MINEOLA
VILLAGE GREEN

INCORPORATED VILLAGE OF MINEOLA
NASSAU COUNTY, NEW YORK

TRAFFIC ANALYSIS REVIEW

RMS PROJECT NO 2015-013

MARCH 2015

ATTACHMENTS

RMS ENGINEERING
Robinson, Muller & Schiavone Engineers, P.C.

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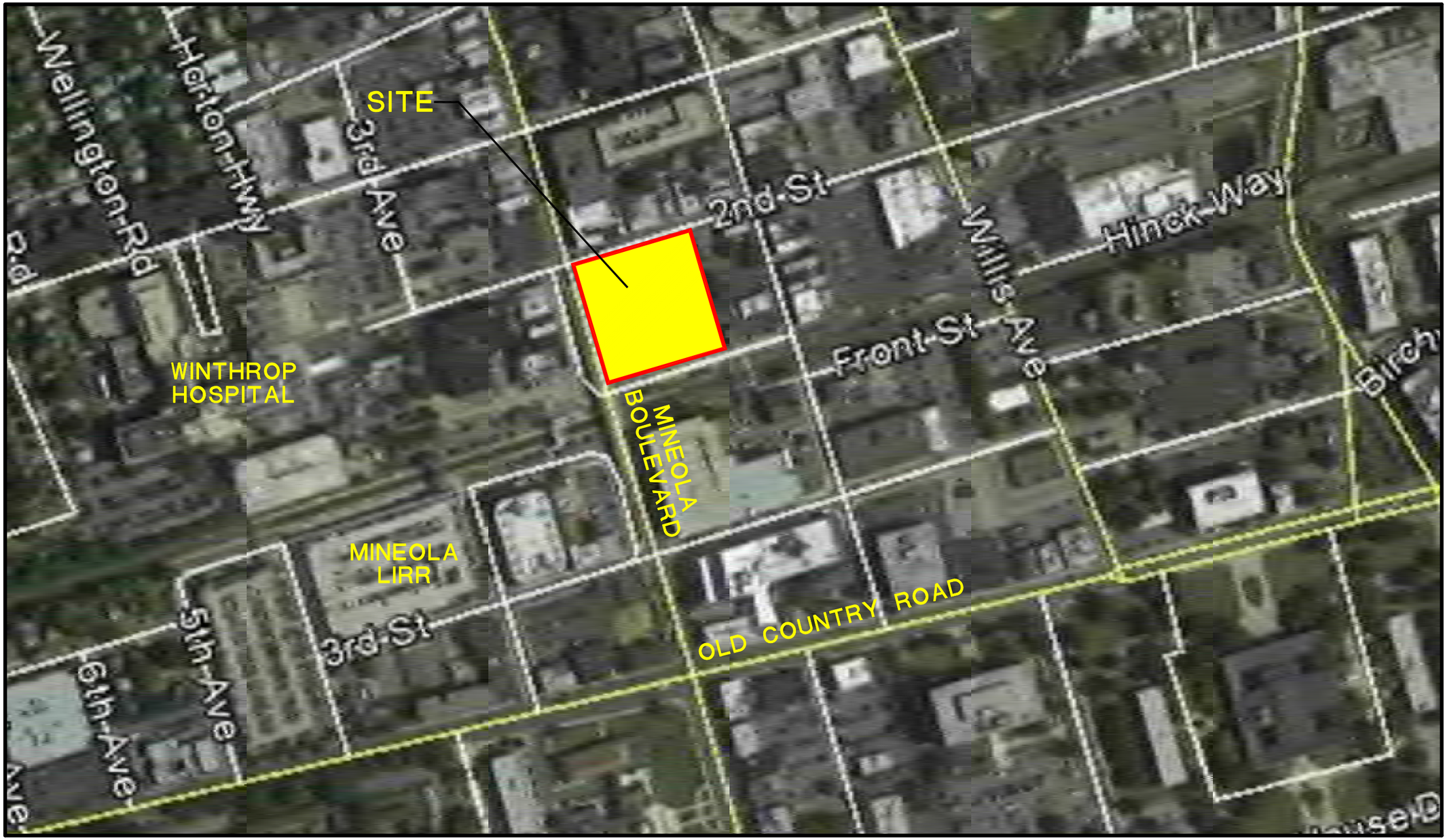

No.	DATE	REVISION DESCRIPTION	BY	CH'D
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MINEOLA VILLAGE GREEN

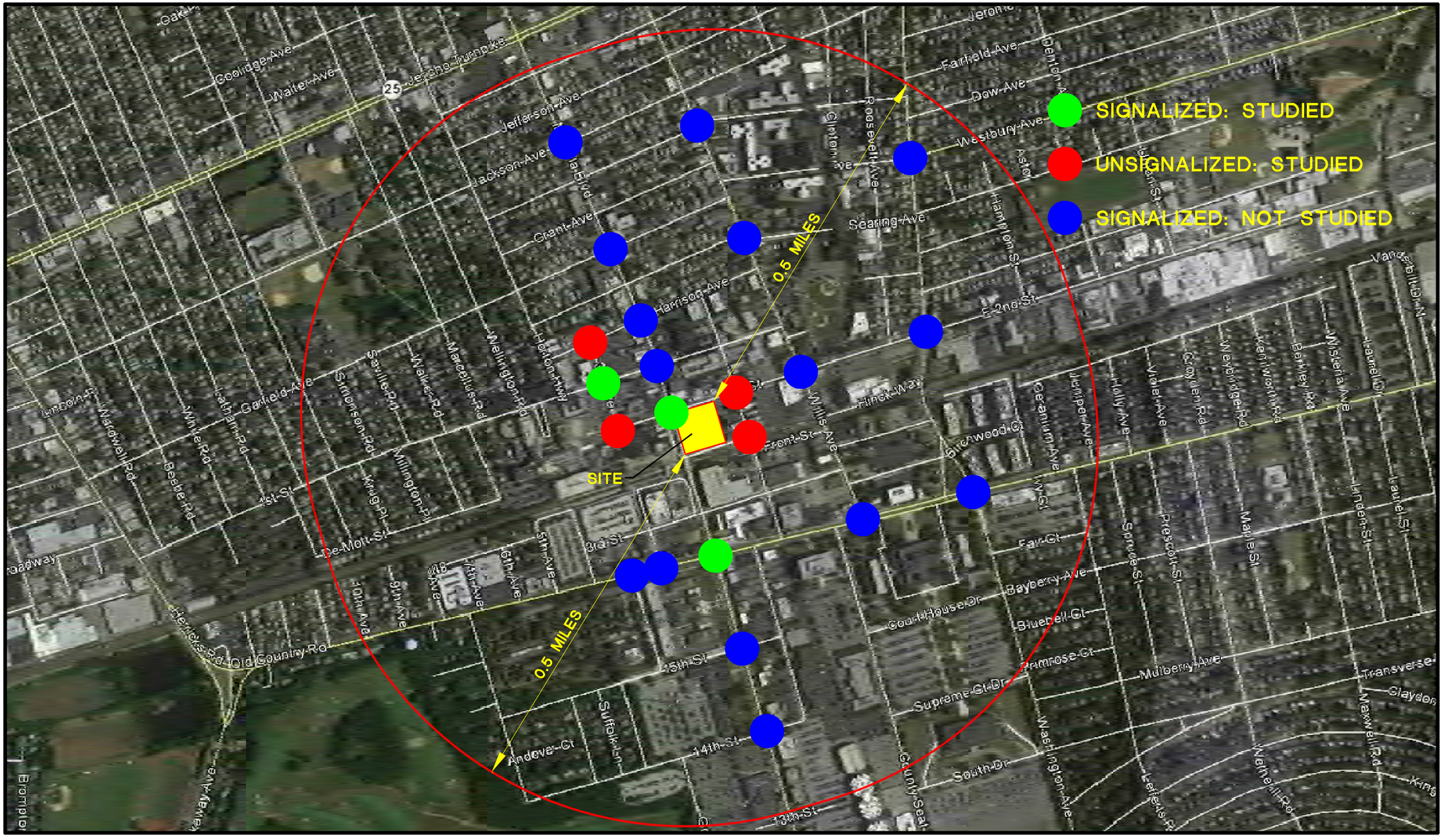
SITUATED IN

MINEOLA

TOWN OF HEMPSTEAD, NASSAU COUNTY, NEW YORK

LOCATION MAP

DWN. BY:	CHK'D. BY:	SCALE:	SHEET:
AWM	-	NTS	A-1
DATE: 2-28-15	DATE: -	JOB No.: 2015-013	



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MINEOLA VILLAGE GREEN

SITUATED IN

MINEOLA

TOWN OF HEMPSTEAD, NASSAU COUNTY, NEW YORK

STUDY HALF MILE RADIUS EXHIBIT

DWN. BY:	CHK'D. BY:	SCALE:	SHEET:
AWM	-	NTS	A-2
DATE: 2-28-15	DATE: -	JOB No.: 2015-013	

Initiating the Process

It is critical that the study preparer discuss the project with the reviewing agency's staff engineer early on in the planning process. An understanding as to the level of detail and the assumptions required for the analysis can be determined at that time. In addition to learning the study issues, coverage and detail level, the preparer should obtain or verify the following information:

- Available traffic counts;
- Information about nearby transit, bicycle and pedestrian facilities and usage;
- Committed and planned roadway improvements and timing;
- Approved development and background traffic data;
- Applicable agency codes and policies;
- Existing congested locations in study area;
- Crash data for locations with high crash rates;
- Traffic signal systems;
- Any neighborhood sensitivities; and
- Any temporary anomalies in the current road system that will influence the data or the outcome of the analysis.

Table 2–3. Suggested Study Area Limits for Transportation Impact Analyses

Development	Study Area
Fast-food restaurant	Adjacent intersection if corner location
Service station, with or without fast-food counter	Adjacent intersection if corner location
Mini-mart or convenience grocery with or without gas pumps	660 ft. from access drive
Other development with fewer than 200 trips during any peak hour	1,000 ft. from access drive
Shopping center less than 70,000 sq. ft. or Development w/peak-hour trips between 200 and 500 during peak hour	All signalized intersections and access drives within 0.5 miles from a property line of the site and all major unsignalized intersections and access drives within 0.25 miles
Shopping center between 70,000 and 100,000 sq. ft. GLA or Office or industrial park with between 300 and 500 employees or Well-balanced, mixed-use development with more than 500 peak-hour trips	All signalized and major unsignalized intersections and freeway ramps within 1 mile of a property line of the site
Shopping center greater than 100,000 sq. ft. GLA or Office or industrial park with more than 500 employees or All other developments with more than 500 peak-hour trips	All signalized intersections and freeway ramps within 2 miles of a property line and all major unsignalized access (streets and driveways) within 1 mile of a property line of the site
Transit station	0.5-mile radius

ft. = feet
sq. ft. = square feet
GLA = gross leasable area

SOURCE: Adapted from Stover and Koepke 2002 and Barbara M. Schroeder.

Table 2.2. Comparison of TOD housing and ITE vehicle trip generation rates: 24 hour estimates.

	TOD Veh. Trip Rate (24 hr.)	Average ITE Rate (24 Hours)			Regression ITE Rate (24 Hours)		
		ITE Rate (24 hr.)	TOD rate as % of ITE Rate (24 hr.)	% point difference from ITE Rate	ITE Rate (24 hr.)	TOD rate as % of ITE Rate (24 hr.)	% point difference from ITE Rate
Philadelphia/NE NJ							
Gaslight Commons	5.08	6.72	75.52%	-24.48%	6.76	75.05%	-24.95%
Station Square	4.76	6.72	70.81%	-29.19%	6.44	73.84%	-26.16%
Mean	4.92	--	73.17%	-26.83%	6.60	74.45%	-25.55%
Std. Dev.	0.22	--	3.33%	3.33%	0.22	0.86%	0.86%
Portland, Oregon							
Center Commons	4.79	6.72	71.30%	-28.70%	6.53	73.36%	-26.64%
Collins Circle	0.88	6.72	13.08%	-86.92%	7.22	12.17%	-87.83%
Gresham Central	5.91	6.72	87.95%	-12.05%	7.68	76.95%	-23.05%
The Merrick Apts.	2.01	6.72	29.84%	-70.16%	6.82	29.39%	-70.61%
Quatama Crossing	6.34	6.72	94.38%	-5.62%	6.22	101.95%	1.95%
Mean	3.99	--	59.31%	-40.69%	6.52	58.76%	-41.24%
Std. Dev.	2.42	--	36.05%	36.05%	0.62	36.88%	36.88%
San Francisco Bay Area							
Mission Wells	3.21	6.72	47.80%	-52.20%	6.39	50.23%	-49.77%
Montelena Homes	2.46	6.72	36.57%	-63.43%	6.81	36.09%	-63.91%
Park Regency	5.01	6.72	74.61%	-25.39%	6.19	81.04%	-18.96%
Verandas	3.10	6.72	46.17%	-53.83%	6.54	47.42%	-52.58%
Wayside Commons	3.26	5.86	55.68%	-44.32%	6.00	54.34%	-45.66%
Mean	3.41	--	52.17%	-47.83%	6.39	53.83%	-46.17%
Std. Dev.	0.95	--	14.27%	14.27%	0.31	16.66%	16.66%
Washington, D.C. Area							
Avalon	4.72	6.72	70.21%	-29.79%	6.31	74.75%	-25.25%
Gallery	3.04	6.72	45.25%	-54.75%	6.66	45.66%	-54.34%
Lennox	2.38	6.72	35.41%	-64.59%	6.38	37.29%	-62.71%
Meridian	0.55	6.72	8.24%	-91.76%	6.34	8.73%	-91.27%
Quincey	1.91	6.72	28.49%	-71.51%	6.31	30.34%	-69.66%
Mean	2.52	--	37.52%	-62.48%	6.40	39.35%	-60.65%
Std. Dev.	1.53	--	22.76%	22.76%	0.15	24.06%	24.06%
Unweighted Average	3.55	6.67	53.29%	-46.71%	6.59	53.92%	-46.08%

Note: Fitted Curve Equation for Apartments: T = 6.01(X) + 150.35, where T = average vehicle trip ends and X = number of dwelling units.
Fitted Curve Equation for Condominiums (Wayside Commons): Ln(T) = 0.85 Ln(X) + 2.55

TODs, as revealed by the Rosslyn-Ballston corridor (and discussed in detail in *TCRP Report 102: Transit Oriented Development in the United States: Experiences, Challenges, and Prospects*). Synergies clearly derive from having transit-oriented housing tied to transit-oriented employment and transit-oriented shopping.

After the Washington, D.C. area, TOD-housing in the Portland area tended to have the lowest weekday trip generation rates, on average, around 40% below that predicted by the ITE manual. The range of experiences, however, varied a lot, from a low of 0.88 weekday vehicle trips per dwelling unit for Collins Circle in downtown Portland to a high of 6.34 for more suburban Quantama Crossing (only slightly below the average rate from the ITE manual and a bit above the regression-generated estimate from the ITE manual).

Also among the surveyed Portland-area apartments, notable for its low trip generation rate, is The Merrick Apartments near the MAX light rail Convention Center station in the Lloyd District, across the river from downtown Portland: 2.01 weekday trips. Travel behavior of the residents of The Merrick apartments also was studied in 2005 (Dill, 2005). Based on a 43% response rate from 150 surveyed households at The Merrick apartments, trip generation estimates can be imputed from that survey. The 2005 survey asked: "In the past week (Saturday January 29 through Friday February 4),

3.3 Guiding Principles

The recommended approach for estimating trip generation for a proposed development is based on the following principles.

When the *Trip Generation* data plot contains more than 20 data points and a regression curve and equation are provided, use of the regression equation is recommended.

A regression equation with an R^2 of at least 0.75 is preferred because it indicates the desired level of correlation between the trips generated by a site and the value measured for an independent variable.

For the same reason, a weighted average rate is preferred when the standard deviation is less than or equal to 110 percent of the weighted average rate.

The value of the independent variable for the study site must fall within the range of data included to use either the rate or equation. Otherwise local data are needed.

Supplemental local data are suggested when the data plot has less than six data points.

The number of trips determined by either the rate or the equation should fall within the cluster of data points (i.e., the range of trip values) found at the study site's independent variable value. Otherwise, additional local data are needed.

Use Regression Equation When:

- **Regression equation is provided**
- **Independent variable is within range of data**

and

- **Either the data plot has at least 20 points or $R^2 \geq 0.75$, equation falls within data cluster in plot, and standard deviation > 110 percent of weighted average rate**

Use Weighted Average Rate When:

- **At least three data points**
- **Independent variable is within range of data**
- **Standard deviation ≤ 110 percent of weighted average rate**
- **$R^2 < 0.75$ or no equation is provided**
- **Weighted average rate falls within data cluster in plot**

Collect Local Data When:

- **Study site is not compatible with ITE land use code definition**
- **Only 1 or 2 data points; preferably when five or fewer data points**
- **Independent variable does not fall within range of data**
- **Neither weighted average rate line or fitted curve fall within data cluster at size of development**

In order to put these principles into practice, two alternative approaches are available to the analyst. The highlighted box in this section presents a checklist for choosing between using the weighted average rate, using the regression equation and collecting local data. A detailed step-by-step approach for estimating trip generation is presented in the next section.

3.4 Recommended Procedure for Estimating Trip Generation

A step-by-step procedure for determining how best to estimate trip generation using data contained in *Trip Generation* is shown below. The procedure is also outlined with simplified text in the flow chart in Figure 3.1.

Step 1: Is the development under analysis consistent with the description of the land use code in *Trip Generation* and with the described or presumed characteristics of development sites for which data points are provided?

> If **yes**, proceed to Step 2.
> If **no**, collect local data for the land use being analyzed and establish a local rate. Refer to Chapter 4 for guidelines.

Caution: The analyst should exercise caution before trying to quantify the trip generation effects of isolated and minor changes in characteristics of a particular land use. *Trip Generation* data are compiled from a wide range of sources with a potentially high variability in site characteristics within the bounds of the land use code definition. *Trip Generation* does not provide information on the secondary characteristics of the surveyed sites and therefore any analysis of the