

## Proposed Des Moines Area MPO Congestion Management Metrics and Thresholds

### Level 1

To determine potential congestion, roadways will be reviewed to determine their Peak Hour Level of Service (LOS) and Speed as a Percentage of Free Flow Speed. If LOS is below D or the Percent of Free Flow Speed is below 40% then the analysis will move on to the second level. If neither one of those two criterion is met, then the road is determined to not be congested.

Roadway LOS	Next Level of Analysis
A – D	No
E – F	Yes

Source: *Mobilizing Tomorrow*

Percent of Free Flow Speed	Next Level of Analysis
100% - 40%	No
<40%	Yes

Source: *Geometric Design of Roads Handbook, 2015*

### Level 2

Roadways that pass Level 1 will be reviewed using INRIX data to determine the road’s travel time index and planning time index. The travel time index is an index used to show travel time represented as a percentage of the ideal travel time. A travel time index of 1.0 indicates free flow speed while an index of 1.50 means that on average, it will take a user 50% longer to travel on that road segment.

The planning time index represents the total travel time that should be planned for in order to arrive at ones destination on time 95% of the time. This means the planning time index compares near-worst case travel time to travel in free-flow traffic. A planning time index of 1.60 means that for a 5 minute trip in no traffic, the total time that should be planned for the trip is 8 minutes.

Using the tables below, if a roadway has a combine **8 points or more**, then it is considered **congested**. If it receives 7 points or less then it will be considered not congested.

Travel Time Index	Points
0 – 1.30	0
1.301 – 1.50	2
1.501 – 2.00	4
2.001 – 3.00	6
>3.000	8

Source: *Travel Time Study 2013, Mid-America Regional Council Transportation Department*

Planning Time Index	Points
0 – 1.30	0
1.301 – 1.50	1
1.501 – 2.00	2
2.001 – 3.00	3
>3.000	4