 70 | 8 | 144 | 0,390 | 0,089 | 0,370 | 1,853 | 95 | 4,154 | 1,241 | 31 | 52,7 | D | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3M | 342 | 1748 | 20 | 15 | 277 | 1,235 | 0,158 | 34,988 | 44,583 | 95 | 55,876 | | ##### | 497,4 | F | Mischfahrstreifen |
| 9 | K3L | 24 | 2000 | 20 | 15 | 317 | 0,076 | 0,158 | 0,045 | 0,619 | 95 | 1,950 | 1,000 | 12 | 36,7 | C | LA mit Durchsetzen |
| 10 | K4M | 335 | 1663 | 20 | 20 | 346 | 0,969 | 0,208 | 11,314 | 20,636 | 95 | 28,319 | | ##### | 157,5 | E | Mischfahrstreifen |
| 11 | K4L | 10 | 2000 | 20 | 20 | 416 | 0,024 | 0,208 | 0,014 | 0,237 | 95 | 1,060 | 1,000 | 6 | 32,0 | B | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2081 | | | | 4914 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,732 | | | | | | | | 124,2 | | |
| Maximum: | | | | | | | 1,235 | | | | | | | ##### | 497,4 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | |
|---|----------------------|--------------------|---------|-------|-------|-----|
| Bedingt verträgliche Linksabbieger | | | | | | |
| Projekt: greenfield Logistikpark | | | | | | |
| Stadt: Voerde | | | | | | |
| Knotenpunkt: Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | |
| Zeitabschnitt: Vorbelastung Nachmittagsspitze | | | | | | |
| Bearbeiter: | | | | | | |
| f _{in} = | | 1,100 | Nr. | 1 | 2 | 3 |
| Bezeichnung | | | | K3L | K4L | |
| Bemerkungen | | | | | | |
| Berechnungsfall | | | | 3 | 4 | |
| t _U | [s] | {1} | | 101 | 101 | |
| LA | q _{LV} | [Kfz/h] | {2} | | | |
| | q _{Lkw+Bus} | [Kfz/h] | {3} | | | |
| | q _{LkwK} | [Kfz/h] | {4} | | | |
| | q _{SV} | [Kfz/h] | {5} | | | |
| | q _{Kfz} | [Kfz/h] | {6} | 24 | 10 | |
| | SV | [%] | {7} | 0,0 | 0,0 | |
| | b | [m] | {8} | 3,25 | 3,25 | |
| | R | [m] | {9} | 12,00 | 12,00 | |
| | s | [%] | {10} | 0,0 | 0,0 | |
| | L _{LA} | [m] | {11} | 17,0 | 17,0 | |
| | t _F | [s] | {12} | 15 | 20 | |
| | Diagonalgrün? | | {13} | nein | nein | |
| | GV | q _G | [Kfz/h] | {14} | 106 | 235 |
| q _{RA} | | [Kfz/h] | {15} | 229 | 107 | |
| x _{gegen} | | [-] | {16} | | | |
| n _{gegen} | | [-] | {17} | 1 | 1 | |
| t _{F,gegen} | | [s] | {18} | 20 | 15 | |
| t _Z | | [s] | {19} | 6,0 | 6,0 | |
| LA | q _{Kfz} | [Kfz/h] | {20} | 24 | 10 | |
| | f _{SV} | [-] | {21} | 1,000 | 1,000 | |
| | f _b | [-] | {22} | 1,000 | 1,000 | |
| | f _R | [-] | {23} | 1,120 | 1,120 | |
| | f _b | [-] | {24} | 1,000 | 1,000 | |
| | f ₁ | [-] | {25} | 1,120 | 1,120 | |
| | f ₂ | [-] | {26} | 1,000 | 1,000 | |
| | t _B | [s] | {27} | 2,016 | 2,016 | |
| | q _S | [Kfz/h] | {28} | 1786 | 1786 | |
| | t _{F,durch} | [s] | {29} | 15 | 21 | |
| | t _{F,GF} | [s] | {30} | 0 | 0 | |
| | GV | q _{gegen} | [Kfz/h] | {31} | 335 | 342 |
| m _{s,gegen} | | [Kfz] | {32} | 8,003 | 7,600 | |
| t _{ab,gegen} | | [s] | {33} | 19,21 | 18,33 | |
| | | | {33*} | | | |
| LA | C ₀ | [Kfz/h] | {34} | 283 | 371 | |
| | t _v | [s] | {35} | 0,00 | 2,67 | |
| | | | {35*} | | | |
| | G _D | [Kfz/h] | {36} | 861 | 854 | |
| | | | {36*} | | | |
| | C _D | [Kfz/h] | {37} | 0 | 21 | |
| | | | {37*} | | | |
| | C _{PW} | [Kfz/h] | {38} | 101 | 0 | |
| | C _{GF} | [Kfz/h] | {39} | 0 | 0 | |
| | C _{LA} | [Kfz/h] | {40} | 101 | 21 | |
| | x | [-] | {41} | 0,238 | 0,473 | |
| | q _{S,LA} | [Kfz/h] | {42} | 638 | 102 | |
| | f _A | [-] | {43} | 0,057 | 0,012 | |
| | N _{GE} | [Kfz] | {44} | 0,176 | 0,468 | |
| | t _{W,G} | [s] | {45} | 45,6 | 49,6 | |
| | t _{W,R} | [s] | {46} | 6,3 | 79,7 | |
| | t _W | [s] | {47} | 51,8 | 129,3 | |
| | Q _{SV} | [-] | {48} | D | E | |
| | N _{MS} | [Kfz] | {49} | 0,819 | 0,747 | |
| | S | [%] | {50} | 95 | 95 | |
| | N _{MS,S} | [Kfz] | {51} | 2,350 | 2,208 | |
| | t _S | [m] | {52} | 14 | 13 | |

Nachmittagsspitze Vorbelastung

HBS-Berechnung LSA Willy-Brandt-Straße // Nue Hünxer Straße

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|-------|------------------|------|------|------|----------------|----------------|--------------------|----------------------|--------------------|
| Ausgangsdaten | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | |
| Zeitraum: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | |
| T _Z = | | 11 | [s] | f _{in} = | | | 1,100 | [-] | T = | | | 1,0 | [h] | | | |
| Ifd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| Phase 1 | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 569 | 1,2 | 569 | | | 0,0 | | | | | |
| 2 | K1L | | | | | 144 | 2,1 | 144 | | | 0,0 | | | | | |
| 3 | K1R | | | | | 9 | 0,0 | 9 | | | 0,0 | | | | | |
| 4 | K2M | | | | | 592 | | 592 | | | 0,0 | | 1972 | | | Mischfahrstreifen |
| 5 | K2L | | | | | 66 | 25,8 | 66 | | | 0,0 | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | |
| 8 | K3M | | | | | 516 | | 516 | | | 0,0 | | 1761 | | | Mischfahrstreifen |
| 9 | K3L | | | | | 24 | 0,0 | 24 | | | 0,0 | | | | | LA mit Durchsetzen |
| 10 | K4M | | | | | 357 | | 357 | | | 0,0 | | 1659 | | | Mischfahrstreifen |
| 11 | K4L | | | | | 10 | 0,0 | 10 | | | 0,0 | | | | | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,5932 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _s [s] | q _S [Kfz/h] | q _{Kfz} /q _S [-] | maßg. [-] | Bemerkungen (13) |
| {1} | | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 569 | 1,011 | | | 1,000 | 1,000 | 1,000 | 1,819 | 1979 | 0,2876 | | |
| 2 | K1L | 144 | 1,019 | | | 1,000 | 1,000 | 1,000 | 1,834 | 1963 | 0,0734 | | |
| 3 | K1R | 9 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0045 | | |
| 4 | K2M | 592 | | | | 1,000 | 1,000 | 1,000 | | 1972 | 0,3002 | X | Mischfahrstreifen |
| 5 | K2L | 66 | 1,232 | | | 1,000 | 1,000 | 1,000 | 2,218 | 1623 | 0,0407 | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K3M | 516 | | | | 1,000 | 1,000 | 1,000 | | 1761 | 0,2930 | X | Mischfahrstreifen |
| 9 | K3L | 24 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0120 | | LA mit Durchsetzen |
| 10 | K4M | 357 | | | | 1,000 | 1,000 | 1,000 | | 1659 | 0,2152 | | Mischfahrstreifen |
| 11 | K4L | 10 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0050 | | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|---|-----------------------------|---------------------------------|------------------------------|-----------------------------|-----------------------------|--------------------------|-------------------------|-------------------------|-----------------------|-----------------------|---------------------------|--------------|----------------------------|-----------------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: greenfield Logistikpark | | Stadt: Voerde | | t _u = 101 [s] | | | | | | | | | | |
| Knotenpunkt: Willy-Brandt-Straße / Neue Hünxer Straße | | | | t _f = 45 [s] | | | | | | | | | | |
| Zeitabschnitt: Prognose Nachmittagspitze | | | | f _{in} = 1.100 [-] | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q _{LV} [Kfz/h] | q _{Lkw+Bus} [Kfz/h] | q _{Lkwk} [Kfz/h] | q _{SV} [Kfz/h] | q _{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t _B [s] | q _S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| RA | | | | | 578 | 1,4 | 3,25 | 15,00 | 0,0 | | | | K2M | |
| LA | | | | | 14 | 0,0 | | | 0,0 | | | | Willy-Brandt-Str. Süd | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q _{Kfz} [Kfz/h] | a [-] | f _{SV} [-] | f _B [-] | f _R [-] | f _S [-] | f ₁ [-] | f ₂ [-] | t _B [s] | t _B [s] | q _S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| RA | 578 | 0,9764 | 1,013 | 1,000 | | 1,000 | 1,000 | 1,000 | 1,823 | 1,975 | 1,975 | 900 | | |
| LA | 14 | 0,0236 | 1,000 | | 1,075 | 1,000 | 1,075 | 1,000 | 1,935 | 1,860 | 1,860 | 847 | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q _{Kfz} [Kfz/h] | f _{SV} [-] | q _{S,M} [Kfz/h] | C _M [Kfz/h] | x [-] | f _A [-] | N _{GE} [Kfz] | t _{W,G} [s] | t _{W,R} [s] | t _W [s] | QSV [-] | N _{MS} [Kfz] | S [%] | N _{MS,S} [Kfz] | L _S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 592 | 1,012 | 1972 | 898 | 0,6591 | 0,4554 | 1,295 | 21,4 | 5,2 | 26,6 | B | 14,218 | 95 | 20,595 | 125 |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | |
|---|----------------------|--|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|----------------------|--------------|------|
| Mischfahrstreifen | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | |
| Zeitschnitt: | | Prognose Nachmittagspitze | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | |
| | | $t_u =$ | | | | | | | | | | | | 101 | [s] |
| | | $t_f =$ | | | | | | | | | | | | 15 | [s] |
| | | $f_m =$ | | | | | | | | | | | | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{LkwK} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | | |
| GF | | | | 355 | 12,7 | 3,25 | 0,0 | | | | | | K3M | | |
| RA | | | | 161 | 11,2 | | 15,00 | 0,0 | | | | | Emmelsumer | | |
| LA | | | | | | | | | | | | | Straße | | |
| Einzelströme | | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a [-] | f_{SV} [-] | f_B [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | | |
| GF | 355 | 0,6880 | 1,114 | 1,000 | | 1,000 | 1,000 | 1,000 | 2,006 | 1795 | 284 | | | | |
| RA | 161 | 0,3120 | 1,101 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,130 | 1690 | 268 | | | | |
| LA | | | | | | | | | | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x [-] | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{M,S,S}$ [Kfz] | L_S [m] | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 516 | 1,110 | 1761 | 279 | 1,8499 | 0,1584 | 119,609 | 42,5 | 1543,7 | 1586,2 | F | 134,086 | 95 | 153,670 | 1024 | |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|---|----------------------|--|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|----------------------|--------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagspitze | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | $t_u =$ | | | | | | | | | | | 101 | [s] |
| | | $t_f =$ | | | | | | | | | | | 20 | [s] |
| | | $f_{in} =$ | | | | | | | | | | | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{Lkwk} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| GF | | | | 128 | 35,9 | 3,25 | 0,0 | 15,00 | 0,0 | | | | K4M | |
| RA | | | | 229 | 6,7 | | | | | | | | Neue Hünxer Straße | |
| LA | | | | | | | | | | | | | | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a [-] | f_{SV} [-] | f_B [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| GF | 128 | 0,3585 | 1,323 | 1,000 | | 1,000 | 1,000 | 1,000 | 2,382 | 1512 | 314 | | | |
| RA | 229 | 0,6415 | 1,060 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,052 | 1755 | 365 | | | |
| LA | | | | | | | | | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x [-] | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{M,S,S}$ [Kfz] | L_S [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 357 | 1,155 | 1659 | 345 | 1,0350 | 0,2079 | 17,166 | 40,0 | 179,2 | 219,2 | F | 27,182 | 95 | 36,000 | 249 |
| GF Geradeausfahrer RA Rechtsabbieger LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|---------------------------|-----------------------|-----------------------|--------------|----------|-----------------------|--------------------------|--------------------------|----------|----------------------------|------------------------|-----------------------|-----------------------|------------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| t ₀ = | | 101 [s] | f _m = | | 1,100 [-] | T = | | 1,0 [h] | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | q _S [Kfz/h] | l _F [s] | l _F [s] | C [Kfz/h] | x [-] | f _A [-] | N _{OE} [Kfz] | N _{MS} [Kfz] | S [%] | N _{MS.S} [Kfz] | f _{SV} [-] | L _S [m] | t _w [s] | QSV [-] | Bemerkungen |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 569 | 1979 | 70 | 55 | 1097 | 0,519 | 0,554 | 0,661 | 10,644 | 95 | 16,162 | 1,011 | 98 | 16,2 | A | |
| 2 | K1L | 144 | 1963 | 70 | 15 | 311 | 0,463 | 0,158 | 0,513 | 4,182 | 95 | 7,641 | 1,019 | 47 | 44,5 | C | |
| 3 | K1R | 9 | 2000 | 70 | 55 | 1109 | 0,008 | 0,554 | 0,005 | 0,118 | 95 | 0,697 | 1,000 | 4 | 10,1 | A | |
| 4 | K2M | 592 | 1972 | 70 | 45 | 898 | 0,659 | 0,455 | 1,295 | 14,220 | 95 | 20,597 | | ##### | 26,6 | B | Mischfahrstreifen |
| 5 | K2L | 66 | 1623 | 70 | 8 | 145 | 0,456 | 0,089 | 0,492 | 2,250 | 95 | 4,788 | 1,232 | 35 | 55,9 | D | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K3M | 516 | 1761 | 20 | 15 | 279 | 1,850 | 0,158 | 119,594 | 134,070 | 95 | 153,653 | | ##### | 1585,8 | F | Mischfahrstreifen |
| 9 | K3L | 24 | 2000 | 20 | 15 | 317 | 0,076 | 0,158 | 0,045 | 0,619 | 95 | 1,950 | 1,000 | 12 | 36,7 | C | LA mit Durchsetzen |
| 10 | K4M | 357 | 1659 | 20 | 20 | 345 | 1,035 | 0,208 | 17,167 | 27,183 | 95 | 36,001 | | ##### | 219,2 | F | Mischfahrstreifen |
| 11 | K4L | 10 | 2000 | 20 | 20 | 416 | 0,024 | 0,208 | 0,014 | 0,237 | 95 | 1,060 | 1,000 | 6 | 32,0 | B | LA mit Durchsetzen |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2287 | | | | 4916 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,922 | | | | | | | | 407,9 | | |
| Maximum: | | | | | | | 1,850 | | | | | | | ##### | 1585,8 | F | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | |
|------------------------------------|---------------|--|---------|-------|--------|-----|---|
| Bedingt verträgliche Linksabbieger | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | |
| Stadt: | | Voerde | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | |
| Bearbeiter: | | | | | | | |
| $f_m =$ | 1,100 | Nr. | 1 | 2 | 3 | 4 | 5 |
| Bezeichnung | | | K3L | K4L | | | |
| Bemerkungen | | | | | | | |
| Berechnungsfall | | | 3 | 4 | | | |
| t_U | [s] | {1} | 101 | 101 | | | |
| LA | q_{LV} | [Kfz/h] | {2} | | | | |
| | $q_{Lkw+Bus}$ | [Kfz/h] | {3} | | | | |
| | q_{LkwK} | [Kfz/h] | {4} | | | | |
| | q_{SV} | [Kfz/h] | {5} | | | | |
| | q_{Kfz} | [Kfz/h] | {6} | 24 | 10 | | |
| | SV | [%] | {7} | 0,0 | 0,0 | | |
| | b | [m] | {8} | 3,25 | 3,25 | | |
| | R | [m] | {9} | 12,00 | 12,00 | | |
| | s | [%] | {10} | 0,0 | 0,0 | | |
| | L_{LA} | [m] | {11} | 17,0 | 17,0 | | |
| | t_F | [s] | {12} | 15 | 20 | | |
| | Diagonalgrün? | | {13} | nein | nein | | |
| | GV | q_G | [Kfz/h] | {14} | 128 | 255 | |
| q_{RA} | | [Kfz/h] | {15} | 229 | 116 | | |
| x_{gegen} | | [-] | {16} | | | | |
| n_{gegen} | | [-] | {17} | 1 | 1 | | |
| $t_{F,gegen}$ | | [s] | {18} | 20 | 15 | | |
| t_Z | | [s] | {19} | 6,0 | 6,0 | | |
| LA | q_{Kfz} | [Kfz/h] | {20} | 24 | 10 | | |
| | f_{SV} | [-] | {21} | 1,000 | 1,000 | | |
| | f_b | [-] | {22} | 1,000 | 1,000 | | |
| | f_R | [-] | {23} | 1,120 | 1,120 | | |
| | f_s | [-] | {24} | 1,000 | 1,000 | | |
| | f_1 | [-] | {25} | 1,120 | 1,120 | | |
| | f_2 | [-] | {26} | 1,000 | 1,000 | | |
| | t_B | [s] | {27} | 2,016 | 2,016 | | |
| | q_S | [Kfz/h] | {28} | 1786 | 1786 | | |
| | $t_{F,durch}$ | [s] | {29} | 15 | 21 | | |
| | $t_{F,GF}$ | [s] | {30} | 0 | 0 | | |
| | GV | q_{gegen} | [Kfz/h] | {31} | 357 | 371 | |
| $m_{s,gegen}$ | | [Kfz] | {31*} | | | | |
| | | | {32} | 8,528 | 8,244 | | |
| $t_{ab,gegen}$ | | [s] | {32*} | | | | |
| | {33} | | 20,77 | 20,27 | | | |
| LA | C_0 | [Kfz/h] | {34} | 283 | 371 | | |
| | | | {35} | 0,00 | 0,73 | | |
| | t_v | [s] | {35*} | | | | |
| | | | {36} | 839 | 825 | | |
| | G_D | [Kfz/h] | {36*} | | | | |
| | | | {37} | 0 | 6 | | |
| | C_D | [Kfz/h] | {37*} | | | | |
| | | | {38} | 101 | 0 | | |
| | C_{GF} | [Kfz/h] | {39} | 0 | 0 | | |
| | C_{LA} | [Kfz/h] | {40} | 101 | 6 | | |
| | x | [-] | {41} | 0,238 | 1,802 | | |
| | $q_{S,LA}$ | [Kfz/h] | {42} | 638 | 27 | | |
| | f_A | [-] | {43} | 0,057 | 0,003 | | |
| | N_{GE} | [Kfz] | {44} | 0,176 | 3,046 | | |
| | $t_{W,G}$ | [s] | {45} | 45,6 | 50,3 | | |
| | $t_{W,R}$ | [s] | {46} | 6,3 | 1976,7 | | |
| | t_W | [s] | {47} | 51,8 | 2027,0 | | |
| | QSV | [-] | {48} | D | F | | |
| | N_{MS} | [Kfz] | {49} | 0,819 | 3,327 | | |
| | S | [%] | {50} | 95 | 95 | | |
| $N_{MS,S}$ | [Kfz] | {51} | 2,350 | 6,412 | | | |
| L_S | [m] | {52} | 14 | 38 | | | |

Nachmittagsspitze Prognose

HBS-Berechnung LSA Willy-Brandt-Straße // Nue Hünxer Straße

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|-------------------|-----------------|------------------|------|------------------|-----|-----|------|----------------|----------------|--------------------|----------------------|--------------------|------|
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitraum: | | Prognose Morgenspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| T _Z = | | 19 | [s] | f _{in} = | | | | 1,100 | [-] | T = | | | | 1,0 | [h] | | |
| lfd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{LkwK} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _B | q _S | t _{F,min} | t _{F,const} | Bemerkungen | |
| | | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | | {15} |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 504 | 3,6 | 504 | | | 0,0 | | | | 41 | | |
| 2 | K1R | | | | | 15 | 0,0 | 15 | | | 0,0 | | | | 41 | | |
| 3 | K2M | | | | | 583 | | 583 | | | 0,0 | | 1930 | | 41 | Mischfahrstreifen | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K1L | | | | | 173 | 7,5 | 173 | | | 0,0 | | | | 11 | | |
| 9 | K2L | | | | | 164 | 14,6 | 164 | | | 0,0 | | | | 11 | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | K3M | | | | | 189 | | 189 | | | 0,0 | | 1394 | | 49 | Mischfahrstreifen | |
| 16 | K3L | | | | | 12 | 8,3 | 12 | | | 0,0 | | | | 49 | LA mit Durchsetzen | |
| 17 | K4M | | | | | 631 | | 631 | | | 0,0 | | 1682 | | 49 | Mischfahrstreifen | |
| 18 | K4L | | | | | 2 | 50,0 | 2 | | | 0,0 | | | | 49 | LA mit Durchsetzen | |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|---------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,7700 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} [Kfz/h] | f _{SV} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _s [Kfz/h] | q _{Kfz} /q _s [-] | maßg. [-] | Bemerkungen {13} |
| {1} | | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 504 | 1,032 | | | 1,000 | 1,000 | 1,000 | 1,858 | 1937 | 0,2602 | | |
| 2 | K1R | 15 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0075 | | |
| 3 | K2M | 583 | | | | 1,000 | 1,000 | 1,000 | | 1930 | 0,3021 | X | Mischfahrstreifen |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K1L | 173 | 1,068 | | | 1,000 | 1,000 | 1,000 | 1,922 | 1874 | 0,0923 | | |
| 9 | K2L | 164 | 1,131 | | | 1,000 | 1,000 | 1,000 | 2,037 | 1768 | 0,0928 | X | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | K3M | 189 | | | | 1,000 | 1,000 | 1,000 | | 1394 | 0,1356 | | Mischfahrstreifen |
| 16 | K3L | 12 | 1,075 | | | 1,000 | 1,000 | 1,000 | 1,934 | 1861 | 0,0064 | | LA mit Durchsetzen |
| 17 | K4M | 631 | | | | 1,000 | 1,000 | 1,000 | | 1682 | 0,3751 | X | Mischfahrstreifen |
| 18 | K4L | 2 | 1,450 | | | 1,000 | 1,000 | 1,000 | 2,610 | 1379 | 0,0015 | | LA mit Durchsetzen |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | |
|-----------------------------------|--|--------------------------|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|---------------------|-----------------------|
| Mischfahrstreifen | | | | | | | | | | | | | | |
| Projekt: | greenfield Logistikpark | | | | | | | | | | | | | |
| Stadt: | Voerde | | | | | | | | | | | | | |
| Knotenpunkt: | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | |
| Zeitabschnitt: | Prognose Morgenspitze | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | |
| | | | | | | | | | | | | $t_u =$ | 120 [s] | |
| | | | | | | | | | | | | $t_f =$ | 41 [s] | |
| | | | | | | | | | | | | $f_m =$ | 1,100 [-] | |
| Ausgangsdaten | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{Lkwk} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_s [Kfz/h] | C [Kfz/h] | Bez./Bem. | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | |
| GF | | | | | 576 | 4,0 | 3,25 | | 0,0 | | | | K2M | |
| RA | | | | | 7 | 0,0 | | 15,00 | 0,0 | | | | Willy-Brandt-Str. | |
| LA | | | | | | | | | | | | | Süd | |
| Einzelströme | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a | f_{SV} [-] | f_b [-] | f_R [-] | f_s [-] | f_1 [-] | f_2 [-] | t_B [s] | q_s [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | |
| GF | 576 | 0,9880 | 1,036 | 1,000 | | 1,000 | 1,000 | 1,000 | 1,865 | 1931 | 676 | | | |
| RA | 7 | 0,0120 | 1,000 | | 1,075 | 1,000 | 1,075 | 1,000 | 1,935 | 1860 | 651 | | | |
| LA | | | | | | | | | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{s,M}$ [Kfz/h] | C_M [Kfz/h] | x | f_A [-] | N_{GE} [Kfz] | $t_{w,G}$ [s] | $t_{w,R}$ [s] | t_w [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{MS,S}$ [Kfz] | L _s [m] |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} |
| 583 | 1,036 | 1930 | 675 | 0,8632 | 0,3500 | 5,895 | 36,3 | 31,4 | 67,7 | D | 23,995 | 95 | 32,279 | 201 |
| GF Geradeausfahrer | RA Rechtsabbieger | LA Linksabbieger | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|--|------------------|-----------|----------|-----------|----------|-----------|-----------|-------|---------|----------|-----------|------------|---------|------------|---------|---------|
| Mischfahrstreifen | | | | | | | | | | | | | | | | | |
| Projekt: | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | | |
| Zeitraum: | Prognose Morgenspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | $t_u =$ | 120 | [s] |
| | | | | | | | | | | | | | | | $t_f =$ | 49 | [s] |
| | | | | | | | | | | | | | | | $f_{in} =$ | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Richt. | Q_{LV} | $Q_{LKW+Bus}$ | Q_{LKW} | Q_{SV} | Q_{Kfz} | SV | b | R | s | t_b | q_s | C | Bez./Bem. | | | | |
| [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [m] | [m] | [%] | [s] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | K3M | | | |
| RA | | | | | 146 | 43,8 | 3,25 | | 0,0 | | | | Emmelsumer | | | | |
| LA | | | | | 43 | 51,2 | | 15,00 | 0,0 | | | | Straße | | | | |
| Einzelströme | | | | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} | a | f_{SV} | f_b | f_R | f_s | f_1 | f_2 | t_b | q_s | C | Bez./Bem. | | | | | |
| [Kfz/h] | [Kfz/h] | [-] | [-] | [-] | [-] | [-] | [-] | [-] | [s] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | | | |
| GF | 146 | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | | | | |
| RA | 43 | 0,7725 | 1,394 | 1,000 | 1,075 | 1,000 | 1,000 | 1,000 | 2,510 | 1435 | 598 | | | | | | |
| LA | | 0,2275 | 1,461 | | | | | | 2,827 | 1274 | 531 | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | | | | |
| Q_{Kfz} | f_{SV} | $q_{S,M}$ | C_M | x | f_A | N_{GE} | $t_{W,G}$ | $t_{W,R}$ | t_W | QSV | N_{MS} | S | $N_{MS,S}$ | L_S | | | |
| [Kfz/h] | [-] | [Kfz/h] | [Kfz/h] | [-] | [-] | [Kfz] | [s] | [s] | [s] | [-] | [Kfz] | [%] | [Kfz] | [m] | | | |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | | | |
| 189 | 1,409 | 1394 | 581 | 0,3253 | 0,4167 | 0,278 | 23,6 | 1,7 | 25,3 | B | 4,529 | 95 | 8,128 | 69 | | | |
| GF Geradeausfahrer | RA Rechtsabbieger | LA Linksabbieger | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | | |
|--|------|--|----------------|-------------------|----------------|-------|-------|----------------|-----------------|-----------------|------|-------------------|-----------------|----------------|----------------|------|-------------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | | |
| t _U = | | 120 | [s] | f _{in} = | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | | | |
| lfd. Nr. | Bez. | q _{Kfz} | q _B | t _F | t _P | C | x | f _A | N _{OE} | N _{MS} | S | N _{MS,S} | f _{SV} | L _S | t _W | QSV | Bemerkungen | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | |
| Phase 1 | | | | | | | | | | | | | | | | | | |
| 1 | K1 | 504 | 1937 | 41 | 41 | 678 | 0,743 | 0,350 | 2,117 | 16,877 | 95 | 23,825 | 1,032 | 148 | 45,5 | | C | |
| 2 | K1R | 15 | 2000 | 41 | 41 | 700 | 0,021 | 0,350 | 0,012 | 0,340 | 95 | 1,325 | 1,000 | 8 | 25,6 | | B | |
| 3 | K2M | 583 | 1930 | 41 | 41 | 676 | 0,863 | 0,350 | 5,884 | 23,983 | 95 | 32,266 | | ##### | 67,7 | | D | Mischfahrstreifen |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | | |
| 8 | K1L | 173 | 1874 | 11 | 11 | 187 | 0,923 | 0,100 | 5,698 | 11,416 | 95 | 17,130 | 1,068 | 110 | 163,0 | | E | |
| 9 | K2L | 164 | 1768 | 11 | 11 | 177 | 0,928 | 0,100 | 5,668 | 11,091 | 95 | 16,723 | 1,131 | 114 | 169,0 | | E | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | | |
| 15 | K3M | 189 | 1394 | 49 | 49 | 581 | 0,325 | 0,417 | 0,278 | 4,529 | 95 | 8,129 | | ##### | 25,3 | | B | Mischfahrstreifen |
| 16 | K3L | 12 | 1861 | 49 | 49 | 775 | 0,015 | 0,417 | 0,009 | 0,244 | 95 | 1,078 | 1,075 | 7 | 20,6 | | B | LA mit Durchsetzen |
| 17 | K4M | 631 | 1682 | 49 | 49 | 701 | 0,900 | 0,417 | 9,103 | 28,739 | 95 | 37,806 | | ##### | 79,4 | | E | Mischfahrstreifen |
| 18 | K4L | 2 | 1379 | 49 | 49 | 575 | 0,003 | 0,417 | 0,002 | 0,041 | 95 | 0,383 | 1,450 | 3 | 20,5 | | B | LA mit Durchsetzen |
| 19 | | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | | |
| Summe: | | 2273 | | | | 5049 | | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,801 | | | | | | | | | 76,5 | | |
| Maximum: | | | | | | | 0,928 | | | | | | | ##### | 169,0 | | E | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | |
|------------------------------------|-----------------------|--|---------|--------|-------|-----|---|---|
| Bedingt verträgliche Linksabbieger | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | |
| Stadt: | | Voerde | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | |
| Zeitabschnitt: | | Prognose Morgenspitze | | | | | | |
| Bearbeiter: | | | | | | | | |
| f _{in} = | | 1,100 | Nr. | 1 | 2 | 3 | 4 | 5 |
| Bezeichnung | | K3L | | K4L | | | | |
| Bemerkungen | | | | | | | | |
| Berechnungsfall | | 0 | | 0 | | | | |
| t _U | [s] | {1} | 120 | 120 | | | | |
| LA | q _{LV} | [Kfz/h] | {2} | | | | | |
| | q _{Lkw+Bus} | [Kfz/h] | {3} | | | | | |
| | q _{LkwK} | [Kfz/h] | {4} | | | | | |
| | q _{SV} | [Kfz/h] | {5} | | | | | |
| | q _{Kfz} | [Kfz/h] | {6} | 12 | 2 | | | |
| | SV | [%] | {7} | 8,3 | 50,0 | | | |
| | b | [m] | {8} | 3,25 | 3,25 | | | |
| | R | [m] | {9} | 12,00 | 12,00 | | | |
| | s | [%] | {10} | 0,0 | 0,0 | | | |
| | L _{LA} | [m] | {11} | 17,0 | 17,0 | | | |
| | t _F | [s] | {12} | 49 | 49 | | | |
| | Diagonalgrün? | | {13} | nein | nein | | | |
| | GV | q _G | [Kfz/h] | {14} | 382 | 146 | | |
| q _{RA} | | [Kfz/h] | {15} | 249 | 43 | | | |
| x _{gegen} | | [-] | {16} | | | | | |
| n _{gegen} | | [-] | {17} | 1 | 1 | | | |
| t _{F,gegen} | | [s] | {18} | 49 | 49 | | | |
| t _Z | | [s] | {19} | 7,0 | 7,0 | | | |
| LA | q _{Kfz} | [Kfz/h] | {20} | 12 | 2 | | | |
| | f _{SV} | [-] | {21} | 1,075 | 1,450 | | | |
| | f _b | [-] | {22} | 1,000 | 1,000 | | | |
| | f _R | [-] | {23} | 1,120 | 1,120 | | | |
| | f _s | [-] | {24} | 1,000 | 1,000 | | | |
| | f ₁ | [-] | {25} | 1,120 | 1,120 | | | |
| | f ₂ | [-] | {26} | 1,000 | 1,000 | | | |
| | t _B | [s] | {27} | 2,167 | 2,923 | | | |
| | q _S | [Kfz/h] | {28} | 1662 | 1232 | | | |
| | t _{F,durch} | [s] | {29} | 49 | 49 | | | |
| | t _{F,GF} | [s] | {30} | 0 | 0 | | | |
| GV | q _{gegen} | [Kfz/h] | {31} | 631 | 189 | | | |
| | m _{s,gegen} | [Kfz] | {32} | 12,445 | 3,728 | | | |
| | t _{ab,gegen} | [s] | {33} | 37,21 | 8,15 | | | |
| | C ₀ | [Kfz/h] | {34} | 692 | 513 | | | |
| LA | t _v | [s] | {35} | 11,79 | 40,85 | | | |
| | G _D | [Kfz/h] | {36} | 605 | 1026 | | | |
| | C _D | [Kfz/h] | {37} | 56 | 326 | | | |
| | C _{FW} | [Kfz/h] | {38} | 79 | 59 | | | |
| | C _{GF} | [Kfz/h] | {39} | 0 | 0 | | | |
| | C _{LA} | [Kfz/h] | {40} | 135 | 385 | | | |
| | x | [-] | {41} | 0,089 | 0,005 | | | |
| | q _{S,LA} | [Kfz/h] | {42} | 323 | 924 | | | |
| | f _A | [-] | {43} | 0,081 | 0,313 | | | |
| | N _{GE} | [Kfz] | {44} | 0,054 | 0,003 | | | |
| | t _{W,G} | [s] | {45} | 51,0 | 28,4 | | | |
| | t _{W,R} | [s] | {46} | 1,5 | 0,0 | | | |
| | t _W | [s] | {47} | 52,5 | 28,4 | | | |
| | QSV | [-] | {48} | D | B | | | |
| | N _{MS} | [Kfz] | {49} | 0,425 | 0,049 | | | |
| | S | [%] | {50} | 95 | 95 | | | |
| | N _{MS,S} | [Kfz] | {51} | 1,527 | 0,422 | | | |
| | L _S | [m] | {52} | 10 | 4 | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|------|--|----------------------|--------------------|-----------------|------------------|-------|------------------|-----|-----|------|----------------|----------------|--------------------|----------------------|-------------|--------------------|
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| T _z = | | 19 | [s] | f _{in} = | | | 1,100 | [-] | T = | | 1,0 | [h] | | | | | |
| lfd. Nr. | Bez. | q _{LV} | q _{Lkw+Bus} | q _{Lkw/K} | q _{SV} | q _{Kfz} | SV | q _{Kfz} | b | R | s | t _g | q _s | t _{f,min} | t _{f,const} | Bemerkungen | |
| | | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [Kfz/h] | [%] | [Kfz/h] | [m] | [m] | [%] | [s] | [Kfz/h] | [s] | [s] | | |
| | | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | | | | | 569 | 1,2 | 569 | | | 0,0 | | | | | 41 | |
| 2 | K1R | | | | | 9 | 0,0 | 9 | | | 0,0 | | | | | 41 | |
| 3 | K2M | | | | | 592 | | 592 | | | 0,0 | | 1972 | | | 41 | Mischfahrstreifen |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K1L | | | | | 144 | 2,1 | 144 | | | 0,0 | | | | | 11 | |
| 9 | K2L | | | | | 66 | 25,8 | 66 | | | 0,0 | | | | | 11 | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | K3M | | | | | 516 | | 516 | | | 0,0 | | 1761 | | | 49 | Mischfahrstreifen |
| 16 | K3L | | | | | 24 | 0,0 | 24 | | | 0,0 | | | | | 49 | LA mit Durchsetzen |
| 17 | K4M | | | | | 357 | | 357 | | | 0,0 | | 1660 | | | 49 | Mischfahrstreifen |
| 18 | K4L | | | | | 10 | 0,0 | 10 | | | 0,0 | | | | | 49 | LA mit Durchsetzen |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | |
|--|------|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|---|--------------|--------------------|
| Berechnung der Sättigungsverkehrsstärken und Ermittlung der maßgebenden Ströme | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | |
| B = | | 0,6666 | [-] | | | | | | | | | | |
| lfd. Nr. | Bez. | q _{ktz} [Kfz/h] | f _{sv} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _B [s] | q _s [Kfz/h] | q _{ktz} /q _s [-] | maßg. [-] | Bemerkungen |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} |
| Phase 1 | | | | | | | | | | | | | |
| 1 | K1 | 569 | 1,011 | | | 1,000 | 1,000 | 1,000 | 1,819 | 1979 | 0,2876 | | |
| 2 | K1R | 9 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0045 | | |
| 3 | K2M | 592 | | | | 1,000 | 1,000 | 1,000 | | 1972 | 0,3002 | X | Mischfahrstreifen |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | |
| 8 | K1L | 144 | 1,019 | | | 1,000 | 1,000 | 1,000 | 1,834 | 1963 | 0,0734 | X | |
| 9 | K2L | 66 | 1,232 | | | 1,000 | 1,000 | 1,000 | 2,218 | 1623 | 0,0407 | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | |
| 15 | K3M | 516 | | | | 1,000 | 1,000 | 1,000 | | 1761 | 0,2930 | X | Mischfahrstreifen |
| 16 | K3L | 24 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0120 | | LA mit Durchsetzen |
| 17 | K4M | 357 | | | | 1,000 | 1,000 | 1,000 | | 1660 | 0,2151 | | Mischfahrstreifen |
| 18 | K4L | 10 | 1,000 | | | 1,000 | 1,000 | 1,000 | 1,800 | 2000 | 0,0050 | | LA mit Durchsetzen |
| 19 | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|-----------------------------------|--|---------------------------------|------------------------------|----------------------------|-----------------------------|--------------------------|-------------------------|-------------------------|-----------------------|---------------------------|---------------------------|--------------|----------------------------|-----------------------|------------|-------|-----|
| Mischfahrstreifen | | | | | | | | | | | | | | | | | |
| Projekt: | greenfield Logistikpark | | | | | | | | | | | | | | | | |
| Stadt: | Voerde | | | | | | | | | | | | | | | | |
| Knotenpunkt: | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | | |
| Zeitraum: | Prognose Nachmittagspitze | | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | $t_u =$ | 120 | [s] |
| | | | | | | | | | | | | | | | $t_f =$ | 41 | [s] |
| | | | | | | | | | | | | | | | $f_{in} =$ | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | | | | |
| Richt. | q _{LV} [Kfz/h] | q _{Lkw+Bus} [Kfz/h] | q _{LkwK} [Kfz/h] | q _{SV} [Kfz/h] | q _{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t _b [s] | q _s [Kfz/h] | C [Kfz/h] | Bez./Bem. | | | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | | | | |
| RA | | | | 578 | 14 | 1,4 | 3,25 | 15,00 | 0,0 | | | | K2M | | | | |
| LA | | | | 14 | | 0,0 | | | 0,0 | | | | Willy-Brandt-Str. | | | | |
| | | | | | | | | | | | | | Süd | | | | |
| Einzelströme | | | | | | | | | | | | | | | | | |
| Richt. | q _{Kfz} [Kfz/h] | a [-] | f _{SV} [-] | f _b [-] | f _R [-] | f _s [-] | f ₁ [-] | f ₂ [-] | t _b [s] | q _s [Kfz/h] | C [Kfz/h] | Bez./Bem. | | | | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | | | | |
| RA | 578 | 0,9764 | 1,013 | 1,000 | 1,075 | 1,000 | 1,000 | 1,000 | 1,823 | 1975 | 691 | | | | | | |
| LA | 14 | 0,0236 | 1,000 | | 1,075 | 1,000 | 1,075 | 1,000 | 1,935 | 1860 | 651 | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | | | | |
| q _{Kfz} [Kfz/h] | f _{SV} [-] | q _{s,M} [Kfz/h] | C _M [Kfz/h] | x [-] | f _A [-] | N _{GE} [Kfz] | t _{w,G} [s] | t _{w,R} [s] | t _w [s] | QSV [-] | N _{MS} [Kfz] | S [%] | N _{MS,S} [Kfz] | L _s [m] | | | |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | | | |
| 592 | 1,012 | 1972 | 690 | 0,8576 | 0,3500 | 5,582 | 36,2 | 29,1 | 65,3 | D | 23,910 | 95 | 32,180 | 195 | | | |
| GF Geradeausfahrer | RA Rechtsabbieger | LA Linksabbieger | | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | |
|-----------------------------------|--|--------------------------|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|------------------|-------------------|--------------|---------------------|--------------|-------|-----|
| Mischfahrstreifen | | | | | | | | | | | | | | | | |
| Projekt: | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | Prognose Nachmittagspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | $t_u =$ | 120 | [s] |
| | | | | | | | | | | | | | | $t_f =$ | 49 | [s] |
| | | | | | | | | | | | | | | $f_{in} =$ | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{LkwK} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_b [s] | q_s [Kfz/h] | C [Kfz/h] | Bez./Bem. | | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | | | |
| GF | | | | | 355 | 12,7 | 3,25 | 15,00 | 0,0 | | | | K3M | | | |
| RA | | | | | 161 | 11,2 | | | 0,0 | | | | Emmelsumer | | | |
| LA | | | | | | | | | | | | | Straße | | | |
| Einzelströme | | | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a | f_{sv} [-] | f_b [-] | f_r [-] | f_s [-] | f_1 [-] | f_2 [-] | t_b [s] | q_s [Kfz/h] | C | Bez./Bem. | | | | |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | | | |
| GF | 355 | 0,6880 | 1,114 | 1,000 | | 1,000 | 1,000 | 1,000 | 2,006 | 1795 | 748 | | | | | |
| RA | 161 | 0,3120 | 1,101 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,130 | 1690 | 704 | | | | | |
| LA | | | | | | | | | | | | | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{sv} [-] | $q_{s,M}$ [Kfz/h] | C_M [Kfz/h] | x | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_w [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{MS,S}$ [Kfz] | L_s [m] | | |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | | |
| 516 | 1,110 | 1761 | 734 | 0,7033 | 0,4167 | 1,652 | 28,9 | 8,1 | 37,0 | C | 15,845 | 95 | 22,577 | 150 | | |
| GF Geradeausfahrer | RA Rechtsabbieger | LA Linksabbieger | | | | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | |
|-----------------------------------|----------------------|--|-----------------------|---------------------|----------------------|-------------------|------------------|------------------|--------------|--------------|-------------------|--------------|---------------------|--------------|-----|
| Mischfahrstreifen | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | |
| Zeitraum: | | Prognose Nachmittagspitze | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | |
| | | $t_U =$ | | | | | | | | | | | | 120 | [s] |
| | | $t_F =$ | | | | | | | | | | | | 49 | [s] |
| | | $f_{in} =$ | | | | | | | | | | | | 1,100 | [-] |
| Ausgangsdaten | | | | | | | | | | | | | | | |
| Richt. | q_{LV} [Kfz/h] | $q_{Lkw+Bus}$ [Kfz/h] | q_{LkwK} [Kfz/h] | q_{SV} [Kfz/h] | q_{Kfz} [Kfz/h] | SV [%] | b [m] | R [m] | s [%] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | | |
| RA | | | | 128 | 229 | 35,9 | 3,25 | 15,00 | 0,0 | | | | K4M | | |
| LA | | | | | | 6,6 | | | 0,0 | | | | Neue Hünxer Straße | | |
| Einzelströme | | | | | | | | | | | | | | | |
| Richt. | q_{Kfz} [Kfz/h] | a | f_{SV} [-] | f_b [-] | f_R [-] | f_S [-] | f_1 [-] | f_2 [-] | t_B [s] | t_B [s] | q_S [Kfz/h] | C [Kfz/h] | Bez./Bem. | | |
| GF | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | | | |
| RA | 128 | 0,3585 | 1,323 | 1,000 | 1,075 | 1,000 | 1,000 | 1,000 | 2,382 | 1512 | 630 | | | | |
| LA | 229 | 0,6415 | 1,059 | | 1,075 | 1,000 | 1,075 | 1,000 | 2,050 | 1756 | 732 | | | | |
| Mischfahrstreifen | | | | | | | | | | | | | | | |
| q_{Kfz} [Kfz/h] | f_{SV} [-] | $q_{S,M}$ [Kfz/h] | C_M [Kfz/h] | x | f_A [-] | N_{GE} [Kfz] | $t_{W,G}$ [s] | $t_{W,R}$ [s] | t_W [s] | QSV [-] | N_{MS} [Kfz] | S [%] | $N_{MS,S}$ [Kfz] | L_S [m] | |
| {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | |
| 357 | 1,154 | 1660 | 692 | 0,5162 | 0,4167 | 0,652 | 26,0 | 3,4 | 29,4 | B | 9,496 | 95 | 14,707 | 102 | |
| GF Geradeausfahrer | | RA Rechtsabbieger | | LA Linksabbieger | | | | | | | | | | | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | | | | | | | | | | |
|--|------|--|-------|---------|-------|-------|-------|-------|----------|----------|------|------------|----------|-------|-------|------|--------------------|
| Bewertung der Verkehrsqualität im Kraftfahrzeugverkehr | | | | | | | | | | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | | | | | | | | | | |
| Stadt: | | Voerde | | | | | | | | | | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | | | | | | | | | | |
| Zeitabschnitt: | | Prognose Nachmittagsspitze | | | | | | | | | | | | | | | |
| Bearbeiter: | | | | | | | | | | | | | | | | | |
| $t_{ij} =$ | | 120 | [s] | $f_m =$ | | 1,100 | [-] | $T =$ | | 1,0 | [h] | | | | | | |
| lfd. Nr. | Bez. | q_{Kfz} | q_S | t_F | t_P | C | x | f_A | N_{OE} | N_{MS} | S | $N_{MS,S}$ | f_{SV} | L_S | t_W | QSV | Bemerkungen |
| | {1} | {2} | {3} | {4} | {5} | {6} | {7} | {8} | {9} | {10} | {11} | {12} | {13} | {14} | {15} | {16} | {17} |
| Phase 1 | | | | | | | | | | | | | | | | | |
| 1 | K1 | 569 | 1979 | 41 | 41 | 693 | 0,822 | 0,350 | 3,907 | 21,212 | 95 | 29,001 | 1,011 | 176 | 55,9 | D | |
| 2 | K1R | 9 | 2000 | 41 | 41 | 700 | 0,013 | 0,350 | 0,007 | 0,203 | 95 | 0,965 | 1,000 | 6 | 25,5 | B | |
| 3 | K2M | 592 | 1972 | 41 | 41 | 690 | 0,858 | 0,350 | 5,588 | 23,917 | 95 | 32,188 | | ##### | 65,4 | D | Mischfahrstreifen |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| Phase 2 | | | | | | | | | | | | | | | | | |
| 8 | K1L | 144 | 1963 | 11 | 11 | 196 | 0,734 | 0,100 | 1,797 | 6,459 | 95 | 10,757 | 1,019 | 66 | 85,4 | E | |
| 9 | K2L | 66 | 1623 | 11 | 11 | 162 | 0,407 | 0,100 | 0,399 | 2,462 | 95 | 5,116 | 1,232 | 38 | 59,5 | D | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| Phase 3 | | | | | | | | | | | | | | | | | |
| 15 | K3M | 516 | 1761 | 49 | 49 | 734 | 0,703 | 0,417 | 1,651 | 15,843 | 95 | 22,575 | | ##### | 37,0 | C | Mischfahrstreifen |
| 16 | K3L | 24 | 2000 | 49 | 49 | 833 | 0,029 | 0,417 | 0,016 | 0,489 | 95 | 1,671 | 1,000 | 10 | 20,7 | B | LA mit Durchsetzen |
| 17 | K4M | 357 | 1660 | 49 | 49 | 692 | 0,516 | 0,417 | 0,652 | 9,495 | 95 | 14,707 | | ##### | 29,4 | B | Mischfahrstreifen |
| 18 | K4L | 10 | 2000 | 49 | 49 | 833 | 0,012 | 0,417 | 0,007 | 0,202 | 95 | 0,962 | 1,000 | 6 | 20,5 | B | LA mit Durchsetzen |
| 19 | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| Knotenpunkt | | | | | | | | | | | | | | | | | |
| Summe: | | 2287 | | | | 5533 | | | | | | | | | | | |
| gew. Mittelwert: | | | | | | | 0,724 | | | | | | | | | 51,3 | |
| Maximum: | | | | | | | 0,858 | | | | | | | ##### | 85,4 | E | |

| Knotenpunkt mit Lichtsignalanlage | | | | | | | | |
|------------------------------------|-----------------------|--|------|-------|--------|---|---|---|
| Bedingt verträgliche Linksabbieger | | | | | | | | |
| Projekt: | | greenfield Logistikpark | | | | | | |
| Stadt: | | Voerde | | | | | | |
| Knotenpunkt: | | Willy-Brandt-Straße / Neue Hünxer Straße | | | | | | |
| Zeitraum: | | Prognose Nachmittagsspitze | | | | | | |
| Bearbeiter: | | | | | | | | |
| f _{in} = | | 1,100 | Nr. | 1 | 2 | 3 | 4 | 5 |
| Bezeichnung | | K3L | | K4L | | | | |
| Bemerkungen | | | | | | | | |
| Berechnungsfall | | 0 | | 0 | | | | |
| t _U | [s] | {1} | 120 | 120 | | | | |
| LA | q _{LV} | [Kfz/h] | {2} | | | | | |
| | q _{Lkw+Bus} | [Kfz/h] | {3} | | | | | |
| | q _{LkwK} | [Kfz/h] | {4} | | | | | |
| | q _{SV} | [Kfz/h] | {5} | | | | | |
| | q _{Kfz} | [Kfz/h] | {6} | 24 | 10 | | | |
| | SV | [%] | {7} | 0,0 | 0,0 | | | |
| | b | [m] | {8} | 3,25 | 3,25 | | | |
| | R | [m] | {9} | 12,00 | 12,00 | | | |
| | s | [%] | {10} | 0,0 | 0,0 | | | |
| | L _{LA} | [m] | {11} | 17,0 | 17,0 | | | |
| | t _F | [s] | {12} | 49 | 49 | | | |
| | Diagonalgrün? | | {13} | nein | nein | | | |
| GV | q _G | [Kfz/h] | {14} | 128 | 355 | | | |
| | q _{RA} | [Kfz/h] | {15} | 229 | 161 | | | |
| | x _{gegen} | [-] | {16} | | | | | |
| | n _{gegen} | [-] | {17} | 1 | 1 | | | |
| | t _{F,gegen} | [s] | {18} | 49 | 49 | | | |
| LA | t _Z | [s] | {19} | 7,0 | 7,0 | | | |
| | q _{Kfz} | [Kfz/h] | {20} | 24 | 10 | | | |
| | f _{SV} | [-] | {21} | 1,000 | 1,000 | | | |
| | f _b | [-] | {22} | 1,000 | 1,000 | | | |
| | f _R | [-] | {23} | 1,120 | 1,120 | | | |
| | f _s | [-] | {24} | 1,000 | 1,000 | | | |
| | f ₁ | [-] | {25} | 1,120 | 1,120 | | | |
| | f ₂ | [-] | {26} | 1,000 | 1,000 | | | |
| | t _B | [s] | {27} | 2,016 | 2,016 | | | |
| | q _S | [Kfz/h] | {28} | 1786 | 1786 | | | |
| GV | t _{F,durch} | [s] | {29} | 49 | 49 | | | |
| | t _{F,GF} | [s] | {30} | 0 | 0 | | | |
| | q _{gegen} | [Kfz/h] | {31} | 357 | 516 | | | |
| GV | m _{s,gegen} | [Kfz] | {32} | 7,041 | 10,177 | | | |
| | t _{ab,gegen} | [s] | {33} | 17,15 | 27,78 | | | |
| | C ₀ | [Kfz/h] | {34} | 744 | 744 | | | |
| LA | t _v | [s] | {35} | 31,85 | 21,22 | | | |
| | G _D | [Kfz/h] | {36} | 839 | 694 | | | |
| | C _D | [Kfz/h] | {37} | 208 | 115 | | | |
| | C _{FW} | [Kfz/h] | {38} | 85 | 85 | | | |
| | C _{GF} | [Kfz/h] | {39} | 0 | 0 | | | |
| | C _{LA} | [Kfz/h] | {40} | 293 | 200 | | | |
| | x | [-] | {41} | 0,082 | 0,050 | | | |
| | q _{S,LA} | [Kfz/h] | {42} | 703 | 479 | | | |
| | f _A | [-] | {43} | 0,164 | 0,112 | | | |
| | N _{GE} | [Kfz] | {44} | 0,049 | 0,029 | | | |
| | t _{W,G} | [s] | {45} | 42,5 | 47,6 | | | |
| | t _{W,R} | [s] | {46} | 0,6 | 0,5 | | | |
| | t _W | [s] | {47} | 43,1 | 48,1 | | | |
| | QSV | [-] | {48} | C | C | | | |
| | N _{MS} | [Kfz] | {49} | 0,727 | 0,327 | | | |
| | S | [%] | {50} | 95 | 95 | | | |
| | N _{MS,S} | [Kfz] | {51} | 2,170 | 1,294 | | | |
| L _S | [m] | {52} | 13 | 8 | | | | |