**APPENDIX**

**Appendix A**

**Overview of FARS Crash Types and Pre-Event for hypothetical collisions per scenario**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Subject Vehicle** | **Challenging Vehicle** |
| **Pre-Event Movement** | **Critical Event - Precrash** | **Crash Type** | **Pre-Event Movement** | **Pre-Impact Location** | **Crash Type** |
| **PC17** | **PC18** | **PC19** | **PC23** | **PC17** | **PC22** | **PC23** |
| **A** | 1, 2, 3 | 3 | 50, 51, 52 | 20, 24, 28 | 1, 2, 3 | 1 | 21, 25, 29 |
| **Bleft** | 1, 2, 3 | 4 | 60 | 20, 24, 28 | 1, 2, 3, 15, 15 | 2 | 21, 25, 29 |
| **Bright** | 1, 2, 3 | 4 | 61 | 20, 24, 28 | 1, 2, 3, 15, 16 | 2 | 21, 25, 29 |
| **Cleft** | 1, 2, 3 | 4 | 60 | 20, 24, 28 | 6, (15, 16) | 2 | 21, 25, 29 |
| **Cright** | 1, 2, 3 | 4 | 61 | 20, 24, 28 | 6, (15, 16) | 2 | 21, 25, 29 |
| **Dleft** | 1, 2, 3 | 4 | 60 | 45 | 6, 15, 16 | 2 | 46 |
| **Dright** | 1, 2, 3 | 4 | 61 | 45 | 6, 15, 16 | 2 | 47 |
| **Eleft** | 1, 2, 3, 6 | 4 | 60 | 45 | 6, 15, 16 | 2 | 46 |
| **Eright** | 1, 2, 3, 6 | 4 | 61 | 45 | 6, 15, 16 | 2 | 47 |
| **Fleft** | 1, 2, 3, 6 | 4 | 60 | 45 | 15, 16 | 2 | 46 |
| **Fright** | 1, 2, 3, 6 | 4 | 61 | 45 | 15, 16 | 2 | 47 |
| **Gleft** | 6 | 4 | 60 | 25, (21, 28) | 1, 2, 3, 15, 16 | 2 | 24, (20, 28) |
| **Gright** | 6 | 4 | 61 | 25, (21, 28) | 1, 2, 3, 15, 16 | 2 | 24, (20, 28) |
| **Hleft** | 1, 2, 3 | 4 | 60 | 25, (21, 28) | 1, 3, (2) | 2 | 24, (20, 28) |
| **Hright** | 1, 2, 3 | 4 | 61 | 25, (21, 28) | 1, 3, (2) | 2 | 24, (20, 28) |
| **I** | 1, 2, 3 | 3 | 53 | 25, (21, 28) | 1, (2), 3 | 1 | 24, (20, 28) |

**PC17:** 1 – Going Straight; 2 – Decelerating in Road; 3 – Accelerated in Road; 6 – Passing or Overtaking another Vehicle; 15 – Changing Lanes; 16 – Merging

**PC18:** 3 – Other Motor Vehicle in Lane; 4 – Other Motor Vehicle Encroaching into Lane

**PC19:** 50 – Other Vehicle Stopped; 51 – Travelling in Same Direction With Lower Steady Speed;52 – Travelling in Same Direction While Decelerating; 60 – From Adjacent Lane (Same Direction) Over Left Lane Line; 61 – From Adjacent Lane (Same Direction) Over Right Lane Line

**PC22:** 1 – Stayed in Original Travel Lane; 2 – Stayed on the Roadway but Left Original Travel Lane

**PC23:** 20 – Rear-End: Stopped; 21 – Rear-End: Stopped Straight; 24 – Rear-End: Slower; 25 – Rear-End: Slower, Going Straight; 28 – Rear-End: Decelerating; 29 – Rear-End: Decelerating, Going Straight; 45 – Sideswipe/Angle: Straight Ahead on Left/Right; 46 – Sideswipe/Angle: Changing Lanes to the Right; 47 – Sideswipe/Angle: Changing Lanes to the Left

**Appendix B**

### Overview of action restriction configurations

|  |  |
| --- | --- |
| Object in front of SV | Object behind SV |
| Object to side of SV | Blockage to side of SV |
| Blockage to side with drivable gap |  |