## Appendix 4.2.2-C Vibration Impact Tables

**Table 1.** Summary of Vibration Screening Distances and Potential Vibration Impacts for MCO Segment

| Land Use Category | At Grade Impact Contour Distance (feet) | Number of Impacted Parcels |
|---|---|---|
| Category 1 | 200 | 0 |
| Category 2 | 70 | 0 |
| Category 3 | 50 | 0 |
| Concert Halls | 200 | 0 |
| TV Studios | 200 | 0 |
| Recording Studios | 200 | 0 |
| Auditoriums | 35 | 0 |
| Theaters | 35 | 0 |

Source: AMEC

**Table 2.** Summary of Vibration Impact Contours and Vibration Impacts in Brevard (EW) County for All East-West Alternatives

| Land Use Category | At Grade | Elevated | Number of Impacted Parcels |
|---|---|---|---|
| | Impact Contour Distance (feet) | Impact Contour Distance (feet) | |
| Category 1 | 505 | 175 | 0 |
| Category 2 | 175 | 60 | 117 |
| Category 3 | 130 | 40 | 8 |
| Concert Halls | 505 | 175 | 0 |
| TV Studios | 505 | 175 | 0 |
| Recording Studios | 505 | 175 | 0 |
| Auditoriums | 105 | 30 | 0 |
| Theaters | 105 | 30 | 0 |

Source: AMEC

**Table 3.** Summary of Vibration Impact Contours and Vibration Impacts in Orange (East) County for Alternative A

| Land Use Category | At Grade | Elevated | Number of Impacted Parcels |
|---|---|---|---|
| | Impact Contour Distance (feet) | Impact Contour Distance (feet) | |
| Category 1 | 555 | 190 | 0 |
| Category 2 | 115 | 35 | 1 |
| Category 3 | 80 | 20 | 2 |
| Concert Halls | 555 | 190 | 0 |
| TV Studios | 555 | 190 | 0 |
| Recording Studios | 555 | 190 | 0 |
| Auditoriums | 115 | 35 | 0 |
| Theaters | 115 | 35 | 0 |

Source: AMEC

**Table 4.** Summary of Vibration Impact Contours and Vibration Impacts in Orange (West) County for Alternative A

| Land Use Category | At Grade | Elevated | Number of Impacted Parcels |
|---|---|---|---|
| | Impact Contour Distance (feet) | Impact Contour Distance (feet) | |
| Category 1 | 195 | 65 | 0 |
| Category 2 | 35 | 0 | 0 |
| Category 3 | 25 | 0 | 2 |
| Concert Halls | 195 | 65 | 0 |
| TV Studios | 195 | 65 | 0 |
| Recording Studios | 195 | 65 | 0 |
| Auditoriums | 35 | 0 | 0 |
| Theaters | 35 | 0 | 0 |

Source: AMEC

**Table 5.** Summary of Vibration Impact Contours and Vibration Impacts in Palm Beach County

| Land Use Category | Existing Freight | *North-South Corridor Alternative* | |
|---|---|---|---|
| | **Impact Contour Distance (feet)[1]** | **Impact Contour Distance (feet)[1]** | **Number of Impacted Parcels[2]** |
| Category 1 | 575 | 475 | 0 |
| Category 2 | 255 | 170 | 590 |
| Category 3 | 195 | 125 | 90 |
| Concert Halls | 575 | 475 | 0 |
| TV Studios | 575 | 475 | 0 |
| Recording Studios | 575 | 475 | 1 |
| Auditoriums | 255 | 100 | 0 |
| Theaters | 255 | 100 | 3 |

[1]Calculated from corridor centerline

[2]Represents parcels that were already impacted from existing freight, but will be additionally impacted due to approximate doubling of vibration-causing events

Source: AMEC

**Table 6.** Summary of Vibration Impact Contours and Vibration Impacts in Martin County

| Land Use Category | Existing Freight | *North-South Corridor Alternative* | |
|---|---|---|---|
| | **Impact Contour Distance (feet)[1]** | **Impact Contour Distance (feet)[1]** | **Number of Impacted Parcels[2]** |
| Category 1 | 465 | 420 | 0 |
| Category 2 | 220 | 150 | 586 |
| Category 3 | 165 | 110 | 84 |
| Concert Halls | 465 | 420 | 4 |
| TV Studios | 465 | 420 | 3 |
| Recording Studios | 465 | 420 | 0 |
| Auditoriums | 220 | 90 | 2 |
| Theaters | 220 | 90 | 1 |

[1]Calculated from corridor centerline

[2]Represents parcels that were already impacted from existing freight, but will be additionally impacted due to approximate doubling of vibration-causing events

Source: AMEC

**Table 7.** Summary of Vibration Impact Contours and Vibration Impacts in St Lucie County

| Land Use Category | Existing Freight | *North-South Corridor Alternative* | |
|---|---|---|---|
| | Impact Contour Distance (feet)[1] | Impact Contour Distance (feet)[1] | Number of Impacted Parcels[2] |
| Category 1 | 505 | 495 | 0 |
| Category 2 | 230 | 175 | 721 |
| Category 3 | 175 | 130 | 142 |
| Concert Halls | 505 | 495 | 1 |
| TV Studios | 505 | 495 | 0 |
| Recording Studios | 505 | 495 | 1 |
| Auditoriums | 230 | 105 | 0 |
| Theaters | 230 | 105 | 0 |

[1]Calculated from corridor centerline

[2]Represents parcels that were already impacted from existing freight, but will be additionally impacted due to approximate doubling of vibration-causing events

Source: AMEC

**Table 8.** Summary of Vibration Impact Contours and Vibration Impacts in Indian River County

| Land Use Category | Existing Freight | *North-South Corridor Alternative* | |
|---|---|---|---|
| | Impact Contour Distance (feet)[1] | Impact Contour Distance (feet)[1] | Number of Impacted Parcels[2] |
| Category 1 | 575 | 570 | 0 |
| Category 2 | 255 | 195 | 241 |
| Category 3 | 195 | 145 | 63 |
| Concert Halls | 575 | 570 | 4 |
| TV Studios | 575 | 570 | 0 |
| Recording Studios | 575 | 570 | 1 |
| Auditoriums | 255 | 120 | 3 |
| Theaters | 255 | 120 | 3 |

[1]Calculated from corridor centerline

[2]Represents parcels that were already impacted from existing freight, but will be additionally impacted due to approximate doubling of vibration-causing events

Source: AMEC

**Table 9.** Summary of Vibration Impact Contours and Vibration Impacts in Brevard (NS) County

| Land Use Category | Existing Freight | *North-South Corridor Alternative* | |
|---|---|---|---|
| | Impact Contour Distance (feet)[1] | Impact Contour Distance (feet)[1] | Number of Impacted Parcels[2] |
| Category 1 | 570 | 525 | 0 |
| Category 2 | 250 | 185 | 1179 |
| Category 3 | 195 | 135 | 134 |
| Concert Halls | 570 | 525 | 0 |
| TV Studios | 570 | 525 | 0 |
| Recording Studios | 570 | 525 | 0 |
| Auditoriums | 250 | 110 | 4 |
| Theaters | 250 | 110 | 0 |

[1]Calculated from corridor centerline

[2]Represents parcels that were already impacted from existing freight, but will be additionally impacted due to approximate doubling of vibration-causing events

Source: AMEC

**Table 10.** Summary of Vibration Impact Contours and Vibration Impacts in Orange (East) County for Alternative C

| Land Use Category | At Grade | Elevated | Number of Impacted Parcels |
|---|---|---|---|
| | Impact Contour Distance (feet) | Impact Contour Distance (feet) | |
| Category 1 | 555 | 190 | 0 |
| Category 2 | 115 | 35 | 1 |
| Category 3 | 80 | 20 | 2 |
| Concert Halls | 555 | 190 | 0 |
| TV Studios | 555 | 190 | 0 |
| Recording Studios | 555 | 190 | 0 |
| Auditoriums | 115 | 35 | 0 |
| Theaters | 115 | 35 | 0 |

Source: AMEC

**Table 11.** Summary of Vibration Impact Contours and Vibration Impacts in Orange (West) County for Alternative C

| Land Use Category | At Grade | Elevated | Number of Impacted Parcels |
|---|---|---|---|
| | Impact Contour Distance (feet) | Impact Contour Distance (feet) | |
| Category 1 | 195 | 65 | 0 |
| Category 2 | 35 | 0 | 0 |
| Category 3 | 25 | 0 | 2 |
| Concert Halls | 195 | 65 | 0 |
| TV Studios | 195 | 65 | 0 |
| Recording Studios | 195 | 65 | 0 |
| Auditoriums | 35 | 0 | 0 |
| Theaters | 35 | 0 | 0 |

Source: AMEC

**Table 12.** Summary of Vibration Impact Contours and Vibration Impacts in Orange (East) County for Alternative E

| Land Use Category | At Grade | Elevated | Number of Impacted Parcels |
|---|---|---|---|
| | Impact Contour Distance (feet) | Impact Contour Distance (feet) | |
| Category 1 | 555 | 190 | 0 |
| Category 2 | 115 | 35 | 0 |
| Category 3 | 80 | 20 | 2 |
| Concert Halls | 555 | 190 | 0 |
| TV Studios | 555 | 190 | 0 |
| Recording Studios | 555 | 190 | 0 |
| Auditoriums | 115 | 35 | 0 |
| Theaters | 115 | 35 | 0 |

Source: AMEC

**Table 13.** Summary of Vibration Impact Contours and Vibration Impacts in Orange (West) County for Alternative E

| Land Use Category | At Grade | Elevated | Number of Impacted Parcels |
|---|---|---|---|
| | Impact Contour Distance (feet) | Impact Contour Distance (feet) | |
| Category 1 | 195 | 65 | 0 |
| Category 2 | 35 | 0 | 1 |
| Category 3 | 25 | 0 | 2 |
| Concert Halls | 195 | 65 | 0 |
| TV Studios | 195 | 65 | 0 |
| Recording Studios | 195 | 65 | 0 |
| Auditoriums | 35 | 0 | 0 |
| Theaters | 35 | 0 | 0 |

Source: AMEC

**Table 14.** **North-South Corridor** Construction Vibration Annoyance Impact Contours and Summary of Impacts

| Land Use Category | Pile Driver (Impact) – Upper Range | | Large Bulldozer | |
|---|---|---|---|---|
| | Impact Contour | # of Impacts | Impact Contour | # of Impacts |
| 1 | 920 | 0 | 135 | 4 |
| 2 | 535 | 693 | 75 | 1551 |
| 3 | 425 | 61 | 60 | 217 |
| Concert Halls (4) | 920 | 0 | 135 | 3 |
| TV Studios (4) | 920 | 0 | 135 | 0 |
| Recording Studios (4) | 920 | 0 | 135 | 0 |
| Auditoriums (5) | 535 | 0 | 75 | 1 |
| Theaters (6) | 535 | 0 | 75 | 0 |

Source: AMEC

**Table 15.** **East-West Corridor** Construction Vibration Annoyance Impact Contours and Summary of Impacts

| Land Use Category | Pile Driver (Impact) – Upper Range | | Large Bulldozer | |
|---|---|---|---|---|
| | Impact Contour | # of Impacts | Impact Contour | # of Impacts |
| 1 | 920 | 0 | 135 | 0 |
| 2 | 535 | 143 | 75 | 83 |
| 3 | 425 | 41 | 60 | 12 |
| Concert Halls (4) | 920 | 0 | 135 | 0 |
| TV Studios (4) | 920 | 0 | 135 | 0 |
| Recording Studios (4) | 920 | 0 | 135 | 0 |
| Auditoriums (5) | 535 | 0 | 75 | 0 |
| Theaters (6) | 535 | 0 | 75 | 0 |

Source: AMEC

**Table 16.** **North-South Corridor** Construction Vibration Damage Impact Contours and Summary of Impacts

| Building Category | Pile Driver (Impact) – Upper Range | Large Bulldozer | Number of Impacted Structures |
|---|---|---|---|
| | Impact Contour Distance (feet) | | |
| I. Reinforced-concrete, steel or timber (no plaster) | 50 | -- | 0 |
| II. Engineered concrete and masonry (no plaster) | 70 | -- | 0 |
| III. Non-engineered timber and masonry buildings | 95 | -- | 0 |
| IV. Buildings extremely susceptible to vibration damage | 135 | -- | 0 |

Source: AMEC

**Table 17.** **East-West Corridor** Construction Vibration Damage Impact Contours and Summary of Impacts

| Building Category | Pile Driver (Impact) – Upper Range | Large Bulldozer | Number of Impacted Structures |
|---|---|---|---|
| | Impact Contour Distance (feet) | | |
| I. Reinforced-concrete, steel or timber (no plaster) | 50 | -- | 0 |
| II. Engineered concrete and masonry (no plaster) | 70 | -- | 0 |
| III. Non-engineered timber and masonry buildings | 95 | -- | 0 |
| IV. Buildings extremely susceptible to vibration damage | 135 | -- | 0 |

Source: AMEC