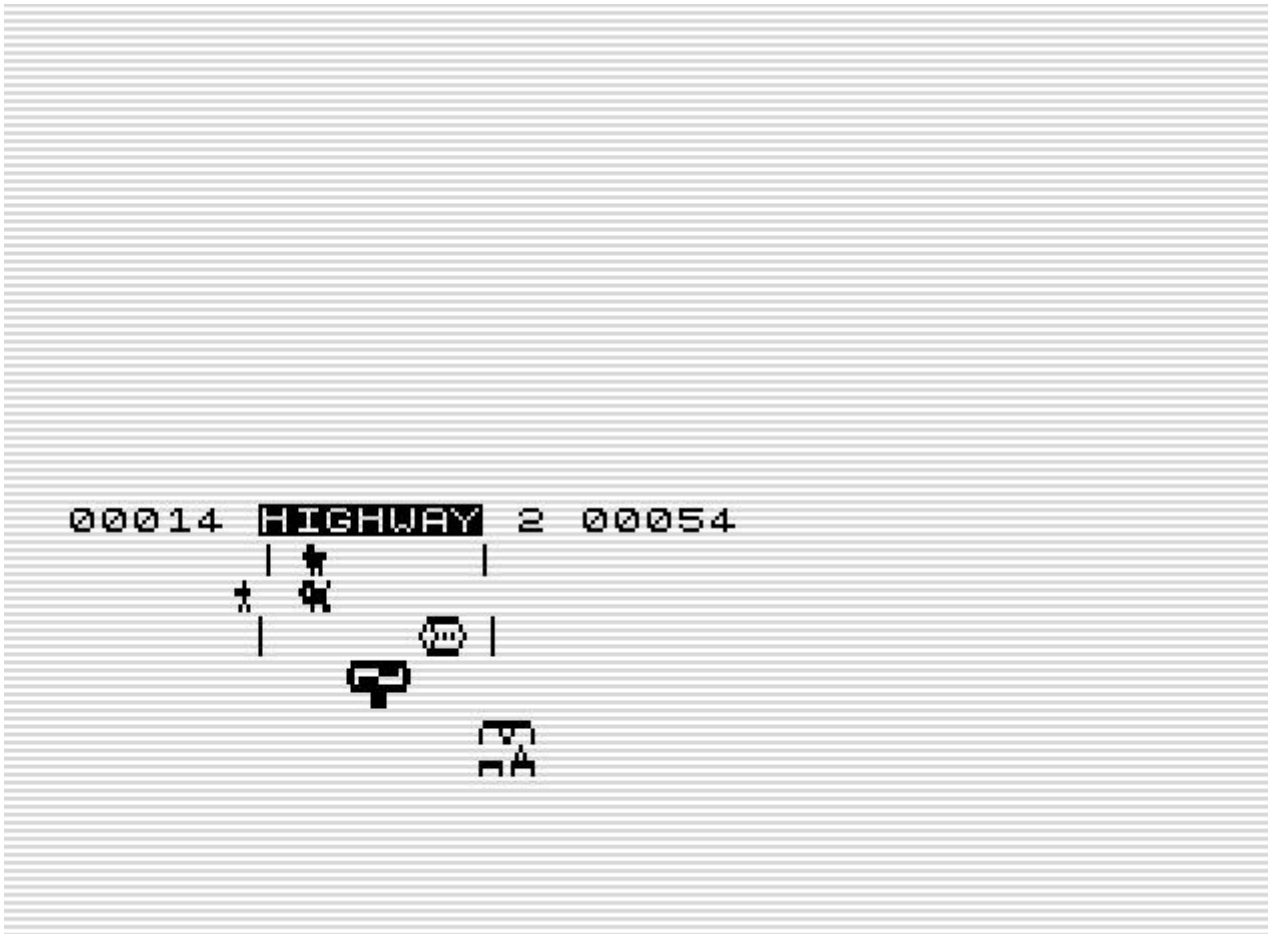


Highway



I thought that the old LCD games could be a base for games. I had HIGHWAY so this game is based on that LCD game. Just set UDG's on when needed. Besides that it is just a fixed screen.

```
; Highway
; Game 54 in 1K hires for the ZX81
; Based on a LCD game with the same name

? * TORNADO *

                ORG   #4009
                DUMP  49161

basic           LD     D,64                ; preset to copy disptab
                JR     init0

                DEFB  236,212,28           ; The BASIC
                DEFB  126                  ; fully placed over sysvar
                DEFB  143,0,18             ; start to BASIC=#4009

eline           DEFW  last                 ; needed to load
chadd           DEFW  last-1
xptr            DEFW  0
stkbot          DEFW  last                 ; needed to load
stkend          DEFW  last                 ; needed to load
berg            DEFB  0
mem             DEFW  0
                DEFB  0
```

```

init1      JP    init                ; init can be anywhere

; all above reusable AFTER loading

lastk      DEFB 255,255,255          ; used by ZX81
margin     DEFB 55                   ; used by ZX81
nxtlin     DEFW basic                ; reusable after load

init0      XOR   A                   ; delay intrupts by
          DEFB #16                   ; LD D,64
flagx      DEFB 64                   ; clever setting of flags

          LD    E,A                   ; intruptcounter reset
          EX    AF,AF'

taddr      DEFW 0                    ; used by ZX81,no hurting code
          LD    C,13                  ; frames is set ok

frames     DEFW #DD*256+1            ; used by ZX81, clever IX set
coprcc     LD    HL,hr                ; set IX
sposn      JR    init1
cdflag     DEFB 64                   ; used by zx81

hr          LD    HL,lowres+#8000      ; the lowres display
          LD    BC,#269                ; minimum needed
          LD    A,#1E
          LD    I,A
          LD    A,#FB
          CALL #2B5

hr00        LD    B,5                  ; outline lowres with hires
          RET    M                     ; never true
          DJNZ  hr00
          NOP

          LD    HL,screen-10           ; "start" of screendata
          LD    DE,10                  ; length of screenline
          EXX

          LD    D,lbuf/256+#80         ; set high byte lbuf

          LD    HL,#4000                ; display table
          LD    BC,5                   ; 5 layers of display

bwait      LD    B,12                  ; line filler
bw          DJNZ  bw

          LD    B,(HL)                 ; get nr of display lines
          INC   HL
          LD    E,(HL)                 ; get linebuffer to that lines
          INC   HL
          JR    nline

dloop      EX    (SP),HL               ; delay
          EX    (SP),HL

          DEC   B                       ; alter bit 0 of B

          EXX
          JR    nline2

nline      EXX
          ADD   HL,DE                   ; point to next dataline

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```

LD    A,L
AND   127
JP    Z,repair      ; 0 and 128 gives displayerror
DEFB  62            ; skip repair in 7 tstates
repair LD    L,(HL)      ; or get repair in 7 tstates

LD    A,(HL)        ; filler

nline2 LD    A,H
LD     I,A
LD     A,L
DEC    A            ; JP (HL) will set R again ok
EXX

EX     DE,HL        ; get linebuffer
CALL  #400A        ; LD R,A    JP (HL)
EX     DE,HL        ; save linebuffer
LD     A,B
RRCA
JR     NC,dloop     ; each line 2x
DJNZ  nline        ; do full block of lines
DEC    C
JR     NZ,bwait     ; do all block of lines

CALL  #292         ; back from intrupt
CALL  #220
LD     IX,hr
JP     #2A4

eog    LD     HL,score-1    ; standard hiscore check
LD     DE,hiscore-1
LD     BC,6
fihi   INC     HL
INC     DE
DEC     C
LD     A,(DE)
CP      (HL)
JR     Z,fihi
CALL  C,#19F9      ; set hiscore

start  LD     A,(lastk)    ; game over, wait for
SUB     %10111111      ; newline
JR     NZ,start

LD     A,31          ; set 3 lives
LD     (lives),A

LD     HL,score      ; reset score
LD     B,5
LD     (HL),28
INC     HL
DJNZ  ersc

LD     HL,lbuf
LD     B,5
cls    CALL  erlbuf      ; erase screen
DJNZ  cls

nxtlive LD     HL,lbuf+61
LD     (HL),64        ; erase left side lane
LD     L,lbuf*256/256+68
LD     (carpos+1),HL  ; reset startposition

CALL  clseat        ; erase old hiker

```

```

playloop    LD    DE,lbuff+59        ; move streets down
            LD    HL,lbuff+44
            LD    BC,45
            LDDR

            INC    HL
            CALL  erlbuff            ; erase top line

            LD    B,3
            CALL  rnd
            LD    HL,lbuff            ; set new obstacle on top
            ADD    A,A
            ADD    A,L
            LD    L,A
            LD    (HL),0            ; show obstacle
            INC    HL
            LD    (HL),0

dropcnt      LD    A,0
            DEC    A
            AND    15
            LD    (dropcnt+1),A
            JR    NZ,hitchcnt        ; each 16 steps show drop sign
            LD    (lbuff+9),A

hitchcnt     LD    A,20              ; counter hiker
            DEC    A
            JR    NZ,hikehigh

            LD    A,(seats)
            OR     A
            JR    NZ,hikehigh        ; hiker in car, no show

            INC    A
            LD    (lbuff),A          ; show hitchhiker

            LD    B,20
            CALL  rnd
            ADD    A,B

hikehigh     LD    (hitchcnt+1),A    ; new random start is set

doublp       PUSH  AF                ; first no carry

carpos       LD    HL,0              ; erase car
            LD    (HL),64
            INC    HL
            LD    (HL),64
            DEC    HL

            LD    A,%11011111
            IN     A,(254)
            LD    D,A                ; in port to D

            LD    BC,%1110000000000111
            LD    A,#A0              ; initialize ZXPAND joystick
            OUT    (C),A
            JR     zx2

zx2          IN     A,(C)            ; read joystick udlrf...
            RRA                      ; .udlrf..
            RRA                      ; ..udlrf.
            RRA                      ; ...udlrf
            RRA                      ; f...udlr

```

	CPL		
	AND 3		;lr only
	OR D		; add keyboard input
	LD C,L		; save old X pos
	RRA		; P or right joystick
	JR C,left		
	INC HL		; move right
	INC HL		
left	RRA		; O or left joystick
	JR C,valtest		
	DEC HL		; move left
	DEC HL		
valtest	LD A,L		
	SUB lbuf*256/256+60		; test left side move
	JR C,illmove		; not out of screen left
	PUSH HL		
	LD HL,lbuf-15		
	JR Z,sidetest		; move to hiker allowed?
	SUB 8		; test right side move
	POP HL		
	JR C,nokey		; not out of screen right
	PUSH HL		
	LD HL,lbuf-6		
	JR NZ,illmove-1		; legal move
sidetest	LD B,4		; test hiker or sign shown
t4	LD DE,15		
	ADD HL,DE		
	XOR (HL)		
	DJNZ t4		
	POP HL		
	JR NZ,nokey		; there is a hiker or sign
	DEFB 62		
	POP HL		
illmove	LD L,C		; illegal move
nokey	LD (carpos+1),HL		; save car X pos
	LD (HL),0		; show car
	INC HL		
	LD (HL),0		
	LD HL,frames		; delay
	LD A,255-10		
	ADD A,(HL)		
wfr	CP (HL)		
	JR NZ,wfr		
	POP AF		
	CCF		; change carry flag
	JR C,doublp		; allow 2 moves per drop
	LD A,C		; get current position
gethitch	CP lbuf*256/256+60		
	JR NZ,droptest		; no pick up
	LD A,(lbuf+45)		
	DEC A		
	JR NZ,droptest		; hiker not yet at bottom
seat	LD HL,seats		; set hiker in the car
	LD A,8		; first line of head

```

sline      LD      B,5
s1          LD      (HL),A
           INC     HL
           INC     HL
           DJNZ    s1
           CP      20
           LD      A,20                ; second line of head
           JR      NZ,sline

droptest   LD      A,C
           CP      lbuf*256/256+68    ; from above never on drop
           JR      NZ,deadtest
           LD      A,(lbuf+54)        ; get droppoint
           LD      HL,seats
           XOR     (HL)
           XOR     8                  ; test on droppoint AND hiker
           CALL    Z,clseat           ; erase hiker from car
           LD      HL,score+2         ; prepare 100 points
           JR      Z,tenloop          ; from clseat also Z

deadtest   LD      HL,(carpos+1)
           LD      A,L
           SUB     15
           LD      L,A
           LD      A,(HL)
           OR      A                  ; if line above visible, dead!

           JR      Z,dead              ; dead
           CP      64                ; not aside means a point
           LD      HL,score+4
pl          JP      NZ,playloop

tenloop    INC     (HL)
           LD      A,(HL)
           CP      38
           JR      NZ,pl
           LD      (HL),28
           DEC     HL
           JR      tenloop

dead       LD      B,31                ; odd number will erase car
deadshow   LD      A,64
           LD      HL,(carpos+1)      ; flash the car
           XOR     (HL)
           LD      (HL),A
           INC     HL
           LD      (HL),A
           LD      HL,frames          ; framedelay
           LD      A,(HL)
deadfr     CP      (HL)
           JR      Z,deadfr
           DJNZ    deadshow
           LD      HL,lives
           DEC     (HL)
           LD      A,(HL)
           CP      28
           JP      Z,eog               ; game over
           JP      nxlive              ; continue

erlbuf     LD      A,64
           LD      (HL),73            ; hide hiker and prevent score
           INC     HL

           XOR     (HL)                ; swap lines

```

```

LD      (HL),A

erline  LD      C,3                ; 3 fields to hide
LD      A,64
INC     HL
LD      (HL),A
INC     HL
LD      (HL),A
DEC     C
JR      NZ,erline

INC     HL
XOR     (HL)                    ; swap lines
LD      (HL),A
INC     HL
LD      A,64                    ; hide dropzone
LD      (HL),A

INC     HL                    ; skip rest of buffer
INC     HL                    ; can be shortened
INC     HL                    ; but not necessary
INC     HL
INC     HL
INC     HL
RET

clseat  LD      HL,seats          ; point to seat hiker
LD      C,2                    ; 2 loops
ccline  LD      B,5                ; 5 positions
clst    LD      (HL),0           ; erase seat
INC     HL
INC     HL
DJNZ    clst
DEC     C
JR      NZ,ccline
RET

rnd      LD      DE,0             ; default rnd routine
LD      HL,(frames)
ADD     HL,DE
DEC     HL
LD      A,H
AND     #1F
LD      H,A
LD      (rnd+1),HL
LD      A,(HL)
frnd    SUB     B
JR      NC,frnd
ADC     A,B
RET

x        EQU     101

lowres   DEFB    118
score    DEFB    28,28,28,28,28,0

lives    DEFB    "H"+x,"I"+x,"G"+x,"H"+x,"W"+x,"A"+x,"Y"+x,0
hiscore  DEFB    28,28,28,28,33,32
          DEFB    118

space    EQU     #426C-$         ; screen must be aligned
          DEFS    space          ; free coding space

```

```

screen    DEFB 2,8,3,0,0,0,0,0,32,0
          DEFB 7,8,7,224,3,192,7,224,32,224
          DEFB 136,0,0,0,0,0,0,0 ; repairline for view
          DEFB 2,8,3,192,1,128,10,16,32,224
          DEFB 5,8,1,64,1,128,7,224,32,64

          DEFB 2,16,7,16,15,240,15,240,16,224
          DEFB 15,16,13,224,15,240,18,8,16,224
          DEFB 2,16,7,224,3,192,18,8,16,64
          DEFB 5,16,1,48,3,192,15,240,16,64

          DEFB 14,32,14,0,31,248,15,240,8,112
          DEFB 46,32,27,4,54,108,20,8,8,80
          DEFB 52,32,15,248,31,248,34,164,8,112
          DEFB 30,32,3,240,3,192,20,8,8,32
          DEFB 10,32,6,24,3,192,15,240,8,32

          DEFB 4,64,30,0,127,254,1,0,4,0
          DEFB 8,0,0,0,0,0,0,0 ; repairline for view
          DEFB 10,64,59,4,192,251,2,0,4,62
          DEFB 36,64,15,248,223,3,31,248,4,34
          DEFB 30,64,27,240,127,254,40,4,4,62
          DEFB 14,64,3,60,3,192,69,178,4,8
          DEFB 31,64,14,12,3,192,40,4,4,8
          DEFB 10,64,0,0,0,0,31,248,4,8

          DEFB 63,252,63,252,63,252,63,252,63,252
          DEFB 66,66,66,66,66,66,66,66,66,66
          DEFB 65,130,65,130,65,130,65,130,65,130
seats     DEFB 8,16,8,16,8,16,8,16,8,16
          DEFB 20,40,20,40,20,40,20,40,20,40
          DEFB 126,126,126,126,126,126,126,126,126,126
          DEFB 129 ; repair line for view
          DEFB 66,66,66,66,66,66,66,66,66,66

lbuf      DEFB 1,9,0,0,0,0,0,0,9,0,64,64,64,64
          RET

init      LD SP,#4400
          LD HL,disptab
          LD B,E
          LDIR ; copy disptab over sysvar
          LD HL,lbuf
          LD DE,init
          LD C,4*15
          SCF
          JP start-3

disptab   DEFB 8,lbuf*256/256
          DEFB 8,lbuf*256/256+15
          DEFB 10,lbuf*256/256+30
          DEFB 14,lbuf*256/256+45
          DEFB 14,lbuf*256/256+60

L400A     LD R,A ; the display call for each
          JP (HL) ; line copies to #400A

vars      DEFB 128
?
last      EQU $

```