

APPENDIX A – GROWTH RATES

GROWTH RATES

Growth rates are applied to current roadway traffic volumes (Annual Average Daily Traffic (AADT) and Peak Hour volumes) to project future year traffic volumes defined as “background traffic” for traffic impact studies. Background traffic is evaluated to determine level-of-service (LOS) for roadway sections and intersections against current year traffic conditions and also compared to future year background conditions (generally establish by the full or phased build out year for a proposed development project) with and without the development in place. The traffic analysis performed will assess any change in LOS traffic operations between the background conditions with and without development to any critical traffic changes and operational deterioration. Critically important in this analysis process is the application of reasonable annual growth factors to current year roadway traffic volumes to properly project future year background traffic volumes. Applying too robust of a growth factor to the current roadway volumes will result in background traffic volumes that are correspondingly inflated and, thereby, negate the real impacts of traffic generated by a proposed development project.

The “General Guidelines for Traffic Impact Studies Submitted to NYSDOT” (issued by NYSDOT – Region 5 in May 2006) specifies that growth rates used to project current traffic should be approved by the department prior to the preparation of the Traffic Impact Study (TIS). NYSDOT will either review and concur with the growth rates developed by the TIS preparer or calculate a growth rate for use in the analysis based on NYSDOT procedures. NYSDOT, in forecasting AADT’s, uses a Traffic Data Forecaster (TDF) procedure that allows the user to estimate grouped average growth rates, extrapolate AADT values for sites for years outside the range of actual AADT values and provide estimates of long-term traffic growth for individual sites. The TDF procedure evaluates historical AADT data and can determine short- and long-term traffic growth rates.

The Spaulding Green Subdivision Traffic Impact Study was submitted to NYSDOT in 2007 for SEQR/Site Plan review of the TIS. Assuming that NYSDOT conducted their normal review of that TIS, the department issued a letter in November 2007 that the project, based on the TIS submitted, would not have a significant impact on the State Highway System. The Traffic Impact Study prepared by Greenman-Pedersen, Inc.(GPI) dated February 2007 stated (on page 5) that the No-build/background traffic for the existing adjacent streets was estimated using a linear growth rate of one point four percent (1.4%) annually. This growth rate was based on forecasts performed by the Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) for the year 2025 for use in long-range transportation planning; as used in Phase I of the Town of Clarence Comprehensive Traffic Study performed by Nussbaumer & Clarke, Inc. in 2000. The projected future year traffic volumes were based on an assumed construction full build-out period of approximately twenty-five years. The 1.4 percent annual growth rate was applied to the existing 2007 roadway traffic volumes and projected up to the anticipated full build-out year for the project of 2032 to calculate the no-build/background (without development) traffic volumes.

This review of the GPI traffic impact study dated February 2007, acknowledges that a general Town wide growth rate of 1.4 percent was identified through the GBNRTC forecasts that was then applied to the Comprehensive Traffic Study performed in 2000 which ultimately was incorporated in to the Town’s Master Plan 2015. However, subsequent to that town wide analysis (Comprehensive Traffic Study, Phase II, May 2001), a traffic congestion model was developed for the Town of Clarence, which evaluated traffic operations (LOS) on individual roadway segments of the Town’s roadway network. Again, applying GBNRTC forecasts and

regional transportation model procedures, the Town’s congestion model identified individual growth rates for individual roadway segments derived from the GBNRTC’s forecasts and regional model.

Thereby, through the Town’s congestion model individual roadway segment annual traffic growth rates can be determined to compare the projection of existing/2007 traffic volumes to the no-build/background conditions.

In review of this Spaulding Green Subdivision Traffic Impact Study assumed, growth rates for future year traffic forecasts took into consideration the growth rates found from changes in Town demographics (population, households and employment), growth rates from the Town’s current traffic congestion model, a recent plot requested from the GBNRTC of the transportation model which produced regional network links for years 2008 and 2030 (2030 being the current GBNRTC horizon year for transportation planning) as well as a review of historical traffic volume counts of Town roadways.

TOWN DEMOGRAPHICS

Town demographics (population, households and employment) and future year forecasts were obtained from the GBNRTC the only regional agency that is currently developing demographic estimates and forecasts for regional transportation purposes. The GBNRTC’s adopted demographic forecasts are based on US Census data in coordination with state data and after review with each individual municipality. Demographic growth rates based on the US Census data and GBNRTC estimates and forecasts for the Town of Clarence are as follows: (AGR = Annual Growth Rate):

US Census:

| <u>Year</u> | <u>AGR</u> | <u>Year</u> | <u>AGR</u> | <u>Year</u> | <u>AGR</u> |
|-------------|------------|-------------|------------|-------------|------------|
| 1996 | | 2000 | | 2006 | 1996-2006 |
| 22,479 | 4.2% | 26,211 | 1.2% | 28,041 | 2.5% |

GBNRTC:

Population

| <u>Year</u> | <u>AGR</u> | <u>Year</u> | <u>AGR</u> | <u>Year</u> |
|-------------|------------|-------------|------------|-------------|
| 1990 | | 2000 | | 2030 |
| 20,041 | 3.0% | 26,123 | 1.0% | 34,261 |

Households

| <u>Year</u> | <u>AGR</u> | <u>Year</u> | <u>AGR</u> | <u>Year</u> |
|-------------|------------|-------------|------------|-------------|
| 1990 | | 2000 | | 2030 |
| 6,997 | 3.1% | 9,154 | 1.2% | 12,431 |

Employment

| <u>Year</u> | <u>AGR</u> | <u>Year</u> | <u>AGR</u> | <u>Year</u> |
|-------------|------------|-------------|------------|-------------|
| 1990 | | 2000 | | 2030 |
| 13,964 | 0.6% | 14,812 | 0.1% | 15,381 |

Based on the current GBNRTC demographic forecasts for the year 2030 for the Town of Clarence as a whole, a 1.4 percent annual growth rate may be somewhat high.

GROWTH RATES FROM THE TOWN'S TRAFFIC CONGESTION MODEL

Latest GBNRTC transportation model links for years 2008 and 2030

In review of the Spaulding Green Subdivision TIS growth rates in comparison to the current Town traffic congestion model growth rates for individual roadway links and the latest GBNRTC regional transportation model output, a comparison was made to the model roadway links to the Spaulding Green site-generate trip distribution roadway network. The Spaulding Green Subdivision was assumed to distribute site-generated trips over the following Town roadways:

| | <u>Spaulding Gr. TIS Annual Growth Rate</u> | <u>Town Model Annual Growth Rate</u> | <u>GBNRTC Reg. Model (2008-2030)</u> |
|---------------------------------|---|--|--|
| Goodrich Road | 1.4 % | | |
| Main St. to Greiner Rd. | | 2.0 % | 1.5 % |
| Greiner to Roll Rd. | | 2.8 % | 0.9 % |
| Roll to Clarence Center Rd. | | 0.4 % | 1.2 % |
| Gunnville Road | 1.4 % | 1.6 % | 3.6 % |
| Rt. 5 Main Street | 1.4 % | 0.6 % | 0.8 % |
| Greiner Road | 1.4 % | | |
| Shimerville Rd. to Goodrich Rd. | | 1.3 % | 1.5 % |
| Goodrich Rd. to Strickler Rd. | | 0.9 % | 1.8 % |
| Roll Road | 1.4 % | | |
| Shimerville Rd. to Goodrich Rd. | | 0.1 % | 1.3 % |
| Clarence Center Road | 1.4 % | | |
| Shimerville Rd. to Thompson Rd. | | 1.1 % | 3.4 % |
| Thompson Rd. to Goodrich Rd. | | 1.1 % | 3.4 % |
| Goodrich Rd. to Strickler Rd. | | 0.9 % | 1.6 % |

Recent historical traffic volume counts of Town roadways

In an on-going effort to maintain the Town's traffic congestion model, each year the most currently available traffic counts taken of the Town's roadway network are imported into the model. The model was updated in 2007 to include the latest counts obtained through year 2006. A review of the traffic growth rates derived from a comparison of the latest traffic counts to the most recent prior year counts for corresponding roadway network segments assumed for the Spaulding Green trip distribution, as defined above, resulted in the following:

| | Spaulding Gr. TIS Annual Growth Rate | Traffic Count Annual Growth Rate |
|---------------------------------|---|-------------------------------------|
| Goodrich Road | 1.4 % | |
| Main St. to Greiner Rd. | | 7.8 % |
| Greiner to Roll Rd. | | 6.1 % |
| Roll to Clarence Center Rd. | | 6.2 % |
| Gunnville Road | 1.4 % | 5.6 % |
| Rt. 5 Main Street | 1.4 % | 0.2 % |
| Greiner Road | 1.4 % | |
| Shimerville Rd. to Goodrich Rd. | | 5.6 % |
| Goodrich Rd. to Strickler Rd. | | 10.1 % |
| Roll Road | 1.4 % | |
| Shimerville Rd. to Goodrich Rd. | | 1.2 % |
| Clarence Center Road | 1.4 % | |
| Shimerville Rd. to Thompson Rd. | | 9.9 % |
| Thompson Rd. to Goodrich Rd. | | 15.1 % |
| Goodrich Rd. to Strickler Rd. | | 0.0 % |

Growth Rate Conclusion

In review of the Spaulding Green Subdivision Traffic Impact Study, growth rates for future year traffic forecasts took into consideration the growth rate changes in Town demographics, growth rates from the Town's traffic congestion model, recent output from the GBNRTC regional transportation model for years 2008 and 2030 and review of recent and historical traffic volume counts on Town roadways. In consideration of above review it is concluded that the application of the 1.4 percent annual growth rate used in the Spaulding Green Subdivision Traffic Impact Study prepared by Greenman-Pedersen, Inc. is a reasonable growth rate for projecting existing 2007 roadway traffic volumes up to the anticipated full build-out year for the project of 2032 to calculate the no-build/background (without development) traffic volumes. While the growth rates determined from the comparison of the latest traffic counts to the most recent prior year counts for roadway network segments showed higher traffic growth rates along roadways, these generally were for short time periods compared to the significantly longer forecast period from the GBNRTC demographics and the regional transportation model. Therefore, the 1.4 percent growth rate applied in the Spaulding Green TIS would seem reasonable and consistent.