

I. Variables mentioned in transit station element methodologies

- c is total entrance capacity in p/min.
- ch is total entrance capacity in p/h.
- crevolve is capacity of a revolving entrance in p/min.
- cswing is capacity of a free swinging entrance in p/min.
- LOS is level of service.
- Ndoorway is the required number of doorways in doorways.
- Nrdoor is number of revolving doors in doors.
- Nsdoor is number of free swinging doors in doors.
- Vp is pedestrian demand in subject direction in p/min.
- vpmax is maximum pedestrian flow rate in p/ft/min.
- Wd is mean width of one free swinging door in inches.
- Wdtotal is required doorway total width in feet.

II. Worksheet information

II.1 General Information

Analyst: Any_Name
Agency or Company: Fazio_Engineerware
Analysis Date: 30_February_2018

II.2 Transit Station Information

Transit Line: Rapid_Transit_Blue_Line
Station Name: Harlem
Station Number: 4_Harlem_and_Kennedy_Expressway
Comment: 2020_forecast

III. Transit Station Access Element Methodology

Step 1 - Input Data

Element Type: Doorways
Desired LOS: C

| | |
|----------|-----------|
| Nsdoor = | 8 doors |
| Wd = | 36 inches |
| Nrdoor = | 1 doors |
| Vp = | 40 p/min |

Step 2 - Output

IV.1 Determine Required Number of Doorways

| | |
|------------|--------------|
| vpmax = | 15 p/ft/min |
| Wdtotal = | 2.67 ft |
| Ndoorway = | 1 doorway(s) |

IV.2 Determine Entrance Capacity

| | |
|------------|-----------|
| cswing = | 40 p/min |
| Nsdoor = | 8 door(s) |
| crevolve = | 25 p/min |
| Nrdoor = | 1 door(s) |
| c = | 345 p/min |
| ch = | 20700 p/h |

IV.3 Check if Capacity Exceeded

| |
|-----------------------|
| Vp > c ? |
| 40 p/min > 345 p/min? |
| Vp > c ? NO |

IV.4 Emergency Evacuation Capacity

The 2010 edition of NFPA 130 requires a minimum doorway or gate width of 36 in. The evacuation capacity of single-leaf doors or gates is 60 p/min. The evacuation capacity of bi-parting doors and gates is based on width: 2.08 p/in./min. Except where fare collection equipment provides unobstructed egress during an emergency, gates must provide at least half of the exit capacity.

| |
|------------------|
| Wd > 36 inches ? |
| 36 in > 36 in? |
| Wd > 36 in ? NO |

Evacuation capacity of single-leaf doors or gates: 60 p/min
Evacuation capacity of bi-parting doors or gates: 2.08 p/inch/min