Vissim 시뮬레이션 output 종류

2020.11.26

EV팀 / 이혜안

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Results of measurements

- Data collection measurements
  - from data collection points
- Delay measurements
  - from vehicle travel time measurements
- Area measurements
  - from sections
- from. Manual 11.6 Showing results of measurements

Node Evaluation (1/3)

- 정보
  - 전체 차량에 대해서도 뽑을 수 있고, 차종 별로도 뽑을 수 있음
- 측정
  - ?
- from. Manual 11.24 Evaluating nodes

Node Evaluation (2/3)

- **Results**
  - **Aggregated data (Attribute file from attribute list)**
    - **Vehs**
      - ✓ Number of vehicles
    - **VehDelay**
      - ✓ Delay 쪽 slide 참고
    - **LOS(All)**
      - ✓ Level of service (transport quality)
      - ✓ A to F for movements and edges, a density value (vehicle units / mile / lane)
      - ✓ It is based on the result attribute Vehicle delay (average).
    - **LOSVal(All)**
      - ✓ LOS value
      - ✓ 1 to 6 according to the LOS scheme assigned.
    - **Queue length**
      - ✓ Mean of all average queue lengths in a node.
    - **Queue length (maximum)**
      - ✓ Maximum queue length.

Node Evaluation (3/3)

- **Results (cont'd)**
  - **Raw data (ASCII file(*.knr) or MDB table)**
    - **VehType**
      - ✓ **Number of vehicle type**
    - **Delay**
      - ✓ **Delay time that it takes to leave the node starting from crossing the start section [s]**
    - **StopDelay**
      - ✓ **StopDelay within the node, starting from crossing the start section [s]**
    - **Stops**
      - ✓ **Number of stops within the node, starting from crossing the start section**

Data Collection (1/3)

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- 정보
  - the simulated number of vehicles를 알기 위해 사용됨
  - 전체 차량에 대해서도 뽑을 수 있고, 차종 별로도 뽑을 수 있음

- 측정
  - single point

- from. Manual 11.35 Evaluating data collection measurements

Data Collection (2/3)

- **Results**
  - **Aggregated data (Attribute file from attribute list)**
    - **Acceleration**
      - ✓ Average acceleration of the vehicles
    - **Distance**
      - ✓ Distance covered by the vehicles [m]
    - **Length**
      - ✓ Average length of the vehicles [m]
    - **Vehicles**
      - ✓ Total number of vehicles
    - **Queue delay**
      - ✓ Total time that the vehicles have spent so far stuck in a queue, if the queue conditions are met. [s]
      - ✓ Queue delay of all vehicles of the data collection measurement in the interval
    - **Speed**
      - ✓ Average speed of the vehicle at the data collection point
      - ✓ arithmetic, harmonic
    - **Occupancy rate**
      - ✓ Share of time in the last simulation step, during which at least one data collection point was occupied. [%]

Data Collection (3/3)

- Results (cont'd)
  - Raw Data (ASCII file, *.mer)
    -

t(enter)	Time at which the front end of the vehicle has passed the data collection point
t(leave)	Time at which the rear end of the vehicle has passed the data collection point
VehNo	Internal number of the vehicle
Type	Vehicle type
v	Speed [km/h]
b	Acceleration [m/s^2]
Occ	Occupancy [s] Time that the vehicle has spent above data collection point in this simulation second
tQueue	Queue time [s] Total time which the vehicles have spent so far stuck in a queue, if the queue conditions are met

Vehicle Travel Time Measurements (1/2)

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- 정보
  - From Section에서 To Section까지의 travel time의 평균
    - From Section과 To Section은 network에서 미리 정의되어야 함
  - waiting time and/or stop time 포함
  - 전체 차량에 대해서도 뽑을 수 있고, 차종 별로도 뽑을 수 있음

- 측정
  - 구간

- Results
  - Aggregated data (Attribute file from attribute list)
    - Vehicles
      - ✓ 차량 수
    - Travel time
      - ✓ travel time의 평균 [s]
    - Distance traveled
      - ✓ 이동 거리의 평균 [m]

Vehicle Travel Time Measurements (2/2)

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- Results (cont'd)
  - Raw Data (ASCII file(*.rsr) or MDB table)
    - Time
      - ✓ simulation second
    - No
      - ✓ number of simulation run
    - Veh
      - ✓ number of vehicle
    - VehType
      - ✓ number of vehicle type
    - TravTm
      - ✓ travel time [s]
    - Dist
      - ✓ distance [m]
    - Delay
      - ✓ delay time [s]

- from. Manual 11.36 Evaluating vehicle travel time measurements

Link Segment

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- 정보
  - 전체 차량에 대해서도 뽑을 수 있고, 차종 별, 차량 별로도 뽑을 수 있음

- Results
  - Aggregated data (Attribute file from attribute list)
    - Volume
      - ✓ The average number of vehicles that have entered and exited the sections on the meso edge.
    - Density
      - ✓ Vehicle density
    - Speed
      - ✓ Average speed
    - DelayRel
      - ✓ Delay (Relative)
      - ✓ Total delay divided by total travel time of all vehicles in this link segment during this time interval [%]

- from. Manual 11.39 Showing data from links in lists

Queue counters (1/3)

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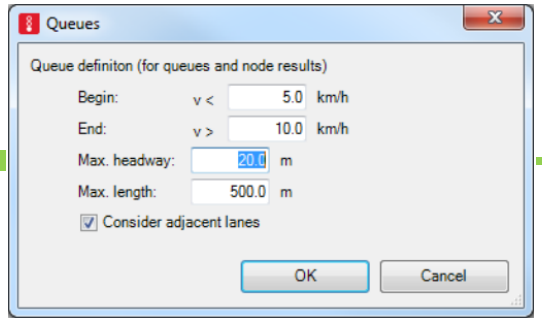
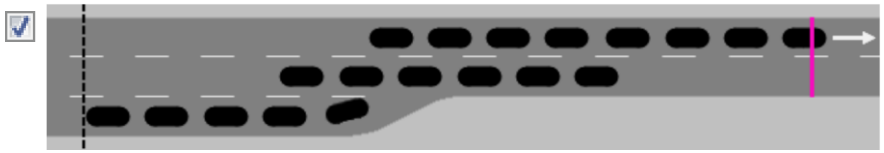
- 정보
  - output
    - maximum queue length [m]
      - ✓ as long as the distance to the next queue counter upstream
      - ✓ as long as specified in the queue definition for the attribute Max. length.
    - average queue length [m]
    - number of queue stops
  - 전체 차량에 대해서도 뽑을 수 있고, 차종 별로도 뽑을 수 있음

- 측정
  - single point

- from. Manual 11.40 Showing results of queue counters in lists

Queue counters (2/3)



- **Settings**
  - **Begin**
    - A vehicle is in queue if its speed is less than the value.
  - **End**
    - A vehicle remains in queue as long as its speed has not yet exceeded the value.
  - **Max. headway**
    - Maximum net distance which can occur between two vehicles in queue.
    - The queue is considered to be interrupted if there are larger gaps.
  - **Max. length**
    - Maximum queue length. Longer queues may still occur.
    - This attribute is useful if longer queues occur at the next node in the network, but the queues are to be evaluated separately for each junction.
  - **Consider adjacent lanes**
    - 
    - 

Queue counters (3/3)

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- **Results**
  - **Aggregated data (Attribute file from attribute list)**
    - **QLen**
      - ✓ **Maximum distance between the traffic counter and the vehicle that meets the queue conditions defined.**
      - ✓ **With each time step, the current queue length is measured upstream by the queue counter and the arithmetic mean is thus calculated per time interval. This also includes zero values, if there is no vehicle that meets the queue condition.**
    - **QLenMax**
      - ✓ **Queue length (maximum)**
      - ✓ **In each time step, the current queue length is measured upstream by the queue counter and the maximum is thus calculated per time interval.**
    - **QStops**
      - ✓ **Queue가 생성된 후부터 그 queue에 들어오는 차량 대수**
      - ✓ **Number of queue stops.**
      - ✓ **A queue stop is where one vehicle that is directly upstream or within the queue length exceeds the speed of the Begin.**

Delay (1/2)

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- 정보
  - The average delay for all observed vehicles compared to a trip w/o any other vehicles, signal controls or other required stops.
  - Vehicle travel time measurement와 delay measurement가 network에 설정되어 있어야 함.
  - 전체 차량에 대해서도 뽑을 수 있고, 차종 별로도 뽑을 수 있음

- 측정
  - 구간

- from. Manual 11.41 Showing delay measurements in lists

Delay (2/2)

- **Results**
  - **Aggregated data (Attribute file from attribute list)**
    - **StopDelay**
      - ✓ Average stopped delay per vehicle [s]
    - **VehDelay**
      - ✓ Average delay of all vehicles
      - ✓ = (actual travel time) – (theoretical (ideal) travel time)
      - ✓ The theoretical travel time is the travel time which could be achieved if there were no other vehicles and/or no signal controls or other reasons for stops.
    - **Stops**
      - ✓ Average number of vehicle stops per vehicle.
    - **Vehs**
      - ✓ Number of vehicles

감사합니다.