

Delay Category Definitions –

1. “Project Delay Estimate”

- Origin: Project specific, calculated using traffic model or estimated using look-up tables, inputs include ADT or hourly traffic volumes, % Trucks, Lane Capacity, terrain, etc.
- Definition: The AVERAGE length of time any given motorist would expect to be delayed while driving through a work zone.
- Example 1: A project on I-84 requires a reduction in lanes from two to one and a speed reduction from 65 to 55 for a period of 18 months. The delay estimate for this project is .5 minutes. Over the duration of the project, a motorist could expect on average to be delayed an additional 30 seconds while traveling through the work zone. This number **does not** necessarily represent the maximum delay that any one vehicle may experience. However, for this example (and all others except bi-directional work zones), there will be little difference between the average delay and the minimum/maximum delay that any one vehicle would be expected to experience. For monitoring purposes, the Mobility Databases would reflect .5 minutes of delay for this project.
- Example 2: Maintenance has scheduled some crack sealing work in segment 1-A on US 26, requiring a bi-directional work zone. The project delay estimate for this project is 8.5 minutes, assuming pilot car operation. This represents the estimated average delay for all vehicles in the queue. Vehicles at the back of the queue would experience less delay. Vehicles at the front would experience more delay. The maximum delay for the vehicle at the front of the queue would be “approximately” double the average delay or 17 minutes. For monitoring purposes, the Mobility Databases would reflect 8.5 minutes of delay for this project.

2. “Segment Delay Estimate”

- Origin: Summation of all Project Delay Estimates within a segment.
- Definition: The AVERAGE duration of time any given motorist would expect to be delayed while traveling from one end of the segment to the other.
- Example 3: I-5 North segment 2-B includes three concurrent projects. The sum of the individual “Project Delay Estimates” is 5 minutes. Therefore,

a motorist could expect on average to be delayed an additional 5 minutes while traveling through this segment. This number is then compared directly to “Segment Delay Threshold” (see below).

3. “Segment Delay Threshold”

Origin: Corridor Delay Threshold Memo

Definition: The total delay limit for a segment or corridor that is **not** to be exceeded by the “Segment Delay Estimate” or by actual field delay measurements. It represents the assumed tolerable limit of delay by motorists. During project planning and design, this number is compared to the “Segment Delay Estimate” to determine if mitigation strategies may be necessary. Such strategies may include project rescheduling, revisions to the traffic control plan, etc. During actual construction, this number is compared with field delay measurements to determine if mitigation strategies are necessary.

Example 4: Continuing with Example 3, the I-5 North segment 2-B has a “Segment Delay Threshold” of 7 minutes. This value exceeds the “Segment Delay Estimate” of 5 minutes. Thus, mitigation strategies would not be pursued during project planning and design. However, the project would be monitored during construction to determine if mitigation strategies will be necessary at a later time.

4. “Expect XX minute delays”

Origin: Advance notice to the public – Signs, trip check, PIR, etc.

Definition: The MAXIMUM duration of time any given motorist would expect to be delayed while driving through a work zone. Applicable primarily to bi-directional work zones.

Example 5: Continuing with Example 2, the maintenance supervisor needs to post this delay to the public. To estimate the maximum, the supervisor doubles the “Project Delay Estimate” (8.5 minutes X 2 = 17 minutes). The Supervisor then rounds down, and advertises to “Expect 15 minute delays”. Any motorist traveling through this site would expect that their maximum additional trip time would be 15 minutes. Note that the average delay time would be 7.5 minutes. The contractor would be expected to manage the project such that the MAXIMUM delay is not exceeded. By doing this, it would be expected that the “Project Delay Estimate” would not be exceeded either.

5. Illustration of Delay Terms

