

Appendix 3
ODOT Seasonal Adjustments

APPENDIX 3: ODOT SEASONAL ADJUSTMENTS

This appendix describes the process used to develop design hour volumes for the Existing Conditions Analysis in the Clackamas County Transportation System Plan (TSP). Existing count volumes were collected in 2012 at the selected study intersections. Counts on state facilities were seasonally adjusted to reflect the 30th highest hour of traffic at the intersection. Seasonal factors were developed based on the methodology in the *Analysis Procedures Manual (APM)*. The following methods were used to develop seasonal adjustments, as appropriate:

- On-Site ATR Method
- ATR Characteristic Table Method
- ATR Seasonal Trend Table Method

Each facility and the respective adjustments made are described below. Table 3 summarizes the adjustments made at all study intersections.

Highway: OR 213-SE 82nd Avenue (Cascade Highway North No. 68)

Segment: SE Johnson Creek Road to SE Sunnybrook Boulevard (10 intersections)

ATR: There is no ATR located along this segment of SE 82nd Avenue. Following the ATR Characteristics Table method we identified two ATR's, including 03-018 and 26-003 which are both located along commuter facilities within urbanized areas. Both facilities also have five lanes, a weekday traffic trend, and an AADT within 10 percent of the AADT within the study segment. However, 03-018 is located along an adjacent facility. Therefore, the traffic volumes along this segment of SE 82nd Avenue were adjusted based on 03-018 which has an adjustment of **1.03**.

Highway: OR 224 (Clackamas Highway No. 171)

Segment: SE Rusk Road to SE Johnson Road (three intersections)

ATR: 03-018 - This ATR is located along OR 224 within the study segment. The ATR has three years of traffic data available that result in an adjustment of 1.03. Given the location of the ATR with respect to the study intersections, the traffic volumes along this segment of OR 224 were adjusted by **1.03**.

Highway: 99E (Pacific Hwy East No. 81)

Segment: SE Park Avenue to SE Glen Echo Avenue (seven intersections)

ATR: There is no ATR located along this segment of 99E. Following the ATR Characteristics Table method we identified three ATR's, including 03-018, 26-003, and 27-006 which are all located along commuter facilities within urbanized areas. Each facility has five lanes, a weekday traffic trend, and an AADT within 10 percent of the AADT within the study segment. However, 03-018 is located along an adjacent facility. Therefore, the traffic volumes along this segment of 99E were adjusted based on 03-018 which has an adjustment of **1.03**.

Highway: OR 224/212 (Clackamas Highway No. 171)

Segment: I-205 to SE 172nd Ave (nine intersections)

ATR: 03-017 - This ATR is located along OR 224/212 within the study segment. The ATR has four years of traffic data available that result in an adjustment of 1.10. Given the location of the ATR with respect to the study intersections, the traffic volumes along this segment of OR 224/212 were adjusted by **1.10**.

Highway: OR 224 (Clackamas Highway No. 171)

Segment: S. Springwater Road to OR 211 (three intersections)

ATR: There is no ATR located along this segment of OR 224. Following the ATR Characteristics Table method we identified three ATR's, including 03-006, 05-006, and 09-015 which are all located along recreational summer/winter and summer facilities within rural areas. Each facility has two travel lanes, a weekend traffic trend, and an AADT within 10 percent of the AADT within the study segment. However, a review of the most recent data available for each ATR indicates that the adjustment factors would be greater than 1.30. Therefore, the traffic volumes along OR 224 were adjusted based on the Seasonal Trend Table method using an average of the commuter and summer trends which has an adjustment of **1.23**.

Highway: 99E (Pacific Highway East No. 81)

Segment: S South End Road to S Barlow Rd (two intersections)

ATR: There are no ATR's located along this segment of 99E. Following the ATR Characteristics Table method we identified two ATR's, including 18-018 and 27-006 which are both located along commuter facilities within small urban and urbanized areas. Both facilities also have five travel lanes and an AADT within 10 percent of the AADT within the study segment. However, a review of the last five years of traffic data indicates that the peak month of 18-018 changes significantly from year to year along with the percent of ADT. Therefore, the traffic volumes along this segment of 99E were adjusted based on ATR 27-006 which has an adjustment of **1.08**.

Highway: OR 211 (Woodburn-Estacada Highway No. 161)

Segment: S Barlow Rd to S Union Mills Road (three intersections) and OR 224 (one intersection)

ATR: 03-014 - This ATR is located several miles east of the intersections between S Barlow Road and S Union Mills Road and several miles west of the intersection at OR 224. The ATR has several years of traffic data available that result in an adjustment of 1.21. However, the AADT at the ATR is not within 10 percent of the AADT near the intersection. Therefore, a profile of the AADT was created for the ATR and compared to the profiles associated with the Seasonal Trend Table. The ATR profile most closely resembles an average of the commuter and summer trends which has an adjustment of 1.23. The traffic volumes along OR 211 at this intersection were adjustment by 1.23.

Highway: OR 213 (Cascade Highway North No. 68)

Segment: S Henrici Road to S Barnards Road (six intersections)

ATR: 03-020 - This ATR is located along OR 213 within the study segment. The ATR has one year of traffic data available that results in an adjustment of 1.07. Given that there is only one year of data available, a profile of the AADT was created for the ATR and compared to the profiles associated with the Seasonal

Trend Table. The ATR profile most closely resembles the commuter trend which has an adjustment of 1.12. The traffic volumes along this segment of OR 213 were adjusted by **1.12**.

Highway: OR 212 (Clackamas-Boring Highway No. 174)

Segment: SE 282nd Avenue (one intersection)

ATR: There is no ATR located along this segment of OR 212. Following the ATR Characteristics Table method we identified three ATR's, including 03-006, 05-006, and 09-015 which are all located along recreational summer/winter and summer facilities within rural areas. Each facility has two travel lanes, a weekend traffic trend, and an AADT within 10 percent of the AADT within the study segment. However, a review of the most recent data available for each ATR indicates that the adjustments would be greater than 1.30. Therefore, the traffic volumes along OR 212 were adjusted based on the Seasonal Trend Table method using an average of the commuter and summer trends which has an adjustment of **1.23**.

Highway: US 26 (Mt. Hood Highway No. 26)

Segment: Salmon River Road to Government Camp Loop (three intersections)

ATR: 03-006 – This ATR is located along US 26 within the study segment. The ATR has several years of traffic data available that result in an adjustment of 1.44. However, the AADT at the ATR is not within 10 percent of the AADT near the intersection. Therefore, a profile of the AADT was created for the ATR and compared to the profiles associated with the Seasonal Trend Table. The ATR profile most closely resembles an average of the commuter and recreational summer and winter trends which has an adjustment of 1.35. The traffic volumes along US 26 at these intersections were adjustment by **1.35**.

The adjustments made to each facility are summarized in Table 3. It should be noted that no adjustments were made to intersections involving state highway ramps.

Table 3 Seasonal Adjustments to ODOT Facilities

Facility	Segment	Method	Adjustment
OR 213/82nd Avenue	SE Johnson Creek Road to SE Sunnybrook Boulevard	ATR Characteristic Table Method	1.03
OR 224	SE Rusk Road to SE Johnson Road	On-Site ATR Method (ATR 03-017)	1.03
OR 99E	SE Park Avenue to SE Glen Echo Avenue	ATR Characteristic Table Method	1.03
OR 224/ OR 212	I-205 to SE 172nd Avenue	On-Site ATR Method (ATR 03-017)	1.1
OR 224	S Springwater Road to Highway 211	ATR Seasonal Trend Table Method	1.23
OR 99E	S South End Road to S Barlow Road	ATR Characteristic Table Method	1.08
OR 211	S Barlow Road to S Union Mills Road, Highway 224	ATR Seasonal Trend Table Method	1.23
OR 213	S Henrici Road to S Barnards Road	ATR Seasonal Trend Table Method	1.12
OR 212	SE 282nd Avenue	ATR Seasonal Trend Table Method	1.23
US 26	Salmon River Road to Government Camp Loop	ATR Seasonal Trend Table Method	1.35